PISA 2012 Results: What Students Know and Can Do

STUDENT PERFORMANCE IN MATHEMATICS, READING AND SCIENCE

VOLUME I



Programme for International Student Assessment

OECD

PISA 2012 Results: What Students Know and Can Do

STUDENT PERFORMANCE IN MATHEMATICS, READING AND SCIENCE
(VOLUME I)

Revised edition, February 2014

OECD
BETTER POLICIES FOR BETTER LIVES

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Foreword

Equipping citizens with the skills necessary to achieve their full potential, participate in an increasingly interconnected global economy, and ultimately convert better jobs into better lives is a central preoccupation of policy makers around the world. Results from the OECD's recent Survey of Adult Skills show that highly skilled adults are twice as likely to be employed and almost three times more likely to earn an above-median salary than poorly skilled adults. In other words, poor skills severely limit people's access to better-paying and more rewarding jobs. Highly skilled people are also more likely to volunteer, see themselves as actors rather than as objects of political processes, and are more likely to trust others. Fairness, integrity and inclusiveness in public policy thus all hinge on the skills of citizens.

The ongoing economic crisis has only increased the urgency of investing in the acquisition and development of citizens' skills – both through the education system and in the workplace. At a time when public budgets are tight and there is little room for further monetary and fiscal stimulus, investing in structural reforms to boost productivity, such as education and skills development, is key to future growth. Indeed, investment in these areas is essential to support the recovery, as well as to address long-standing issues such as youth unemployment and gender inequality.

In this context, more and more countries are looking beyond their own borders for evidence of the most successful and efficient policies and practices. Indeed, in a global economy, success is no longer measured against national standards alone, but against the best-performing and most rapidly improving education systems. Over the past decade, the OECD Programme for International Student Assessment, PISA, has become the world's premier yardstick for evaluating the quality, equity and efficiency of school systems. But the evidence base that PISA has produced goes well beyond statistical benchmarking. By identifying the characteristics of high-performing education systems PISA allows governments and educators to identify effective policies that they can then adapt to their local contexts.

The results from the PISA 2012 assessment, which was conducted at a time when many of the 65 participating countries and economies were grappling with the effects of the crisis, reveal wide differences in education outcomes, both within and across countries. Using the data collected in previous PISA rounds, we have been able to track the evolution of student performance over time and across subjects. Of the 64 countries and economies with comparable data, 40 improved their average performance in at least one subject. Top performers such as Shanghai in China or Singapore were able to further extend their lead, while countries like Brazil, Mexico, Tunisia and Turkey achieved major improvements from previously low levels of performance.

Some education systems have demonstrated that it is possible to secure strong and equitable learning outcomes at the same time as achieving rapid improvements. Of the 13 countries and economies that significantly improved their mathematics performance between 2003 and 2012, three also show improvements in equity in education during the same period, and another nine improved their performance while maintaining an already high level of equity – proving that countries do not have to sacrifice high performance to achieve equity in education opportunities.

Nonetheless, PISA 2012 results show wide differences between countries in mathematics performance. The equivalent of almost six years of schooling, 245 score points, separates the highest and lowest average performances



of the countries that took part in the PISA 2012 mathematics assessment. The difference in mathematics performances within countries is even greater, with over 300 points – the equivalent of more than seven years of schooling – often separating the highest- and the lowest-achieving students in a country. Clearly, all countries and economies have excellent students, but few have enabled all students to excel.

The report also reveals worrying gender differences in students' attitudes towards mathematics: even when girls perform as well as boys in mathematics, they report less perseverance, less motivation to learn mathematics, less belief in their own mathematics skills, and higher levels of anxiety about mathematics. While the average girl underperforms in mathematics compared with the average boy, the gender gap in favour of boys is even wider among the highest-achieving students. These findings have serious implications not only for higher education, where young women are already under-represented in the science, technology, engineering and mathematics fields of study, but also later on, when these young women enter the labour market. This confirms the findings of the OECD Gender Strategy, which identifies some of the factors that create – and widen – the gender gap in education, labour and entrepreneurship. Supporting girls' positive attitudes towards and investment in learning mathematics will go a long way towards narrowing this gap.

PISA 2012 also finds that the highest-performing school systems are those that allocate educational resources more equitably among advantaged and disadvantaged schools and that grant more autonomy over curricula and assessments to individual schools. A belief that all students can achieve at a high level and a willingness to engage all stakeholders in education – including students, through such channels as seeking student feedback on teaching practices – are hallmarks of successful school systems.

PISA is not only an accurate indicator of students' abilities to participate fully in society after compulsory school, but also a powerful tool that countries and economies can use to fine-tune their education policies. There is no single combination of policies and practices that will work for everyone, everywhere. Every country has room for improvement, even the top performers. That's why the OECD produces this triennial report on the state of education across the globe: to share evidence of the best policies and practices and to offer our timely and targeted support to help countries provide the best education possible for all of their students. With high levels of youth unemployment, rising inequality, a significant gender gap, and an urgent need to boost growth in many countries, we have no time to lose. The OECD stands ready to support policy makers in this challenging and crucial endeavour.



Angel Gurría
OECD Secretary-General



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The development of the report was steered by the PISA Governing Board, which is chaired by Lorna Bertrand (United Kingdom), with Benő Csapó (Hungary), Daniel McGrath (United States) and Ryo Watanabe (Japan) as vice chairs. Annex C of the volumes lists the members of the various PISA bodies, as well as the individual experts and consultants who have contributed to this report and to PISA in general.



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Executive Summary

Nearly all adults, not just those with technical or scientific careers, now need to have adequate proficiency in mathematics – as well as reading and science – for personal fulfilment, employment and full participation in society. With mathematics as its primary focus, the PISA 2012 assessment measured 15-year-olds' capacity to reason mathematically and use mathematical concepts, procedures, facts and tools to describe, explain and predict phenomena, and to make the well-founded judgements and decisions needed by constructive, engaged and reflective citizens. Literacy in mathematics defined this way is not an attribute that an individual has or does not have; rather, it is a skill that can be acquired and used, to a greater or lesser extent, throughout a lifetime.

Shanghai-China has the highest scores in mathematics, with a mean score of 613 points – 119 points above the OECD average, or the equivalent of nearly 3 years of schooling.

Singapore, Hong Kong-China, Chinese Taipei, Korea, Macao-China, Japan, Liechtenstein, Switzerland and the Netherlands, in descending order of their scores, round out the top 10 performers in mathematics.

Of all countries and economies with trend data between 2003 and 2012, 25 improved in mathematics performance, 25 show no change, and 14 deteriorated.

Among countries that participated in every assessment since 2003, Brazil, Italy, Mexico, Poland, Portugal, Tunisia and Turkey show an average improvement in mathematics performance of more than 2.5 points per year since 2003. Although countries and economies that improved the most are more likely to be those that had lower performance in 2003, some with average or high performance in 2003 – such as Germany, Hong Kong-China and Macao-China – also improved during this period. Shanghai-China and Singapore, which began their participation in PISA after the 2003 assessment, also improved their already-high performance.

On average across OECD countries, 12.6% of students are top performers in mathematics, meaning that they are proficient at Level 5 or 6.

The partner economy Shanghai-China has the largest proportion of students performing at Level 5 or 6 (55.4%), followed by Singapore (40.0%), Chinese Taipei (37.2%) and Hong Kong-China (33.7 %). In Korea, 30.9% of students are top performers in mathematics; and between 15% and 25% of students in Belgium, Canada, Finland, Germany, Japan, Liechtenstein, Macao-China, the Netherlands, New Zealand, Poland and Switzerland are top performers in mathematics.

Between 2003 and 2012 Italy, Poland and Portugal increased the share of top performers and simultaneously reduced the share of low performers in mathematics.

Israel, Qatar and Romania saw similar improvements between 2006 and 2012 as did Ireland, Malaysia and the Russian Federation between 2009 and 2012.

Boys perform better than girls in mathematics in only 38 out of the 65 countries and economies that participated in PISA 2012, and girls outperform boys in 5 countries.

In only six countries is the gender gap in mathematics scores larger than the equivalent of half a year of formal schooling.



Shanghai-China, Hong Kong-China, Singapore, Japan and Korea are the five highest-performing countries and economies in reading.

Shanghai-China had a mean score of 570 points in reading – the equivalent of more than a year-and-a-half of schooling above the OECD average of 496 score points, and 25 score points above the second best-performing participant, Hong Kong-China.

Of the 64 countries and economies with comparable data in reading performance throughout their participation in PISA, 32 improved their reading performance, 22 show no change, and 10 deteriorated in reading performance.

Among OECD countries, Chile, Estonia, Germany, Hungary, Israel, Japan, Korea, Luxembourg, Mexico, Poland, Portugal, Switzerland and Turkey improved their reading performance across successive PISA assessments.

Across OECD countries, 8.4% of students are top performers in reading, meaning that they are proficient at Level 5 or 6. Shanghai-China has the largest proportion of top performers – 25.1% – among all participating countries and economies.

More than 15% of students in Hong Kong-China, Japan and Singapore are top performers in reading, as are more than 10% of students in Australia, Belgium, Canada, Finland, France, Ireland, Korea, Liechtenstein, New Zealand, Norway, Poland and Chinese Taipei.

Between the 2000 and 2012 PISA assessments, Albania, Israel and Poland increased the share of top performers and simultaneously reduced the share of low performers in reading.

The same trend was observed in Hong Kong-China, Japan and the Russian Federation since PISA 2003; in Bulgaria, Qatar, Serbia, Spain and Chinese Taipei since PISA 2006; and in Ireland, Luxembourg, Macao-China and Singapore since PISA 2009.

Between 2000 and 2012 the gender gap in reading performance – favouring girls – widened in 11 countries and economies.

In Bulgaria, France and Romania, the gender gap in reading performance widened by more than 15 score points during that period. Only in Albania did the gap narrow as a result of a greater improvement in reading performance among boys than among girls.

Shanghai-China, Hong Kong-China, Singapore, Japan and Finland are the top five performers in science in PISA 2012.

Shanghai-China's mean score in science (580 points) is more than three-quarters of a proficiency level above the OECD average of 501 score points. Estonia, Korea, Viet Nam, Poland, Canada, Liechtenstein, Germany, Chinese Taipei, the Netherlands, Ireland, Australia, Macao-China, New Zealand, Switzerland, Slovenia, the United Kingdom and the Czech Republic also score above the OECD average in science, while Austria, Belgium, Latvia, France, Denmark and the United States scored around the OECD average.

Across OECD countries, 8.4% of students are top performers in science and score at proficiency Level 5 or 6.

More than 15% of students in Shanghai-China (27.2%), Singapore (22.7%), Japan (18.2%), Finland (17.1%) and Hong Kong-China (16.7%) are top performers.

Between 2006 and 2012, Italy, Poland and Qatar, and between 2009 and 2012, Estonia, Israel and Singapore increased the share of top performers and simultaneously reduced the share of low performers in science.

Brazil, Hong Kong-China, Ireland, Japan, Korea, Latvia, Lithuania, Portugal, Romania, Spain, Switzerland, Thailand, Tunisia, Turkey and the United States saw a significant reduction in the share of students performing below proficiency Level 2 between 2006 and 2012.

Boys and girls perform similarly in science and, on average, that remained true in 2012.

However, in Finland, Montenegro, the Russian Federation and Sweden, while there was no gender gap in science performance in 2006, a gender gap in favour of girls was observed in 2012.



■ Table I.A ■
SNAPSHOT OF PERFORMANCE IN MATHEMATICS, READING AND SCIENCE

Countries/economies with a mean performance/share of top performers above the OECD average
Countries/economies with a share of low achievers below the OECD average

Countries/economies with a mean performance/share of low achievers/share of top performers not statistically significantly different from the OECD average

Countries/economies with a mean performance/share of top performers below the OECD average
Countries/economies with a share of low achievers above the OECD average

	Mathematics				Reading		Science	
	Mean score in PISA 2012	Share of low achievers (Below Level 2)	Share of top performers in mathematics (Level 5 or 6)	Annualised change	Mean score in PISA 2012	Annualised change	Mean score in PISA 2012	Annualised change
OECD average	494	23.0	12.6	**-0.3**	496	**0.3**	501	**0.5**
Shanghai-China	613	3.8	55.4	**4.2**	570	**4.6**	580	1.8
Singapore	573	8.3	40.0	**3.8**	542	**5.4**	551	**3.3**
Hong Kong-China	561	8.5	33.7	**1.3**	545	**2.3**	555	**2.1**
Chinese Taipei	560	12.8	37.2	1.7	523	**4.5**	523	-1.5
Korea	554	9.1	30.9	1.1	536	**0.9**	538	**2.6**
Macao-China	538	10.8	24.3	**1.0**	509	**0.8**	521	**1.6**
Japan	536	11.1	23.7	0.4	538	**1.5**	547	**2.6**
Liechtenstein	535	14.1	24.8	0.3	516	**1.3**	525	0.4
Switzerland	531	12.4	21.4	0.6	509	**1.0**	515	0.6
Netherlands	523	14.8	19.3	**-1.6**	511	-0.1	522	-0.5
Estonia	521	10.5	14.6	0.9	516	**2.4**	541	1.5
Finland	519	12.3	15.3	**-2.8**	524	**-1.7**	545	**-3.0**
Canada	518	13.8	16.4	**-1.4**	523	**-0.9**	525	**-1.5**
Poland	518	14.4	16.7	**2.6**	518	**2.8**	526	**4.6**
Belgium	515	19.0	19.5	**-1.6**	509	0.1	505	-0.9
Germany	514	17.7	17.5	**1.4**	508	**1.8**	524	1.4
Viet Nam	511	14.2	13.3	m	508	m	528	m
Austria	506	18.7	14.3	0.0	490	-0.2	506	-0.8
Australia	504	19.7	14.8	**-2.2**	512	**-1.4**	521	-0.9
Ireland	501	16.9	10.7	-0.6	523	**-0.9**	522	**2.3**
Slovenia	501	20.1	13.7	-0.6	481	**-2.2**	514	-0.8
Denmark	500	16.8	10.0	**-1.8**	496	0.1	498	0.4
New Zealand	500	22.6	15.0	**-2.5**	512	**-1.1**	516	**-2.5**
Czech Republic	499	21.0	12.9	**-2.5**	493	-0.5	508	-1.0
France	495	22.4	12.9	**-1.5**	505	0.0	499	0.6
United Kingdom	494	21.8	11.8	-0.3	499	0.7	514	-0.1
Iceland	493	21.5	11.2	**-2.2**	483	**-1.3**	478	**-2.0**
Latvia	491	19.9	8.0	0.5	489	**1.9**	502	**2.0**
Luxembourg	490	24.3	11.2	-0.3	488	**0.7**	491	0.9
Norway	489	22.3	9.4	-0.3	504	0.1	495	1.3
Portugal	487	24.9	10.6	**2.8**	488	**1.6**	489	**2.5**
Italy	485	24.7	9.9	**2.7**	490	0.5	494	**3.0**
Spain	484	23.6	8.0	0.1	488	-0.3	496	1.3
Russian Federation	482	24.0	7.8	1.1	475	**1.1**	486	1.0
Slovak Republic	482	27.5	11.0	**-1.4**	463	-0.1	471	**-2.7**
United States	481	25.8	8.8	0.3	498	-0.3	497	1.4
Lithuania	479	26.0	8.1	-1.4	477	1.1	496	1.3
Sweden	478	27.1	8.0	**-3.3**	483	**-2.8**	485	**-3.1**
Hungary	477	28.1	9.3	**-1.3**	488	**1.0**	494	-1.6
Croatia	471	29.9	7.0	0.6	485	1.2	491	-0.3
Israel	466	33.5	9.4	**4.2**	486	**3.7**	470	**2.8**
Greece	453	35.7	3.9	**1.1**	477	0.5	467	-1.1
Serbia	449	38.9	4.6	**2.2**	446	**7.6**	445	1.5
Turkey	448	42.0	5.9	**3.2**	475	**4.1**	463	**6.4**
Romania	445	40.8	3.2	**4.9**	438	1.1	439	**3.4**
Cyprus*	440	42.0	3.7	m	449	m	438	m
Bulgaria	439	43.8	4.1	**4.2**	436	0.4	446	2.0
United Arab Emirates	434	46.3	3.5	m	442	m	448	m
Kazakhstan	432	45.2	0.9	**9.0**	393	0.8	425	**8.1**
Thailand	427	49.7	2.6	1.0	441	**1.1**	444	**3.9**
Chile	423	51.5	1.6	**1.9**	441	**3.1**	445	1.1
Malaysia	421	51.8	1.3	**8.1**	398	**-7.8**	420	-1.4
Mexico	413	54.7	0.6	**3.1**	424	**1.1**	415	0.9
Montenegro	410	56.6	1.0	**1.7**	422	**5.0**	410	-0.3
Uruguay	409	55.8	1.4	**-1.4**	411	**-1.8**	416	**-2.1**
Costa Rica	407	59.9	0.6	-1.2	441	-1.0	429	-0.6
Albania	394	60.7	0.8	**5.6**	394	**4.1**	397	2.2
Brazil	391	67.1	0.8	**4.1**	410	**1.2**	405	**2.3**
Argentina	388	66.5	0.3	1.2	396	-1.6	406	2.4
Tunisia	388	67.7	0.8	**3.1**	404	**3.8**	398	**2.2**
Jordan	386	68.6	0.6	0.2	399	-0.3	409	**-2.1**
Colombia	376	73.8	0.3	1.1	403	**3.0**	399	1.8
Qatar	376	69.6	2.0	**9.2**	388	**12.0**	384	**5.4**
Indonesia	375	75.7	0.3	0.7	396	**2.3**	382	-1.9
Peru	368	74.6	0.6	1.0	384	**5.2**	373	1.3

Note: Countries/economies in which the annualised change in performance is statistically significant are marked in bold.
* See notes in the Reader's Guide.
Countries and economies are ranked in descending order of the mathematics mean score in PISA 2012.
Source: OECD, PISA 2012 Database, Tables I.2.1a, I.2.1b, I.2.3a, I.2.3b, I.4.3a, I.4.3b, I.5.3a and I.5.3b.
StatLink http://dx.doi.org/10.1787/888932937035



Reader's Guide

Data underlying the figures

The data referred to in this volume are presented in Annex B and, in greater detail, including some additional tables, on the PISA website (*www.pisa.oecd.org*).

Four symbols are used to denote missing data:

a The category does not apply in the country concerned. Data are therefore missing.

c There are too few observations or no observation to provide reliable estimates (i.e. there are fewer than 30 students or fewer than 5 schools with valid data).

m Data are not available. These data were not submitted by the country or were collected but subsequently removed from the publication for technical reasons.

w Data have been withdrawn or have not been collected at the request of the country concerned.

Country coverage

This publication features data on 65 countries and economies, including all 34 OECD countries and 31 partner countries and economies (see Figure I.1.1).

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Two notes were added to the statistical data related to Cyprus:

1. Note by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

2. Note by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Calculating international averages

An OECD average was calculated for most indicators presented in this report. In the case of some indicators, a total representing the OECD area as a whole was also calculated:

- The OECD average corresponds to the arithmetic mean of the respective country estimates.
- The OECD total takes the OECD countries as a single entity, to which each country contributes in proportion to the number of 15-year-olds enrolled in its schools (see Annex B for data). It illustrates how a country compares with the OECD area as a whole.

In this publication, the OECD total is generally used when references are made to the overall situation in the OECD area. Where the focus is on comparing performance across education systems, the OECD average is used. In the case of some countries, data may not be available for specific indicators, or specific categories may not apply. Readers should, therefore, keep in mind that the terms "OECD average" and "OECD total" refer to the OECD countries included in the respective comparisons.

Rounding figures

Because of rounding, some figures in tables may not exactly add up to the totals. Totals, differences and averages are always calculated on the basis of exact numbers and are rounded only after calculation.



All standard errors in this publication have been rounded to one or two decimal places. Where the value 0.0 or 0.00 is shown, this does not imply that the standard error is zero, but that it is smaller than 0.05 or 0.005, respectively.

Reporting student data

The report uses "15-year-olds" as shorthand for the PISA target population. PISA covers students who are aged between 15 years 3 months and 16 years 2 months at the time of assessment and who are enrolled in school and have completed at least 6 years of formal schooling, regardless of the type of institution in which they are enrolled and of whether they are in full-time or part-time education, of whether they attend academic or vocational programmes, and of whether they attend public or private schools or foreign schools within the country.

Reporting school data

The principals of the schools in which students were assessed provided information on their schools' characteristics by completing a school questionnaire. Where responses from school principals are presented in this publication, they are weighted so that they are proportionate to the number of 15-year-olds enrolled in the school.

Focusing on statistically significant differences

This volume discusses only statistically significant differences or changes. These are denoted in darker colours in figures and in bold font in tables. See Annex A3 for further information.

Categorising student performance

This report uses a shorthand to describe students' levels of proficiency in the subjects assessed by PISA:

Top performers are those students proficient at Level 5 or 6 of the assessment.

Strong performers are those students proficient at Level 4 of the assessment.

Moderate performers are those students proficient at Level 2 or 3 of the assessment.

Lowest performers are those students proficient at or below Level 1 of the assessment.

Highest achievers are those students who perform at or above the 90th percentile in their own country/economy.

High achievers are those students who perform at or above the 75th percentile in their own country/economy.

Low achievers are those students who perform below the 25th percentile in their own country/economy.

Lowest achievers are those students who perform below the 10th percentile in their own country/economy.

Abbreviations used in this report

ESCS	PISA index of economic, social and cultural status	PPP	Purchasing power parity
GDP	Gross domestic product	S.D.	Standard deviation
ISCED	International Standard Classification of Education	S.E.	Standard error
ISCO	International Standard Classification of Occupations	STEM	Science, Technology, Engineering and Mathematics

Further documentation

For further information on the PISA assessment instruments and the methods used in PISA, see the *PISA 2012 Technical Report* (OECD, forthcoming).

This report uses the OECD StatLinks service. Below each table and chart is a url leading to a corresponding Excel™ workbook containing the underlying data. These urls are stable and will remain unchanged over time. In addition, readers of the e-books will be able to click directly on these links and the workbook will open in a separate window, if their internet browser is open and running.



1

What is PISA?

The Programme for International Student Assessment (PISA) reviews the extent to which students near the end of compulsory education have acquired some of the knowledge and skills that are essential for full participation in modern society, particularly in mathematics, reading and science. This section offers an overview of the Programme, including which countries and economies participate and which students are assessed, what types of skills are measured, and how PISA 2012 differs from previous PISA assessments.



"What is important for citizens to know and be able to do?" That is the question that underlies the triennial survey of 15-year-old students around the world known as the Programme for International Student Assessment (PISA). PISA assesses the extent to which students near the end of compulsory education have acquired key knowledge and skills that are essential for full participation in modern societies. The assessment, which focuses on reading, mathematics, science and problem solving, does not just ascertain whether students can reproduce knowledge; it also examines how well students can extrapolate from what they have learned and apply that knowledge in unfamiliar settings, both in and outside of school. This approach reflects the fact that modern economies reward individuals not for what they know, but for what they can do with what they know.

PISA is an ongoing programme that offers insights for education policy and practice, and that helps monitor trends in students' acquisition of knowledge and skills across countries and in different demographic subgroups within each country. PISA results reveal what is possible in education by showing what students in the highest-performing and most rapidly improving education systems can do. The findings allow policy makers around the world to gauge the knowledge and skills of students in their own countries in comparison with those in other countries, set policy targets against measurable goals achieved by other education systems, and learn from policies and practices applied elsewhere. While PISA cannot identify cause-and-effect relationships between policies/practices and student outcomes, it can show educators, policy makers and the interested public how education systems are similar and different – and what that means for students.

PISA's unique features include its:

- **policy orientation**, which links data on student learning outcomes with data on students' backgrounds and attitudes towards learning and on key factors that shape their learning, in and outside of school, in order to highlight differences in performance and identify the characteristics of students, schools and education systems that perform well;
- **innovative concept of "literacy"**, which refers to students' capacity to apply knowledge and skills in key subjects, and to analyse, reason and communicate effectively as they identify, interpret and solve problems in a variety of situations;
- **relevance to lifelong learning**, as PISA asks students to report on their motivation to learn, their beliefs about themselves, and their learning strategies;
- **regularity**, which enables countries to monitor their progress in meeting key learning objectives; and
- **breadth of coverage**, which, in PISA 2012, encompasses the 34 OECD member countries and 31 partner countries and economies.

Box I.1.1. A test the whole world can take

PISA is now used as an assessment tool in many regions around the world. It was implemented in 43 countries and economies in the first assessment (32 in 2000 and 11 in 2002), 41 in the second assessment (2003), 57 in the third assessment (2006) and 75 in the fourth assessment (65 in 2009 and 10 in 2010). So far, 65 countries and economies have participated in PISA 2012.

In addition to OECD member countries, the survey has been or is being conducted in:

East, South and Southeast Asia: Himachal Pradesh-India, Hong Kong-China, Indonesia, Macao-China, Malaysia, Shanghai-China, Singapore, Chinese Taipei, Tamil Nadu-India, Thailand and Viet Nam.

Central, Mediterranean and Eastern Europe, and Central Asia: Albania, Azerbaijan, Bulgaria, Croatia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Liechtenstein, Lithuania, the former Yugoslav Republic of Macedonia, Malta, Moldova, Montenegro, Romania, the Russian Federation and Serbia.

The Middle East: Jordan, Qatar and the United Arab Emirates.

Central and South America: Argentina, Brazil, Colombia, Costa Rica, Netherlands-Antilles, Panama, Peru, Trinidad and Tobago, Uruguay and Miranda-Venezuela.

Africa: Mauritius and Tunisia.

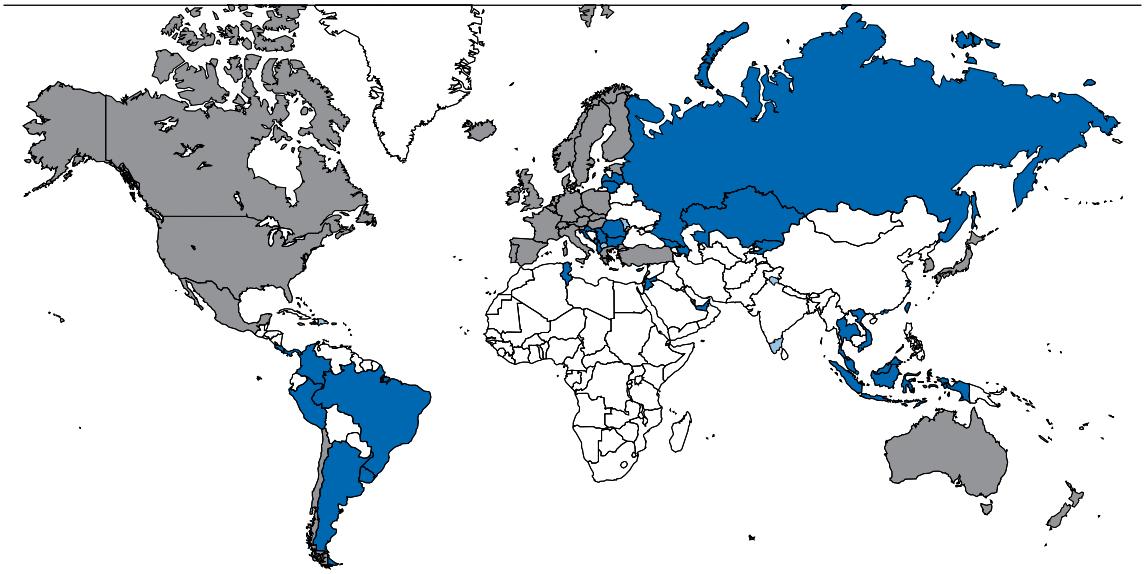
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Decisions about the scope and nature of the PISA assessments and the background information to be collected are made by leading experts in participating countries. Considerable efforts and resources are devoted to achieving cultural and linguistic breadth and balance in assessment materials. Since the design and translation of the test, as well as sampling and data collection, are subject to strict quality controls, PISA findings are considered to be highly valid and reliable.

■ Figure I.1.1 ■

Map of PISA countries and economies



OECD countries

Australia
Austria
Belgium
Canada
Chile
Czech Republic
Denmark
Estonia
Finland
France
Germany
Greece
Hungary
Iceland
Ireland
Israel
Italy
Japan
Korea
Luxembourg
Mexico
Netherlands
New Zealand
Norway
Poland
Portugal
Slovak Republic
Slovenia
Spain
Sweden
Switzerland
Turkey
United Kingdom
United States

Partner countries and economies in PISA 2012

Albania
Argentina
Brazil
Bulgaria
Colombia
Costa Rica
Croatia
Cyprus[1, 2]
Hong Kong-China
Indonesia
Jordan
Kazakhstan
Latvia
Liechtenstein
Lithuania
Macao-China
Malaysia
Montenegro
Peru
Qatar
Romania
Russian Federation
Serbia
Shanghai-China
Singapore
Chinese Taipei
Thailand
Tunisia
United Arab Emirates
Uruguay
Viet Nam

Partner countries and economies in previous cycles

Azerbaijan
Georgia
Himachal Pradesh-India
Kyrgyzstan
Former Yugoslav Republic of Macedonia
Malta
Mauritius
Miranda-Venezuela
Moldova
Panama
Tamil Nadu-India
Trinidad and Tobago

1. Note by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

2. Note by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

WHAT DOES THE PISA 2012 SURVEY MEASURE?

The PISA 2012 survey focuses on mathematics, with reading, science and problem solving as minor areas of assessment. For the first time, PISA 2012 also included an assessment of the financial literacy of young people, which was optional for countries.

For PISA, mathematics proficiency means the capacity of individuals to formulate, employ and interpret mathematics in a variety of contexts. The term describes the capacities of individuals to reason mathematically and use mathematical concepts, procedures, facts and tools to describe, explain and predict phenomena. Mathematics literacy is not an attribute that an individual either has or does not have; rather, it is a skill that can be developed over a lifetime.



The 2012 survey is the fifth round of assessments since PISA began in 2000, and the second, after the 2003 survey, that focuses on mathematics. As such, PISA 2012 provides an opportunity to evaluate changes in student performance in mathematics since 2003, and to view those changes in the context of policies and other factors.

For the first time, PISA 2012 includes an optional computer-based assessment of mathematics. Specially designed PISA questions are presented on a computer, and students respond on the computer, although they can also use pencil and paper as they think through the test questions.

Box I.1.2. **Key features of PISA 2012**

The content

- The PISA 2012 survey focused on mathematics, with reading, science and problem solving as minor areas of assessment. For the first time, PISA 2012 also included an assessment of the financial literacy of young people, which was optional for countries and economies.
- PISA assesses not only whether students can reproduce knowledge, but also whether they can extrapolate from what they have learned and apply their knowledge in new situations. It emphasises the mastery of processes, the understanding of concepts, and the ability to function in various types of situations.

The students

- Around 510 000 students completed the assessment in 2012, representing about 28 million 15-year-olds in the schools of the 65 participating countries and economies.

The assessment

- Paper-based tests were used, with assessments lasting a total of two hours for each student. In a range of countries and economies, an additional 40 minutes were devoted to the computer-based assessment of mathematics, reading and problem solving.
- Test items were a mixture of multiple-choice items and questions requiring students to construct their own responses. The items were organised in groups based on a passage setting out a real-life situation. A total of about 390 minutes of test items were covered, with different students taking different combinations of test items.
- Students answered a background questionnaire, which took 30 minutes to complete, that sought information about themselves, their homes and their school and learning experiences. School principals were given a questionnaire, to complete in 30 minutes, that covered the school system and the learning environment. In some countries and economies, optional questionnaires were distributed to parents, who were asked to provide information on their perceptions of and involvement in their child's school, their support for learning in the home, and their child's career expectations, particularly in mathematics. Countries could choose two other optional questionnaires for students: one asked students about their familiarity with and use of information and communication technologies, and the second sought information about their education to date, including any interruptions in their schooling and whether and how they are preparing for a future career.

WHO ARE THE PISA STUDENTS?

Differences between countries in the nature and extent of pre-primary education and care, in the age of entry into formal schooling, in the structure of the education system, and in the prevalence of grade repetition mean that school grade levels are often not good indicators of where students are in their cognitive development. To better compare student performance internationally, PISA targets a specific age of students. PISA students are aged between 15 years 3 months and 16 years 2 months at the time of the assessment, and have completed at least 6 years of formal schooling. They can be enrolled in any type of institution, participate in full-time or part-time education, in academic or vocational programmes, and attend public or private schools or foreign schools within the country. (For an operational definition of this target population, see Annex A2.) Using this age across countries and over time allows PISA to compare consistently the knowledge and skills of individuals born in the same year who are still in school at age 15, despite the diversity of their education histories in and outside of school.



The population of participating students is defined by strict technical standards, as are the students who are excluded from participating (see Annex A2). The overall exclusion rate within a country was required to be below 5% to ensure that, under reasonable assumptions, any distortions in national mean scores would remain within plus or minus 5 score points, i.e. typically within the order of magnitude of 2 standard errors of sampling. Exclusion could take place either through the schools that participated or the students who participated within schools (see Annex A2, Tables A2.1 and A2.2).

There are several reasons why a school or a student could be excluded from PISA. Schools might be excluded because they are situated in remote regions and are inaccessible, because they are very small, or because of organisational or operational factors that precluded participation. Students might be excluded because of intellectual disability or limited proficiency in the language of the assessment.

In 28 out of the 65 countries and economies participating in PISA 2012, the percentage of school-level exclusions amounted to less than 1%; it was less than 4% in all countries and economies. When the exclusion of students who met the internationally established exclusion criteria is also taken into account, the exclusion rates increase slightly. However, the overall exclusion rate remains below 2% in 30 participating countries and economies, below 5% in 57 participating countries, and below 7% in all countries except Luxembourg (8.4%). In 11 out of the 34 OECD countries, the percentage of school-level exclusions amounted to less than 1% and was less than 3% in 31 OECD countries. When student exclusions within schools were also taken into account, there were 11 OECD countries below 2% and 26 OECD countries below 5%.

Restrictions on the level of exclusions in PISA 2012:

- School-level exclusions for inaccessibility, feasibility or other reasons were required not to exceed 0.5% of the total number of students in the international PISA target population. Schools on the sampling frame that had only one or two eligible students were not allowed to be excluded from the frame. However, if, based on the frame, it was clear that the percentage of students in these schools would not cause a breach of the allowable limit, then those schools could be excluded from the field, if at that time, they still had only one or two students who were eligible for PISA.
- School-level exclusions for students with intellectual or functional disabilities, or students with limited proficiency in the language of the PISA assessment, were required not to exceed 2% of students.
- Within-school exclusions for students with intellectual or functional disabilities, or students with limited language proficiency were required not to exceed 2.5% of students.

Students who could be excluded from PISA 2012 were:

- Intellectually disabled students, defined as students who are considered, in the professional opinion of the school principal, or by other qualified staff members, to be intellectually disabled, or who have been assessed psychologically as such. This category includes students who are emotionally or mentally unable to follow even the general instructions of the assessment. Students were not to be excluded solely because of poor academic performance or common discipline problems.
- Students with functional disabilities, defined as students who are permanently physically disabled in such a way that they cannot perform in the PISA testing situation. Students with functional disabilities who could perform were to be included in the testing.
- Students with limited proficiency in the language of the PISA assessment, defined as students who had received less than one year of instruction in the language of the assessment.

(For more detailed information about the restrictions on the level of exclusions in PISA 2012, see Annex A2.)

WHAT IS THE TEST LIKE?

For each round of PISA, one subject is tested in detail, taking up nearly two-thirds of the total testing time. The major subject was reading in 2000 and 2009, mathematics in 2003 and 2012, and science in 2006. As in previous PISA assessments, the paper-based assessment was designed as a two-hour test comprising four 30-minute clusters of test material from one or more subjects. Information was obtained from about 390 minutes worth of test items. For each country, the total set of questions was packaged into 13 linked test booklets. Financial literacy, an option in the paper-based assessment, was allocated two clusters (that is, 60 minutes of testing time) in the 2012 survey.



Each booklet was completed by a sufficient number of students so that reliable estimates could be made of the level of achievement among students in each country and in relevant subgroups – such as boys and girls, and students with different socio-economic status – within a country. Students also spent 30 minutes answering a background questionnaire. Some questions were answered by all students, as in previous assessments; some were answered by subsamples of students.

In addition to this core assessment, 44 countries and economies participated in a computer-based assessment of problem solving; 32 of them also participated in a computer-based assessment of reading and mathematics. The PISA 2012 computer-delivered assessment lasted 40 minutes. A total of 80 minutes of problem-solving material was organised into four 20-minute clusters. Students from countries not participating in the optional computer-based assessment of mathematics and digital reading completed two of the clusters. Students from countries that did participate in the optional computer-based assessment of mathematics and digital reading completed two, one or none of the four problem-solving clusters. The optional computer-based component contained a total of 80 minutes of mathematics material and 80 minutes of reading material.

■ Figure I.1.2 ■

Summary of the assessment areas in PISA 2012

	MATHEMATICS	READING	SCIENCE
Definitions	An individuals' capacity to formulate, employ, and interpret mathematics in a variety of contexts. It includes reasoning mathematically and using mathematical concepts, procedures, facts and tools to describe, explain and predict phenomena. It assists individuals in recognising the role that mathematics plays in the world and to make the well-founded judgements and decisions needed by constructive, engaged and reflective citizens.	An individual's capacity to understand, use, reflect on and engage with written texts, in order to achieve one's goals, to develop one's knowledge and potential, and to participate in society.	An individual's scientific knowledge and use of that knowledge to identify questions, to acquire new knowledge, to explain scientific phenomena, and to draw evidence-based conclusions about science-related issues. It includes understanding the characteristic features of science as a form of human knowledge and enquiry, awareness of how science and technology shape our material, intellectual, and cultural environments, and willingness to engage in science-related issues, and with the ideas of science, as a reflective citizen.
Contents	Four overarching ideas that relate to numbers, algebra and geometry: ▪ quantity ▪ space and shape ▪ change and relationships ▪ uncertainty and data	The form of reading materials includes: ▪ continuous texts or prose organised in sentences and paragraphs (e.g. narration, exposition, argumentation, description, instruction) ▪ non-continuous texts that present information in other ways, such as in lists, forms, graphs, or diagrams	Scientific knowledge or concepts are related to physics, chemistry, biological sciences and earth and space sciences, but they are applied to the content of the items and not just recalled.
Processes	▪ formulating situations mathematically ▪ employing mathematical concepts, facts, procedures and reasoning ▪ interpreting, applying and evaluating mathematical outcomes (referred to in abbreviated form as "formulate, employ and interpret")	▪ accessing and retrieving information ▪ forming a broad general understanding of the text ▪ interpreting the text ▪ reflecting on the content and the form and features of the text	▪ describing, explaining and predicting scientific phenomena ▪ understanding scientific investigation ▪ interpreting scientific evidence and conclusions
Contexts	The situations in which mathematics literacy is applied: ▪ personal ▪ occupational ▪ societal ▪ scientific	The use for which a text is constructed: ▪ personal ▪ educational ▪ occupational ▪ public	The situations in which science literacy is applied: ▪ personal ▪ social ▪ global For some applications of science: ▪ life and health ▪ earth and environment ▪ technology



The material for each subject was arranged in four clusters of items, with each cluster representing 20 minutes of testing time. All material that was presented on a computer was arranged in a number of test forms, with each form containing two clusters. Each student did one form, representing a total testing time of 40 minutes.

HOW IS THE TEST CONDUCTED?

When a school participates in PISA, a school co-ordinator is appointed. The school co-ordinator compiles a list of all 15-year-olds in the school and sends this list to the PISA National Centre in the country, which randomly selects 35 students to participate. The school co-ordinator then contacts the students who have been selected and obtains the necessary permission from parents.

The testing session is usually conducted by a test administrator who is trained and employed by the National Centre. The test administrator contacts the school co-ordinator to schedule administration of the assessment. The school co-ordinator ensures that the students, who may come from different grades and different classes, attend the testing sessions. The test administrator's primary tasks are to ensure that each test booklet is distributed to the correct student and to introduce the tests to the students. After the test is over, the test administrator collects the test booklets and sends them to the National Centre for coding.

In PISA 2012, at least 13 different test booklets were used in each country. With 13 different booklets for each group of 35 students, no more than 3 students were given the same booklet. Booklets were allocated to individual students according to a random selection process. The test administrator's introduction came from a prescribed text so that all students in different schools and countries received exactly the same instructions. Before starting the test, the students were asked to do a practice question from their booklets. The testing session was divided into two parts: the two-hour test to assess their knowledge and skills, and the 30-minute questionnaire session to collect data on their personal background. Students were usually given a short break half-way through the test and again before they completed the questionnaire.

WHAT KINDS OF RESULTS DOES THE TEST PROVIDE?

The PISA assessment provides three main types of outcomes:

- basic indicators that provide a baseline profile of students' knowledge and skills;
- indicators that show how skills relate to important demographic, social, economic and educational variables; and
- indicators on trends that show changes in student performance and in the relationships between student-level and school-level variables and outcomes.

Although indicators can highlight important issues, they do not provide answers to policy questions. To respond to this, PISA also developed a policy-oriented analysis plan that uses the indicators as a basis for policy discussion.

WHERE CAN YOU FIND THE RESULTS?

This is the first of six volumes that presents the results from PISA 2012. It begins by discussing student performance in mathematics in PISA 2012 and examines how that performance has changed over previous PISA assessments. Chapter 3 examines how opportunities to learn are associated with mathematics performance. Chapters 4 and 5 provide an overview of student performance in reading and science, respectively, and describe the evolution of performance in these subjects over previous PISA assessments. Chapter 6 discusses the policy implications based on analyses of the results of the preceding chapters and on the policy-reform experience of some countries that have improved during the participation in PISA.

The other five volumes cover the following issues:

Volume II, ***Excellence through Equity: Giving Every Student the Chance to Succeed,*** defines and measures equity in education and analyses how equity in education has evolved across countries between PISA 2003 and 2012. The volume examines the relationship between student performance and socio-economic status, and describes how other individual student characteristics, such as immigrant background and family structure, and school characteristics, such as school location, are associated with socio-economic status and performance. The volume also reveals differences in how equitably countries allocate resources and opportunities to learn to schools with different socio-economic profiles. Case studies, examining the policy reforms adopted by countries that have improved in PISA, are highlighted throughout the volume.

Volume III, ***Ready to Learn: Students' Engagement, Drive and Self-Beliefs,*** explores students' engagement with and at school, their drive and motivation to succeed, and the beliefs they hold about themselves as mathematics learners.



The volume identifies the students who are at particular risk of having low levels of engagement in, and holding negative dispositions towards, school in general and mathematics in particular, and how engagement, drive, motivation and self-beliefs are related to mathematics performance. The volume identifies the roles schools can play in shaping the well-being of students and the role parents can play in promoting their children's engagement with and dispositions towards learning. Changes in students' engagement, drive, motivation and self-beliefs between 2003 and 2012, and how those dispositions have changed during the period among particular subgroups of students, notably socio-economically advantaged and disadvantaged students, boys and girls, and students at different levels of mathematics proficiency, are examined when comparable data are available. Throughout the volume, case studies examine in greater detail the policy reforms adopted by countries that have improved in PISA.

Volume IV, ***What Makes Schools Successful? Resources, Policies and Practices,*** examines how student performance is associated with various characteristics of individual schools and of concerned school systems. It discusses how 15-year-old students are selected and grouped into different schools, programmes, and education levels, and how human, financial, educational and time resources are allocated to different schools. The volume also examines how school systems balance autonomy with collaboration, and how the learning environment in school shapes student performance. Trends in these variables between 2003 and 2012 are examined when comparable data are available, and case studies, examining the policy reforms adopted by countries that have improved in PISA, are highlighted throughout the volume.

Volume V, ***Skills for Life: Student Performance in Problem Solving,*** presents student performance in the PISA 2012 assessment of problem solving, which measures students' capacity to respond to non-routine situations in order to achieve their potential as constructive and reflective citizens. It provides the rationale for assessing problem-solving skills and describes performance within and across countries. In addition, the volume highlights the relative strengths and weaknesses of each school system and examines how they are related to individual student characteristics, such as gender, immigrant background and socio-economic status. The volume also explores the role of education in fostering problem-solving skills.

Volume VI, ***Students and Money: Financial Literacy Skills for the 21st Century,*** examines 15-year-old students' performance in financial literacy in the 18 countries and economies that participated in this optional assessment. It also discusses the relationship of financial literacy to students' and their families' background and to students' mathematics and reading skills. The volume also explores students' access to money and their experience with financial matters. In addition, it provides an overview of the current status of financial education in schools and highlights relevant case studies.

The frameworks for assessing mathematics, reading and science in 2012 are described in *PISA 2012 Assessment and Analytical Framework: Mathematics, Reading, Science, Problem Solving and Financial Literacy* (OECD, 2013). They are also summarised in this volume.

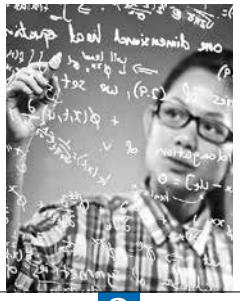
Technical annexes at the end of this report describe how questionnaire indices were constructed and discuss sampling issues, quality-assurance procedures, the reliability of coding, and the process followed for developing the assessment instruments. Many of the issues covered in the technical annexes are elaborated in greater detail in the *PISA 2012 Technical Report* (OECD, forthcoming).

All data tables referred to in the analysis are included at the end of the respective volume in Annex B1, and a set of additional data tables is available on line (*www.pisa.oecd.org*). A Reader's Guide is also provided in each volume to aid in interpreting the tables and figures that accompany the report. Data from regions within the participating countries are included in Annex B2. Results from the computer-based assessment of mathematics and reading are presented in Annex B3.

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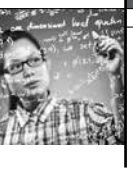
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2

A Profile of Student Performance in Mathematics

This chapter compares student performance in mathematics across and within countries and economies. It discusses the PISA definition of literacy in mathematics and describes the tasks associated with each PISA proficiency level. The chapter then digs deep into the results of the mathematics assessment, showing gender differences in performance, trends in mathematics performance up to 2012, and differences in students' abilities to handle certain mathematics processes, such as formulating situations mathematically, and certain mathematics contents, such as *uncertainty and data*, and *space and shape*.



All adults, not just those with technical or scientific careers, now require adequate mathematics proficiency for personal fulfilment, employment and full participation in society. To one degree or another, mathematical concepts and processes are intrinsic to many daily tasks: from buying and selling goods and services, to cooking or planning a vacation, to explaining highly complex phenomena. Students about to leave compulsory education should thus have a solid understanding of these concepts and be able to apply them to solve problems that they encounter in their daily lives.

This chapter summarises the mathematics performance of students in PISA 2012. It describes how performance is defined, measured and reported, and then provides results from the paper-based assessment, showing what students are able to do in mathematics. After a summary of mathematics performance, it examines the ways in which this performance varies on subscales representing different aspects of mathematics. Annex B3 provides further results for 32 countries and economies that participated in the computer-based assessment, supplementing the paper-based scale with two others: the computer-based scale and the combined paper- and computer-based scale.

What the data tell us

- Of the 64 countries and economies with trend data up to 2012, 25 show an average annual improvement in mathematics performance, 25 show no change, and 14 show a deterioration in performance.
- Among countries and economies that have participated in every assessment since 2003, Brazil, Italy, Mexico, Poland, Portugal, Tunisia and Turkey show an average improvement in mathematics performance of more than 2.5 points per year.
- Germany, Hong Kong-China, Macao-China, Shanghai-China and Singapore improved in mathematics performance and their previous scores placed them at or above the OECD average.
- Between 2003 and 2012 Italy, Poland and Portugal reduced the proportion of low performers and increased the proportion of high performers. This was also observed in Israel, Qatar and Romania between 2006 and 2012, and in Ireland, Malaysia and the Russian Federation between 2009 and 2012.
- Boys perform better than girls in mathematics in 38 out of the 65 countries and economies that participated in PISA 2012, and girls outperform boys in 5 countries.

Box I.2.1. What does performance in PISA say about readiness for further education and a career?

To what extent is the performance of 15-year-olds in PISA predictive of further education and career readiness and success later in life? The transition from adolescence to early adulthood is a critical time in the social and intellectual development of young people. Once compulsory education is completed, adolescents have to make important decisions about post-secondary education, employment and other life choices that will have a major impact on their future learning and employment prospects as well as on their overall well-being. A decade-long study undertaken in Canada coupled data collected from the PISA assessment of 15-year-olds in 2000 with follow-ups conducted every two years through a national survey of those same students and parents (the Youth in Transition Survey). The results from this study show that having a solid foundation in the kinds of skills that PISA measures makes it much easier to advance in post-compulsory education. Reading scores in PISA, for example, are associated with the likelihood of students progressing from one grade level to another across grades 10 to 16. Some 37% of boys with a high reading score, i.e. in the top quintile of reading proficiency, attained grade 16 compared to just 3.4% of boys with low reading scores (bottom quintile). Similarly, 52.4% of girls with high reading scores attained grade 16 compared to 14.9% of girls with low reading scores. The results show that reading scores had a stronger association with grade progression during the post-secondary school years than with schooling up to grade 12, particularly for boys.

Equally important, the results also show that introducing a uniform increase of one standard deviation in reading scores results in a 17.4% reduction in the proportion of young men who leave formal education before completing secondary school and a 12.6% increase in the proportion of young men who attend post-secondary education.

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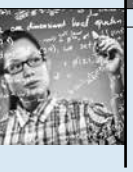


For girls, the effects of increased reading scores are also substantial. A one standard deviation increase in reading scores is associated with a 31.5% reduction in the proportion of girls who leave formal education before completing secondary school and an 11.4% increase in the share of young women who complete at least some post-secondary education. Even after adjusting for socio-economic status, both achievement in PISA and educational attainment are associated with a higher likelihood of continuing in education and a lower likelihood of proceeding to work or to a period of inactivity (OECD, 2010a).

To what extent are the differences in the performance of school systems, as observed in PISA, reflected in the skills of adults who have recently completed initial education and training? The Survey of Adult Skills, a product of the OECD Programme for the International Assessment of Adult Competencies (PIAAC), provides a way to assess this. Most adults aged 27 or under in participating countries correspond to the cohorts assessed in PISA in 2000, 2003, 2006 and 2009, when they were 15 years old.

The results from the Survey of Adult Skills show that, overall, there is a reasonably close correlation between countries' performance across the successive PISA assessments and the proficiency of the corresponding age cohorts in literacy and numeracy in the Skills Survey. Countries performing well in PISA in a given year (e.g. 2000) tend to show high performance among the corresponding age cohort (e.g. 27-year-olds) in the Survey of Adult Skills (PIAAC) and vice versa. This suggests that, at the country level, the reading and mathematics proficiency of an age cohort in PISA is a reasonably good predictor of the cohort's subsequent performance in literacy and numeracy as it moves through post-compulsory education and into the labour market. By implication, much of the difference in the literacy and numeracy proficiency of young adults today is likely related to the effectiveness of the instruction they received in primary and lower secondary school.

Of course, some caution is advised in comparing results of the two studies. The overlap between the target populations of the Survey of Adult Skills (PIAAC) and PISA is not complete; and while the concepts of literacy in the Skills Survey and reading literacy in PISA, and the concepts of numeracy in the Skills Survey and mathematical literacy in PISA are closely related, the measurement scales are not the same. In addition, the skills of 15-27 year-olds are subject to influences that vary across individuals and countries, including participation in post-secondary and tertiary education and the quality of these programmes, second-chance opportunities for low-skilled young adults, and characteristics of the labour market (OECD, 2013a and b).



A CONTEXT FOR COMPARING THE MATHEMATICS PERFORMANCE OF COUNTRIES AND ECONOMIES

Comparing mathematics performance, and educational performance more generally, poses numerous challenges. When teachers give a mathematics test in a classroom, students with varying abilities, attitudes and social backgrounds are required to respond to the same set of tasks. When educators compare the performance of schools, the same test is used across schools that may differ significantly in the structure and sequencing of their curricula, in the pedagogical emphases and instructional methods applied, and in the demographic and social contexts of their student populations. Comparing the performance of education systems across countries adds more layers of complexity, because students are given tests in different languages, and because the social, economic and cultural context of the countries that are being compared are often very different. However, while students within a country may learn in different contexts according to their home background and the school that they attend, their performance is measured against common standards, since, when they become adults, they will all face common challenges and have to compete for the same jobs. Similarly, in a global economy, the benchmark for success in education is no longer improvement by national standards alone, but increasingly, in relation to the best-performing education systems internationally. As difficult as international comparisons are, they are important for educators, and PISA goes to considerable lengths to ensure that such comparisons are valid and fair.

This section discusses countries' mathematics performance in the context of important economic, demographic and social factors that can influence assessment results. It provides a framework for interpreting the results that are presented later in the chapter.

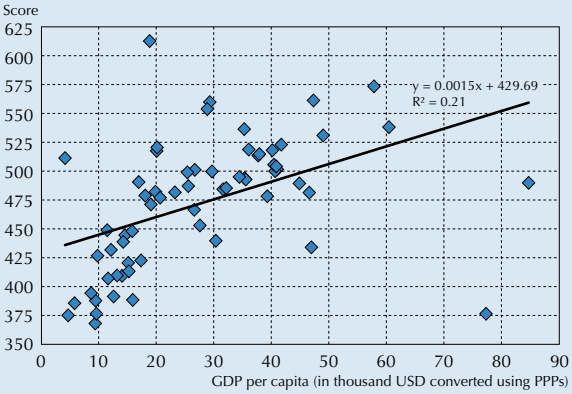
As shown in Volume II, *Excellence through Equity*, a family's wealth influences children's performance in school, but that influence varies markedly across countries. Similarly, the relative prosperity of some countries allows them to spend more on education, while other countries find themselves constrained by a lower national income. It is therefore important to keep the national income of countries in mind when comparing the performance of education systems across countries. Figure I.2.1 displays the relationship between national income as measured by per capita Gross Domestic Product (GDP) and students' average mathematics performance.[1] The figure also shows a trend line[2] that summarises the relationship between per capita GDP and mean student performance in mathematics among OECD countries. The relationship suggests that 21% of the variation in countries' mean scores can be predicted on the basis of their per capita GDP (12% of the variation in OECD countries). Countries with higher national incomes are thus at a relative advantage, even if the chart provides no indications about the causal nature of this relationship. This should be taken into account particularly when interpreting the performance of countries with comparatively low levels of national income, such as Viet Nam and Indonesia (Mexico and Turkey among OECD countries). Table I.2.27 shows an "adjusted" score that would be expected if the country had all of its present characteristics except that per capita GDP was equal to the average for OECD countries (Table I.2.27).

While per capita GDP reflects the potential resources available for education in each country, it does not directly measure the financial resources actually invested in education. Figure I.2.2 compares countries' actual spending per student, on average, from the age of 6 up to the age of 15, with average student performance in mathematics.[3] The results are expressed in USD using purchasing power parities (PPP). Figure I.2.2 shows a positive relationship between spending per student and mean mathematics performance among OECD countries. As expenditure on educational institutions per student increases, so does a country's mean performance. Expenditure per student explains 30% of the variation in mean performance between countries (17% of the variation in OECD countries). Relatively low spending per student needs to be taken into account when interpreting the performance of countries such as Viet Nam and Jordan (Turkey and Mexico among OECD countries). (For more details, see Figure IV.1.7 in Volume IV). At the same time, deviations from the trend line suggest that moderate spending per student cannot automatically be equated with poor performance. For example, the Slovak Republic, which spends around USD 53 000 per student, performs at the same level as the United States, which spends over USD 115 000 per student. Similarly, Korea, the highest-performing OECD country in mathematics, spends well below the average per-student expenditure (Table I.2.27).

Given the close interrelationship between a student's performance and his or her parents' level of education, it is also important to bear in mind the educational attainment of adult populations when comparing the performance of OECD countries, as countries with more highly educated adults are at an advantage over countries where parents have less education. Figure I.2.3 shows the percentage of 35-44 year-olds who have attained tertiary education. This group corresponds roughly to the age group of parents of the 15-year-olds assessed in PISA. Parents' level of education explains 27% of the variation in mean performance between countries (23% of the variation among OECD countries).

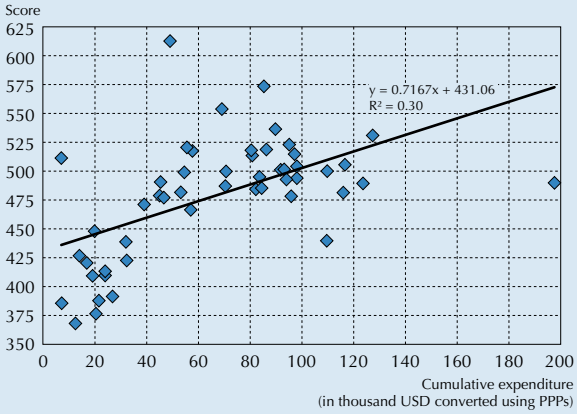


■ Figure I.2.1 ■
Mathematics performance and Gross Domestic Product



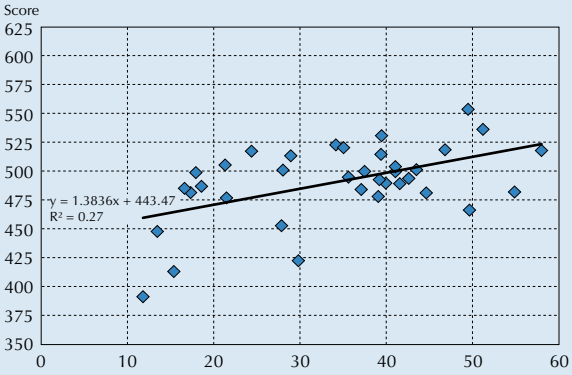
Source: OECD, PISA 2012 Database, Table I.2.27.
StatLink http://dx.doi.org/10.1787/888932935572

■ Figure I.2.2 ■
Mathematics performance and spending on education



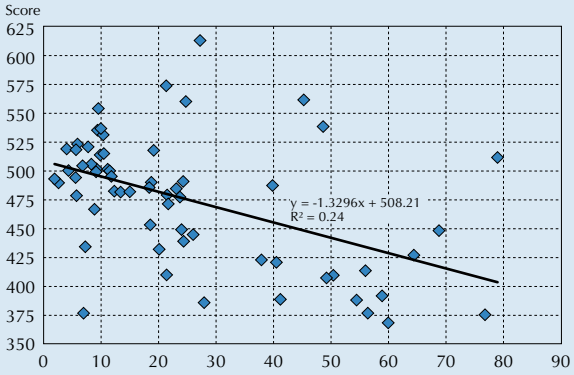
Source: OECD, PISA 2012 Database, Table I.2.27.
StatLink http://dx.doi.org/10.1787/888932935572

■ Figure I.2.3 ■
Mathematics performance and parents' education



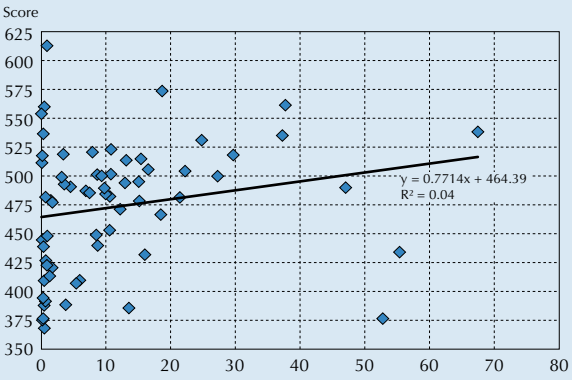
Source: OECD, PISA 2012 Database, Table I.2.27.
StatLink http://dx.doi.org/10.1787/888932935572

■ Figure I.2.4 ■
Mathematics performance and share of socio-economically disadvantaged students



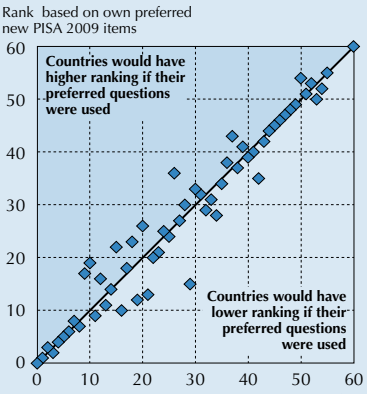
Source: OECD, PISA 2012 Database, Table I.2.27.
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■ Figure I.2.5 ■
Mathematics performance and proportion of students from an immigrant background

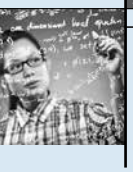


Source: OECD, PISA 2012 Database, Table I.2.27.
StatLink http://dx.doi.org/10.1787/888932935572

■ Figure I.2.6 ■
Equivalence of the PISA assessment across cultures and languages



Source: OECD, PISA 2009 Database, Table I.2.28.
StatLink http://dx.doi.org/10.1787/888932935572



Socio-economic heterogeneity in student populations poses another major challenge for teachers and education systems. As shown in Volume II, *Excellence through Equity*, teachers instructing socio-economically disadvantaged children are likely to face greater challenges than teachers teaching students from more advantaged backgrounds. Similarly, countries with larger proportions of disadvantaged children face greater challenges than countries with smaller proportions of these students. Figure I.2.4 shows the proportion of students at the lower end of an international scale of the economic, social and cultural status of students, which is described in detail in Volume II, and how this relates to mathematics performance. The relationship explains 24% of the performance variation among countries (46% of the variation among OECD countries). Among OECD countries, Turkey and Mexico, where 69% and 56% of students, respectively, belong to the most disadvantaged group, and Portugal, Chile, Hungary and Spain, where more than 20% of students belong to this group, face much greater challenges than, for example, Iceland, Norway, Finland and Denmark, where fewer than 5% of students are disadvantaged (Table I.2.27). These challenges are even greater in some partner countries like Viet Nam and Indonesia where 79% and 77% of students, respectively, are socio-economically disadvantaged.

Integrating students with an immigrant background can also be challenging, and the level of performance of students who immigrated to the country in which they were assessed can be only partially attributed to their host country's education system. Figure I.2.5 shows the proportion of 15-year-olds from an immigrant background and how this relates to student performance. This proportion explains only 4% of the variation in mean performance among countries. Despite having large proportions of immigrant students, some countries, like Canada, perform above the OECD average (Table I.2.27).

When examining the results for individual countries, as shown in Table I.2.27, it is apparent that countries vary in their demographic, social and economic contexts. Table I.2.27 summarises in an index the different factors discussed above.[4] Among the countries with available data, the index shows Luxembourg, Norway, Japan, Finland, Iceland, Denmark, Ireland and the United States with the most advantaged demographic, social and economic contexts, and Turkey, Brazil, Mexico, Chile, Portugal, Hungary, the Slovak Republic, Poland and the Czech Republic with the most challenging contexts.

These differences need to be considered when interpreting PISA results. At the same time, the future economic and social prospects of both individuals and countries depend on the results they actually achieve, not on the performance they might have achieved under different social and economic conditions. That is why the results that are actually achieved by students, schools and countries are the focus of this volume.

Even after accounting for the demographic, economic and social context of education systems, the question remains: to what extent is an international test meaningful when differences in languages and cultures lead to very different ways in which subjects such as language, mathematics and science are taught and learned? It is inevitable that not all tasks on the PISA assessments are equally appropriate in different cultural contexts and equally relevant in different curricular and instructional contexts. To gauge this, in 2009 PISA asked every country to identify those tasks from the PISA tests that it considered most appropriate for an international test. Countries were advised to give an on-balance rating for each task with regard to its usefulness in indicating "preparedness for life", its authenticity, and its relevance for 15-year-olds. Tasks given a high rating by a country are referred to as that country's most preferred questions for PISA. PISA then scored every country on its own most preferred questions and compared the resulting performance with the performance on the entire set of PISA tasks (Figure I.2.6). It is clear that, generally, the proportion of questions answered correctly by students does not depend significantly on whether countries were only scored on their preferred questions or on the overall set of PISA tasks. This provides robust evidence that the results of the PISA assessments would not change markedly if countries had more influence in selecting texts that they thought might be "fairer" to their students.

Finally, when comparing student performance across countries, the extent to which student performance on international tests might be influenced by the effort that students in different countries invest in the assessment must be considered. In PISA 2003, students were asked to imagine an actual situation that was highly important to them, so that they could try their very best and invest as much effort as they could into doing well. They were then asked to report how much effort they had put into doing the PISA test compared to the situation they had just imagined; and how much effort they would have invested if their marks from PISA had been counted in their school marks. The students generally answered realistically, saying that they would expend more effort if the test results were to count towards their school marks; but the analysis also established that the reported expenditure of effort by students was fairly stable across countries. This finding counters the claim that systematic cultural differences in the effort expended by students invalidate international comparisons. The analysis also showed that within countries, the amount of effort invested was related to student achievement, with an effect size similar to variables such as single-parent family structure, gender and socio-economic background.[5]



THE PISA APPROACH TO ASSESSING STUDENT PERFORMANCE IN MATHEMATICS

The PISA definition of mathematical literacy

The focus of the PISA 2012 assessment was on measuring an individual's capacity to formulate, employ and interpret mathematics in a variety of contexts. It includes reasoning mathematically and using mathematical concepts, procedures, facts, and tools to describe, explain and predict phenomena. It assists individuals in recognising the role that mathematics plays in the world and to make the well-founded judgements and decisions needed by constructive, engaged and reflective citizens.

The definition asserts the importance of mathematics for full participation in society and it stipulates that this importance arises from the way in which mathematics can be used to describe, explain and predict phenomena of many types. The resulting insight into phenomena is the basis for informed decision making and judgements.

Literacy in mathematics described in this way is not an attribute that an individual has or does not have; rather, it can be acquired to a greater or lesser extent, and it is required in varying degrees in society. PISA seeks to measure not just the extent to which students can reproduce mathematical content knowledge, but also how well they can extrapolate from what they know and apply their knowledge of mathematics, in both new and unfamiliar situations. This is a reflection of modern societies and workplaces, which value success not by what people know, but by what people can do with what they know.

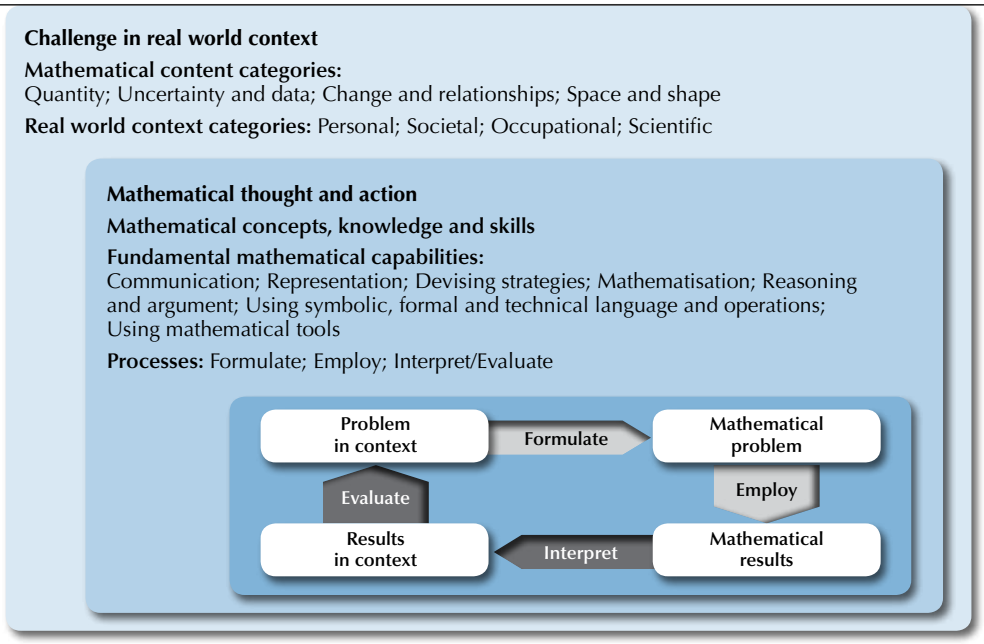
The focus on real-life contexts is also reflected in the reference to using "tools" that appears in the PISA 2012 definition of mathematical literacy. The word "tools" here refers to physical and digital equipment, software and calculation devices that have become ubiquitous in 21st century workplaces. Examples for this assessment include a ruler, a calculator, a spreadsheet, an online currency converter and specific mathematics software, such as dynamic geometry. Using these tools require a degree of mathematical reasoning that the PISA assessment is well-equipped to measure.

The PISA 2012 framework for assessing mathematics

Figure I.2.7 presents an overview of the main constructs of the PISA 2012 mathematics framework that was established and agreed by the participating countries, and how the constructs relate to each other. The largest box shows that mathematical literacy is assessed in the context of a challenge or problem that arises in the real world. The middle box highlights the nature of mathematical thought and action that can be used to solve the problem. The smallest box describes the processes that the problem solver uses to construct a solution.

■ Figure I.2.7 ■

Main features of the PISA 2012 mathematics framework





Context categories

Real-world challenges or situations are categorised in two ways: their context and the domain of mathematics involved. The four context categories identify the broad areas of life in which the problems may arise: personal, which is related to individuals' and families' daily lives; societal, which is related to the community – local, national or global – in which an individual lives; occupational, which is related to the world of work; or scientific, which is related to the use of mathematics in science and technology. According to the framework, these four categories are represented by equal numbers of items.

Content categories

As seen in Figure I.2.7, the PISA items also reflect four categories of mathematical content that are related to the problems posed. The four content categories are represented by approximately equal proportions of items. For the assessment of 15-year-olds, age-appropriate content was developed.

The content category *quantity* incorporates the quantification of attributes of objects, relationships, situations, and entities in the world, which requires an understanding of various representations of those quantifications, and judging interpretations and arguments based on quantity. It involves understanding measurements, counts, magnitudes, units, indicators, relative size, and numerical trends and patterns, and employing number sense, multiple representations of numbers, mental calculation, estimation, and assessment of reasonableness of results.

The content category *uncertainty and data* covers two closely related sets of issues: how to identify and summarise the messages that are embedded in sets of data presented in different ways, and how to appreciate the likely impact of the variability that is inherent in many real processes. Uncertainty is part of scientific predictions, poll results, weather forecasts and economic models; variation occurs in manufacturing processes, test scores and survey findings; and chance is part of many recreational activities that individuals enjoy. Probability and statistics, taught as part of mathematics, address these issues.

The content category *change and relationships* focuses on the multitude of temporary and permanent relationships among objects and circumstances, where changes occur within systems of interrelated objects or in circumstances where the elements influence one another. Some of these changes occur over time; some are related to changes in other objects or quantities. Being more literate in this content category involves understanding fundamental types of change and recognising when change occurs so that suitable mathematical models can be employed to describe and predict change.

The content category *space and shape* encompasses a wide range of phenomena that are encountered everywhere: patterns, properties of objects, positions and orientations, representations of objects, decoding and encoding of visual information, navigation, and dynamic interaction with real shapes and their representations. Geometry is essential to space and shape, but the category extends beyond traditional geometry in content, meaning and method, drawing on elements of other mathematical areas, such as spatial visualisation, measurement and algebra. Mathematical literacy in *space and shape* involves understanding perspective, creating and reading maps, transforming shapes with and without technology, interpreting views of three-dimensional scenes from various perspectives, and constructing representations of shapes.

Process categories

The smallest box of Figure I.2.7 shows a schema of the stages through which a problem-solver may move when solving PISA tasks. The action begins with the "problem in context." The problem-solver tries to identify the mathematics relevant to the problem situation, formulates the situation mathematically according to the concepts and relationships identified, and makes assumptions to simplify the situation. The problem-solver thus transforms the "problem in context" into a "mathematical problem" that can be solved using mathematics. The downward-pointing arrow in Figure I.2.7 represents the work undertaken as the problem-solver employs mathematical concepts, facts, procedures and reasoning to obtain the "mathematical results". This stage usually involves mathematical manipulation, transformation and computation, with and without tools. The "mathematical results" then need to be interpreted in terms of the original problem to obtain the "results in context". The problem solver thus must interpret, apply and evaluate mathematical outcomes and their reasonableness in the context of a real-world problem. The three processes – formulate, employ and interpret – each draw on fundamental mathematical capabilities, which, in turn, draw on the problem-solver's detailed mathematical knowledge.



However, not all PISA tasks engage students in every stage of the modelling cycle. Items are classified according to the dominant process and results are reported by these processes, formally named as:

- Formulating situations mathematically.
- Employing mathematical concepts, facts, procedures and reasoning.
- Interpreting, applying and evaluating mathematical outcomes.

Fundamental mathematical capabilities

Through a decade of experience in developing PISA items and analysing the ways in which students respond to them, a set of fundamental mathematical capabilities has been established that underpins performance in mathematics. These cognitive capabilities can be learned by individuals in order to understand and engage with the world in a mathematical way. Since the PISA 2003 framework was written, researchers (e.g. Turner, 2013) have examined the extent to which the difficulty of a PISA item can be understood, and even predicted, from how each of the fundamental mathematical capabilities is used to solve the item. Four levels describe the ways in which each of the capabilities is used, from simple to complex. For example, an item involving a low level of communication would be simple to read and require only a simple response (e.g. a word); an item involving a high level of communication might require the student to assemble information from various different sources to understand the problem, and the student might have to write a response that explains several steps of thinking through a problem. This research has resulted in sharper definitions of the fundamental mathematical capabilities at each of four levels. A composite score has been shown to be a strong predictor of PISA item difficulty. These fundamental mathematical capabilities are evident across the content categories, and are used to varying degrees in each of the three mathematical processes used in the reporting. The PISA framework (OECD, 2013c) describes this in detail.

The seven fundamental mathematical capabilities used in the PISA 2012 assessment are described as follows:

Communication is both receptive and expressive. Reading, decoding and interpreting statements, questions, tasks or objects enables the individual to form a mental model of the situation. Later, the problem-solver may need to present or explain the solution.

Mathematising involves moving between the real world and the mathematical world. It has two parts: formulating and interpreting. Formulating a problem as a mathematical problem can include structuring, conceptualising, making assumptions and/or constructing a model. Interpreting involves determining whether and how the results of mathematical work are related to the original problem and judging their adequacy. It directly relates to the *formulate* and *interpret* processes of the framework.

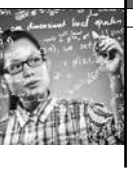
Representation entails selecting, interpreting, translating between and using a variety of representations to capture a situation, interact with a problem, or present one's work. The representations referred to include graphs, tables, diagrams, pictures, equations, formulae, textual descriptions and concrete materials.

Reasoning and argument is required throughout the different stages and activities associated with mathematical literacy. This capability involves thought processes rooted in logic that explore and link problem elements so as to be able to make inferences from them, check a justification that is given, or provide a justification of statements or solutions to problems.

Devising strategies for solving problems is characterised as selecting or devising a plan or strategy to use mathematics to solve problems arising from a task or context, and guiding and monitoring its implementation. It involves seeking links between diverse data presented so that the information can be combined to reach a solution efficiently.

Using symbolic, formal and technical language and operations involves understanding, interpreting, manipulating and making use of symbolic and arithmetic expressions and operations, using formal constructs based on definitions, rules and formal systems, and using algorithms with these entities.

Using mathematical tools involves knowing about and being able to use various tools (physical or digital) that may assist mathematical activity, and knowing about the limitations of such tools. The optional computer-based component of the PISA 2012 mathematics assessment has expanded the opportunities for students to demonstrate their ability to use mathematical tools.



Paper-based and computer-based media

PISA 2012 supplemented the paper-based assessment with an optional computer-based assessment, in which specially designed PISA units were presented on a computer and students responded on the computer. Thirty-two of the 65 participating countries and economies participated in this computer-based assessment. For these countries and economies, results are reported for the paper-based assessment scale and supplemented with a computer-based scale and a combined paper-and-computer scale (see Annex B3).

The design of the computer-based assessment ensures that mathematical reasoning and processes take precedence over mastery of using the computer as a tool. Each computer-based item involves three aspects:

- the mathematical demand (as for paper-based items);
- the general knowledge and skills related to information and communication technologies (ICT) that are required (e.g. using keyboard and mouse, and knowing common conventions, such as arrows to move forward). These are intentionally kept to a minimum;
- competencies related to the interaction of mathematics and ICT, such as making a pie chart from data using a simple "wizard", or planning and implementing a sorting strategy to locate and collect desired data in a spreadsheet.

Response types

The response types distinguish between selected response items and constructed response items. Selected response items include simple multiple choice, complex multiple choice, in which students must select correct answers to a series of multiple-choice items, and, for computer-based items, "selected response variations", such as selecting from options in a drop-down box. Constructed response items include those that can be scored routinely (such as a single number or simple phrase, or, for computer-based items, those for which the response can be captured and processed automatically), and others that need expert scoring (e.g. responses that include an explanation or a long calculation).

Examples of items representing the different framework categories

Figure I.2.8 summarises the six categories constructed to create a balanced assessment. Three of the six – process, content and medium – are reporting categories. As noted before, PISA 2012 reports scores separately for the three process categories. Since PISA questions are set in real contexts, they usually involve multiple processes, contents and contexts. It is necessary to make judgements about the major source of demand in order to allocate items to just one of the categories for process, content and context, even though the items are multi-faceted. The items are allocated to the category that reflects the highest cognitive focus of the item.

■ Figure I.2.8 ■

Categories describing the items constructed for the PISA 2012 mathematics assessment

<table>
<tr><th colspan="3">Reporting categories</th><th colspan="3">Further categories to ensure balanced assessment</th></tr>
<tr><th>Process categories</th><th>Content categories</th><th>Medium categories</th><th>Context categories</th><th>Response types</th><th>Cognitive demand</th></tr>
<tr><td rowspan="2">Formulating situations mathematically</td><td>Quantity</td><td rowspan="2">Paper-based</td><td>Personal</td><td rowspan="2">Multiple choice</td><td rowspan="2">Empirical difficulty (continuum)</td></tr>
<tr><td rowspan="2">Uncertainty and data</td><td>Societal</td></tr>
<tr><td rowspan="2">Employing mathematical concepts, facts, procedures, and reasoning</td><td rowspan="2">Change and relationships</td><td rowspan="3">Computer-based</td><td rowspan="2">Occupational</td><td rowspan="2">Complex multiple choice</td><td rowspan="3">Across fundamental mathematical capabilities</td></tr>
<tr><td rowspan="2">Interpreting, applying and evaluating mathematical outcomes</td></tr>
<tr><td>Space and shape</td><td>Scientific</td><td>Constructed response (simple, elaborated)</td></tr>
</table>

The PISA 2012 mathematics assessment includes the same proportion of items from each of the categories content, context and response type. A quarter of the items in the assessment reflect the process *formulating*, half reflect the process *employing*, and a quarter reflect the process *interpreting*. To measure the full range of student performance, the set of items reflects all levels of difficulty.

Figure I.2.9 summarises how several sample items (see at the end of this chapter) are categorised.



■ Figure I.2.9 ■

Classification of sample items, by process, context and content categories and response type

Item/Question (position on PISA scale)	Process category	Content category	Context category	Response type
WHICH CAR? – Question 01 (327.8)	Interpret	Uncertainty and data	Personal	Simple Multiple Choice
WHICH CAR? – Question 02 (490.9)	Employ	Quantity	Personal	Simple Multiple Choice
WHICH CAR? – Question 03 (552.6)	Employ	Quantity	Personal	Constructed Response Manual
CHARTS – Question 01 (347.7)	Interpret	Uncertainty and data	Societal	Simple Multiple Choice
CHARTS – Question 02 (415.0)	Interpret	Uncertainty and data	Societal	Simple Multiple Choice
CHARTS – Question 05 (428.2)	Employ	Uncertainty and data	Societal	Simple Multiple Choice
GARAGE – Question 01 (419.6)	Interpret	Space and shape	Occupational	Simple Multiple Choice
GARAGE – Question 02 (687.3)	Employ	Space and shape	Occupational	Constructed Response Expert
HELEN THE CYCLIST – Question 01 (440.5)	Employ	Change and relationships	Personal	Simple Multiple Choice
HELEN THE CYCLIST – Question 02 (510.6)	Employ	Change and relationships	Personal	Simple Multiple Choice
HELEN THE CYCLIST – Question 03 (696.6)	Employ	Change and relationships	Personal	Constructed Response Manual
CLIMBING MOUNT FUJI – Question 01 (464.0)	Formulate	Quantity	Societal	Simple Multiple Choice
CLIMBING MOUNT FUJI – Question 02 (641.6)	Formulate	Change and relationships	Societal	Constructed Response Expert
CLIMBING MOUNT FUJI – Question 03 (610.0)	Employ	Quantity	Societal	Constructed Response Manual
REVOLVING DOOR – Question 01 (512.3)	Employ	Space and shape	Scientific	Constructed Response Manual
REVOLVING DOOR – Question 02 (840.3)	Formulate	Space and shape	Scientific	Constructed Response Expert
REVOLVING DOOR – Question 03 (561.3)	Formulate	Quantity	Scientific	Simple Multiple Choice

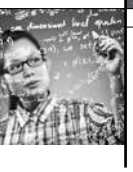
Example 1: WHICH CAR?

The unit, "WHICH CAR?", (Figure I.2.10) consists of three questions. It presents a table of data that a person might use to choose a car and make sure that she can afford it.

Context: Because buying a car is an experience that many people might have during their lifetimes, all three questions were allocated to the personal context category.

Response type: Question 1 and Question 2 are simple multiple-choice questions; Question 3, which asks for a single number, is a constructed response item that does not require expert scoring.

Content: Question 1 was allocated to the *uncertainty and data* content category. The item requires knowledge of the basic row-column conventions of a table, as well as co-ordinated data-handling ability to identify where the three conditions are simultaneously satisfied. While the solution also requires basic knowledge of large whole numbers, that knowledge is unlikely to be the main source of difficulty in the item. In contrast, Question 2 has been allocated to the *quantity* content category because it is well known that even at age 15, many students have misconceptions about the base ten and place value ideas required to order "ragged" decimal numbers. Question 3 is also allocated to the *quantity* content category because the calculation of 2.5% is expected to require more cognitive effort from students than identifying the correct data in the table. The difficulty for this age group in dealing with decimal numbers and percentages is reflected in the empirical results: Question 1 is considered an easy item, Question 2 is close to the international average, and Question 3 is of above-average difficulty.



Process: In allocating the items to process categories, their relation to "real-world" problems has been taken into consideration. The primary demand in items in the formulate category is the transition from the real-world problem to the mathematical problem; in the employ category, the primary demand is within the mathematical world; and in the interpret category, an item's primary demand is in using mathematical information to provide a real-world solution. Questions 2 and 3 are allocated to the *employ* category. This is because in both of these items, the main cognitive effort is made within mathematics: decimal notation and the calculation of a percentage. In Question 1, the construction of a table of data, including the need to identify key variables, is a mathematisation of a real situation. Question 1 is allocated to the *interpret* category because it requires these mathematical entities to be interpreted in relation to the real world.

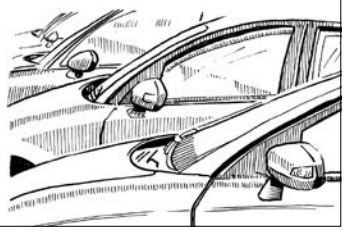
■ Figure I.2.10 ■

WHICH CAR? – a unit from the PISA 2012 main survey

WHICH CAR?

Chris has just received her car driving licence and wants to buy her first car.
This table below shows the details of four cars she finds at a local car dealer.

Model:	Alpha	Bolte	Castel	Dezal
Year	2003	2000	2001	1999
Advertised price (zeds)	4 800	4 450	4 250	3 990
Distance travelled (kilometres)	105 000	115 000	128 000	109 000
Engine capacity (litres)	1.79	1.796	1.82	1.783



WHICH CAR? – *QUESTION 1*

Chris wants a car that meets **all** of these conditions:

- The distance travelled is **not** higher than 120 000 kilometres.
- It was made in the year 2000 or a later year.
- The advertised price is **not** higher than 4 500 zeds.
- Which car meets Chris's conditions?

A. Alpha
B. Bolte
C. Castel
D. Dezal

WHICH CAR? – *QUESTION 2*

Which car's engine capacity is the smallest?

A. Alpha
B. Bolte
C. Castel
D. Dezal

WHICH CAR? – *QUESTION 3*

Chris will have to pay an extra 2.5% of the advertised cost of the car as taxes.

How much are the extra taxes for the Alpha?

Extra taxes in zeds: .....

Example 2: CLIMBING MOUNT FUJI

Context: The unit "CLIMBING MOUNT FUJI", containing three questions, as shown in Figure I.2.11, was allocated to the societal context category. Question 1 goes beyond the personal concerns of a walker to wider community issues – in this case, concerns about use of the public trail. Items classified as societal involve such things as voting systems, public transport, government, public policies, demographics, advertising, national statistics and economics. Although individuals can be personally involved in these, the focus of the problem is more on the community perspective.

Response: Question 1 is simple multiple choice (choose one out of four). Question 2 requires the answer 11 a.m. and as such, is a constructed response with expert scoring to ensure that all equivalent ways of writing the time are considered. Question 3 requires the number 40 for full score, or the number 0.4 (answering in metres) for partial credit. It, too, is a constructed response with expert scoring.

Content: Question 1 requires calculating the number of days open using the given dates, and then calculating an average. The question was allocated to the *quantity* content category because it involves quantification of time and of an average. While the formula for average is required, and this is indeed a relationship, since this question requires use of an average to calculate the number of people per day, rather than focus on the relationship, this question is not allocated to the *change and relationships* category. Question 3 has similar characteristics, involving units of length. Question 2 is allocated to the *change and relationships* category because the relationship between distance and time, encapsulated as



speed, is paramount. From information about distances and speed, the time to go up and the time to come down have to be quantified, and then used in combination with the finishing time to get the starting time. Had the time needed to go up and down been given directly, rather than indirectly through distance and speed, then the question could have been allocated to the *quantity* category.

■ Figure I.2.11 ■

CLIMBING MOUNT FUJI – a unit from the field trial

CLIMBING MOUNT FUJI

Mount Fuji is a famous dormant volcano in Japan



CLIMBING MOUNT FUJI – *QUESTION 1*

Mount Fuji is only open to the public for climbing from 1 July to 27 August each year. About 200 000 people climb Mount Fuji during this time.

On average, about how many people climb Mount Fuji each day?

A. 340

B. 710

C. 3 400

D. 7 100

E. 7 400

CLIMBING MOUNT FUJI – *QUESTION 2*

The Gotemba walking trail up Mount Fuji is about 9 kilometres (km) long.

Walkers need to return from the 18 km walk by 8 p.m.

Toshi estimates that he can walk up the mountain at 1.5 kilometres per hour on average, and down at twice that speed. These speeds take into account meal breaks and rest times.

Using Toshi's estimated speeds, what is the latest time he can begin his walk so that he can return by 8 p.m.?

.....

CLIMBING MOUNT FUJI – *QUESTION 3*

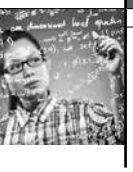
Toshi wore a pedometer to count his steps on his walk along the Gotemba trail.

His pedometer showed that he walked 22 500 steps on the way up.

Estimate Toshi's average step length for his walk up the 9 km Gotemba trail. Give your answer in centimetres (cm).

Answer: ..... cm

Process: Question 1 was allocated to the *formulating* category because most of the cognitive effort in this relatively easy item requires taking two pieces of real-world information (open season and total number of climbers) and establishing a mathematical problem to be solved: find the length of the open season from the dates and use it with the information about the total number of climbers to find the average number of climbers each day. Expert judgement is that the major cognitive demand for 15-year-olds lies in this movement from the real world problem to the mathematical relationships, rather than in the ensuing whole number calculations. Question 2 was also allocated to the *formulating* process category for the same reason: the main cognitive effort required is to translate real-world data into a mathematical problem and identify all the relationships involved, rather than calculate or interpret the answer as a starting time of 11 a.m. In this difficult item, the mathematical structure involves multiple relationships: starting time = finishing time – duration; duration = time up + time down; time up (down) = distance/speed (or equivalent proportional reasoning); time down = half time up; and appreciating the simplifying assumptions that average speeds already include consideration of variable speed during the day and that no further allowance is required for breaks.



By contrast, Question 3 was allocated to the *employing* category. There is one main relationship involved: the distance walked = number of steps × average step length. There are two obstacles to using this relationship to solve the problem: rearranging the formula (which is probably done by students informally rather than formally using the written relationship) so that the average step length can be found from distance and number of steps; and making appropriate unit conversions. The main cognitive effort required for this question is in carrying out these steps, rather than identifying the relationships and assumptions to be made (the *formulating* process) or *interpreting* the answer in real-world terms.

How the PISA 2012 mathematics results are reported

How the PISA 2012 mathematics tests were designed, analysed and scaled

The test material had to meet several requirements:

- Test items had to meet the requirements and specifications of the framework for PISA 2012 that was established and agreed upon by the participating countries. The content, processes and contexts of the items had to be deemed appropriate for a test of 15-year-olds.
- Items had to be of interest and of curricular relevance for 15-year-olds in participating countries and economies.
- Items had to meet stringent standards of technical quality and international comparability.

Items for the assessment were selected from a pool of diverse material with a diverse range of sources (authors in almost 30 different countries, with the contributions from national teams, members of the PISA mathematics expert group and the PISA Project Consortium) that reflected content, context and approaches relevant to a large number of PISA-participating countries and economies. Wordings and other features of the items were reviewed by experts, then the items were tested among classes of 15-year-old students, and finally the items underwent extensive field trials in all countries and economies that would ultimately use the material. Each participating country and economy provided detailed feedback on the curricular relevance, appropriateness and potential interest for 15-year-olds, by local mathematics experts. At each development stage, material was considered for rejecting, revising or keeping in the pool of potential items. Finally, the international mathematics expert group formulated recommendations as to which items should be included in the survey instruments and those recommendations were considered by the PISA Governing Board, in which governments of all participating countries are represented. The final selection of test items was balanced across the various categories specified in the mathematics framework and spanned a range of levels of difficulty, so that the entire pool of items could measure performance across a broad range of content, processes and contexts, and across a wide range of student abilities (for further details, see the *PISA 2012 Technical Report* [OECD, forthcoming]).

Test items were generally developed within "units" that included some stimulus material and one or more questions related to the stimulus. In many cases, students were required to construct a response to questions, based on their analysis, calculations and mathematical thinking. Some constructed-response items were relatively open-ended, requiring students to present an extended response that may have included presenting the steps of their solution or some explanation of their result, which thus revealed aspects of the methods and thought processes they had used to answer the question. In general, these items could not be machine scored; rather they required the professional judgement of trained coders to assign the responses to defined response categories. To ensure that the response coding process yielded reliable and cross-nationally comparable results, detailed guidelines and training were provided. All the procedures ensuring the consistency of the coding within and between countries are detailed in *PISA 2012 Technical Report* (OECD, forthcoming).

In other cases requiring students to construct their response, only a very simple response was required, such as a value read from a graph or table, or writing a word, short phrase or the numerical result of a calculation. The evaluation of these answers was restricted to the response itself and did not take into account an explanation of how the response was derived. Responses could often be processed without the intervention of a coding expert. The use of computer-delivered test forms also allowed for a number of response formats such that responses could be captured relatively easily by computer without any additional intervention.

Other items were presented in a format that required students to select one or more responses from a set of given response options. This format category includes both standard multiple-choice items, for which students were required to select one correct response from a number of given response options; and complex multiple choice items, for which students were required to select a response from given optional responses to each of a number of propositions or questions. Responses to these items could be processed automatically, with no intervention by an expert coder needed.



The final PISA 2012 survey included 36 paper-based items linking to previous PISA survey instruments, 74 new paper-based items and 41 new computer-based items. Each student completed a fraction of the paper-based items – a minimum of 12 items, up to a maximum of 37 items, depending on which test booklet they were randomly assigned from the booklet rotation design. The mathematics questions selected for inclusion in the paper-based component of the survey were arranged into half-hour clusters of 12-13 items. These, along with clusters of reading and science questions, were assembled into test booklets, each containing four clusters. Each participating student was assigned a test booklet to be completed in two hours. In the computer-based survey, students completed a one-hour test composed of two half-hour components selected from a rotated design of mathematics, reading and problem-solving item clusters.

The test design, similar to those used in previous PISA assessments, makes it possible to construct a single scale of proficiency in mathematics, so that each question is associated with a particular point on the scale that indicates its difficulty, and each test-taker's performance is associated with a particular point on the same scale that indicates his or her estimated mathematical proficiency. A description of the modelling technique used to construct this scale can be found in the *PISA 2012 Technical Report* (OECD, forthcoming).

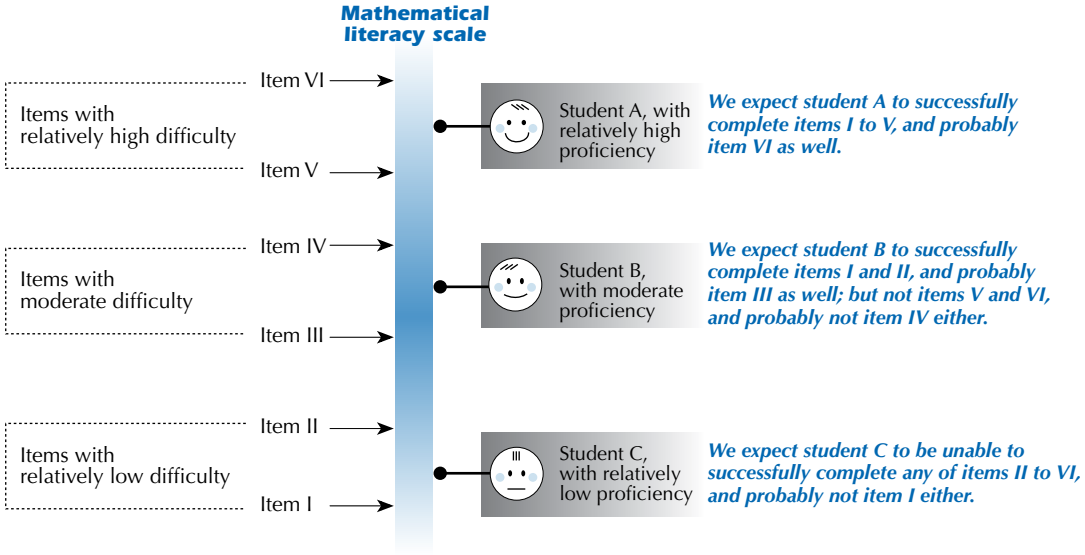
The relative difficulty of tasks in a test is estimated by considering the proportion of test-takers who answer each question correctly; and the relative proficiency of individuals taking a particular test can be estimated by considering the proportion of test questions they answer correctly. A single continuous scale shows the relationship between the difficulty of questions and the proficiency of test-takers. By constructing a scale that shows the difficulty of each question, it is possible to locate the level of mathematics that the question demands. By showing the proficiency of each test-taker on the same scale, it is possible to describe the level of mathematics that each test taker possesses.

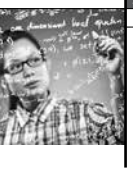
The location of different described levels of mathematical proficiency on this scale is set in relation to the particular group of questions used in the assessment; but just as the sample of students who sat the PISA test in 2012 was drawn to represent all 15-year-old students in the participating countries and economies, so the individual test questions used in the assessment were designed to represent the definition of literacy in mathematics adequately. Estimates of student proficiency reflect the kinds of tasks students would be expected to perform successfully. This means that students are likely to be able to successfully complete questions located at or below the difficulty level associated with their own position on the scale. Conversely, they are unlikely to be able to successfully complete questions above the difficulty level associated with their position on the scale. Figure I.2.12 illustrates how this probabilistic model works.

The higher an individual's proficiency level is located above a given test question, the more likely is he or she to successfully complete the question (and other questions of similar difficulty); the further the individual's proficiency is located below a given question, the less likely is he or she to be able to successfully complete the question and other questions of similar difficulty.

■ Figure I.2.12 ■

The relationship between questions and student performance on a scale





How mathematics proficiency levels are defined in PISA 2012

PISA 2012 provides an overall mathematics scale, which draws on all of the mathematics questions in the assessment, as well as scales for the three mathematical processes and the four mathematical content categories defined above. The metric for the overall mathematics scale is based on a mean for OECD countries of 500 points and a standard deviation of 100 points that were set in PISA 2003 when the first PISA mathematics scale was first developed. The items that were common to both the 2003 and 2012 test instruments enable a link to be made with the earlier scale. To help users interpret what student scores mean in substantive terms, the scale is divided into proficiency levels. For PISA 2012, the range of difficulty of the tasks is represented by six levels of mathematical proficiency that are aligned with the levels used in describing the outcomes of PISA 2003. The levels range from the lowest, Level 1, to the highest, Level 6. Descriptions of each of these levels have been generated, based on the framework-related cognitive demands imposed by tasks that are located within each level, to describe the kinds of knowledge and skills needed to successfully complete those tasks, and which can then be used as characterisations of the substantive meaning of each level.

Individuals with proficiency within the range of Level 1 are likely to be able to complete Level 1 tasks, but are unlikely to be able to complete tasks at higher levels. Level 6 reflects tasks that pose the greatest challenge in terms of the mathematical knowledge and skills needed to complete them successfully. Individuals with scores in this range are likely to be able to complete tasks located at that level, as well as all the other PISA mathematics tasks (see section *Students at the different levels of proficiency in mathematics* for a detailed description of the proficiency levels in mathematics).

STUDENT PERFORMANCE IN MATHEMATICS

PISA outcomes are reported in a variety of ways. This section gives the country results and shows the location of items on the overall PISA mathematics scale described above, how the different levels of proficiency in PISA mathematics can be characterised, and how these proficiency levels are represented by mathematics questions used in the survey. In subsequent sections, mathematical performance will be examined in more detail in relation to: the process categories referred to as *formulating*, *employing* and *interpreting*; and the content categories of *space and shape*, *quantity*, *change and relationships*, and *uncertainty and data*.

Average in mathematics performance

This section compares the countries and economies on the basis of their average mathematics scores. In addition, changes in the relative standing of countries since the 2003 survey – the most recent assessment in which mathematics was the major PISA domain – are presented.

The country results are estimates because they are obtained from samples of students, rather than from a census of all students, and they are obtained using a limited set of assessment tasks, not a population of all possible assessment tasks. When the sampling and assessment are done with scientific rigour it is possible to determine the magnitude of the probable uncertainty associated with the estimates. This uncertainty needs to be taken into account when making comparisons so that differences that could reasonably arise simply due to the sampling of students and items are not interpreted as differences that actually hold for the populations. A difference is called statistically significant if it is very unlikely that such a difference could be observed by chance, when in fact no true difference exists.

When interpreting mean performance, only those differences among countries and economies that are statistically significant should be taken into account. Figure I.2.13 shows each country's/economy's mean score and also for which groups of countries/economies the differences between the means are statistically significant. For each country/economy shown in the middle column, the countries/economies whose mean scores are not statistically significantly different are listed in the right column. In all other cases, country/economy A scores higher than country/economy B if country/economy A is situated above country/economy B in the middle column, and scores lower if country/economy A is situated below country/economy B. Figure I.2.13 lists each participating country and economy in descending order of its mean mathematics score (left column). The values range from a high of 613 points for the partner economy Shanghai-China to a low of 368 points for the partner country Peru.

Countries and economies are also divided into three broad groups: those whose mean scores are statistically around the OECD mean (highlighted in dark blue), those whose mean scores are above the OECD mean (highlighted in pale blue), and those whose mean scores are below the OECD mean (highlighted in medium blue). Across OECD countries, the average score in mathematics is 494 points (see Table I.2.3a). To gauge the magnitude of score differences, 41 score points corresponds to the equivalent of one year of formal schooling (see Annex A1, Table A1.2).



■ Figure I.2.13 ■

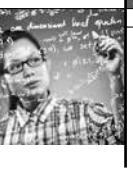
Comparing countries' and economies' performance in mathematics

Statistically significantly **above** the OECD average
Not statistically significantly different from the OECD average
Statistically significantly **below** the OECD average

Mean score	Comparison country/economy	Countries/economies whose mean score is NOT statistically significantly different from that comparison country's/economy's score
613	Shanghai-China	
573	Singapore	
561	Hong Kong-China	Chinese Taipei, Korea
560	Chinese Taipei	Hong Kong-China, Korea
554	Korea	Hong Kong-China, Chinese Taipei
538	Macao-China	Japan, Liechtenstein
536	Japan	Macao-China, Liechtenstein, Switzerland
535	Liechtenstein	Macao-China, Japan, Switzerland
531	Switzerland	Japan, Liechtenstein, Netherlands
523	Netherlands	Switzerland, Estonia, Finland, Canada, Poland, Viet Nam
521	Estonia	Netherlands, Finland, Canada, Poland, Viet Nam
519	Finland	Netherlands, Estonia, Canada, Poland, Belgium, Germany, Viet Nam
518	Canada	Netherlands, Estonia, Finland, Poland, Belgium, Germany, Viet Nam
518	Poland	Netherlands, Estonia, Finland, Canada, Belgium, Germany, Viet Nam
515	Belgium	Finland, Canada, Poland, Germany, Viet Nam
514	Germany	Finland, Canada, Poland, Belgium, Viet Nam
511	Viet Nam	Netherlands, Estonia, Finland, Canada, Poland, Belgium, Germany, Austria, Australia, Ireland
506	Austria	Viet Nam, Australia, Ireland, Slovenia, Denmark, New Zealand, Czech Republic
504	Australia	Viet Nam, Austria, Ireland, Slovenia, Denmark, New Zealand, Czech Republic
501	Ireland	Viet Nam, Austria, Australia, Slovenia, Denmark, New Zealand, Czech Republic, France, United Kingdom
501	Slovenia	Austria, Australia, Ireland, Denmark, New Zealand, Czech Republic
500	Denmark	Austria, Australia, Ireland, Slovenia, New Zealand, Czech Republic, France, United Kingdom
500	New Zealand	Austria, Australia, Ireland, Slovenia, Denmark, Czech Republic, France, United Kingdom
499	Czech Republic	Austria, Australia, Ireland, Slovenia, Denmark, New Zealand, France, United Kingdom, Iceland
495	France	Ireland, Denmark, New Zealand, Czech Republic, United Kingdom, Iceland, Latvia, Luxembourg, Norway, Portugal
494	United Kingdom	Ireland, Denmark, New Zealand, Czech Republic, France, Iceland, Latvia, Luxembourg, Norway, Portugal
493	Iceland	Czech Republic, France, United Kingdom, Latvia, Luxembourg, Norway, Portugal
491	Latvia	France, United Kingdom, Iceland, Luxembourg, Norway, Portugal, Italy, Spain
490	Luxembourg	France, United Kingdom, Iceland, Latvia, Norway, Portugal
489	Norway	France, United Kingdom, Iceland, Latvia, Luxembourg, Portugal, Italy, Spain, Russian Federation, Slovak Republic, United States
487	Portugal	France, United Kingdom, Iceland, Latvia, Luxembourg, Norway, Italy, Spain, Russian Federation, Slovak Republic, United States, Lithuania
485	Italy	Latvia, Norway, Portugal, Spain, Russian Federation, Slovak Republic, United States, Lithuania
484	Spain	Latvia, Norway, Portugal, Italy, Russian Federation, Slovak Republic, United States, Lithuania, Hungary
482	Russian Federation	Norway, Portugal, Italy, Spain, Slovak Republic, United States, Lithuania, Sweden, Hungary
482	Slovak Republic	Norway, Portugal, Italy, Spain, Russian Federation, United States, Lithuania, Sweden, Hungary
481	United States	Norway, Portugal, Italy, Spain, Russian Federation, Slovak Republic, Lithuania, Sweden, Hungary
479	Lithuania	Portugal, Italy, Spain, Russian Federation, Slovak Republic, United States, Sweden, Hungary, Croatia
478	Sweden	Russian Federation, Slovak Republic, United States, Lithuania, Hungary, Croatia
477	Hungary	Spain, Russian Federation, Slovak Republic, United States, Lithuania, Sweden, Croatia, Israel
471	Croatia	Lithuania, Sweden, Hungary, Israel
466	Israel	Hungary, Croatia
453	Greece	Serbia, Turkey, Romania
449	Serbia	Greece, Turkey, Romania, Bulgaria
448	Turkey	Greece, Serbia, Romania, Cyprus[1, 2], Bulgaria
445	Romania	Greece, Serbia, Turkey, Cyprus[1, 2], Bulgaria
440	Cyprus[1, 2]	Turkey, Romania, Bulgaria
439	Bulgaria	Serbia, Turkey, Romania, Cyprus[1, 2], United Arab Emirates, Kazakhstan
434	United Arab Emirates	Bulgaria, Kazakhstan, Thailand
432	Kazakhstan	Bulgaria, United Arab Emirates, Thailand
427	Thailand	United Arab Emirates, Kazakhstan, Chile, Malaysia
423	Chile	Thailand, Malaysia
421	Malaysia	Thailand, Chile
413	Mexico	Uruguay, Costa Rica
410	Montenegro	Uruguay, Costa Rica
409	Uruguay	Mexico, Montenegro, Costa Rica
407	Costa Rica	Mexico, Montenegro, Uruguay
394	Albania	Brazil, Argentina, Tunisia
391	Brazil	Albania, Argentina, Tunisia, Jordan
388	Argentina	Albania, Brazil, Tunisia, Jordan
388	Tunisia	Albania, Brazil, Argentina, Jordan
386	Jordan	Brazil, Argentina, Tunisia
376	Colombia	Qatar, Indonesia, Peru
376	Qatar	Colombia, Indonesia
375	Indonesia	Colombia, Qatar, Peru
368	Peru	Colombia, Indonesia

1. Note by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".
2. Note by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Source: OECD, PISA 2012 Database.
StatLink http://dx.doi.org/10.1787/888932935572



■ Figure I.2.14 [Part 1/3] ■

Mathematics performance among PISA 2012 participants, at national and regional levels

	Mathematics scale				
		Range of ranks			
		OECD countries		All countries/economies	
	Mean score	Upper rank	Lower rank	Upper rank	Lower rank
Shanghai-China	613			1	1
Singapore	573			2	2
Hong Kong-China	561			3	5
Chinese Taipei	560			3	5
Korea	554	1	1	3	5
Macao-China	538			6	8
Japan	536	2	3	6	9
Liechtenstein	535			6	9
Switzerland	531	2	3	7	9
Flemish community (Belgium)	531				
Trento (Italy)	524				
Friuli Venezia Giulia (Italy)	523				
Netherlands	523	3	7	9	14
Veneto (Italy)	523				
Estonia	521	4	8	10	14
Finland	519	4	9	10	15
Canada	518	5	9	11	16
Australian Capital Territory (Australia)	518				
Poland	518	4	10	10	17
Lombardia (Italy)	517				
Navarre (Spain)	517				
Western Australia (Australia)	516				
Belgium	515	7	10	13	17
Germany	514	6	10	13	17
Massachusetts (United States)	514				
Viet Nam	511			11	19
German-speaking community (Belgium)	511				
New South Wales (Australia)	509				
Castile and Leon (Spain)	509				
Bolzano (Italy)	506				
Connecticut (United States)	506				
Austria	506	10	14	17	22
Basque Country (Spain)	505				
Australia	504	11	14	17	21
Madrid (Spain)	504				
Queensland (Australia)	503				
La Rioja (Spain)	503				
Ireland	501	11	17	18	24
Slovenia	501	12	16	19	23
Victoria (Australia)	501				
Emilia Romagna (Italy)	500				
Denmark	500	12	18	19	25
New Zealand	500	12	18	19	25
Asturias (Spain)	500				
Czech Republic	499	12	19	19	26
Piemonte (Italy)	499				
Scotland (United Kingdom)	498				
Marche (Italy)	496				
Aragon (Spain)	496				
Toscana (Italy)	495				
England (United Kingdom)	495				
France	495	16	21	23	29
United Kingdom	494	16	23	23	31
French community (Belgium)	493				
Catalonia (Spain)	493				
Iceland	493	18	22	25	29
Umbria (Italy)	493				
Valle d'Aosta (Italy)	492				
Cantabria (Spain)	491				
Latvia	491			25	32
Luxembourg	490	20	23	27	31
Norway	489	19	25	26	33
South Australia (Australia)	489				

Notes: OECD countries are shown in bold black. Partner countries are shown in bold blue. Participating economies and subnational entities that are not included in national results are shown in bold blue italics. Regions are shown in black italics (OECD countries) or blue italics (partner countries).
1. Note by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".
2. Note by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.
Countries, economies and subnational entities are ranked in descending order of mean mathematics performance.
Source: OECD, PISA 2012 Database.
StatLink http://dx.doi.org/10.1787/888932935572



■ Figure I.2.14 [Part 2/3] ■

Mathematics performance among PISA 2012 participants, at national and regional levels

	Mathematics scale				
		Range of ranks			
		OECD countries		All countries/economies	
	Mean score	Upper rank	Lower rank	Upper rank	Lower rank
Alentejo (Portugal)	489				
Galicia (Spain)	489				
Liguria (Italy)	488				
Portugal	487	19	27	26	36
Northern Ireland (United Kingdom)	487				
Italy	485	22	27	30	35
Spain	484	23	27	31	36
Perm Territory region (Russian Federation)	484				
Russian Federation	482			31	39
Slovak Republic	482	23	29	31	39
United States	481	23	29	31	39
Lithuania	479			34	40
Sweden	478	26	29	35	40
Puglia (Italy)	478				
Tasmania (Australia)	478				
Hungary	477	26	30	35	40
Abruzzo (Italy)	476				
Balearic Islands (Spain)	475				
Lazio (Italy)	475				
Andalusia (Spain)	472				
Croatia	471			38	41
Wales (United Kingdom)	468				
Florida (United States)	467				
Israel	466	29	30	40	41
Molise (Italy)	466				
Basilicata (Italy)	466				
Dubai (United Arab Emirates)	464				
Murcia (Spain)	462				
Extremadura (Spain)	461				
Sardegna (Italy)	458				
Greece	453	31	32	42	44
Campania (Italy)	453				
Northern Territory (Australia)	452				
Serbia	449			42	45
Turkey	448	31	32	42	46
Sicilia (Italy)	447				
Romania	445			43	47
Cyprus[1, 2]	440			45	47
Sharjah (United Arab Emirates)	439				
Bulgaria	439			45	49
Aguascalientes (Mexico)	437				
Nuevo León (Mexico)	436				
Jalisco (Mexico)	435				
Querétaro (Mexico)	434				
United Arab Emirates	434			47	49
Kazakhstan	432			47	50
Calabria (Italy)	430				
Colima (Mexico)	429				
Chihuahua (Mexico)	428				
Distrito Federal (Mexico)	428				
Thailand	427			49	52
Durango (Mexico)	424				
Chile	423	33	33	50	52
Morelos (Mexico)	421				
Abu Dhabi (United Arab Emirates)	421				
Malaysia	421			50	52
Coahuila (Mexico)	418				
Ciudad Autónoma de Buenos Aires (Argentina)	418				
Mexico (Mexico)	417				
Federal District (Brazil)	416				
Ras Al Khaimah (United Arab Emirates)	416				
Santa Catarina (Brazil)	415				
Puebla (Mexico)	415				

Notes: OECD countries are shown in bold black. Partner countries are shown in bold blue. Participating economies and subnational entities that are not included in national results are shown in bold blue italics. Regions are shown in black italics (OECD countries) or blue italics (partner countries).
1. Note by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".
2. Note by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.
Countries, economies and subnational entities are ranked in descending order of mean mathematics performance.
Source: OECD, PISA 2012 Database.
StatLink http://dx.doi.org/10.1787/888932935572



■ Figure I.2.14 [Part 3/3] ■

Mathematics performance among PISA 2012 participants, at national and regional levels

	Mathematics scale				
		Range of ranks			
		OECD countries		All countries/economies	
	Mean score	Upper rank	Lower rank	Upper rank	Lower rank
Baja California (Mexico)	415				
Baja California Sur (Mexico)	414				
Espírito Santo (Brazil)	414				
Nayarit (Mexico)	414				
Mexico	413	34	34	53	54
San Luis Potosí (Mexico)	412				
Guanajuato (Mexico)	412				
Tlaxcala (Mexico)	411				
Tamaulipas (Mexico)	411				
Sinaloa (Mexico)	411				
Fujairah (United Arab Emirates)	411				
Quintana Roo (Mexico)	411				
Yucatán (Mexico)	410				
Montenegro	410			54	56
Uruguay	409			53	56
Zacatecas (Mexico)	408				
Mato Grosso do Sul (Brazil)	408				
Rio Grande do Sul (Brazil)	407				
Costa Rica	407			54	56
Hidalgo (Mexico)	406				
Manizales (Colombia)	404				
São Paulo (Brazil)	404				
Paraná (Brazil)	403				
Ajman (United Arab Emirates)	403				
Minas Gerais (Brazil)	403				
Veracruz (Mexico)	402				
Umm Al Quwain (United Arab Emirates)	398				
Campeche (Mexico)	396				
Paraíba (Brazil)	395				
Albania	394			57	59
Medellin (Colombia)	393				
Bogota (Colombia)	393				
Brazil	391			57	60
Rio de Janeiro (Brazil)	389				
Argentina	388			57	61
Tunisia	388			57	61
Jordan	386			59	62
Piauí (Brazil)	385				
Sergipe (Brazil)	384				
Rondônia (Brazil)	382				
Rio Grande do Norte (Brazil)	380				
Goiás (Brazil)	379				
Cali (Colombia)	379				
Tabasco	378				
Ceará (Brazil)	378				
Colombia	376			62	64
Qatar	376			62	64
Indonesia	375			62	65
Bahia (Brazil)	373				
Chiapas (Mexico)	373				
Mato Grosso (Brazil)	370				
Peru	368			64	65
Guerrero (Mexico)	367				
Tocantins (Brazil)	366				
Pernambuco (Brazil)	363				
Roraima (Brazil)	362				
Amapá (Brazil)	360				
Pará (Brazil)	360				
Acre (Brazil)	359				
Amazonas (Brazil)	356				
Maranhão (Brazil)	343				
Alagoas (Brazil)	342				

Notes: OECD countries are shown in bold black. Partner countries are shown in bold blue. Participating economies and subnational entities that are not included in national results are shown in bold blue italics. Regions are shown in black italics (OECD countries) or blue italics (partner countries).
1. Note by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".
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Countries, economies and subnational entities are ranked in descending order of mean mathematics performance.
Source: OECD, PISA 2012 Database.
StatLink http://dx.doi.org/10.1787/888932935572



Figure I.2.14 shows how participating countries and economies compare in mathematics performance. Since a country's score is based on an estimate of scores obtained from a sample of students, there is some degree of uncertainty associated with the estimates. Thus countries/economies are shown with the range of ranks they could occupy given this uncertainty. A number of countries designed their PISA samples so that it is possible to calculate performance averages for subnational entities as well. These subnational averages are also included in Figure I.2.14.

Shanghai-China ranks first in mathematics performance followed by Singapore. Given the uncertainty inherent in the score estimates, Hong Kong-China could rank third, fourth or fifth among all participating countries and economies. Korea is the top ranking OECD country, but when all participating countries are taken into consideration, it could rank either third, fourth or fifth. Japan is the second listed OECD country (seventh among all countries and economies) with a rank of 2 or 3 among OECD countries (from 6 to 9 among all countries and economies); and Switzerland is the third listed OECD country (ninth among all countries and economies) with a rank also of 2 or 3 among OECD countries (and from 7 to 9 among all countries and economies). For entities other than those for which full samples were drawn, namely Chinese Taipei, Hong Kong-China, Macao-China and Shanghai-China, it is not possible to calculate a rank order; but the mean score provides the possibility of comparing subnational entities against the performance of countries and economies. For example, the Flemish Community of Belgium matches the performance of top-performer Switzerland. Similarly, the performance of the Italian provinces of Trento and Friuli Venezia Giulia, which is similar to that of the Netherlands, a high performer, is higher than the performance of the Italian province of Sicilia, which is similar to Turkey's performance, by the equivalent of almost two full years of schooling.

Trends in average mathematics performance

Trends in average performance provide an indicator of how school systems are improving. Trends in mathematics are available for 64 countries and economies that participated in PISA 2012. Thirty-eight of these have mathematics performance for 2012 and the three remaining PISA assessments (2003, 2006 and 2009); seventeen have information for 2012 and two additional assessments and nine countries and economies have information for 2012 and one previous assessment.[6] To better understand a country or economy's trend and maximise the number of countries in the comparisons, this report focuses on the *annualised change* in student performance. The annualised change is the average annual change in the observed period, taking into account all observations. For countries and economies that have participated in all four PISA assessments, the annualised change takes into account all four time points, and for those countries that have valid data for fewer assessments it only takes into account the valid and available information.

The annualised change is a more robust measure of trends in performance because it is based on all the available information (as opposed to the difference between one particular year and 2012). It is scaled by years, so it is interpreted as the average annual change in performance over the observed period and allows for comparisons of mathematics performance of countries that have participated in at least two PISA assessments since 2003 (for further details on the estimation of the annualised change, see Box I.2.2 and Annex A5).[7]

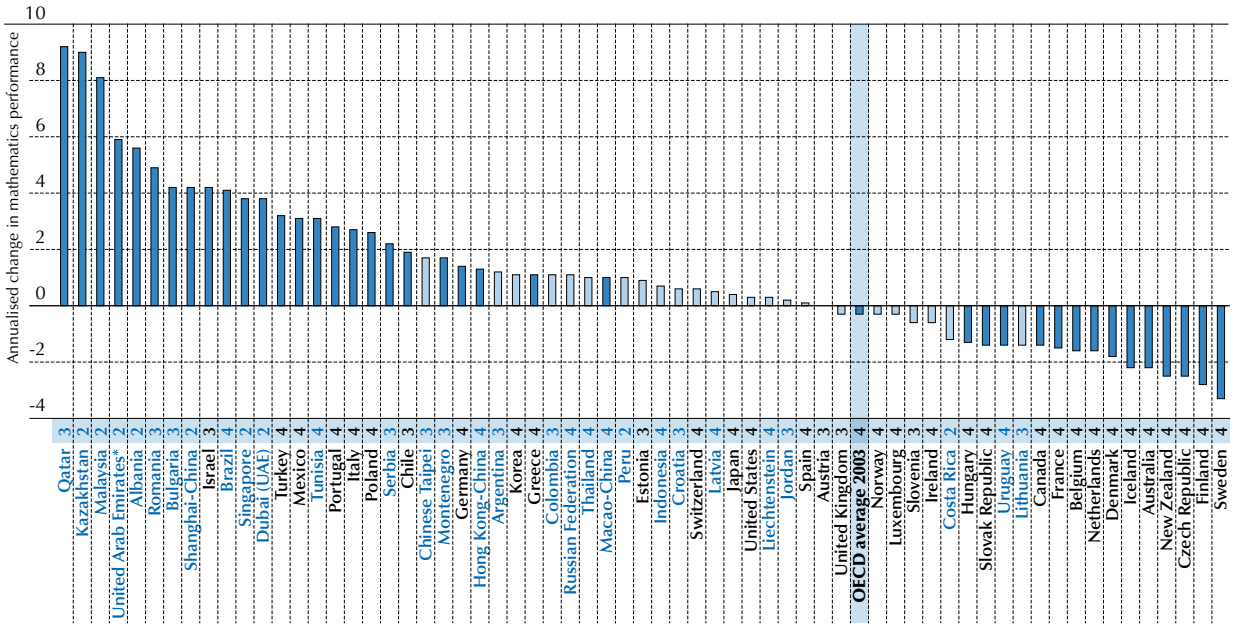
On average across OECD countries with comparable data in PISA 2003 and PISA 2012, performance has remained broadly similar, but there have been markedly more countries with increasing than with declining mathematics performance (see Box I.2.2 for details on interpreting trends in PISA). Of the 64 countries and economies with trend data up to 2012, 25 show an average annual improvement in mathematics performance; by contrast, 14 countries and economies show an average deterioration in performance between 2003 and 2012. For the remaining 25 countries and economies, there is no change in mathematics performance during the period. Figure I.2.15 illustrates that Albania, Kazakhstan, Malaysia, Qatar and the United Arab Emirates, except Dubai (United Arab Emirates, excluding Dubai), show an average improvement in mathematics performance of more than five score points per year. Among OECD countries, improvements in mathematics performance are observed in Israel (with an average improvement of more than four score points per year), Mexico, Turkey (more than three score points per year), Italy, Poland, Portugal (more than two score points per year), and Chile, Germany and Greece (more than one score point per year). Among countries that have participated in every assessment since 2003, Brazil, Italy, Mexico, Poland, Portugal, Tunisia and Turkey, show an average improvement in mathematics performance of more than 2.5 points per year. Box I.2.4 and Box I.2.5 highlight Brazil's and Turkey's improvement in PISA, and provides insight on the education policies and programmes implemented in the last decade. Other chapters of this volume and other volumes of this series highlight other country's improvements in PISA and outline their recent policy trajectories (e.g. Estonia and Korea in Chapters 4 and 5 of this volume, Mexico and Germany in Volume II, Japan and Portugal in Volume III, and Colombia, Israel, Poland and Tunisia in Volume IV).



■ Figure I.2.15 ■

Annualised change in mathematics performance throughout participation in PISA

Mathematics score-point difference associated with one calendar year



* United Arab Emirates excluding Dubai.

Notes: Statistically significant score point changes are marked in a darker tone (see Annex A3).

The number of comparable mathematics scores used to calculate the annualised change is shown next to the country/economy name.

The annualised change is the average annual change in PISA score points from a country's/economy's earliest participation in PISA to PISA 2012. It is calculated taking into account all of a country's/economy's participation in PISA. For more details on the calculation of the annualised change, see Annex A5.

OECD average 2003 compares only OECD countries with comparable mathematics scores since 2003.

Countries and economies are ranked in descending order of the annualised change in mathematics performance.

Source: OECD, PISA 2012 Database, Table I.2.3b.

StatLink http://dx.doi.org/10.1787/888932935572

Box I.2.2. **Measuring trends in PISA**

PISA 2012 is the fifth round of PISA since the programme was launched in 2000. Every PISA assessment assesses students' reading, mathematics and science literacy, and in each round, one of these subjects is the main domain and the other two are minor domains. The first full assessment of reading was conducted in 2000 (when it was a major domain), while the first full assessment of mathematics was conducted in 2003 and science in 2006. In 2009, the assessment returned to reading as a major domain, which allowed for observations of trends in reading performance since PISA 2000. Mathematics is the major domain of PISA 2012, as it was in PISA 2003, allowing for observations of trends in mathematics performance since PISA 2003. The first full assessment of each domain sets the scale for future comparisons.

The methodologies underpinning performance trends in international studies of education are complex (Gebhardt and Adams, 2007). In order to ensure the comparability of successive PISA results, a number of conditions must be met. First, while successive assessments include a number of common assessment items, the limited number of such items increases measurement errors. Therefore, the confidence band for comparisons over time is wider than for single-year data, and only changes that are indicated as statistically significant should be considered robust.[8] Second, the sample of students must represent an equivalent population (that of 15-year-olds enrolled in school), and only results from samples that meet the strict standards set by PISA can be compared over time. Third, the conditions in which the assessment is conducted must also remain constant across the rounds that are to be compared.

...



Even though they participate in successive PISA assessment, some countries and economies cannot compare all their PISA results over time. For example, the PISA 2000 sample for the Netherlands did not meet the PISA response-rate standards, so the Netherland's PISA 2000 results are not comparable to those of subsequent assessments. In Luxembourg, the testing conditions changed substantially between 2000 and 2003, so PISA 2000 results are not comparable with those of subsequent assessments. The PISA 2000 and 2003 samples for the United Kingdom did not meet the PISA response-rate standards, so data from the United Kingdom cannot be used for comparisons including these years. In the United States, no results for reading literacy are available for 2006. In 2009, a dispute between teachers' unions and the education minister of Austria led to a boycott of PISA, which was only lifted after the first week of testing. The boycott required the OECD to remove identifiable cases from the dataset. Although the Austrian dataset met the PISA 2009 technical standards after these cases were removed, the negative reaction to education assessments has affected the conditions under which the PISA survey was conducted and could have adversely affected student motivation to respond to the PISA tasks. Therefore, the comparability of 2009 data with data from earlier PISA assessments cannot be ensured, and data for Austria have been excluded from trend comparisons.

In addition, not all countries have participated in all PISA assessments. Among OECD countries, the Slovak Republic and Turkey joined PISA in 2003. Chile and Israel did not participate in the PISA 2003 assessment, and Estonia and Slovenia began participation in 2006.

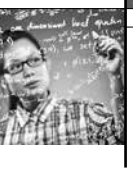
When comparing trends in mathematics, reading and science, only those countries with valid data to compare between assessments are included. As a result, comparisons between the 2000 and 2012 assessments use data on reading performance and include only 38 countries and economies. Comparisons between the 2003 and 2012 assessments use data on reading and mathematics performance and include 39 countries and economies. Comparisons between the 2006 and 2012 assessments use data on reading, mathematics and science performance and include 55 countries and economies (54 countries in the case of reading). Comparisons between 2009 and 2012 use data on all domains and include 63 countries and economies. In all, 64 countries and economies have valid trend information when their PISA 2012 data and all their previous valid data are used.

The annualised change in performance

Trends in a country's/economy's average mathematics, reading and science performance are presented as the annualised change. The annualised change is the average rate of change at which a country's/economy's average mathematics, reading and science scores has changed throughout their participation in PISA assessments. Thus, a positive annualised change of *x* points indicates that the country/economy has improved in performance by *x* points per year since its earliest comparable PISA results. For countries and economies that have participated in only two assessments, the annualised change is equal to the difference between the two assessments, divided by the number of years that passed between the assessments.

The annualised change is a more robust measure of a country's/economy's progress in education outcomes as it is based on information available from all assessments. It is thus less sensitive to abnormal measurements that may alter a country's/economy's PISA trends if results are compared only between two assessments. The annualised change is calculated as the best-fitting line throughout a country's/economy's participation in PISA. The year that individual students participated in PISA is regressed on their PISA scores, yielding the annualised change. The annualised change also takes into account the fact that, for some countries and economies, the period between PISA assessments is less than three years. This is the case for those countries and economies that participated in PISA 2000 or PISA 2009 as part of PISA+: they conducted the assessment in 2001, 2002 or 2010 instead of 2000 or 2009.

Annex B4 presents the average performance in mathematics, reading and science (circles) for each country and economy as well as the annualised change (slope of the dotted/solid line). Tables I.2.3b, I.4.3b and I.5.3b present the annualised change in average mathematics, reading and science performance, respectively. Tables I.2.3d, I.4.3d and I.5.3d present the annualised change for the 10th, 25th, 75th and 90th percentile in mathematics, reading and science performance. Annex A5 provides further details on the calculation of the annualised change and other trends measures.



The average improvement over time shows only one aspect of a country's/economy's trajectory; it does not indicate whether a country's/economy's improvement is steady, accelerating or decelerating. To evaluate the degree to which a country's improvement is accelerating or decelerating, only the 55 countries and economies that have participated in PISA 2012 and at least two other assessments have been considered. Annualised linear improvement in mathematics is observed for 18 countries and economies that have participated in PISA 2012 as well as two other assessments. The rate of improvement in the mathematics performance of the average student has accelerated in Macao-China and Poland, meaning that the rate of improvement observed in the 2009 to 2012 period is higher than that observed in the 2003 to 2006 period, for example. In Poland, this means that while scores improved by five score points (not statistically significant) between 2003 and 2006 and maintained that level between 2006 and 2009, between 2009 and 2012 there is a much faster improvement, at 23 points. Similarly, while mathematics scores in Macao-China did not change between 2003 and 2009, they improved by 13 score points between 2009 and 2012. The rate of improvement has remained steady in 13 countries and economies (Brazil, Bulgaria, Chile, Germany, Hong Kong-China, Israel, Italy, Montenegro, Portugal, Romania, Serbia, Tunisia and Turkey); the observed linear annualised change is similar to the rate of change observed throughout a country's/economy's participation in successive PISA assessments. By contrast, Qatar, Mexico and Greece show decelerating rates of improvement: the rate of improvement observed in the first assessments of PISA is slower in the later assessments. In Mexico, for example, between 2003 and 2006 the average mathematics score improved from 385 to 406 score points (a change of more than 20 points), then improved again in 2009 to 419 points, but decreased (not significantly) to 413 points in 2012 (Figure I.2.16 and Table I.2.3b).

Among the 25 countries that have no positive annualised change, 23 have participated in at least two assessments in addition to PISA 2012, and all those that show deteriorating performance participated in at least two assessments prior to PISA 2012. Among these, Chinese Taipei, Croatia, Ireland and Japan show signs of moving from no change to improvement, or from initial deterioration towards no change in mathematics performance. Although Chinese Taipei, Croatia, Ireland and Japan showed no change in mathematics performance during their participation in earlier rounds of PISA, there are signs of improvement in more recent years. Between PISA 2003 and 2006 assessments, France showed a deterioration in its average annual performance, but later assessments did not show any further deterioration (Figure I.2.16 and Table I.2.3b).

At any point in time, countries and economies share similar performance levels with other countries and economies. But as time passes and school systems evolve, some countries and economies improve their performance changing the group of countries with which they share similar performance levels. Figure I.2.17 shows, for each country and economy with comparable results in 2003 and 2012, those other countries and economies with similar performance in 2003 but higher or lower level performance in 2012. In 2003, Poland, for example, was similar in performance to the United States, Latvia, the Slovak Republic, Luxembourg, Hungary, Spain and Norway; but as a result of improvements during the period, it performed better than all those countries in 2012. In 2003, Poland scored below Finland, Germany, Austria, Canada, Belgium and the Netherlands; but by 2012, its performance was similar to this group of countries. Turkey was similar in performance to Uruguay and Thailand in 2003 but, in 2012, its score was higher than those of these two countries, and was at the same level as that of Greece. In 2003, Portugal scored lower than the United States, Latvia, the Slovak Republic, Luxembourg, the Czech Republic, France, Sweden, Hungary, Spain, Iceland and Norway; but by 2012 the country had caught up to those countries.

Figure I.2.18 shows the relationship between each country and economy's average mathematics performance in 2003 and their average rate of change over the 2003 to 2012 period. Countries and economies that show the strongest improvement throughout the various assessments (top half of the graph) are more likely to be those that had comparatively low performance in the initial years. The correlation between a country's/economy's earliest comparable mathematics score and the annualised rate of change is -0.60; this means that 35% of the variance in the rate of change can be explained by a country's/economy's initial score and that countries with a lower initial score tend to improve at a faster rate.

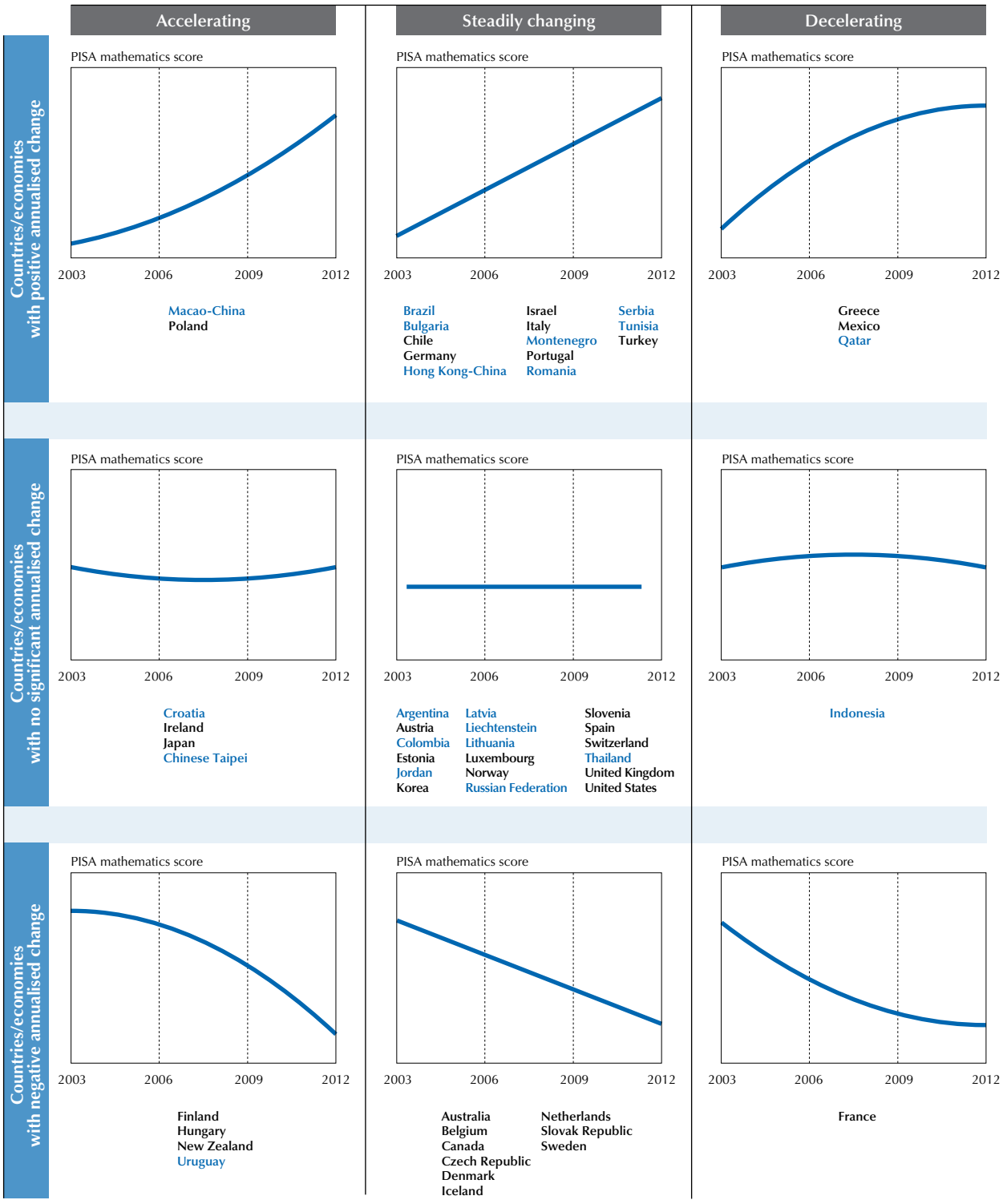
But this relationship is, by no means, a given. Although countries that improve the most are more likely to be those that had lower performance in 2003, some countries and economies that had average or high performance in 2003 saw improvements in their students' performance over time. Such was the case in the high-performing countries and economies of Hong Kong-China, Macao-China and Germany, all of which saw annualised improvements in mathematics performance even after PISA 2003 mathematics scores placed them at or above the OECD average (results for countries and economies that began their participation in PISA after PISA 2003 are in Table I.2.3b).



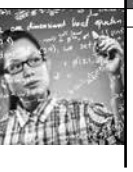
■ Figure I.2.16 ■

Curvilinear trajectories of average mathematics performance across PISA assessments

Rate of acceleration or deceleration in performance (quadratic term)



Notes: Figures are for illustrative purposes only. Countries and economies are grouped according to the direction and significance of their annualised change and their rate of acceleration.
Countries and economies with data from only one PISA assessments other than 2012 are excluded.
Source: OECD, PISA 2012 Database, Table I.2.3b.
StatLink http://dx.doi.org/10.1787/888932935572



■ Figure I.2.17 [Part 1/2] ■

Multiple comparisons of mathematics performance between 2003 and 2012

	Mathematics performance in 2003	Mathematics performance in 2012	Countries/economies with similar performance in 2003 but lower performance in 2012	Countries/economies with similar performance in 2003 and similar performance in 2012	Countries/economies with similar performance in 2003 but higher performance in 2012
Hong Kong-China	550	561	Finland, Japan, Netherlands, Liechtenstein	Korea	
Korea	542	554	Finland, Japan, Canada, Netherlands, Liechtenstein	Hong Kong-China	
Macao-China	527	538	New Zealand, Czech Republic, Australia, Canada, Belgium, Netherlands	Japan, Switzerland, Liechtenstein	
Japan	534	536	New Zealand, Finland, Australia, Canada, Belgium	Macao-China, Netherlands, Switzerland, Liechtenstein	Hong Kong-China, Korea
Liechtenstein	536	535	New Zealand, Finland, Australia, Canada, Belgium	Japan, Macao-China, Netherlands, Switzerland	Hong Kong-China, Korea
Switzerland	527	531	New Zealand, Czech Republic, Australia, Canada, Belgium	Japan, Macao-China, Netherlands, Liechtenstein	
Netherlands	538	523		Finland, Japan, Canada, Belgium, Switzerland, Liechtenstein	Hong Kong-China, Macao-China, Korea
Finland	544	519		Netherlands	Hong Kong-China, Japan, Liechtenstein, Korea
Canada	532	518		Belgium, Netherlands	Japan, Macao-China, Switzerland, Liechtenstein, Korea
Poland	490	518	United States, Latvia, Slovak Republic, Luxembourg, Hungary, Spain, Norway		
Belgium	529	515	New Zealand, Australia	Canada, Netherlands	Japan, Macao-China, Switzerland, Liechtenstein
Germany	503	514	Slovak Republic, France, Sweden, Ireland, Denmark, Norway	Austria	
Austria	506	506	Slovak Republic, France, Sweden, Norway	Germany, Czech Republic, Ireland, Denmark	
Australia	524	504		New Zealand, Czech Republic	Japan, Macao-China, Belgium, Switzerland, Liechtenstein
Ireland	503	501	Slovak Republic, Sweden, Norway	Austria, France	Germany
Denmark	514	500	Sweden	New Zealand, Austria, Czech Republic, France, Iceland	Germany
New Zealand	523	500		Czech Republic, Australia, Denmark	Japan, Macao-China, Belgium, Switzerland, Liechtenstein
Czech Republic	516	499	Sweden	New Zealand, Austria, France, Australia, Denmark, Iceland	Macao-China, Switzerland
France	511	495	Sweden	Czech Republic, Ireland, Denmark, Iceland	Germany, Austria
Iceland	515	493	Sweden	Czech Republic, France, Denmark	
Latvia	483	491	Hungary	United States, Spain, Norway, Russian Federation	Poland
Luxembourg	493	490	Hungary	Slovak Republic, Norway	Poland
Norway	495	489	Hungary	Latvia, Slovak Republic, Luxembourg	Poland, Germany, Austria, Ireland
Portugal	466	487		Russian Federation, Italy	
Italy	466	485		Portugal, Russian Federation	
Spain	485	484		United States, Latvia, Hungary	Poland
Russian Federation	468	482		Latvia, Portugal, Italy	
Slovak Republic	498	482		Luxembourg, Sweden, Hungary, Norway	Poland, Germany, Austria, Ireland
United States	483	481		Latvia, Hungary, Spain	Poland
Sweden	509	478		Slovak Republic	Germany, Austria, Czech Republic, France, Ireland, Denmark, Iceland
Hungary	490	477		United States, Slovak Republic, Spain	Poland, Latvia, Luxembourg, Norway
Greece	445	453			
Turkey	423	448	Uruguay, Thailand		
Thailand	417	427	Uruguay		Turkey
Mexico	385	413			
Uruguay	422	409			Thailand, Turkey
Brazil	356	391	Indonesia	Tunisia	
Tunisia	359	388		Brazil, Indonesia	
Indonesia	360	375		Tunisia	Brazil

Note: Only countries and economies that participated in the PISA 2003 and PISA 2012 assessments are shown.
Countries and economies are ranked in descending order of their mean mathematics performance in PISA 2012.
Source: OECD, PISA 2012 Database, Table I.2.3b.
StatLink http://dx.doi.org/10.1787/888932935572

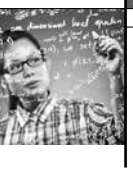


■ Figure I.2.17 [Part 2/2] ■

Multiple comparisons of mathematics performance between 2003 and 2012

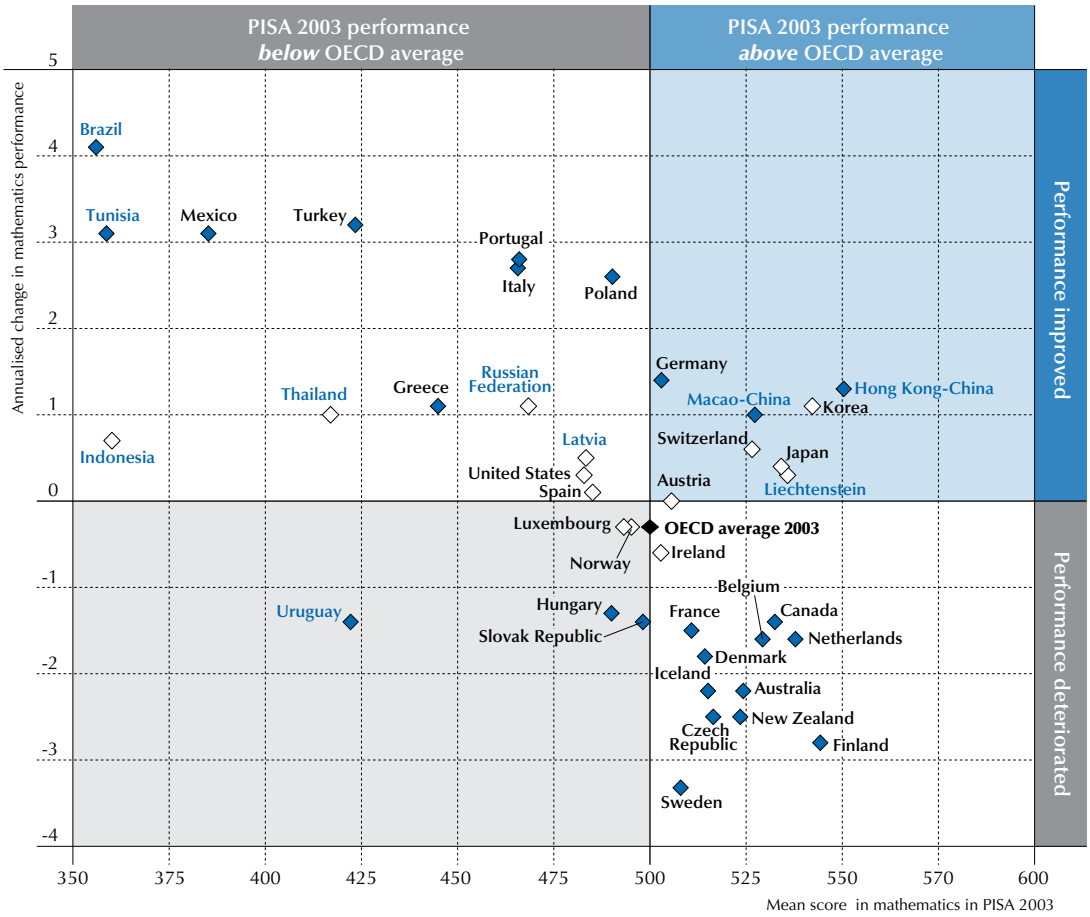
Countries/economies with lower performance in 2003 but similar performance in 2012	Countries/economies with lower performance in 2003 but higher performance in 2012	Countries/economies with higher performance in 2003 but with similar performance in 2012	Countries/economies with higher performance in 2003 but lower performance in 2012	Mathematics performance in 2012	Mathematics performance in 2003	
				561	550	Hong Kong-China
				554	542	Korea
			Finland	538	527	Macao-China
				536	534	Japan
				535	536	Liechtenstein
			Finland	531	527	Switzerland
Poland, Germany				523	538	Netherlands
Poland, Germany, Canada, Belgium	Macao-China, Switzerland			519	544	Finland
Poland, Germany		Finland		518	532	Canada
		Finland, Germany, Austria, Canada, Belgium, Netherlands	New Zealand, Czech Republic, France, Sweden, Australia, Ireland, Denmark, Iceland	518	490	Poland
Poland, Germany, Austria		Finland		515	529	Belgium
Poland		Finland, Canada, Belgium, Netherlands	New Zealand, Czech Republic, Australia, Iceland	514	503	Germany
Poland		New Zealand, Australia, Belgium	Iceland	506	506	Austria
Austria, Ireland, Denmark	Poland, Germany			504	524	Australia
	Poland	New Zealand, Czech Republic, Australia, Denmark	Iceland	501	503	Ireland
Latvia, Ireland	Poland	Australia		500	514	Denmark
Latvia, Austria, France, Ireland, Iceland	Poland, Germany			500	523	New Zealand
Latvia, Ireland, Portugal, Norway	Poland, Germany			499	516	Czech Republic
Latvia, Luxembourg, Portugal, Norway	Poland	New Zealand		495	511	France
Latvia, Luxembourg, Portugal, Norway	Poland, Germany, Austria, Ireland	New Zealand		493	515	Iceland
Portugal, Italy		New Zealand, Slovak Republic, Luxembourg, Czech Republic, France, Denmark, Iceland	Sweden	491	483	Latvia
United States, Latvia, Spain, Portugal, Russian Federation, Italy		France, Iceland	Sweden	490	493	Luxembourg
United States, Spain, Portugal, Russian Federation, Italy		Czech Republic, France, Iceland	Sweden	489	495	Norway
		United States, Latvia, Slovak Republic, Luxembourg, Czech Republic, France, Sweden, Hungary, Spain, Iceland, Norway		487	466	Portugal
		United States, Latvia, Slovak Republic, Luxembourg, Sweden, Hungary, Spain, Norway		485	466	Italy
Portugal, Russian Federation, Italy		Slovak Republic, Luxembourg, Sweden, Norway		484	485	Spain
		United States, Slovak Republic, Luxembourg, Sweden, Hungary, Spain, Norway		482	468	Russian Federation
United States, Latvia, Spain, Portugal, Russian Federation, Italy				482	498	Slovak Republic
Portugal, Russian Federation, Italy		Slovak Republic, Luxembourg, Sweden, Norway		481	483	United States
United States, Hungary, Spain, Portugal, Russian Federation, Italy	Poland, Latvia, Luxembourg, Norway			478	509	Sweden
Portugal, Russian Federation, Italy		Sweden		477	490	Hungary
Turkey				453	445	Greece
		Greece		448	423	Turkey
				427	417	Thailand
		Uruguay		413	385	Mexico
Mexico				409	422	Uruguay
				391	356	Brazil
				388	359	Tunisia
				375	360	Indonesia

Note: Only countries and economies that participated in the PISA 2003 and PISA 2012 assessments are shown.
Countries and economies are ranked in descending order of their mean mathematics performance in PISA 2012.
Source: OECD, PISA 2012 Database, Table I.2.3b.
StatLink http://dx.doi.org/10.1787/888932935572



■ Figure I.2.18 ■

Relationship between annualised change in performance and average PISA 2003 mathematics scores



Notes: Annualised score point change in mathematics that are statistically significant are indicated in a darker tone (see Annex A3).
The annualised change is the average annual change in PISA score points from a country's/economy's earliest participation in PISA to PISA 2012. It is calculated taking into account all of a country's/economy's participation in PISA. For more details on the calculation of the annualised change, see Annex A5.
The correlation between a country's/economy's mean score in 2003 and its annualised performance is -0.60.
OECD average 2003 considers only those countries with comparable data since PISA 2003.
Source: OECD, PISA 2012 Database, Tables I.2.3b.
StatLink http://dx.doi.org/10.1787/888932935572

Other high-performing countries and economies that began their participation in PISA after the 2003 assessment, like Shanghai-China and Singapore, also show improvements in performance. In addition, there are many countries and economies that performed similarly in 2003 but evolved differently. As shown in Table I.2.3b, Bulgaria, Chile, Romania and Thailand began their participation in PISA with a mathematics performance of around 410 score points; but while Thailand showed no annual improvement between 2003 and 2012, Chile, Bulgaria and Romania showed an annual improvement between 2006 and 2012 of 1.9, 4.2 and 4.9 score points, respectively (Figure I.2.18 and Table I.2.3b).

Trends in mathematics performance adjusted for sampling and demographic changes

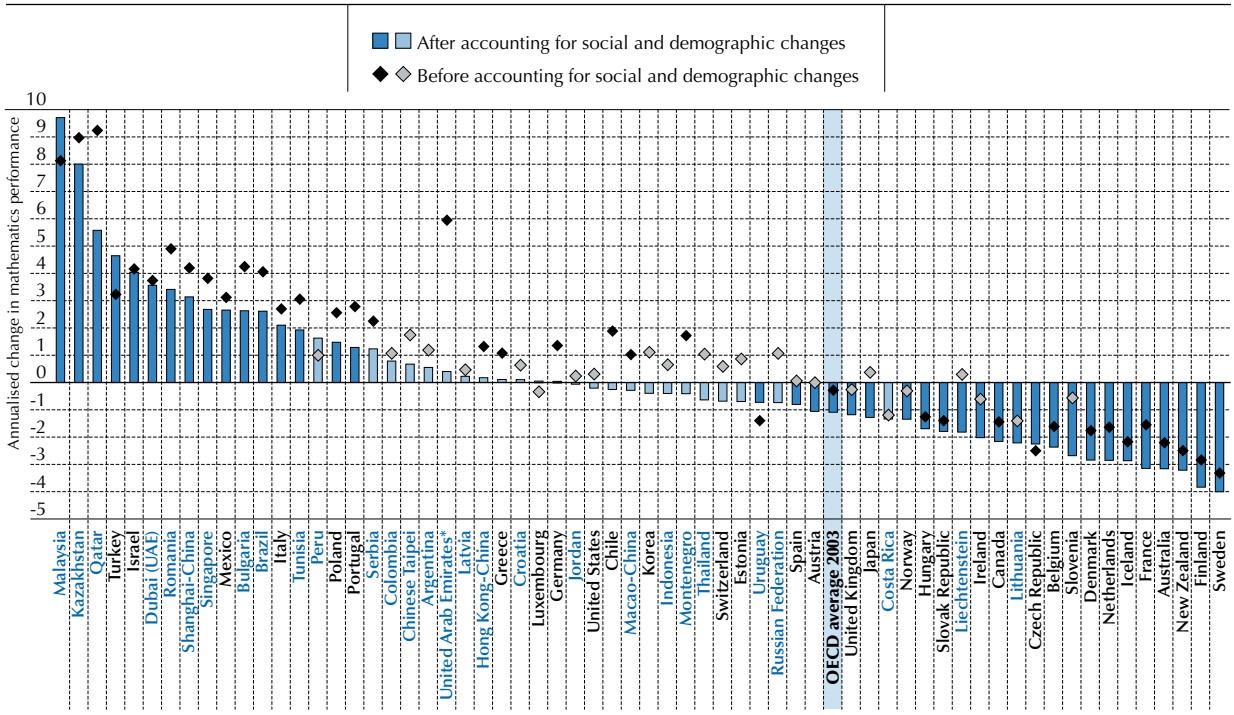
Changes in a country's or economy's mathematics performance can have many sources. While improvements may result from improved education services, they can also result from demographic changes that have shifted the country's population profile. By following strict sampling and methodological standards PISA ensures that all countries and economies are measuring the mathematics performance of their 15-year-olds enrolled in school; but because of

migration or other demographic and social trends, the characteristics of this reference population may change. Annex A5 provides details on the calculation of the adjusted trends.

Figure I.2.19 presents annualised changes after adjusting for changes in the age, gender, socio-economic status, migration background and language spoken at home of the population of students in each country or economy.[9] On average across OECD countries, and assuming that the 2003, 2006 and 2009 population of 15-year-old students had the same demographic profile as the population in 2012, scores in mathematics dropped by around one point per year. The observed trend shows no change since 2006. This difference in trends before and after accounting for demographic changes means that were it not for these demographic and socio-economic changes, average mathematics performance across OECD countries would have deteriorated since 2006.

■ Figure I.2.19 ■

Adjusted and observed annualised performance change in average PISA mathematics scores



* United Arab Emirates excluding Dubai.

Notes: Statistically significant values are marked in a darker tone (see Annex A3).

The annualised change is the average annual change in PISA score points. It is calculated taking into account all of a country's/economy's participation in PISA. For more details on the calculation of the annualised change, see Annex A5.

The annualised change adjusted for demographic changes assumes that the average age and *PISA index of social, cultural and economic status*, as well as the percentage of female students, those with an immigrant background and those who speak a language other than the assessment at home is the same in previous assessments as those observed in 2012. For more details on the calculation of the adjusted annualised change, see Annex A5.

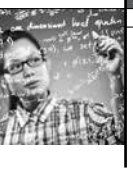
OECD average 2003 considers only those countries with comparable mathematics scores since PISA 2003.

Countries and economies are ranked in descending order of the annualised change after accounting for demographic changes.

Source: OECD, PISA 2012 Database, Tables I.2.3b and I.2.4.

StatLink http://dx.doi.org/10.1787/888932935572

As shown in Figure I.2.19, of the 25 countries and economies that saw an overall improvement in mathematics performance, 16 show this improvement after accounting for demographic changes in their student population.[10] In these countries and economies, changes in the age, immigrant background and language spoken at home of the student population do not explain all of the observed improvement in mathematics performance. Of the 14 countries and economies that show deteriorating performance during their participation in PISA, in no country or economy does this trend lose statistical significance after accounting for demographic changes in the student population. Of the 25 countries and economies that did not see an annualised change in mathematics performance, 9 would show a deterioration in performance had their student populations in previous assessments shared the same profile as students who were assessed in PISA 2012.



Comparing the results of the adjusted and unadjusted trends in mathematics performance, shown in Figure I.2.19, Costa Rica, the Czech Republic, Dubai (United Arab Emirates), Israel, Kazakhstan, Malaysia and Mexico, have less than a 20% difference between unadjusted and adjusted annualised trends, meaning that the characteristics of the student population have not changed much between 2003 and 2012, that changes in the characteristics of the student population are unrelated to average student performance, or that education services have adapted to the changes in the student population so that any of those changes that may have an impact on student performance have been compensated for by adaptations made in education service. Similarly, in Colombia, Hungary, Jordan, Latvia, Luxembourg and the Slovak Republic, the difference between the unadjusted and adjusted annualised trends is less than 0.5 score points per year. Large differences in adjusted and unadjusted performance are observed in Chile, Liechtenstein, Montenegro, Qatar, Slovenia and the United Arab Emirates, excluding Dubai. In these countries and economies, the difference between adjusted and unadjusted annualised trends is greater than two score points, signalling that demographic changes have had a considerable impact on trends in mathematics performance.

Informative as they may be, adjusted trends are merely hypothetical scenarios that help to understand the source of changes in students' performance over time. Observed (unadjusted) trends depicted in Figure I.2.19 and throughout this chapter summarise the overall evolution of a school system, highlighting the challenges that countries and economies face in improving students' and schools' mathematics performance. To better understand the observed trends in performance, Chapters 2 and 3 of Volume II analyses in greater detail, how the student population has changed through migration and in socio-economic background, and how these characteristics are related to mathematics performance. Volume III explores students' engagement with and at school, drive and self-beliefs towards learning and mathematics. Volume IV, in turn, explores how attributes of school organisation and educational resources are related to changes in performance, providing further insight into the policies and practices that may explain the trends observed in mathematics performance.

Students at the different levels of proficiency in mathematics

Figure I.2.20 shows the location of some of these items on the PISA 2012 scale. A selection of items used in the 2012 survey is presented at the end of the chapter. Since PISA is a triennial assessment, it is useful to retain a sufficient number of questions over successive PISA assessments in order to generate trend data over time.

■ Figure I.2.20 ■

Map of selected mathematics questions, by proficiency level

Level	Lower score limit	Questions (position on PISA scale)
6	669	**REVOLVING DOOR** – Question 2 (840.3)
		HELEN THE CYCLIST – Question 3 (696.6)
		GARAGE – Question 2, FULL CREDIT (687.3)
5	607	**GARAGE** – Question 2, PARTIAL CREDIT (663.2)
		CLIMBING MOUNT FUJI – Question 2 (641.6)
		CLIMBING MOUNT FUJI – Question 3, FULL CREDIT (610.0)
4	545	**CLIMBING MOUNT FUJI** – Question 3, PARTIAL CREDIT (591.3)
		REVOLVING DOOR – Question 3 (561.3)
		WHICH CAR? – Question 3 (552.6)
3	482	**REVOLVING DOOR** – Question 1 (512.3)
		HELEN THE CYCLIST – Question 2 (510.6)
		WHICH CAR? – Question 2 (490.9)
2	420	**CLIMBING MOUNT FUJI** – Question 1 (464.0)
		HELEN THE CYCLIST – Question 1 (440.5)
		CHARTS – Question 5 (428.2)
1	358	**GARAGE** – Question 1 (419.6)
		CHARTS – Question 2 (415.0)
Below Level 1		**CHARTS** – Question 1 (347.7)
		WHICH CAR? – Question 1 (327.8)



The six mathematics proficiency levels are defined in the same way as the corresponding levels of the PISA 2003 scale, with the highest level labelled "Level 6", and the lowest labelled "Level 1". However, their descriptions have been updated to reflect the new mathematical process categories in the PISA 2012 framework and the large number of new items developed for PISA 2012. Figure I.2.21 provides descriptions of the mathematical skills, knowledge and understanding required at each level of the mathematical literacy scale and the average proportion of students at each of these proficiency levels across OECD countries.

Figure I.2.22 shows the distribution of students on each of these six proficiency levels. The percentage of students performing below Level 2 is shown on the left side of the vertical axis.

■ Figure I.2.21 ■

Summary descriptions for the six levels of proficiency in mathematics

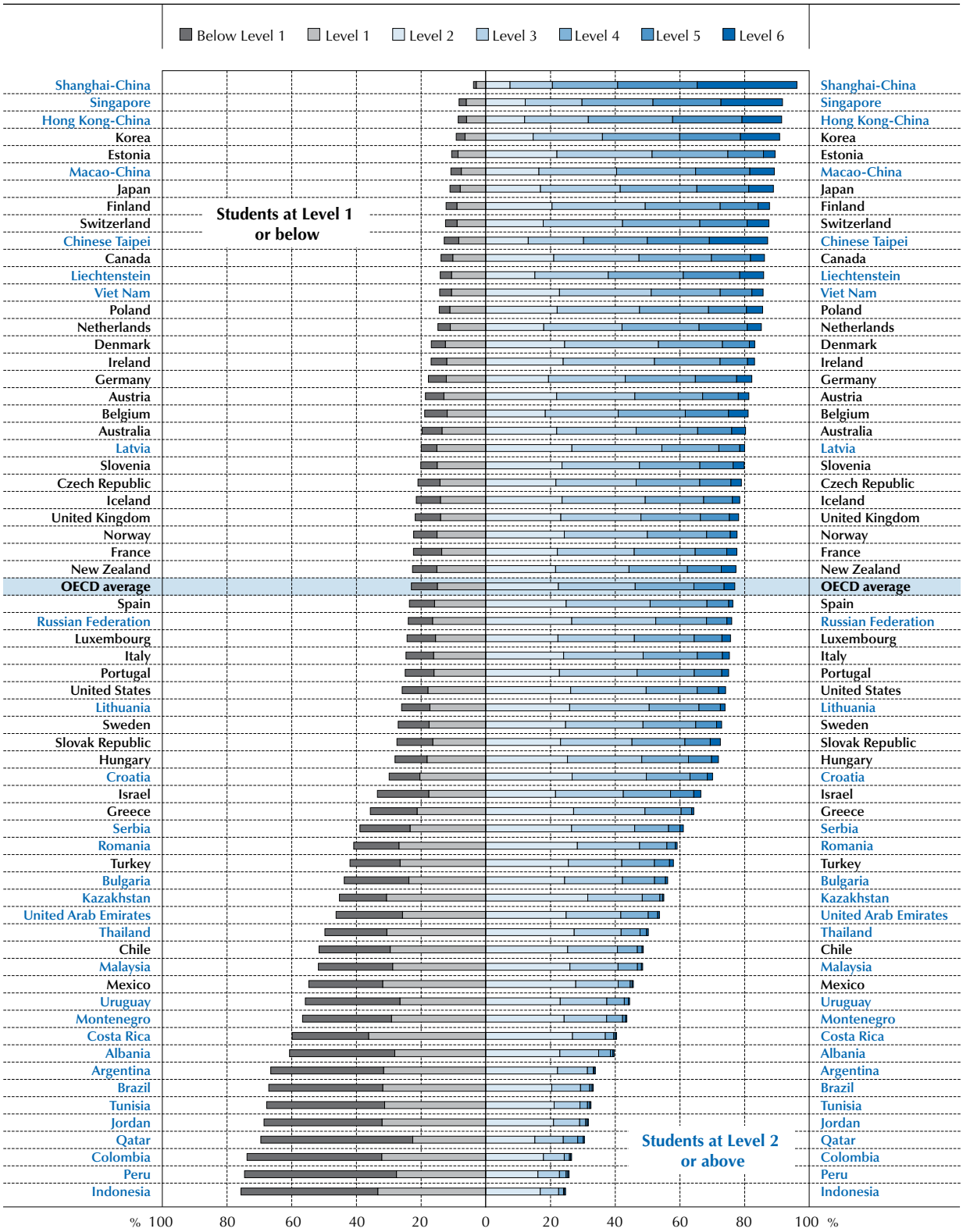
Level	Lower score limit	Percentage of students able to perform tasks at each level or above (OECD average)	What students can typically do
6	669	3.3%	At Level 6, students can conceptualise, generalise and utilise information based on their investigations and modelling of complex problem situations, and can use their knowledge in relatively non-standard contexts. They can link different information sources and representations and flexibly translate among them. Students at this level are capable of advanced mathematical thinking and reasoning. These students can apply this insight and understanding, along with a mastery of symbolic and formal mathematical operations and relationships, to develop new approaches and strategies for attacking novel situations. Students at this level can reflect on their actions, and can formulate and precisely communicate their actions and reflections regarding their findings, interpretations, arguments, and the appropriateness of these to the original situation.
5	607	12.6%	At Level 5, students can develop and work with models for complex situations, identifying constraints and specifying assumptions. They can select, compare, and evaluate appropriate problem-solving strategies for dealing with complex problems related to these models. Students at this level can work strategically using broad, well-developed thinking and reasoning skills, appropriate linked representations, symbolic and formal characterisations, and insight pertaining to these situations. They begin to reflect on their work and can formulate and communicate their interpretations and reasoning.
4	545	30.8%	At Level 4, students can work effectively with explicit models for complex concrete situations that may involve constraints or call for making assumptions. They can select and integrate different representations, including symbolic, linking them directly to aspects of real-world situations. Students at this level can utilise their limited range of skills and can reason with some insight, in straightforward contexts. They can construct and communicate explanations and arguments based on their interpretations, arguments, and actions.
3	482	54.5%	At Level 3, students can execute clearly described procedures, including those that require sequential decisions. Their interpretations are sufficiently sound to be a base for building a simple model or for selecting and applying simple problem-solving strategies. Students at this level can interpret and use representations based on different information sources and reason directly from them. They typically show some ability to handle percentages, fractions and decimal numbers, and to work with proportional relationships. Their solutions reflect that they have engaged in basic interpretation and reasoning.
2	420	77.0%	At Level 2, students can interpret and recognise situations in contexts that require no more than direct inference. They can extract relevant information from a single source and make use of a single representational mode. Students at this level can employ basic algorithms, formulae, procedures, or conventions to solve problems involving whole numbers. They are capable of making literal interpretations of the results.
1	358	92.0%	At Level 1, students can answer questions involving familiar contexts where all relevant information is present and the questions are clearly defined. They are able to identify information and to carry out routine procedures according to direct instructions in explicit situations. They can perform actions that are almost always obvious and follow immediately from the given stimuli.



■ Figure I.2.22 ■

Proficiency in mathematics

Percentage of students at each level of mathematics proficiency



Countries and economies are ranked in descending order of the percentage of students at Levels 2, 3, 4, 5 and 6.
Source: OECD, PISA 2012 Database, Table I.2.1a.

StatLink http://dx.doi.org/10.1787/888932935572



Proficiency at Level 6 (scores higher than 669 points)

Students at Level 6 of the PISA mathematics assessment are able to successfully complete the most difficult PISA items. At Level 6, students can conceptualise, generalise and use information based on their investigations and modelling of complex problem situations, and can use their knowledge in relatively non-standard contexts. They can link different information sources and representations and move flexibly among them. Students at this level are capable of advanced mathematical thinking and reasoning. These students can apply this insight and understanding, along with a mastery of symbolic and formal mathematical operations and relationships, to develop new approaches and strategies for addressing novel situations. Students at this level can reflect on their actions, and can formulate and precisely communicate their actions and reflections regarding their findings, interpretations and arguments, and can explain why they were applied to the original situation.

Question 3 in the example HELEN THE CYCLIST (Figure I.2.55) requires Level 6 proficiency. It requires a deeper understanding of the meaning of average speed, appreciating the importance of linking total time with total distance. Average speed cannot be obtained just by averaging the speeds, even though in this specific case the incorrect answer (28.3 km/hr) obtained by averaging the speeds (26.67 km/hr and 30 km/hr) is not much different from the correct answer of 28 km/hr. There are both mathematical and real world understandings of this phenomenon, leading to high demands on the fundamental mathematical capabilities of *mathematisation* and *reasoning and argumentation* and also *using symbolic, formal and technical language and operations*.

For students who know to work from total time (9 + 6 = 15 minutes) and total distance (4 + 3 = 7 km), the answer can be obtained simply by proportional reasoning (7 km in ¼ hour is 28 km in 1 hour), or by more complicated formula approaches (e.g. distance / time = 7 / (15/60) = 420 / 15 = 28). This question has been classified as an *employing* process because the greatest part of the demand arises from the mathematical definition of average speed and possibly also the unit conversion, especially for students using speed–distance–time formulas. It is one of the more difficult tasks of the item pool, and sits in Level 6 on the proficiency scale.

On average across OECD countries, 3.3% of students attain Level 6. The partner economy Shanghai-China has by far the largest proportion of students (30.8%) who score at this level in mathematics. Indeed, Shanghai-China has more students at this level of mathematics proficiency than at any other level, and is the only PISA participant where this is the case. Between 10% and 20% of students in four other Asian countries and economies – the three partner countries and economies Singapore (19.0%), Chinese Taipei (18.0%), Hong Kong-China (12.3%) and the OECD country Korea (12.1%) score at this level. Between 5% and 10% of students in Japan (7.6%), the partner economy Macao-China (7.6%), the partner country Liechtenstein (7.4%), Switzerland (6.8%) and Belgium (6.1%) attain Level 6 in mathematics. Thirty-three participating countries and economies show between 1% and 5% of their students at this level, while in 22 others, fewer than 1% of students score at the highest level, including the three OECD countries Mexico, Chile and Greece (Figure I.2.20 and Table I.2.1a).

Proficiency at Level 5 (scores higher than 607 but lower than or equal to 669 points)

At Level 5, students can develop and work with models for complex situations, identifying constraints and specifying assumptions. They can select, compare and evaluate appropriate problem-solving strategies for dealing with complex problems related to these models. Students at this level can work strategically using broad, well-developed thinking and reasoning skills, appropriate linked representations, symbolic and formal characterisations, and insights pertaining to these situations. They begin to reflect on their work and can formulate and communicate their interpretations and reasoning.

Typical questions for Level 5 are exemplified by Question 3 from the unit CLIMBING MOUNT FUJI (Figure I.2.56). This question has been allocated to the *employing* category. There is one main relationship involved: the distance walked = number of steps x average step length. To use this relationship to solve the problem, there are two obstacles: rearranging the formula (which is probably done by students informally rather than formally using the written relationship) so that the average step length can be found from distance and number of steps, and making appropriate unit conversions. For this question, it was judged that the major cognitive demand comes from carrying out these steps; hence it has been categorised in the *employing* process, rather than identifying the relationships and assumptions to be made (the *formulating* process) or *interpreting* the answer in real world terms.



Box I.2.3. Top performers and all-rounders in PISA

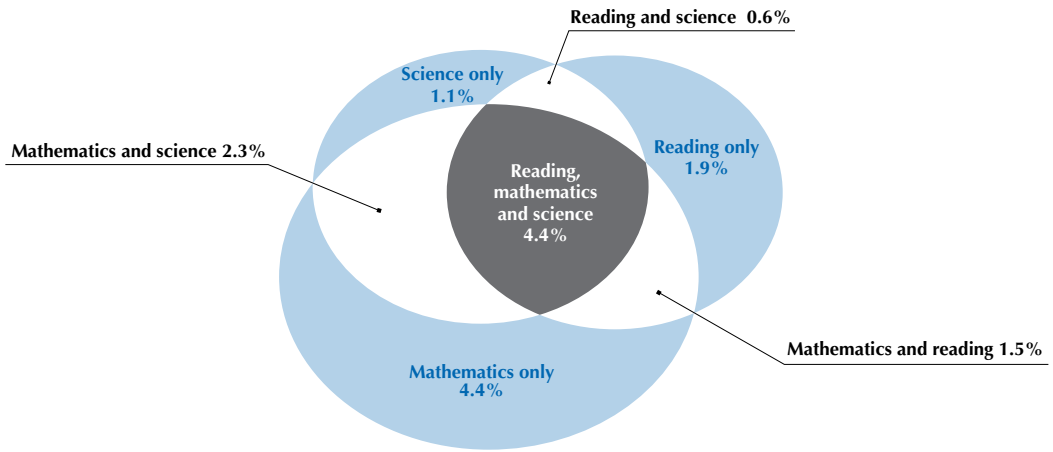
Performance in PISA refers to particular and increasingly complex tasks students are able to complete. A small proportion of students attains the highest levels and can be called top performers in mathematics, reading or science. Even fewer are the academic all-rounders, those students who achieve proficiency Level 5 or higher in mathematics, reading and science simultaneously. These students will be at the forefront of a competitive, knowledge-based global economy. They are able to draw on and use information from multiple and indirect sources to solve complex problems.

Results from the PISA 2012 assessment show that nurturing top performance and tackling low performance need not be mutually exclusive. Some high-performing countries in PISA 2012, like Estonia and Finland, have also low variation in student scores. Equally important, since their first participation in PISA, France, Hong Kong-China, Italy, Japan, Korea, Luxembourg, Macao-China, Poland, Portugal and the Russian Federation have been able to increase the share of top performers in mathematics, reading or science.

Figure I.2.a shows the proportion of top performers and all-rounders across OECD countries. Parts in the diagram shaded blue represent the percentage of 15-year-old students who are top performers in just one of the three subject areas assessed, that is, either in mathematics, reading or science. The parts in blue show the percentage of students who are top performers in two of the subject areas, while the grey part in the centre of the diagram shows the percentage of 15-year-old students who are top performers in all three subject areas.

■ Figure I.2.a ■

Overlapping of top performers in mathematics, reading and science on average across OECD countries



Note: Non-top performers in any of the three domains: 83.8%.
Source: OECD, PISA 2012 Database, Table I.2.29.

On average across OECD countries, 16.2% of students are top performers in at least one of the three subject areas; but only 4.4% of 15-year-old students are top performers in all three. This shows that excellence is not simply strong performance in all areas, but rather that it can be found among a wide range of students in various subjects.

About 1.5% of students are top performers in both mathematics and reading but not in science, 2.3% are top performers in both mathematics and science but not in reading, and fewer than 1% of students (0.6%) are top performers in both reading and science but not in mathematics. The percentage of students who are top performers in both mathematics and science is greater than the percentages who are top performers in mathematics and reading or in reading and science.

There is substantial variation among countries in the percentages of top performers in the three subjects (Table I.2.29).

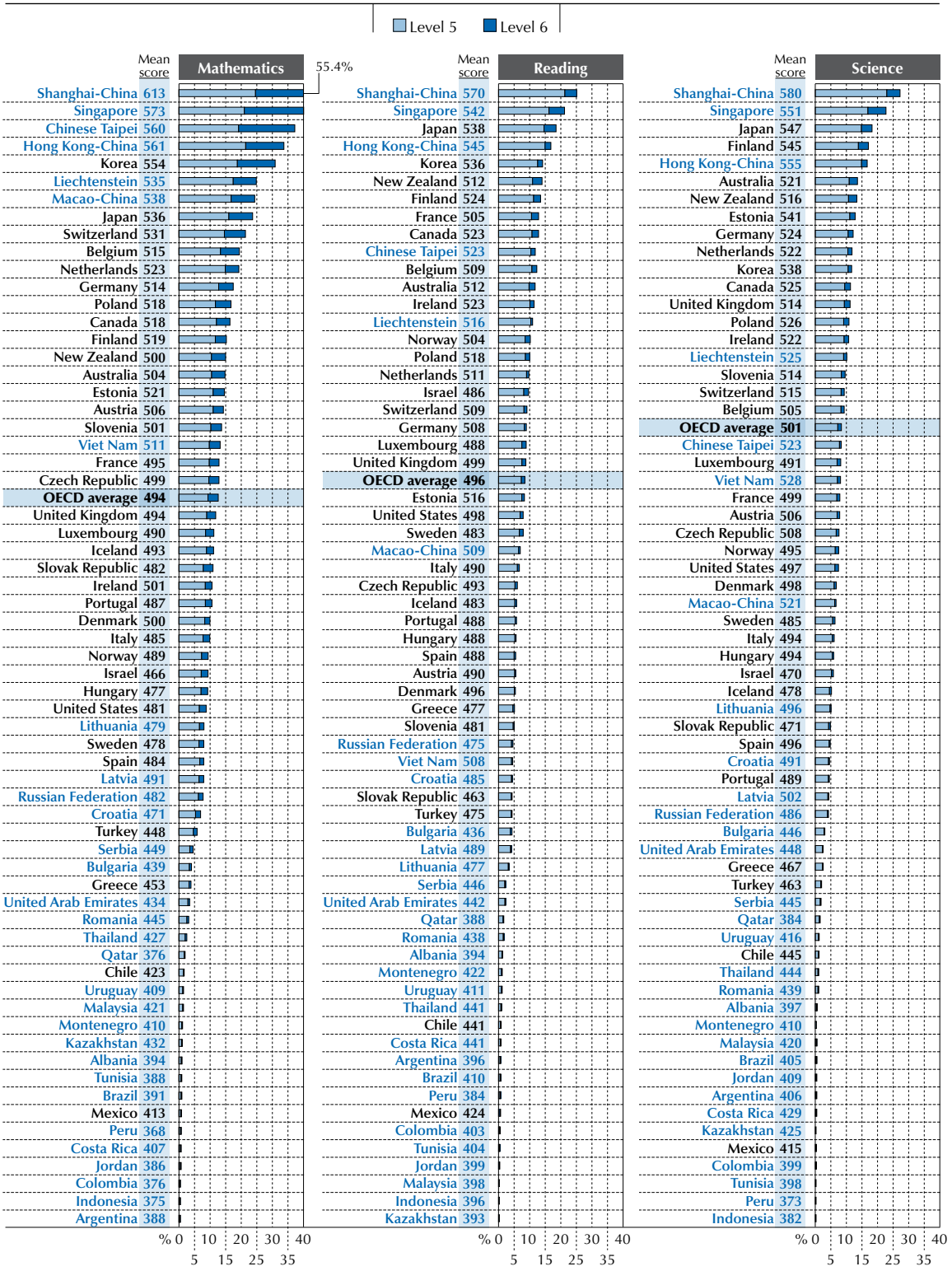
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■ Figure I.2.b ■

Top performers in mathematics, reading and science

Percentage of students reaching the two highest levels of proficiency



Countries and economies are ranked in descending order of the percentage of top performers (Levels 5 and 6).

Source: OECD, PISA 2012 Database, Tables I.2.1a, I.2.3a, I.4.1a, I.4.3a, I.5.1a and I.5.3a.

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All-rounders, or top performers in all three subjects, comprise between 6% and just over 8% of 15-year-old students in Korea (8.1%), New Zealand (8.0%), Australia (7.6%), Finland (7.4%), Canada (6.5%), Poland (6.1%), Belgium (6.1%), the Netherlands (6.0%) and the partner economy Chinese Taipei (6.1%), and even larger proportions are found in the countries and economies Shanghai-China (19.6%), Singapore (16.4%), Japan (11.3%) and Hong Kong-China (10.9%). Conversely, in two OECD countries and 17 partner countries and economies, fewer than 1% of students are top performers in all three subjects.

Figure I.2.b shows the proportions of top performers in mathematics, reading and science for each country. Although on average across OECD countries, 9.3% and 3.3% of 15-year-olds reach Level 5 and Level 6 in mathematics, respectively, these proportions vary substantially across countries. For example, among OECD countries, Korea, Japan and Switzerland have at least 20% of top performers in mathematics, whereas Mexico and Chile have fewer than 1% and 2%, respectively. Among partner countries and economies, the overall proportion of these top performers also varies considerably from country to country; in some countries, no student achieves Level 6 in mathematics. At the same time, Shanghai-China, Singapore, Chinese Taipei and Hong Kong-China have the highest proportion of students performing at Level 5 or 6. Similar variations are shown in reading and science, with only slight differences in the patterns of these results among countries.

Among countries with similar mean scores in PISA, there are remarkable differences in the percentage of top-performing students. For example, Denmark has a mean score of 500 points in mathematics in PISA 2012 and 10% of students perform at high proficiency levels in mathematics, which is less than the average of around 13%. New Zealand has a similar mean mathematics score of 500 points, but 15% of its students attain the highest levels of proficiency, which is above the average. Although only a small percentage of students in Denmark perform at the lowest levels (see Table I.2.1a), these results could signal the absence of a highly educated talent pool for the future.

Having a large proportion of top performers in one subject is no guarantee of having a large proportion of top performers in the others. For example, Switzerland has one of the 10 largest shares of top performers in mathematics, but only a slightly-above-average share of top performers in reading and science.

Across the three subjects and across all countries, girls are as likely to be top performers as boys. On average across OECD countries, 4.6% of girls and 4.3% of boys are top performers in all three subjects, and 15.6% of girls and 16.8% of boys are top performers in at least one subject (Table I.2.30). However, while the gender gap among students who are top performers only in science is small (0.9% of girls and 1.3% of boys), it is large among top performers in mathematics only (2.9% of girls and 5.9% of boys) and in reading only (3.2% of girls and 0.6% of boys).

To increase the share of top-performing students, countries and economies need to look at the barriers posed by social background (examined in Volume II of this series), the relationship between performance and students' attitudes towards learning (examined in Volume III), and schools' organisation, resources and learning environment (examined in Volume IV).

On average across OECD countries, 12.6% of students are top performers, meaning that they are proficient at Level 5 or 6. Among all participants in PISA 2012, the partner economy Shanghai-China (55.4%) has the largest proportion of students performing at Level 5 or 6, followed by Singapore (40.0%), Chinese Taipei (37.2%) and Hong Kong-China (33.7%). In Korea 30.9% of students are top performers in mathematics. Between 15% and 25% of students in Liechtenstein, Macao-China, Japan, Switzerland, Belgium, the Netherlands, Germany, Poland, Canada, Finland and New Zealand perform at Level 5 or above in mathematics. By contrast, in 36 countries, 10% of students or fewer perform at these levels. These include the OECD countries Denmark (10.0%), Italy (9.9%), Norway (9.4%), Israel (9.4%), Hungary (9.3%), the United States (8.8%), Sweden (8.0%), Spain (8.0%), Turkey (5.9%), Greece (3.9%) and Chile (1.6%). In Kazakhstan, Albania, Tunisia, Brazil, Mexico, Peru, Costa Rica, Jordan, Colombia, Indonesia and Argentina, fewer than 1% of students are top performers in mathematics (Figure I.2.22 and Table I.2.1a).

Proficiency at Level 4 (scores higher than 545 but lower than or equal to 607 points)

At Level 4, students can work effectively with explicit models on complex, concrete situations that may involve constraints or call for making assumptions. They can select and integrate different representations, including symbolic



representations, linking them directly to aspects of real-world situations. Students at this level can use their limited range of skills and can reason with some insight, in straightforward contexts. They can construct and communicate explanations and arguments based on their interpretations, reasoning and actions.

Question 3 in REVOLVING DOOR (Figure I.2.57) involves rates and proportional reasoning, and it sits within Level 4 on the mathematics proficiency scale. In one minute, the door revolves 4 times bringing $4 \times 3 = 12$ sectors to the entrance, which enables $12 \times 2 = 24$ people to enter the building. In 30 minutes, $24 \times 30 = 720$ people can enter (hence, the correct answer is response option D). The high frequency of PISA items that involve proportional reasoning highlights its centrality to mathematical literacy, especially for students whose mathematics has reached a typical stage for 15-year-olds. Many real contexts involve direct proportion and rates, which as in this case are often used in chains of reasoning. Coordinating such a chain of reasoning requires *devising a strategy* to bring the information together in a logical sequence.

This item also makes considerable demand on the *mathematisation* fundamental mathematical capability, especially in the *formulating* process. A student needs to understand the real situation, perhaps visualising how the doors rotate, presenting one sector at a time, making the only way for people to enter the building. This understanding of the real world problem enables the data given in the problem to be assembled in the right way. The questions in this unit have been placed in the *scientific* context category, even though they do not explicitly involve scientific or engineering concepts, as do many of the other items in this category. The scientific category includes items explaining why things are as they are in the real world.

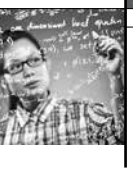
On average across OECD countries, 30.8% of students perform at proficiency Level 4, 5 or 6. More than three out of four students in Shanghai-China perform at one of these levels (75.6%), and more than one in two students in Singapore, Hong Kong-China, Chinese Taipei and Korea do. Countries and economies where more than one in three students are proficient at proficiency Level 4, 5 or 6 are Macao-China (48.8%), Liechtenstein (48.0%), Japan (47.4%), Switzerland (45.3%), the Netherlands (43.1%), Belgium (40.2%), Germany (39.1%), Canada (38.8%), Finland (38.4%), Poland (38.1%), Estonia (38.0%), Austria (35.3%), Viet Nam (34.6%) and Australia (33.8%). Yet in 17 participating countries and economies, fewer than 10% of students attain Level 4 or above. In Indonesia, Colombia, Argentina, Jordan, Peru, Tunisia, Costa Rica, Brazil, Mexico and Albania, fewer than 5% of students attain Level 4 or above (Figure I.2.22 and Table I.2.1a).

Proficiency at Level 3 (scores higher than 482 but lower than or equal to 545 points)

At Level 3, students can execute clearly described procedures, including those that require sequential decisions. Their interpretations are sufficiently sound to be the basis for building a simple model or for selecting and applying simple problem-solving strategies. Students at this level can interpret and use representations based on different information sources and reason directly from them. They typically show some ability to handle percentages, fractions and decimal numbers, and to work with proportional relationships. Their solutions reflect that they have engaged in basic interpretation and reasoning.

Question 1 in REVOLVING DOOR (Figure I.2.57) requires Level 3 proficiency. This question may appear very simple: finding the angle of 120 degrees between the two door wings, but the student responses indicate it is at Level 3. This is probably because of the demand arising from *communication*, *representation* and *mathematisation* as well as the specific knowledge of circle geometry that is needed. The context of three-dimensional revolving doors has to be understood from the written descriptions. It also needs to be understood that the three diagrams in the initial stimulus provide different two-dimensional information about just one revolving door (not three doors) – first the diameter, then the directions in which people enter and exit from the door, and thirdly connecting the wings mentioned within the text with the lines of the diagrams. The fundamental mathematical capability of *representation* is required at a high level to interpret these diagrams mathematically. They give the view from above, but students also need to visualise real revolving doors especially in answering Questions 2 and 3.

On average across OECD countries, 54.5% of students are proficient at Level 3 or higher (that is, at Level 3, 4, 5 or 6). More than three out of four students in Shanghai-China (88.7%), Singapore (79.5%), Hong Kong-China (79.5%) and Korea (76.2%) attain Level 3 or above. More than two out of three students are proficient at these levels in Chinese Taipei (74.0%), Macao-China (72.8%), Japan (72.0%), Liechtenstein (70.7%), Switzerland (69.8%), Estonia (67.5%), the Netherlands (67.3%) and Finland (67.2%). By contrast, in 22 participating countries, fewer than one in three students attains these levels. In Peru, Colombia and Indonesia, fewer than 10% of students perform at those levels (Figure I.2.22 and Table I.2.1a).



Proficiency at Level 2 (scores higher than 420 but lower than or equal to 482 points)

At Level 2, students can interpret and recognise situations in contexts that require no more than direct inference. They can extract relevant information from a single source and make use of a single representational mode. Students at this level can employ basic algorithms, formulae, procedures or conventions to solve problems involving whole numbers. They are capable of making literal interpretations of the results.

Results from longitudinal studies in Australia, Canada, Denmark and Switzerland show that students who perform below Level 2 often face severe disadvantages in their transition into higher education and the labour force in subsequent years. The proportion of students who perform below this baseline proficiency level thus indicates the degree of difficulty countries face in providing their populations with a minimum level of competencies (OECD, 2012).

Question 1 in the unit HELEN THE CYCLIST (Figure I.2.55) is typical of Level 2 tasks. Question 1, a simple multiple choice item, requires comparison of speed when travelling 4 km in 10 minutes versus 2 km in 5 minutes. It is been classified within the *employing* process category because it requires the precise mathematical understanding that speed is a rate and that proportionality is the key. This question can be solved by recognising the doubles involved (2 km – 4 km; 5 km – 10 km), which is the very simplest notion of proportion. Consequently, with this Level 2 question, successful students demonstrate a very basic understanding of speed and of proportion calculations. If distance and time are in the same proportion, the speed is the same. Of course, students could correctly solve the problem in more complicated ways (e.g. calculating that both speeds are 24 km per hour) but this is not necessary. PISA results for this question do not incorporate information about the solution method used. The correct response option here is B (Helen's average speed was the same in the first 10 minutes and in the next 5 minutes).

Level 2 is considered the baseline level of mathematical proficiency that is required to participate fully in modern society. More than 90% of students in the four top-performing countries and economies in PISA 2012, Shanghai-China, Singapore, Hong Kong-China and Korea, meet this benchmark. Across OECD countries, an average of 77% of students attains Level 2 or higher: more than one in two students perform at these levels in all OECD countries except Chile (48.5%) and Mexico (45.3%). Only around one in four students in the partner countries Colombia, Peru and Indonesia attains this benchmark (Figure I.2.22 and Table I.2.1a).

Proficiency at Level 1 (scores higher than 358 but lower than or equal to 420 points) or below

At Level 1 students can answer questions involving familiar contexts where all relevant information is present and the questions are clearly defined. They are able to identify information and carry out routine procedures according to direct instructions in explicit situations. They can perform actions that are almost always obvious and follow immediately from the given stimuli.

Students below Level 1 may be able to perform very direct and straightforward mathematical tasks, such as reading a single value from a well-labelled chart or table where the labels on the chart match the words in the stimulus and question, so that the selection criteria are clear and the relationship between the chart and the aspects of the context depicted are evident, and performing arithmetic calculations with whole numbers by following clear and well-defined instructions.

Question 1 in GARAGE (Figure I.2.60) is a task that corresponds to the top of Level 1 in difficulty, very close to the Level 1/Level 2 boundary on the proficiency scale. It asks students to identify a picture of a building from the back, given the view from the front. The diagrams must be interpreted in relation to the real world positioning of "from the back", so this question is classified in the *interpreting* process. The correct response is C. Mental rotation tasks such as this are solved by some people using intuitive spatial visualisation. Other people need explicit reasoning processes. They may analyse the relative positions of multiple features (door, window, nearest corner), discounting the multiple choice alternatives one by one. Others might draw a bird's eye view, and then physically rotate it. This is just one example of how different students may use quite different methods to solve PISA questions: in this case explicit reasoning for some students is intuitive for others.

Question 1 in CHARTS (Figure I.2.59), with a difficulty of 347.7, is a task below Level 1 on the mathematical proficiency scale, being one of the easiest tasks in the PISA 2012 item pool. It requires the student to find the bars for April, select the correct bar for the Metafolkies, and read the height of the bar to obtain the required response selection B (500). No scale reading or interpolation is required.

All PISA participating countries and economies show students at Level 1 or below; but the largest proportions of students who attain only these levels are found in the lowest-performing countries.



Across OECD countries, an average of 23.0% of students is proficient only at or below Level 1. In Shanghai-China, Singapore, Hong Kong-China and Korea, fewer than 10% of students perform at or below Level 1. Fewer than 15% do in Estonia, Macao-China, Japan, Finland, Switzerland, Chinese Taipei, Canada, Liechtenstein, Viet Nam, Poland and the Netherlands. By contrast, in 31 participating countries and economies more than one out of four students perform at these levels. In 15 countries the proportion of students who attain only Level 1 or below exceeds 50% (Figure I.2.22 and Table I.2.1a).

Trends in the percentage of low- and top-performers in mathematics

Changes in a country's or economy's average performance can result from changes at different levels of the performance distribution. For example, for some countries and economies, average improvement is driven by improvements among low-achieving students, where the share of students scoring below Level 2 is reduced. In other countries and economies, average improvement is driven mostly by changes among high-achieving students, where the share of students who perform at or above Level 5 increases. On average across OECD countries with comparable data, between 2003 and 2012 there was an increase of 0.7 percentage points in the share of students who do not meet the baseline proficiency level in mathematics and a reduction of 1.6 percentage points in the share of students at or above proficiency Level 5 (Figure I.2.23 and Table I.2.1b).

However, these trends vary across countries. Some countries and economies saw a reduction in the proportion of low-performing students and a concurrent increase in the proportion of top-performing students. These are school systems that have seen improvements in performance both at the bottom and the top ends of the performance distribution. There are other countries where improvements are limited to reducing the share of low-performing students or increasing the share of top-performing students.

Countries and economies can be grouped into categories based on whether they have: simultaneously reduced the share of low performers and increased the share of top performers between previous PISA assessments and PISA 2012; reduced the share of low performers but not increased the share of top performers between any previous PISA assessment and PISA 2012; increased the share of top performers but not reduced the share of low performers; and reduced the share of top performers or increased the share of low performers between PISA 2012 and any previous PISA assessment. The following section groups countries along these categories, first identifying those that have simultaneously reduced the share of low performers and increased the share of top performers between PISA 2003 and PISA 2012, between PISA 2006 and PISA 2012 or between PISA 2009 and PISA 2012. The remaining countries and economies are categorised as those that reduced the share of low performing students, increased the share of top performing students, or that saw an increase in the share of low performers or a reduction in the share of top performers.

Moving everyone up: Reductions in the share of low performers and increases in that of top performers

Countries and economies that have reduced the proportion of students scoring below Level 2 and increased the proportion of students scoring above Level 5 are ones that have been able to spread the improvements in their education systems across all levels of performance. Between 2003 and 2012 this was observed in Italy, Poland and Portugal. This reduction in the share of low-performers and increase in the share of high-performers was observed in Israel, Romania and Qatar between PISA 2006 and PISA 2012, and in Ireland, Malaysia and the Russian Federation between PISA 2009 and PISA 2012 (Figure I.2.23 and Table I.2.1b).

Poland, for example, reduced the share of students scoring below Level 2 by eight percentage points while increasing the share of high achievers by seven percentage points between 2003 and 2012. A large part of this change is concentrated in the 2009 to 2012 period. In 2003, 2006 and 2009 about 20% of students were low-performers and around 10% were top-performers; by 2012 the share of students scoring below Level 2 dropped to 14% and the share of students scoring at or above Level 5 increased to 17%. Similarly, Portugal reduced the share of students scoring below Level 2 by five percentage points and increased the share of students scoring at or above Level 5 also by five percentage points during the period, with most of this change taking place between 2006 and 2009. Italy saw an overall reduction of seven percentage points in the share of students performing below Level 2 and an increase of three percentage points in the share of students scoring at or above Level 5, with most of this change taking place between 2006 and 2009 (Figure I.2.23 and Table I.2.1b).

Annex B4 illustrates, for each country and economy, how mathematics performance at the 10th, 25th, 75th and 90th percentiles has evolved since 2003. Like the trends in the share of low- and top-performing students, it shows that average improvement in Poland and Italy, for example, is observed among low-, average and high-achieving students alike.

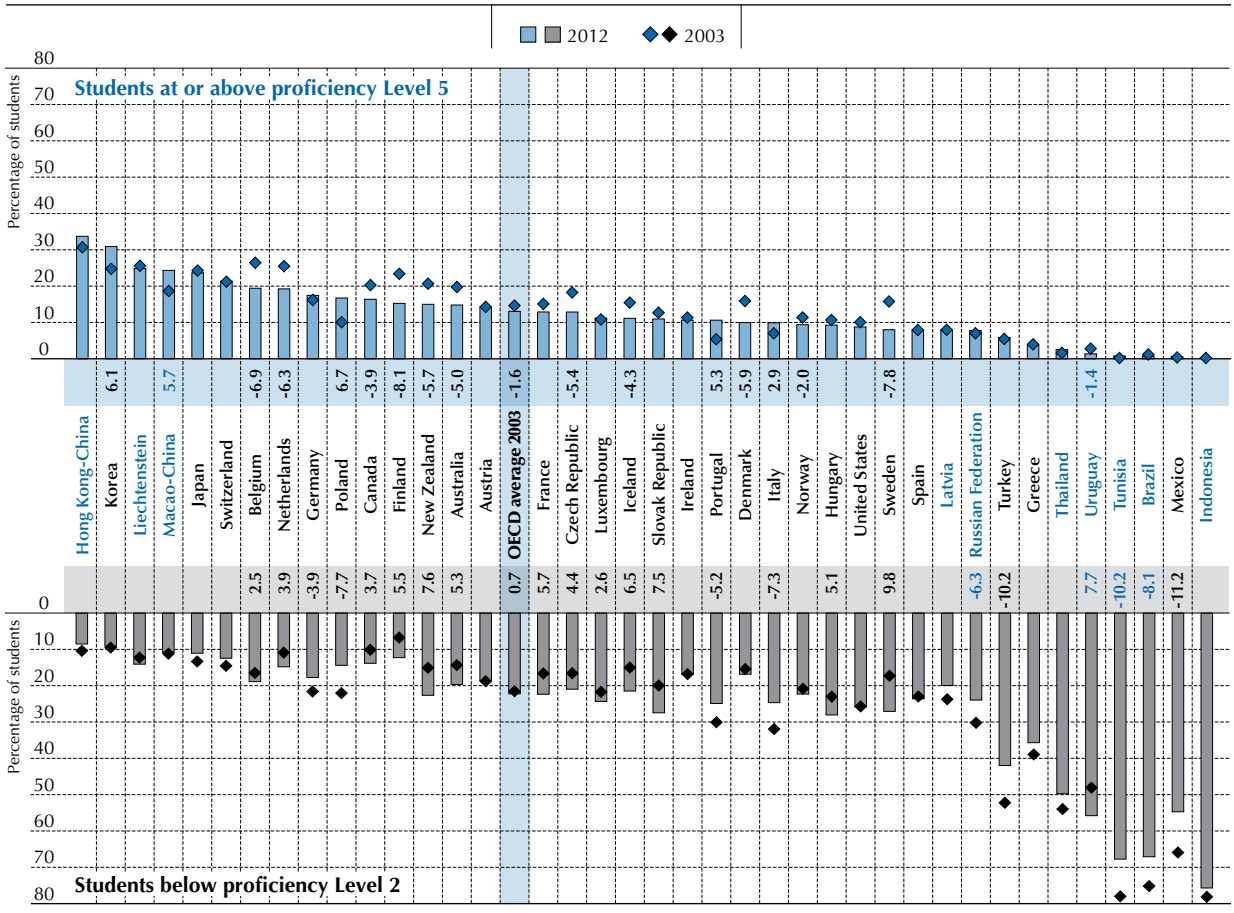


Reducing underperformance: Reductions in the share of low performers but no change in that of top performers

Other countries and economies have concentrated change among those students who did not meet the baseline proficiency level. These countries and economies saw significant improvements in the performance of students who need it most and who now have basic skills and competencies to fully participate in society. Between 2003 and 2012, Brazil, Mexico, Tunisia and Turkey saw a reduction of more than five percentage points in the share of students scoring below proficiency Level 2 in mathematics. Germany also saw significant reductions in the proportion of students at proficiency Level 2, but no change in the proportion of those scoring at or above Level 5. Similarly, Bulgaria and Montenegro, both of which began participating in PISA after 2003, showed significant reductions in the proportion of students scoring at Level 2 between 2006 and 2012, as did Albania, Dubai (United Arab Emirates) and Kazakhstan between 2009 and 2012 (Figure I.2.23 and Table I.2.1b). Annex B4 shows the performance trajectories of these countries and economies, highlighting how the performance of their lowest achievers (those in the 10th percentile of performance) improved more than that of the highest-achieving students (those in the 90th percentile). By lifting the performance of their lowest-achieving students, these countries and economies have narrowed the gap between high- and low-achieving students and, in some cases, increased equity as well, as many low-achieving students are also from disadvantaged backgrounds (see Volume II, Chapter 2).

■ Figure I.2.23 ■

Percentage of low-performing students and top performers in mathematics in 2003 and 2012



Notes: The chart shows only countries/economies that participated in both PISA 2003 and PISA 2012 assessments.
The change between PISA 2003 and PISA 2012 in the share of students performing below Level 2 in mathematics is shown below the country/economy name. The change between PISA 2003 and PISA 2012 in the share of students performing at or above Level 5 in mathematics is shown above the country/economy name. Only statistically significant changes are shown (see Annex A3).
OECD average 2003 compares only OECD countries with comparable mathematics scores since 2003.
Countries and economies are ranked in descending order of the percentage of students at or above proficiency Level 5 in mathematics in 2012.
Source: OECD, PISA 2012 Database, Table I.2.1b.
StatLink http://dx.doi.org/10.1787/888932935572



Nurturing top performance: Increase in the share of top performers but no change in that of low performers

Some countries and economies increased the proportion of students performing at or above Level 5. These are students who can handle complex mathematical content and processes. Higher proportions of these students signal a school system's capacity to promote student performance at the highest level. Between 2003 and 2012, Korea and Macao-China saw around a six percentage-point increase in the share of students performing at this level. Other increases in the proportion of students scoring at or above Level 5 were observed in Chinese Taipei, Hong Kong-China, Japan, Serbia and Thailand (between 2006 and 2012) and in Estonia, Latvia, Shanghai-China and Singapore (between 2009 and 2012) (Figure I.2.23 and Table I.2.1b). As shown in Annex B4, the trajectories of these countries' and economies' low- and high-achieving students point to greater increases among the high achievers than among the low achievers. When comparing Korea's mathematics scores in 2012 with those of 2003, for example, students in the 90th percentile improved by 20 scores points, and those at the 75th percentile improved by 18 points; however, there was no change in mathematics performance among those students in the 10th and 25th percentiles. That is, if those students at the bottom of the distribution performed at similar levels in 2003 and 2012, those at the top attained higher levels in 2012 than they did in 2003.

Increase in the share of low performers or decrease in that of top performers

There are 17 countries and economies, however, where the proportion of students who do not reach the baseline proficiency level increased or the proportion of students who reach the highest levels of proficiency decreased between a previous PISA assessment and PISA 2012. In these countries and economies there were fewer students performing at the top levels and more students who did not show the baseline level of mathematical literacy in 2012 than there were in a previous assessment (Figure I.2.23 and Table I.2.1b).

Variation in student performance in mathematics

The standard deviation in PISA scores, the difference between the top and bottom 5% of sampled students and the difference between the top and bottom 10%, or between the top and bottom quarters are all measures of the extent to which student performance varies among 15-year-olds. In fact, each of these measures gives more or less the same picture. Table I.2.3a shows the mean, standard deviation and percentiles of PISA mathematics scores for all participating countries and economies.

As shown in Figure I.2.24, the ten PISA participants with the widest spread in scores (score-point difference between the top and bottom 10% of students) are Israel, Belgium, the Slovak Republic, New Zealand, France and Korea as well as the partner countries and economies Chinese Taipei, Singapore, Shanghai-China and Qatar. This group includes four of the highest-performing countries and economies (Chinese Taipei, Singapore, Shanghai-China and Korea), one of the lowest performers (Qatar) as well as two OECD countries that perform close to the OECD average (France, which is at the OECD average, and New Zealand, which is just above the OECD average) (Table I.2.3a).

The ten participating countries/economies with the narrowest spread are Mexico and the partner countries Costa Rica, Indonesia, Kazakhstan, Colombia, Jordan, Argentina, Tunisia, Brazil and Thailand. All of these countries are among the 20 lowest-performing countries; seven of them are among the 10 lowest-performing countries. Less variation in performance is observed among the very lowest-performing countries, largely because there are fewer scores at the highest proficiency levels and, as a result, scores tend to be concentrated at the lower proficiency levels (Figure I.2.24 and Table I.2.3a).

It is noteworthy that the relationship between average performance and the spread in student scores is weak, suggesting that high mean performance does not inevitably lead to large disparities in student performance. It is possible to combine a relatively narrow spread of scores and a relatively high average score, as does, for example, Estonia.

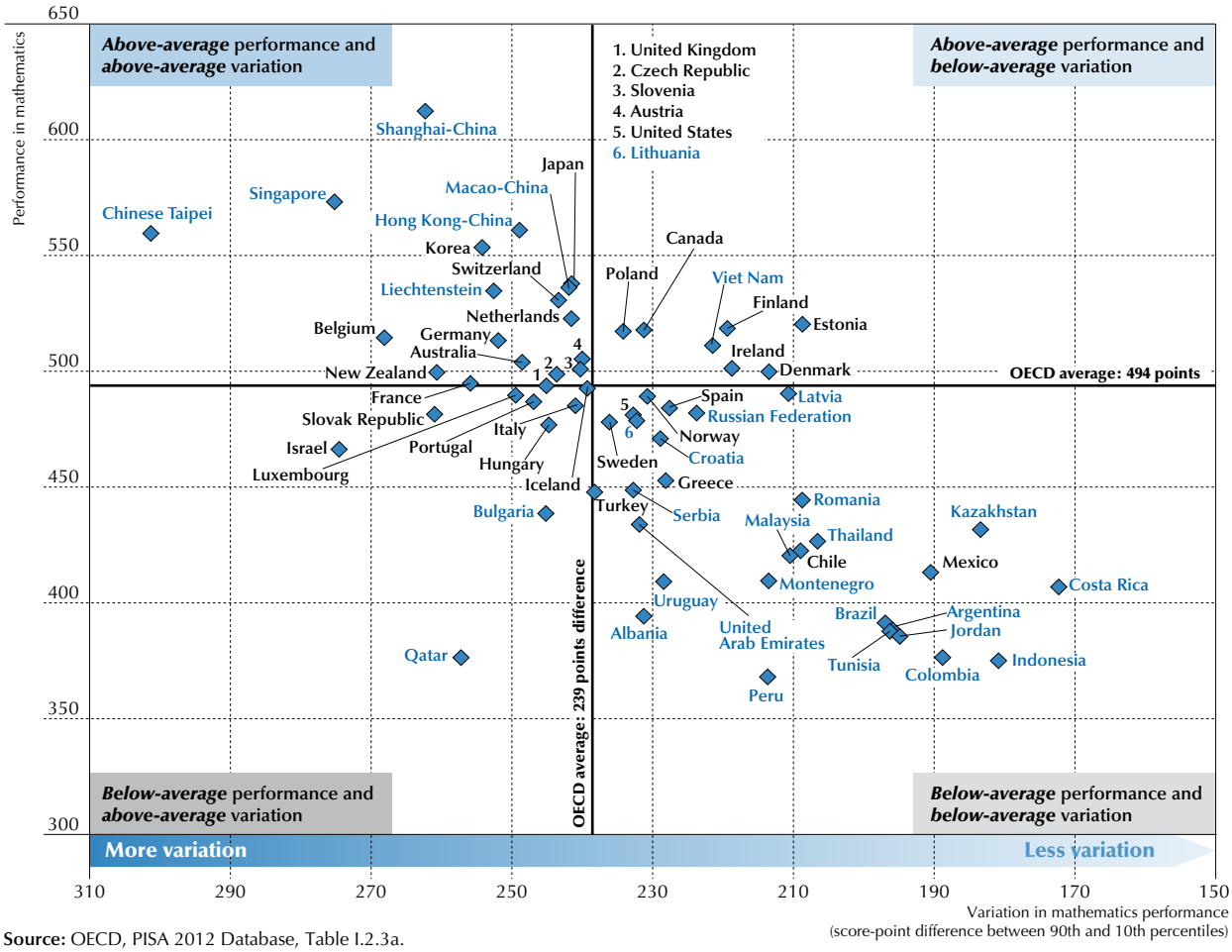
Gender differences in mathematics performance

Figure I.2.25 presents a summary of boys' and girls' performance in the PISA mathematics assessment (Table I.2.3a). On average across OECD countries, boys outperform girls in mathematics by 11 score points. Despite the stereotype that boys are better than girls at mathematics, boys show an advantage in only 38 out of the 65 countries and economies that participated in PISA 2012, and in only six countries is the gender gap larger than the equivalent of half a school year.

As shown in Figure I.2.25, the largest difference in scores between boys and girls – in favour of boys – is seen in the partner country Colombia, and the OECD countries Luxembourg and Chile, a difference of around 25 points. In the partner countries Costa Rica, Liechtenstein and the OECD country Austria, this difference is between 22 and 24 points.

■ Figure I.2.24 ■

Relationship between performance in mathematics and variation in performance



Source: OECD, PISA 2012 Database, Table I.2.3a.

StatLink http://dx.doi.org/10.1787/888932935572

In Korea, Japan and the partner economy Hong Kong-China, all of which are among the 10 top-performing countries, as well as in Italy, Spain, Ireland and New Zealand, and in the partner countries Peru, Brazil and Tunisia, this difference is between 15 and 20 points. In Luxembourg, a larger proportion of boys than girls attains the three highest proficiency levels, and far fewer boys than girls are found in the three lowest proficiency levels, leading to a marked overall gender difference in favour of boys (Tables I.2.2a and I.2.3a).

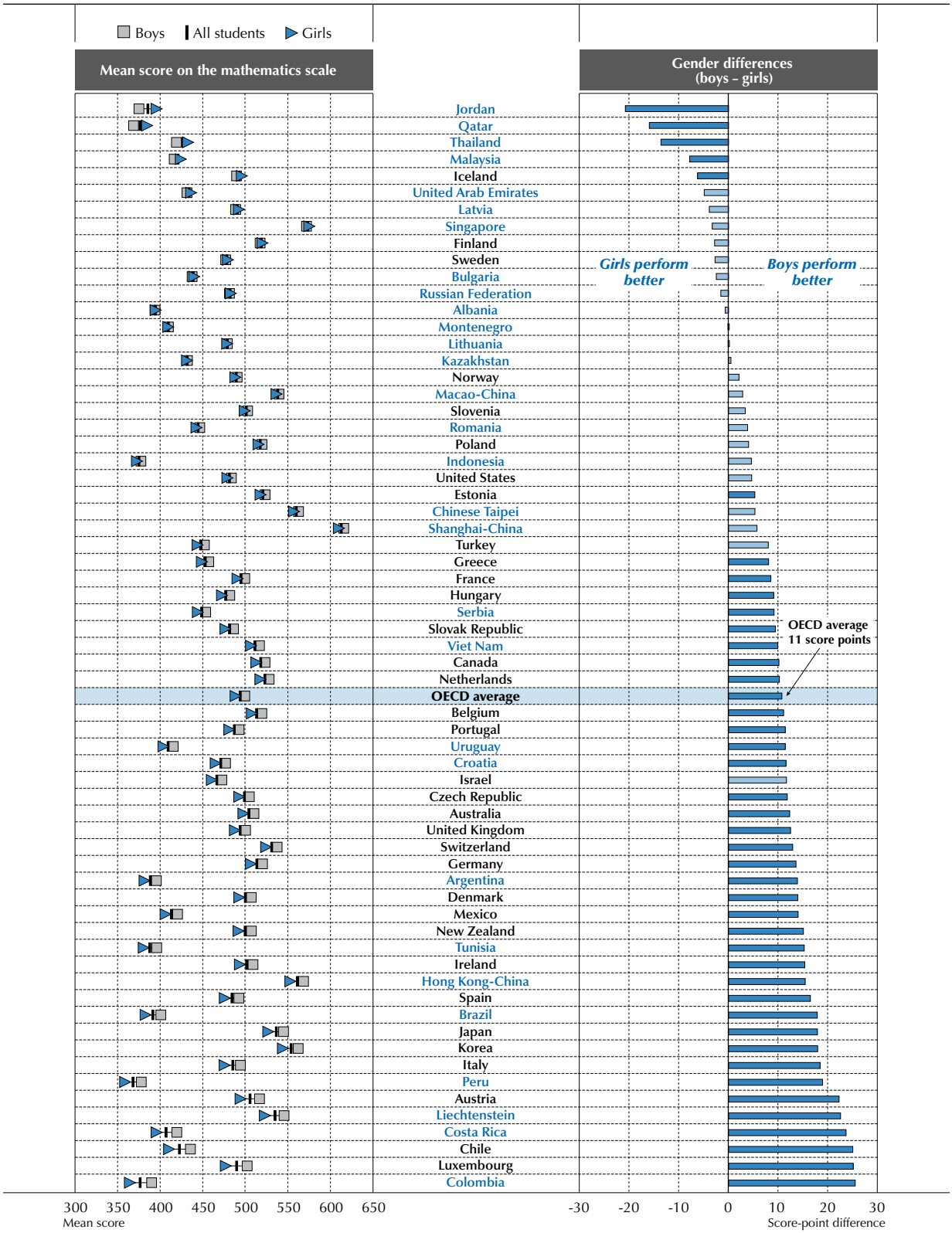
In contrast, in only five countries do girls outperform boys in mathematics. The largest difference is seen in the partner country Jordan, where girls score around 21 points higher than boys. Girls also outperform boys in the partner countries Qatar, Thailand, Malaysia and in the OECD country Iceland (Figure I.2.25 and Table I.2.3a). In all of these countries more boys score at or below Level 1 than girls. The difference is particularly large in the partner country Jordan, where around 43% of boys score at or below Level 1, compared to around 30% of girls. In Iceland, while girls and boys are well-represented at all proficiency levels, far more boys than girls score below proficiency Level 1 (Table I.2.2a).

Figure I.2.26 shows the average proportions of boys and girls in OECD countries within each of the defined mathematics proficiency levels. Larger proportions of boys than girls score at Level 5 or 6 (top performers) and at Level 4. Conversely, the proportion of girls is larger than the proportion of boys at all other proficiency levels, from Level 3.

In almost all participating countries and economies, a larger proportion of boys than girls are top performers in mathematics (Level 5 or 6). In high-performing countries and economies, where a relatively large share of students performs at these levels, the difference in the proportion of boys and girls scoring at these levels is generally larger.

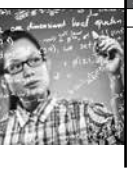
■ Figure I.2.25 ■

Gender differences in mathematics performance



Note: Statistically significant gender differences are marked in a darker tone (see Annex A3).
Countries and economies are ranked in ascending order of the gender score-point difference (boys – girls).
Source: OECD, PISA 2012 Database, Table I.2.3a.

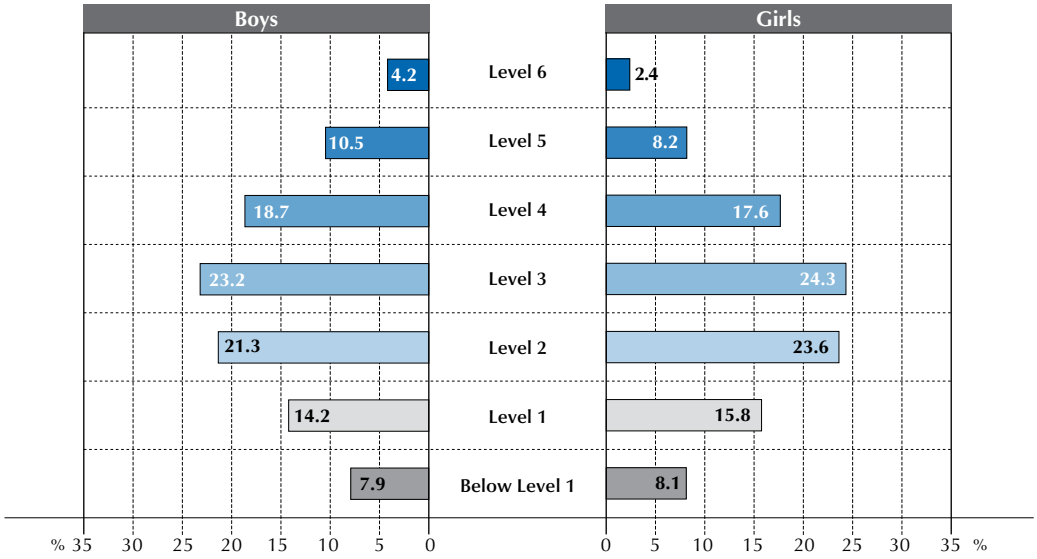
StatLink http://dx.doi.org/10.1787/888932935572



■ Figure I.2.26 ■

Proficiency in mathematics among boys and girls

OECD average percentages of boys and girls at each level of mathematics proficiency



Source: OECD, PISA 2012 Database, Table I.2.2a.
StatLink http://dx.doi.org/10.1787/888932935572

For example, in the high-performing OECD countries Korea and Japan, and the partner economy Hong Kong-China, the share of boys who are top performers is around 9 percentage points larger than that of girls. In Israel, Austria, Italy, New Zealand and Luxembourg, which are situated in the middle of the performance distribution, the share of boys who attain at the highest proficiency levels is considerably larger than the share of girls who do, by a difference of 7.7 to 5.8 percentage points. This difference is also larger than 5 percentage points in Belgium, Chinese Taipei, the Slovak Republic, Spain, Canada, Liechtenstein, Switzerland and Germany (Table I.2.2a).

While the proportion of girls is larger than the share of boys at the lower proficiency levels, there is considerable variation among countries and economies. In around a third of participating countries and economies, a higher proportion of boys than girls do not achieve the baseline level of proficiency. In Finland, Iceland and the partner countries Thailand, Jordan, Malaysia, the United Arab Emirates, Lithuania, Latvia and Singapore, a larger proportion of boys than girls perform below Level 2, the baseline proficiency level, and some of these countries, like Finland and the partner country Singapore, belong to the 15 top-performing countries and economies. Yet in many of the 15 lowest-performing countries and economies, including the OECD countries Chile and Mexico and the partner countries Costa Rica, Colombia, Brazil, Tunisia, Argentina and Peru, more girls than boys do not attain that level of proficiency. But in Luxembourg, which scores around the OECD average, and Liechtenstein, which scores well above the OECD average, the share of girls who score at or below Level 1 is considerably larger than that of boys by a difference of 8.6 and 6.1 percentage points, respectively (Table I.2.2a).

Trends in gender differences in mathematics performance

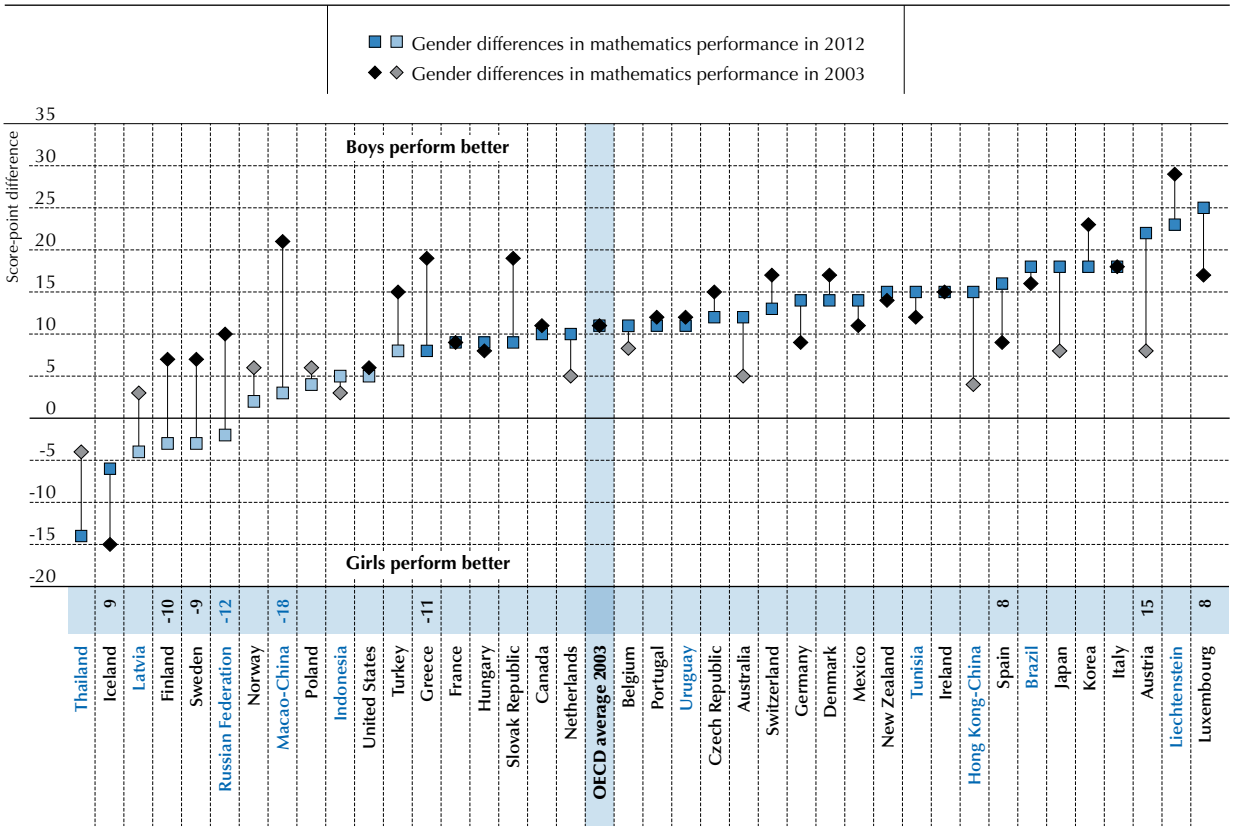
Among the countries and economies that showed a gender gap in mathematics performance in favour of boys in 2003, by 2012 the gender gap narrowed by nine score points or more in Finland, Greece, Macao-China, the Russian Federation and Sweden. Thus, in Greece, while boys outperformed girls in mathematics by 19 points in 2003, by 2012 this difference had shrunk to eight score points. In Finland, Macao-China, the Russian Federation, Sweden, Turkey and the United States, there was no longer a gender gap in mathematics performance favouring boys in 2012 compared to 2003. In Austria, Luxembourg and Spain, the gender gap favouring boys widened between 2003 and 2012. For example, in Austria in 2003, there was no observed gender gap in mathematics performance; but by 2012 there was a 22 score-point difference in performance in favour of boys. Iceland was one of the few countries where

girls outperformed boys in mathematics in 2003; in 2012, girls still outperformed boys, but the gender gap had narrowed (Figure I.2.27 and Table I.2.3c).

Countries seeking to reduce girls' disadvantage in mathematics could examine the experiences of Korea, Latvia, Macao-China, the Russian Federation and Thailand. In Macao-China and the Russian Federation, for example, girls' mathematics performance improved by around 20 score points while boys' performance did not change, resulting in a narrowing of the gender gap in mathematics performance to the extent that the gender gap observed in 2003 lost statistical significance by 2012. In Thailand, boys' performance did not change between PISA 2003 and PISA 2012, but girls' performance improved by 14 score points.

■ Figure I.2.27 ■

Change between 2003 and 2012 in gender differences in mathematics performance



Notes: Gender differences in PISA 2003 and PISA 2012 that are statistically significant are marked in a darker tone (see Annex A3).
Statistically significant changes in the score-point difference between boys and girls in mathematics performance between PISA 2003 and PISA 2012 are shown next to the country/economy name.
OECD average 2003 compares only OECD countries with comparable mathematics scores since 2003.
Countries and economies are ranked in ascending order of gender differences (boys-girls) in 2012.
Source: OECD, PISA 2012 Database, Table I.2.3c.
StatLink http://dx.doi.org/10.1787/888932935572

These trends are also reflected in the changes in the proportion of boys and girls who can be considered top performers in PISA (those who score at or above proficiency Level 5) or who are considered low performers in PISA (because they score below proficiency Level 2). Consistent with the fact that the gender gap in mathematics has narrowed or now favours girls in certain countries and economies, in Latvia, Portugal, the Russian Federation and Thailand the share of girls who perform below proficiency Level 2 shrunk between 2003 and 2012 with no concurrent change in the share of low-performing boys. In Macao-China and the Russian Federation during the period, the share of top-performing girls increased with no such increase among boys. In addition, Italy, Poland, Portugal and the Russian Federation show a reduction in the share of girls who perform below Level 2 and an increase in the share of girls who perform at Level 5 or 6 (Table I.2.2b).



Box I.2.4. **Improving in PISA: Brazil**

With an economy that traditionally relied on the extraction of natural resources and suffered stagnating growth and spells of hyperinflation until the early 1990s, Brazil is today rapidly expanding its industrial and service sector. Its population of more than 190 million, which is spread across 27 states in geographic areas as vast and diverse as Rio de Janeiro and the Amazon River basin, recognises the critical role education plays in the country's economic development.

Like only a handful of other countries, Brazil's performance in mathematics, reading and science has improved notably over the past decade. Its mean score in the PISA mathematics assessment has improved by an average of 4.1 point per year – from 356 points in 2003 to 391 points in 2012. Since 2000, reading scores have improved by an average of 1.2 score points per year; and, since 2006, science scores have risen by an average of 2.3 score points per year. Lowest-achieving students (defined as the 10% of students who score the lowest) have improved their performance by 65 score points – the equivalent of more than a year and a half of schooling. Despite these considerable improvements, around two out of three Brazilian students still perform below Level 2 in mathematics (in 2003, three in four students did).

Not only have most Brazilian students remarkably improved their performance, Brazil has expanded enrolment in primary and secondary schools. While in 1995, 90% of students were enrolled in primary schools at age seven, only half of them continued to finish eighth grade. In 2003, 35% of 15-year-olds were not enrolled in school in grade 7 or above; by 2012 this percentage had shrunk to 22%. Enrolment rates for 15-year-olds thus increased, from 65% in 2003 to 78% in 2012. Many of the students who are now included in the school system come from rural communities or socio-economically disadvantaged families, so the population of students who participated in the PISA 2012 assessment is very different from that of 2003.

PISA compares the performance of 15-year-old students who are enrolled in schools; but for those countries where this population has changed dramatically in a short period of time, trend data for students with similar background characteristics provide another way of examining how students' performance is changing beyond changes in enrolment. Figure I.2.c compares the performance of students with similar socio-economic status across all years. The score attained by a socio-economically advantaged/average/disadvantaged student increased by 21/25/27 points, respectively, between 2003 and 2012.

The figure also simulates alternate scenarios, assuming that the students who are now enrolled in schools – but probably weren't in 2003 – score in the bottom half of the performance distribution, the bottom quarter of the performance distribution, or the bottom of the distribution and also come from the bottom half, bottom quarter, and bottom of the socio-economic distribution. Given that they assume that the newly enrolled students have lower scores than students who would have been enrolled in 2003, these simulations indicate the upper bounds of Brazil's improvement in performance.

For example, under the assumption that the newly enrolled students perform in the bottom quarter of mathematics performance, Brazil's improvement in mathematics, had enrolment rates retained their 2003 levels, would have been 56 score points. Similarly, if the assumption is that newly enrolled students come from the bottom quarter of the socio-economic distribution, Brazil's improvement in mathematics between 2003 and 2012 would have been 44 score points had enrolment rates not increased since 2003. Still, it is the observed enrolment rates and the observed performance in 2003 and 2012 that truly reflect the student population, its performance and the education challenges facing Brazil.

Brazil's increases in coverage are remarkable. However, although practically all students aged 7-14 start school at the beginning of the year, few continue until the end. They leave because the curriculum isn't engaging, or because they want or need to work, or because of the prevalence of grade repetition. The pervasiveness of grade repetition in Brazil has been linked to high dropout rates, high levels of student disengagement, and the more than 12 years it takes students, on average, to complete eight grades of primary school. (PISA results suggest that repetition rates remain high in Brazil: in 2003, 33% of students reported having repeated at least one grade in primary or secondary education; in 2012, 36% of students reported so.)

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■ Figure I.2.c ■

Observed and expected trends in mathematics performance for Brazil (2003-12)

	2003		2012		Change between 2003 and 2012 (2012 - 2003)	
Total number of 15-year-olds	3 618 332		3 574 928		-43 404	
Total 15-year-olds enrolled in grades 7 or higher	2 359 854		2 786 064		+426 210	
Enrolment rates for 15-year-old students	65%		78%		+19%	
	Mean	S.E.	Mean	S.E.	Mean	S.E.
Mathematics performance	356	(4.8)	391	(2.1)	+35.4	(5.6)
Comparing the performance students with similar socio-economic backgrounds:						
Advantaged student in 2003	383	(5.2)	404	(2.3)	+20.5	(6.0)
Average student in 2003	357	(4.0)	382	(1.6)	+24.9	(4.7)
Disadvantaged student in 2003	342	(3.9)	369	(1.7)	+27.3	(4.7)
Average performance excluding newly enrolled students assuming that newly enrolled students are at:						
Bottom half of performance	356	(4.8)	406	(2.2)	+49.7	(5.6)
Bottom quarter of performance	356	(4.8)	412	(2.0)	+56.4	(5.6)
Bottom of the distribution	356	(4.8)	415	(1.8)	+58.6	(5.5)
Average performance excluding newly enrolled students assuming that newly enrolled students come from:						
Bottom half of ESCS	356	(4.8)	397	(2.2)	+40.5	(5.7)
Bottom quarter of ESCS	356	(4.8)	399	(2.3)	+43.5	(5.7)
Bottom of ESCS	356	(4.8)	400	(2.3)	+44.1	(5.7)

Notes: Enrolment rates are those reported as the coverage index 3 in Annex A3 in *Learning for Tomorrow's World: First Results from PISA 2003* (OECD, 2004) and in Annex A2 of this volume. An advantaged/disadvantaged student is one who has a *PISA index of economic, social and cultural status* (ESCS) that places him/her at the top/lower end of the fourth/first quartile of ESCS in 2003. Average students are those with an ESCS equal to the average in 2003. Average performance in PISA 2012 that excludes newly enrolled students assuming that they come from the bottom half/quarter of performance and ESCS is calculated by randomly deleting 19% of the sample only among students scoring bottom half/quarter in the performance and ESCS distribution, respectively. Average performance in PISA 2012 that excludes the bottom of the performance or ESCS distribution excludes the bottom 19% of the sample in the performance and ESCS distribution, respectively.

Despite the fact that primary and secondary education is managed and largely funded at the municipal and state levels, the central government has been a key actor in driving and shaping education reform. Over the past 15 years it has actively promoted reforms to increase funding, improve teacher quality, set national curriculum standards, improve high school completion rates, develop and put in place accountability measures, and set student achievement and learning targets for schools, municipalities and states.

After Brazil's economy stabilised, in the mid-1990s, the Cardoso administration increased federal spending on primary education through FUNDEF (*Fundo de Manutenção e Desenvolvimento do Ensino Fundamental*) and simultaneously distributed the funding more equitably, replacing a population-density formula that allocated the majority of funds to large cities and linking part of the funding to school enrolments. This was only possible after developing a student and school census to gather and consolidate information about schools and students. FUNDEF also raised teachers' salaries, increased the number of teachers, increased the length of teacher-preparation programmes, and contributed to higher enrolments in rural areas. A conditional cash-transfer programme for families who send their 7-14 year-old children to school (*Bolsa Escola*) lifted many families out of subsistence-level poverty encouraging their interest that their children receive an education.

In 2006, the Lula administration expanded FUNDEF to cover early childhood and after-school learning and increased overall funding for education, renaming the programme FUNDEB, as it now covered basic education more broadly. The administration also expanded the conditional cash transfers to cover students aged 15-17, thereby encouraging enrolment in upper secondary education, where enrolment is lowest. This expansion means that 6.1% of Brazil's GDP is now spent on education and the country aims to devote 10% of its GDP to education by 2020. Funding for this important increase in education expenditure will come from the recently approved allocation of 75% of public revenues from oil to education.

Improving the quality of teachers has also been at the centre of Brazil's reform initiatives. A core element of FUNDEF was increasing teacher salaries, which rose 13% on average after FUNDEF, and more than 60% in the poorer, northeast region of the country. At the same time, the 1996 Law of Directive and Bases of National Education (LDB)

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mandated that, by 2006, all new teachers have a university qualification, and that initial and in-service teacher training programmes be free of charge. These regulations came at a time when coverage was expanding significantly, leading to an increase in the number of teachers in the system. In 2000, for example, there were 430 467 secondary school teachers, and 88% of whom had a tertiary degree; in 2012 there were 497 797 teachers, 95% of whom had tertiary qualifications (INEP, 2000 and 2012). Subsequent reforms in the late 2000s sought to create standards for teachers' career paths based on qualifications, not solely on tenure. The planned implementation of a new examination system for teacher certification, covering both content and pedagogy, has been delayed. Although universities are free to determine their curriculum for teacher-training programmes, the establishment of an examination system to certify teachers sends a strong signal of what content and pedagogical orientation should be developed.

To encourage more students to enrol – and stay – in school, upper secondary education has become mandatory (this policy is being phased in so that enrolment will be obligatory for students aged 4 to 17 by 2016), and a new grade level has been added at the start of primary school. Giving students more opportunities to learn in school has also meant shifting to a full school day, as underscored in the 2011-2020 National Plan for Education. Most school days are just four hours long; and even though FUNDEB provided incentives for full-day schools, they were not sufficient to prompt the investments in infrastructure required for schools that accommodate two or three shifts in a day to become full-day schools. Although enrolment in full-day schools increased 24% between 2010 and 2012, overall coverage in full-day schools remains low: only 2 million out of a total of almost 30 million students attended such schools in 2012 (INEP, 2013).

The reforms of the mid-1990s included provisions to improve the education information system and increase school accountability. It transformed the National Institute for Educational Studies and Research into an independent organisation responsible for the national assessment and evaluation of education. It turned a national assessment system into the Evaluation System for Basic Education (SAEB/*Prova Brazil*) for grades 4, 8 and 11 and the National Secondary Education Examination in Grade 11, which provides qualifications for further studies or entry into the labour market. SAEB changed over time to become a national census-based assessment for students in grades 4 and 8 and its results were combined with repetition and dropout rates in 2005 to create an index of schools quality, the Basic Education Development Index (IDEB). This gave schools, municipalities and states an incentive to reduce retention and dropout rates and a benchmark against which to which monitor their progress. The IDEB is set individually for each school and is scaled so that its levels are aligned with those of PISA. Results are widely published, and schools that show significant progress are granted more autonomy while schools that remain low performers are given additional assistance. Support for schools is also offered through the *Fundescola* programme. IDEB provides targets for each school; it is up to the schools, municipalities and states to develop strategic improvement plans. In line with Brazil's progress in PISA, national performance as measured by the SAEB has also improved between 1999 and 2009 (Bruns, Evans and Luque, 2011).

Perhaps a result of these reforms, not only are more Brazilian students attending school and performing at higher levels, they are also attending better-staffed schools (the *index of teacher shortage* dropped from 0.47 in 2003 to 0.19 in 2012, and the number of students per teacher in a school fell from 34 to 28 in the same period), and schools with better material resources (the *index of quality of educational resources* increased from -1.17 to -0.54). They are also attending schools with better learning environments, as shown by improved disciplinary climates and student-teacher relations. Students in 2012 also reported spending one-and-a-half hours less per week on homework than their counterparts in 2003 did.

Sources:

Bruns, B., D. Evans and J. Luque (2011), *Achieving World-Class Education in Brazil*, The World Bank, Washington, D.C.

INEP (Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira) (2000), *Sinopse Estatística da Educação Básica 2000*, INEP, Brasilia.

INEP (Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira) (2012), *Sinopse Estatística da Educaçao Básica 2012*, INEP, Brasilia.

INEP (Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira) (2013), *Censo da Educação Básica: 2012, Resumo Técnico*, INEP, Brasilia.

OECD (2010b), *Lessons from PISA for the United States*, Strong Performers, Successful Reformers in Education, OECD Publishing. *http://dx.doi.org/10.1787/9789264096660-en*

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STUDENT PERFORMANCE IN DIFFERENT AREAS OF MATHEMATICS

This section focuses on student performance on the process subscales of *formulating*, *employing* and *interpreting*; and on the content subscales of *change and relationships*, *space and shape*, *quantity* and *uncertainty and data*.

In general, the correlation between scores on the subscales and overall mathematics scores is high: students tend to perform as well on the mathematics subscales as they do in mathematics overall. However, there is some variation at the country level in the relationship between subscale performance and overall mathematics performance, which perhaps reflects differences in emphasis in the curriculum.

Process subscales

The three process categories in the mathematics framework relate to three parts of the mathematical modelling cycle, a key feature of the way PISA assesses mathematics.

As discussed earlier in this chapter, each item in the PISA 2012 mathematics survey was assigned to one of the process categories, even if solving an item often involves more than one of these processes. About a quarter of the items was designed primarily to elicit indicators of the *formulating situations mathematically* process; about half of them required mainly the *employing mathematical concepts, facts, procedures, and reasoning* process; and the remaining quarter emphasised the *interpreting, applying and evaluating mathematical outcomes* process.

***Student performance on the mathematics subscale* formulating situations mathematically**

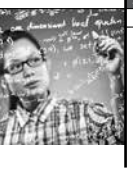
In order for individuals to use their mathematical knowledge and skills to solve a problem, they often first need to translate the problem into a form that is amenable to mathematical treatment. The framework refers to this process as one of *formulating situations mathematically.*

In the PISA assessment, students may need to recognise or introduce simplifying assumptions that would help make the given mathematics item amenable to analysis. They have to identify which aspects of the problem are relevant to the solution and which might safely be ignored. They must recognise words, images, relationships or other features of the problem that can be given a mathematical form; and they need to express the relevant information in an appropriate way, for example in the form of a numeric calculation or as an algebraic expression. This process is sometimes referred to as *translating* the problem as expressed, usually in real-world terms, into a *mathematical* problem. For example, in a problem about some form of motion (such as travel on public transport, or riding a bicycle), the student may need to recognise a reference to "speed" and understand that this is referring to the relationship between the distance travelled over a given time period, and perhaps invoke the formula $speed = {}^{distance}/_{time}$ as an essential step in giving the problem a clearly mathematical form.

Items listed in Figure I.2.9 that have been classified in this category are REVOLVING DOOR Question 2 and Question 3, and CLIMBING MOUNT FUJI Question 1 and Question 2.

Across OECD countries, the average score attained on the *formulating* subscale is 492 points. A substantially lower score on the *formulating* subscale compared to average scores in the other processes or in mathematics overall might indicate that some students might find the *formulating* process more difficult. This would be expected when students have less experience with this process, for example, when most students in school work on mathematics problems that have already been "translated" into mathematical form. Top-performing countries and economies on this subscale are Shanghai-China, Singapore, Chinese Taipei, Hong Kong-China, Korea, Japan, Macao-China, Switzerland, Liechtenstein and the Netherlands (Figure I.2.28 and Table I.2.7).

While across OECD countries, the average *formulating* score (492) is slightly lower than the average overall score for mathematics (494), this is not the case in the ten highest-performing countries on the overall mathematics scale. For nine of those countries and economies, the average national score on the *formulating* subscale is higher than the average overall score in mathematics. This is the case in Shanghai-China, Singapore, Hong Kong-China, Korea, Macao-China, Switzerland and the Netherlands, where the mean score in *formulating* is between 4 and 12 points higher than the overall mathematics average, and is particularly evident in Chinese Taipei and Japan, where it is 19 and 18 points higher, respectively, than the overall mathematics average. This implies that in these countries, students find the formulation process to be a relatively easy aspect of mathematics. The only exception among this highest-performing group is Liechtenstein, where the mean *formulating* score is similar to the country's mean overall mathematics score (Figure I.2.37).



■ Figure I.2.28 ■

Comparing countries' and economies' performance on the mathematics subscale *formulating*

Statistically significantly **above** the OECD average
Not statistically significantly different from the OECD average
Statistically significantly **below** the OECD average

Mean score	Comparison country/economy	Countries/economies whose mean score is NOT statistically significantly different from that comparison country's/economy's score
624	Shanghai-China	
582	Singapore	Chinese Taipei
578	Chinese Taipei	Singapore, Hong Kong-China
568	Hong Kong-China	Chinese Taipei, Korea
562	Korea	Hong Kong-China, Japan
554	Japan	Korea
545	Macao-China	Switzerland
538	Switzerland	Macao-China, Liechtenstein
535	Liechtenstein	Switzerland, Netherlands
527	Netherlands	Liechtenstein, Finland
519	Finland	Netherlands, Estonia, Canada, Poland, Belgium
517	Estonia	Finland, Canada, Poland, Belgium, Germany
516	Canada	Finland, Estonia, Poland, Belgium, Germany
516	Poland	Finland, Estonia, Canada, Belgium, Germany
512	Belgium	Finland, Estonia, Canada, Poland, Germany
511	Germany	Estonia, Canada, Poland, Belgium, Denmark
502	Denmark	Germany, Iceland, Austria, Australia, Viet Nam, New Zealand, Czech Republic
500	Iceland	Denmark, Austria, Australia, Viet Nam, New Zealand, Czech Republic
499	Austria	Denmark, Iceland, Australia, Viet Nam, New Zealand, Czech Republic, Ireland
498	Australia	Denmark, Iceland, Austria, Viet Nam, New Zealand, Czech Republic, Ireland
497	Viet Nam	Denmark, Iceland, Austria, Australia, New Zealand, Czech Republic, Ireland, Slovenia, Norway, United Kingdom, Latvia
496	New Zealand	Denmark, Iceland, Austria, Australia, Viet Nam, Czech Republic, Ireland, Slovenia, Norway, United Kingdom
495	Czech Republic	Denmark, Iceland, Austria, Australia, Viet Nam, New Zealand, Ireland, Slovenia, Norway, United Kingdom, Latvia
492	Ireland	Austria, Australia, Viet Nam, New Zealand, Czech Republic, Slovenia, Norway, United Kingdom, Latvia
492	Slovenia	Viet Nam, New Zealand, Czech Republic, Ireland, Norway, United Kingdom, Latvia
489	Norway	Viet Nam, New Zealand, Czech Republic, Ireland, Slovenia, United Kingdom, Latvia, France, Russian Federation, Slovak Republic
489	United Kingdom	Viet Nam, New Zealand, Czech Republic, Ireland, Slovenia, Norway, Latvia, France, Luxembourg, Russian Federation, Slovak Republic, Portugal
488	Latvia	Viet Nam, Czech Republic, Ireland, Slovenia, Norway, United Kingdom, France, Luxembourg, Russian Federation, Slovak Republic, Portugal
483	France	Norway, United Kingdom, Latvia, Luxembourg, Russian Federation, Slovak Republic, Sweden, Portugal, Lithuania, Spain, United States
482	Luxembourg	United Kingdom, Latvia, France, Russian Federation, Slovak Republic, Sweden, Portugal, Lithuania, United States
481	Russian Federation	Norway, United Kingdom, Latvia, France, Luxembourg, Slovak Republic, Sweden, Portugal, Lithuania, Spain, United States, Italy
480	Slovak Republic	Norway, United Kingdom, Latvia, France, Luxembourg, Russian Federation, Sweden, Portugal, Lithuania, Spain, United States, Italy
479	Sweden	France, Luxembourg, Russian Federation, Slovak Republic, Portugal, Lithuania, Spain, United States, Italy
479	Portugal	United Kingdom, Latvia, France, Luxembourg, Russian Federation, Slovak Republic, Sweden, Lithuania, Spain, United States, Italy, Hungary
477	Lithuania	France, Luxembourg, Russian Federation, Slovak Republic, Sweden, Portugal, Spain, United States, Italy, Hungary
477	Spain	France, Russian Federation, Slovak Republic, Sweden, Portugal, Lithuania, United States, Italy, Hungary
475	United States	France, Luxembourg, Russian Federation, Slovak Republic, Sweden, Portugal, Lithuania, Spain, Italy, Hungary, Israel
475	Italy	Russian Federation, Slovak Republic, Sweden, Portugal, Lithuania, Spain, United States, Hungary
469	Hungary	Portugal, Lithuania, Spain, United States, Italy, Israel
465	Israel	United States, Hungary, Croatia
453	Croatia	Israel, Turkey, Greece, Serbia, Romania, Kazakhstan
449	Turkey	Croatia, Greece, Serbia, Romania, Kazakhstan, Bulgaria
448	Greece	Croatia, Turkey, Serbia, Romania, Kazakhstan
447	Serbia	Croatia, Turkey, Greece, Romania, Kazakhstan, Bulgaria
445	Romania	Croatia, Turkey, Greece, Serbia, Kazakhstan, Bulgaria
442	Kazakhstan	Croatia, Turkey, Greece, Serbia, Romania, Bulgaria, Cyprus[1, 2]
437	Bulgaria	Turkey, Serbia, Romania, Kazakhstan, Cyprus[1, 2]
437	Cyprus[1, 2]	Kazakhstan, Bulgaria
426	United Arab Emirates	Chile
420	Chile	United Arab Emirates, Thailand
416	Thailand	Chile, Mexico, Uruguay, Malaysia
409	Mexico	Thailand, Uruguay, Malaysia
406	Uruguay	Thailand, Mexico, Malaysia, Montenegro, Costa Rica
406	Malaysia	Thailand, Mexico, Uruguay, Montenegro, Costa Rica, Albania
404	Montenegro	Uruguay, Malaysia, Costa Rica
399	Costa Rica	Uruguay, Malaysia, Montenegro, Albania, Jordan
398	Albania	Malaysia, Costa Rica
390	Jordan	Costa Rica, Argentina
383	Argentina	Jordan, Qatar, Brazil, Colombia, Tunisia
378	Qatar	Argentina, Brazil, Colombia, Tunisia
376	Brazil	Argentina, Qatar, Colombia, Tunisia, Peru, Indonesia
375	Colombia	Argentina, Qatar, Brazil, Tunisia, Peru, Indonesia
373	Tunisia	Argentina, Qatar, Brazil, Colombia, Peru, Indonesia
370	Peru	Brazil, Colombia, Tunisia, Indonesia
368	Indonesia	Brazil, Colombia, Tunisia, Peru

1. Note by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".
2. Note by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Source: OECD, PISA 2012 Database.
StatLink http://dx.doi.org/10.1787/888932935572



■ Figure I.2.29 ■

Summary descriptions of the six proficiency levels for the mathematical subscale *formulating*

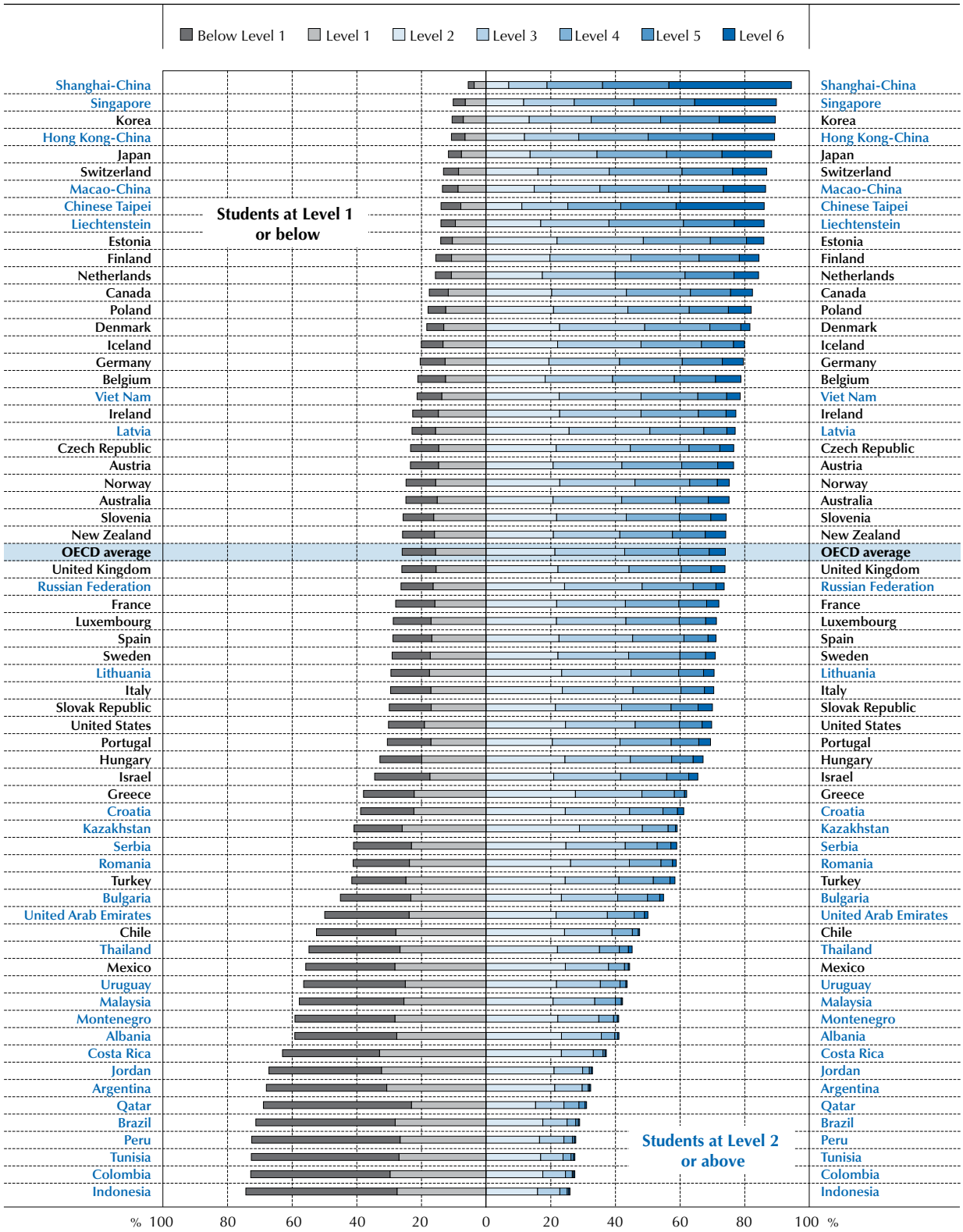
Level	Percentage of students able to perform tasks at each level or above (OECD average)	What students can do
6	5.0%	Students at or above Level 6 can apply a wide variety of mathematical content knowledge to transform and represent contextual information or data, geometric patterns or objects into a mathematical form amenable to investigation. At this level, students can devise and follow a multi-step strategy involving significant modelling steps and extended calculation to formulate and solve complex real-world problems in a range of settings, for example involving material and cost calculations in a variety of contexts, or to find the area of an irregular region on a map; identify what information is relevant (and what is not) from contextual information about travel times, distances and speed to formulate appropriate relationships among them; apply reasoning across several linked variables to devise an appropriate way to present data in order to facilitate pertinent comparisons; and devise algebraic formulations that represent a given contextual situation.
5	14.5%	At this level, students can use their understanding in a range of mathematical areas to transform information or data from a problem context into mathematical form. They can transform information from different representations involving several variables, into a form suitable for mathematical treatment. They can formulate and modify algebraic expressions of relationships among variables; use proportional reasoning effectively to devise computations; gather information from different sources to formulate and solve problems involving geometric objects, features and properties, or analyse geometric patterns or relationships and express them in standard mathematical terms; transform a given model according to changed contextual circumstances; formulate a sequential calculation process based on text descriptions; and activate statistical concepts, such as randomness, or sample, and apply probability to formulate a model.
4	31.1%	At Level 4, students can link information and data from related representations (for example, a table and a map, or a spread sheet and a graphing tool) and apply a sequence of reasoning steps in order to formulate the mathematical expression needed to carry out a calculation or otherwise to solve a contextual problem. At this level, students can formulate a linear equation from a text description of a process, for example in a sales context, and formulate and apply cost comparisons to compare prices of sale items; identify which of given graphical representations corresponds to a given description of a physical process; specify a sequential calculation process in mathematical terms; identify geometrical features of a situation and use their geometric knowledge and reasoning to analyse a problem, for example to estimate areas or to link a contextual geometric situation involving similarity to the corresponding proportional reasoning; combine multiple decision rules needed to understand or implement a calculation where different constraints apply; and formulate algebraic expressions when the contextual information is reasonably straight-forward, for example to connect distance and speed information in time calculations.
3	52.7%	At this level, students can identify and extract information and data from text, tables, graphs, maps or other representations, and make use of them to express a relationship mathematically, including interpreting or adapting simple algebraic expressions related to an applied context. Students at this level can transform a textual description of a simple functional relationship into a mathematical form, for example with unit costs or payment rates; form a strategy involving two or more steps to link problem elements or to explore mathematical characteristics of the elements; apply reasoning with geometric concepts and skills to analyse patterns or identify properties of shapes or a specified map location, or to identify information needed to carry out some pertinent calculations, including calculations involving the use of simple proportional models and reasoning, where the relevant data and information is immediately accessible; and understand and link probabilistic statements to formulate probability calculations in contexts, such as in a manufacturing process or a medical test.
2	74.0%	At this level, students can understand written instructions and information about simple processes and tasks in order to express them in a mathematical form. They can use data presented in text or in a table (for example, giving information about the cost of some product or service) to formulate a computation required, such as to identify the length of a time period, or to present a cost comparison, or calculate an average; analyse a simple pattern, for example by formulating a counting rule or identifying and extending a numeric sequence; work effectively with different two- and three-dimensional standard representations of objects or situations, for example devising a strategy to match one representation with another compare different scenarios, or identify random experiment outcomes mathematically using standard conventions.
1	89.7%	At this level students can recognise or modify and use an explicit simple model of a contextual situation. Students can choose between several such models to match the situation. For example, they can choose between an additive and a multiplicative model in a shopping context; choose among given two-dimensional objects to represent a familiar three-dimensional object; and select one of several given graphs to represent growth of a population.



■ Figure I.2.30 ■

Proficiency in the mathematics subscale *formulating*

Percentage of students at each level of mathematics proficiency



Countries and economies are ranked in descending order of the percentage of students at Levels 2, 3, 4, 5 and 6.

Source: OECD, PISA 2012 Database, Table I.2.5.

StatLink http://dx.doi.org/10.1787/888932935572



In Croatia, Brazil, Tunisia, Malaysia, Viet Nam, Thailand and the OECD countries France and Italy, there is a difference of at least 10 points between student performance on the *formulating* subscale and overall mathematics performance. In all these countries, the scores in *formulating* are lower than the overall mathematics scores. All these countries show an average overall score in mathematics below the OECD average, except France, which is at the OECD average, and Viet Nam, which is above the OECD average.

Descriptions of the six levels of proficiency on the subscale *formulating situations mathematically* are given in Figure I.2.29 and the distribution of students among these six proficiency levels is shown in Figure I.2.30.

Student performance on the mathematics subscale **employing mathematical concepts, facts, procedures, and reasoning**

To employ mathematical concepts, facts, procedures and reasoning for the PISA assessment, students need to recognise which elements of their "mathematics tool kit" are relevant to the problem as it has been presented, or as they have formulated it, and apply that knowledge in a systematic and organised way to work towards a solution. For example, in a problem about travel on public transport or riding a bicycle, once the basic relationships underlying the problem have been understood and expressed in a suitable mathematical form, the student may need to carry out a calculation, substitute values into a formula, solve an equation, or apply their knowledge of the conventions of graphing to extract data or present information mathematically.

Items listed in Figure I.2.9 that have been classified in this category are REVOLVING DOOR Question 1, WHICH CAR? Question 2 and Question 3, CHARTS Question 5, GARAGE Question 2, CLIMBING MOUNT FUJI Question 3, and HELEN THE CYCLIST Question 1, Question 2 and Question 3.

Across OECD countries, the average score attained on the *employing* subscale is 493 points – 0.6 score point below the average score in overall mathematics proficiency. This small difference reflects both the centrality of using mathematical concepts, facts, procedures and reasoning in school mathematics classes and the fact that about half of the items in the PISA 2012 mathematics assessment are categorised as predominantly requiring the use of *employing* processes. Top-performing countries and economies on this subscale are Shanghai-China, Singapore, Hong Kong-China, Korea, Chinese Taipei, Liechtenstein, Macao-China, Japan, Switzerland and Estonia (Figure I.2.31 and Table I.2.10).

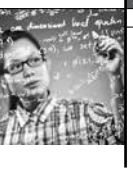
The great majority of participating countries and economies have an average *employing* score that is within about five score points of their average score on the overall mathematics proficiency scale. Only Chinese Taipei has an average score on the *employing* subscale that is more than 10 points lower than its average score in mathematics (an 11-point difference), indicating that more students have difficulty using this process. By contrast, Viet Nam's average score on the *employing* subscale is 12 points higher than its average score on the mathematics proficiency scale, suggesting that students in that country find this aspect of problem solving relatively easy (Figure I.2.37).

Descriptions of the six levels of proficiency on the subscale *employing mathematical concepts, facts, procedures, and reasoning* are given in Figure I.2.32 and the distribution of students among these six proficiency levels is shown in Figure I.2.33.

Student performance on the mathematics subscale **interpreting, applying and evaluating mathematical outcomes**

In interpreting mathematical outcomes, students need to make links between the outcomes and the situation from which they arose. For example, in a problem requiring a careful interpretation of some graphical data, students would have to make connections among the objects or relationships depicted in the graph, and the answer to the question might involve interpreting those objects or relationships. In a problem about travel on public transport or riding a bicycle, once the basic relationships underlying the problem have been understood and expressed in a suitable mathematical form, the required mathematical processing has been carried out, and results generated, the student may need to evaluate the results in relation to the original problem, or may need to show how the mathematical information obtained relates to the contextual elements of the problem.

Items listed in Figure I.2.9 that have been classified in this category are CHARTS Question 1 and Question 2, WHICH CAR? Question 1, and GARAGE Question 1.



■ Figure I.2.31 ■

Comparing countries' and economies' performance on the mathematics subscale *employing*

Statistically significantly **above** the OECD average
Not statistically significantly different from the OECD average
Statistically significantly **below** the OECD average

Mean score	Comparison country/economy	Countries/economies whose mean score is NOT statistically significantly different from that comparison country's/economy's score
613	Shanghai-China	
574	Singapore	
558	Hong Kong-China	Korea
553	Korea	Hong Kong-China, Chinese Taipei
549	Chinese Taipei	Korea
536	Liechtenstein	Macao-China, Japan, Switzerland
536	Macao-China	Liechtenstein, Japan
530	Japan	Liechtenstein, Macao-China, Switzerland, Estonia, Viet Nam
529	Switzerland	Liechtenstein, Japan, Estonia, Viet Nam
524	Estonia	Japan, Switzerland, Viet Nam, Poland, Netherlands
523	Viet Nam	Japan, Switzerland, Estonia, Poland, Netherlands, Canada, Germany, Belgium, Finland
519	Poland	Estonia, Viet Nam, Netherlands, Canada, Germany, Belgium, Finland
518	Netherlands	Estonia, Viet Nam, Poland, Canada, Germany, Belgium, Finland
517	Canada	Viet Nam, Poland, Netherlands, Germany, Belgium, Finland
516	Germany	Viet Nam, Poland, Netherlands, Canada, Belgium, Finland, Austria
516	Belgium	Viet Nam, Poland, Netherlands, Canada, Germany, Finland, Austria
516	Finland	Viet Nam, Poland, Netherlands, Canada, Germany, Belgium, Austria
510	Austria	Germany, Belgium, Finland, Slovenia, Czech Republic
505	Slovenia	Austria, Czech Republic, Ireland
504	Czech Republic	Austria, Slovenia, Ireland, Australia, France
502	Ireland	Slovenia, Czech Republic, Australia, France, Latvia
500	Australia	Czech Republic, Ireland, France, Latvia, New Zealand
496	France	Czech Republic, Ireland Australia, Latvia, New Zealand, Denmark, Luxembourg, United Kingdom, Portugal
495	Latvia	Ireland, Australia, France, New Zealand, Denmark, Luxembourg, United Kingdom, Iceland, Portugal
495	New Zealand	Australia, France, Latvia, Denmark, Luxembourg, United Kingdom, Iceland, Portugal
495	Denmark	France, Latvia, New Zealand, Luxembourg, United Kingdom, Iceland, Portugal
493	Luxembourg	France, Latvia, New Zealand, Denmark, United Kingdom, Iceland, Portugal, Russian Federation
492	United Kingdom	France, Latvia, New Zealand, Denmark, Luxembourg, Iceland, Portugal, Russian Federation, Norway, Italy, Slovak Republic
490	Iceland	Latvia, New Zealand, Denmark, Luxembourg, United Kingdom, Portugal, Russian Federation, Norway, Italy, Slovak Republic
489	Portugal	France, Latvia, New Zealand, Denmark, Luxembourg, United Kingdom, Iceland, Russian Federation, Norway, Italy, Slovak Republic, Lithuania, Spain Hungary, United States
487	Russian Federation	Luxembourg, United Kingdom, Iceland, Portugal, Norway, Italy, Slovak Republic, Lithuania, Spain, Hungary, United States, Croatia
486	Norway	United Kingdom, Iceland, Portugal, Russian Federation, Italy, Slovak Republic, Lithuania, Spain, Hungary, United States, Croatia
485	Italy	United Kingdom, Iceland, Portugal, Russian Federation, Norway, Slovak Republic, Lithuania, Spain, Hungary, United States, Croatia
485	Slovak Republic	United Kingdom, Iceland, Portugal, Russian Federation, Norway, Italy, Lithuania, Spain, Hungary, United States, Croatia
482	Lithuania	Portugal, Russian Federation, Norway, Italy, Slovak Republic, Spain, Hungary, United States, Croatia
481	Spain	Portugal, Russian Federation, Norway, Italy, Slovak Republic, Lithuania, Hungary, United States, Croatia
481	Hungary	Portugal, Russian Federation, Norway, Italy, Slovak Republic, Lithuania, Spain, United States, Croatia, Sweden
480	United States	Portugal, Russian Federation, Norway, Italy, Slovak Republic, Lithuania, Spain, Hungary, Croatia, Sweden, Israel
478	Croatia	Russian Federation, Norway, Italy, Slovak Republic, Lithuania, Spain, Hungary, United States, Sweden, Israel
474	Sweden	Hungary, United States, Croatia, Israel
469	Israel	United States, Croatia, Sweden
451	Serbia	Greece, Turkey, Romania
449	Greece	Serbia, Turkey, Romania, Cyprus[1, 2], Bulgaria
448	Turkey	Serbia, Greece, Romania, Cyprus[1, 2], United Arab Emirates, Bulgaria
446	Romania	Serbia, Greece, Turkey, Cyprus[1, 2], United Arab Emirates, Bulgaria
443	Cyprus[1, 2]	Greece, Turkey, Romania, United Arab Emirates, Bulgaria
440	United Arab Emirates	Turkey, Romania, Cyprus[1, 2], Bulgaria, Kazakhstan
439	Bulgaria	Greece, Turkey, Romania, Cyprus[1, 2], United Arab Emirates, Kazakhstan
433	Kazakhstan	United Arab Emirates, Bulgaria, Thailand
426	Thailand	Kazakhstan, Malaysia
423	Malaysia	Thailand, Chile
416	Chile	Malaysia, Mexico, Uruguay
413	Mexico	Chile, Uruguay
409	Montenegro	Uruguay
408	Uruguay	Chile, Mexico, Montenegro, Costa Rica
401	Costa Rica	Uruguay, Albania, Tunisia
397	Albania	Costa Rica, Tunisia
390	Tunisia	Costa Rica, Albania, Brazil, Argentina, Jordan
388	Brazil	Tunisia, Argentina, Jordan
387	Argentina	Tunisia, Brazil, Jordan
383	Jordan	Tunisia, Brazil, Argentina
373	Qatar	Indonesia, Peru, Colombia
369	Indonesia	Qatar, Peru, Colombia
368	Peru	Qatar, Indonesia, Colombia
367	Colombia	Qatar, Indonesia, Peru

1. Note by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".
2. Note by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Source: OECD, PISA 2012 Database.
StatLink http://dx.doi.org/10.1787/888932935572



■ Figure I.2.32 ■

Summary descriptions of the six proficiency levels for the mathematical subscale *employing*

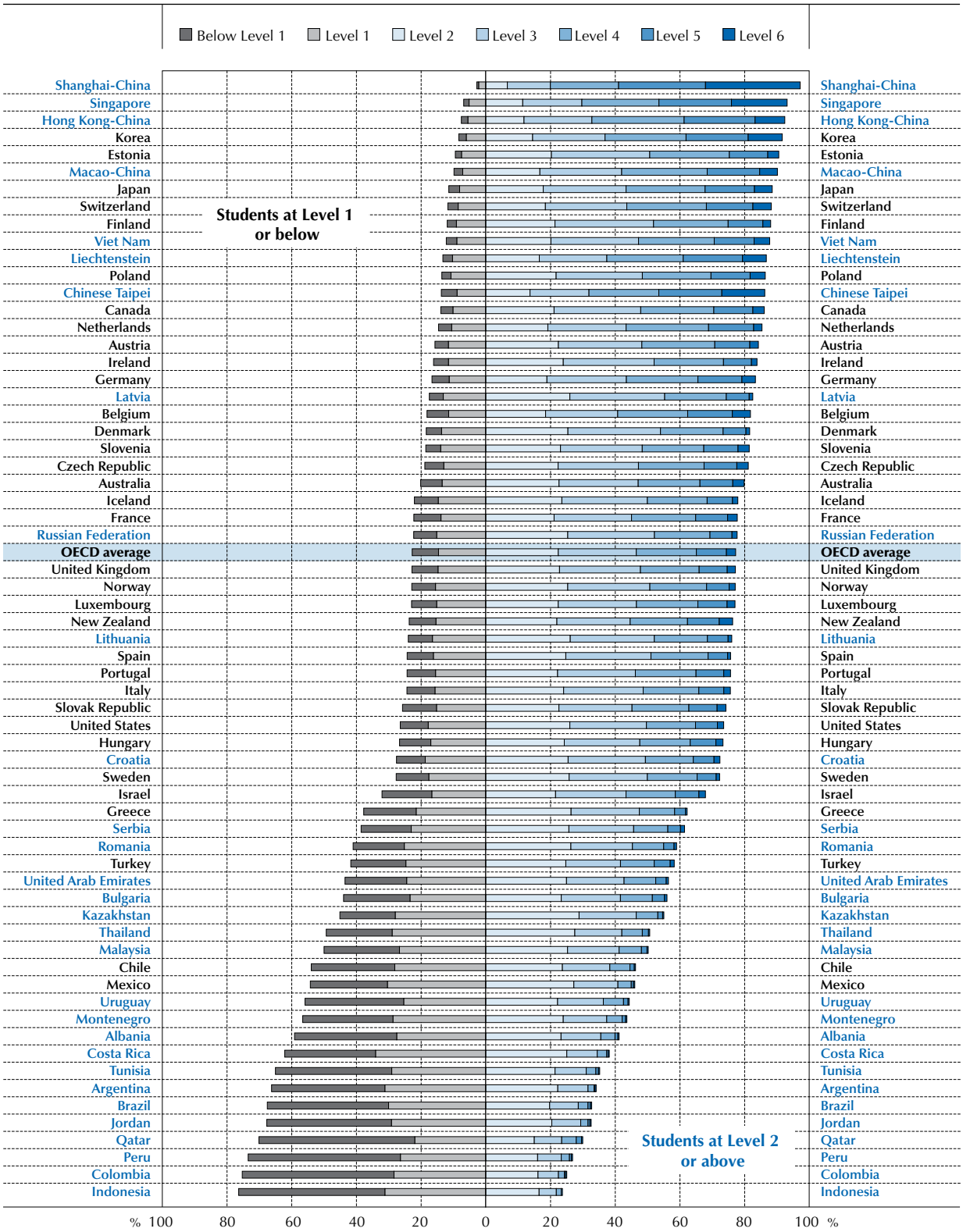
Level	Percentage of students able to perform tasks at each level or above (OECD average)	What students can do
6	2.8%	Students at or above Level 6 can use a strong repertoire of knowledge and procedural skills in a wide range of mathematical areas. They can form and follow a multi-step strategy to solve a problem involving several stages; apply reasoning in a connected way across several problem elements; set up and solve an algebraic equation with more than one variable; generate relevant data and information to explore problems, for example using a spread sheet to sort and analyse data; and justify their results mathematically and explain their conclusions and support them with well-formed mathematical arguments. At Level 6 students' work is consistently precise and accurate.
5	12.1%	Students at Level 5 can use a range of knowledge and skills to solve problems. They can sensibly link information in graphical and diagrammatic form to textual information. They can apply spatial and numeric reasoning skills to express and work with simple models in reasonably well-defined situations and where the constraints are clear. They usually work systematically, for example to explore combinatorial outcomes, and can sustain accuracy in their reasoning across a small number of steps and processes. They are generally able to work competently with expressions, can work with formulae and use proportional reasoning, and are able to work with and transform data presented in a variety of forms.
4	30.7%	At Level 4, students can identify relevant data and information from contextual material and use it to perform such tasks as calculating distances, using proportional reasoning to apply a scale factor, converting different units to a common scale, or relating different graph scales to each other. They can work flexibly with distance-time-speed relationships, and can carry out a sequence of arithmetic calculations. They can use algebraic formulations, and follow a straightforward strategy and describe it.
3	54.8%	Students at Level 3 frequently have sound spatial reasoning skills enabling them, for example, to use the symmetry properties of a figure, recognise patterns presented in graphical form, or use angle facts to solve a geometric problem. Students at this level can connect two different mathematical representations, such as data in a table and in a graph, or an algebraic expression with its graphical representation, enabling them, for example, to understand the effect of changing data in one representation on the other. They can handle percentages, fractions and decimal numbers and work with proportional relationships.
2	77.3%	Students at Level 2 can apply small reasoning steps to make direct use of given information to solve a problem, for example, to implement a simple calculation model, identify a calculation error, analyse a distance-time relationship, or analyse a simple spatial pattern. At this level students show an understanding of place value in decimal numbers and can use that understanding to compare numbers presented in a familiar context; correctly substitute values into a simple formula; recognise which of a set of given graphs correctly represents a set of percentages and apply reasoning skills to understand and explore different kinds of graphical representations of data; and can understand simple probability concepts.
1	91.9%	Students at Level 1 can identify simple data relating to a real-world context, such as that presented in a structured table or in an advertisement where the text and data labels match directly; perform practical tasks, such as decomposing money amounts into lower denominations; use direct reasoning from textual information that points to an obvious strategy to solve a given problem, particularly where the mathematical procedural knowledge required would be limited to, for example, arithmetic operations with whole numbers, or ordering and comparing whole numbers; understand graphing techniques and conventions; and use symmetry properties to explore characteristics of a figure, such as comparin g side lengths and angles.



■ Figure I.2.33 ■

Proficiency in the mathematics subscale *employing*

Percentage of students at each level of mathematics proficiency



Countries and economies are ranked in descending order of the percentage of students at Levels 2, 3, 4, 5 and 6.
Source: OECD, PISA 2012 Database, Table I.2.8.
StatLink http://dx.doi.org/10.1787/888932935572



■ Figure I.2.34 ■

Comparing countries' and economies' performance on the mathematics subscale *interpreting*

Statistically significantly **above** the OECD average
Not statistically significantly different from the OECD average
Statistically significantly **below** the OECD average

Mean score	Comparison country/economy	Countries/economies whose mean score is NOT statistically significantly different from that comparison country's/economy's score
579	Shanghai-China	
555	Singapore	Hong Kong-China, Chinese Taipei
551	Hong Kong-China	Singapore, Chinese Taipei
549	Chinese Taipei	Singapore, Hong Kong-China, Liechtenstein, Korea
540	Liechtenstein	Chinese Taipei, Korea, Japan
540	Korea	Chinese Taipei, Liechtenstein, Japan
531	Japan	Liechtenstein, Korea, Macao-China, Switzerland, Finland, Netherlands
530	Macao-China	Japan, Switzerland, Finland, Netherlands
529	Switzerland	Japan, Macao-China, Finland, Netherlands, Canada
528	Finland	Japan, Macao-China, Switzerland, Netherlands
526	Netherlands	Japan, Macao-China, Switzerland, Finland, Canada, Germany
521	Canada	Switzerland, Netherlands, Germany, Poland
517	Germany	Netherlands, Canada, Poland, Australia, Belgium, Estonia, New Zealand, France, Austria
515	Poland	Canada, Germany, Australia, Belgium, Estonia, New Zealand, France, Austria, Denmark, Ireland
514	Australia	Germany, Poland, Belgium, Estonia, New Zealand, France, Austria
513	Belgium	Germany, Poland, Australia, Estonia, New Zealand, France, Austria, Denmark, Ireland
513	Estonia	Germany, Poland, Australia, Belgium, New Zealand, France, Austria, Denmark, Ireland
511	New Zealand	Germany, Poland, Australia, Belgium, Estonia, France, Austria, Denmark, Ireland
511	France	Germany, Poland, Australia, Belgium, Estonia, New Zealand, Austria, Denmark, Ireland
509	Austria	Germany, Poland, Australia, Belgium, Estonia, New Zealand, France, Denmark, Ireland, United Kingdom
508	Denmark	Poland, Belgium, Estonia, New Zealand, France, Austria, Ireland, United Kingdom
507	Ireland	Poland, Belgium, Estonia, New Zealand, France, Austria, Denmark, United Kingdom, Viet Nam
501	United Kingdom	Austria, Denmark, Ireland, Norway, Italy, Slovenia, Viet Nam, Spain, Luxembourg, Czech Republic
499	Norway	United Kingdom, Italy, Slovenia, Viet Nam, Spain, Luxembourg, Czech Republic, Iceland, Portugal, United States
498	Italy	United Kingdom, Norway, Slovenia, Viet Nam, Spain, Luxembourg, Czech Republic, Portugal
498	Slovenia	United Kingdom, Norway, Italy, Viet Nam, Spain, Luxembourg, Czech Republic, Portugal
497	Viet Nam	Ireland, United Kingdom, Norway, Italy, Slovenia, Spain, Luxembourg, Czech Republic, Iceland, Portugal, United States, Latvia
495	Spain	United Kingdom, Norway, Italy, Slovenia, Viet Nam, Luxembourg, Czech Republic, Iceland, Portugal, United States
495	Luxembourg	United Kingdom, Norway, Italy, Slovenia, Viet Nam, Spain, Czech Republic, Iceland, Portugal, United States
494	Czech Republic	United Kingdom, Norway, Italy, Slovenia, Viet Nam, Spain, Luxembourg, Iceland, Portugal, United States, Latvia
492	Iceland	Norway, Viet Nam, Spain, Luxembourg, Czech Republic, Portugal, United States, Latvia
490	Portugal	Norway, Italy, Slovenia, Viet Nam, Spain, Luxembourg, Czech Republic, Iceland, United States, Latvia, Sweden
489	United States	Norway, Viet Nam, Spain, Luxembourg, Czech Republic, Iceland, Portugal, Latvia, Sweden
486	Latvia	Viet Nam, Czech Republic, Iceland, Portugal, United States, Sweden
485	Sweden	Portugal, United States, Latvia, Croatia
477	Croatia	Sweden, Hungary, Slovak Republic, Russian Federation, Lithuania
477	Hungary	Croatia, Slovak Republic, Russian Federation, Lithuania
473	Slovak Republic	Croatia, Hungary, Russian Federation, Lithuania, Greece, Israel
471	Russian Federation	Croatia, Hungary, Slovak Republic, Lithuania, Greece, Israel
471	Lithuania	Croatia, Hungary, Slovak Republic, Russian Federation, Greece, Israel
467	Greece	Slovak Republic, Russian Federation, Lithuania, Israel
462	Israel	Slovak Republic, Russian Federation, Lithuania, Greece
446	Turkey	Serbia, Bulgaria, Romania
445	Serbia	Turkey, Bulgaria, Romania
441	Bulgaria	Turkey, Serbia, Romania, Cyprus[1, 2], Chile, Thailand
438	Romania	Turkey, Serbia, Bulgaria, Cyprus[1, 2], Chile, Thailand
436	Cyprus[1, 2]	Bulgaria, Romania, Chile, Thailand
433	Chile	Bulgaria, Romania, Cyprus[1, 2], Thailand, United Arab Emirates
432	Thailand	Bulgaria, Romania, Cyprus[1, 2], Chile, United Arab Emirates
428	United Arab Emirates	Chile, Thailand
420	Kazakhstan	Malaysia, Costa Rica
418	Malaysia	Kazakhstan, Costa Rica, Montenegro, Mexico
418	Costa Rica	Kazakhstan, Malaysia, Montenegro, Mexico
413	Montenegro	Malaysia, Costa Rica, Mexico, Uruguay
413	Mexico	Malaysia, Costa Rica, Montenegro, Uruguay
409	Uruguay	Montenegro, Mexico
401	Brazil	
390	Argentina	Colombia, Tunisia, Jordan, Indonesia
387	Colombia	Argentina, Tunisia, Jordan, Indonesia
385	Tunisia	Argentina, Colombia, Jordan, Indonesia, Albania
383	Jordan	Argentina, Colombia, Tunisia, Indonesia, Albania
379	Indonesia	Argentina, Colombia, Tunisia, Jordan, Albania, Qatar, Peru
379	Albania	Tunisia, Jordan, Indonesia, Qatar
375	Qatar	Indonesia, Albania, Peru
368	Peru	Indonesia, Qatar

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2. Note by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Source: OECD, PISA 2012 Database.
StatLink http://dx.doi.org/10.1787/888932935572



■ Figure I.2.35 ■

Summary descriptions of the six proficiency levels for the mathematical subscale *interpreting*

Level	Percentage of students able to perform tasks at each level or above (OECD average)	What students can do
6	4.2%	At Level 6, students can link multiple complex mathematical representations in an analytic way to identify and extract data and information that enables contextual questions to be answered, and can present their interpretations and conclusions in written form. For example, students may interpret two time-series graphs in relation to different contextual conditions; or link a relationship expressed both in a graph and in numeric form (such as in a price calculator) or in a spread sheet and graph, to present an argument or conclusion about contextual conditions. Students at this level can apply mathematical reasoning to data or information presented in order to generate a chain of linked steps to support a conclusion (for example, analysing a map using scale information; analysing a complex algebraic formula in relation to the variables represented; translating data into a new time-frame; performing a three-way currency conversion; or using a data-generation tool to find the information needed to answer a question). Students at this level can gather analysis, data and their interpretation across several different problem elements or across different questions about a context, showing a depth of insight and a capacity for sustained reasoning.
5	14.5%	At Level 5, students can combine several processes in order to formulate conclusions based on an interpretation of mathematical information with respect to context, such as formulating or modifying a model, solving an equation or carrying out computations, and using several reasoning steps to make the links to the identified context elements. At this level, students can make links between context and mathematics involving spatial or geometric concepts and complex statistical and algebraic concepts. They can easily interpret and evaluate a set of plausible mathematical representations, such as graphs, to identify which one highest reflects the contextual elements under analysis. Students at this level have begun to develop the ability to communicate conclusions and interpretations in written form.
4	33.0%	At Level 4, students can apply appropriate reasoning steps, possibly multiple steps, to extract information from a complex mathematical situation and interpret complicated mathematical objects, including algebraic expressions. They can interpret complex graphical representations to identify data or information that answers a question; perform a calculation or data manipulation (for example, in a spread sheet) to generate additional data needed to decide whether a constraint (such as a measurement condition or a size comparison) is met; interpret simple statistical or probabilistic statements in such contexts as public transport, or health and medical test interpretation, to link the meaning of the statements to the underlying contextual issues; conceptualise a change needed to a calculation procedure in response to a changed constraint; and analyse two data samples, for example relating to a manufacturing process, to make comparisons and draw and express conclusions.
3	55.9%	Students at Level 3 begin to be able to use reasoning, including spatial reasoning, to support their interpretations of mathematical information in order to make inferences about features of the context. They combine reasoning steps systematically to make various connections between mathematical and contextual material or when required to focus on different aspects of a context, for example where a graph shows two data series or a table contains data on two variables that must be actively related to each other to support a conclusion. They can test and explore alternative scenarios, using reasoning to interpret the possible effects of changing some of the variables under observation. They can use appropriate calculation steps to assist their analysis of data and support the formation of conclusions and interpretations, including calculations involving proportions and proportional reasoning, and in situations where systematic analysis across several related cases is needed. At this level, students can interpret and analyse relatively unfamiliar data presentations to support their conclusions.
2	77.0%	At Level 2, students can link contextual elements of the problem to mathematics, for example by performing appropriate calculations or reading tables. Students at this level can make comparisons repeatedly across several similar cases: for example, they can interpret a bar graph to identify and extract data to apply in a comparative condition where some insight is required. They can apply basic spatial skills to make connections between a situation presented visually and its mathematical elements; identify and carry out necessary calculations to support such comparisons as costs across several contexts; and can interpret a simple algebraic expression as it relates to a given context.
1	91.2%	At Level 1, students can interpret data or information expressed in a direct way in order to answer questions about the context described. They can interpret given data to answer questions about simple quantitative relational ideas (such as "larger", "shorter time", "in between") in a familiar context, for example by evaluating measurements of an object against given criterion values, by comparing average journey times for two methods of transport, or by comparing specified characteristics of a small number of similar objects. Similarly, they can make simple interpretations of data in a timetable or schedule to identify times or events. Students at this level may show rudimentary understanding of such concepts as randomness and data interpretation, for example by identifying the plausibility of a statement about chance outcomes of a lottery, by understanding numeric and relational information in a well-labelled graph, and by understanding basic contextual implications of links between related graphs.



Across OECD countries, the average score attained on the *interpreting* subscale is 497 points, 3 score points above the average score of 494 points on the overall mathematics proficiency scale. A substantially higher average score on the *interpreting* subscale might indicate that students find interpreting mathematical information a relatively less difficult aspect of the problem-solving process, perhaps because the task of evaluating mathematical results is commonly treated as part of that process in school mathematics classes. Top-performing countries and economies on this subscale are Shanghai-China, Singapore, Hong Kong-China, Chinese Taipei, Liechtenstein, Korea, Japan, Macao-China, Switzerland and Finland (Figure I.2.34 and Table I.2.13).

While across OECD countries the average score on the *interpreting* subscale is slightly higher than the average score on the mathematics proficiency scale, this is not the case in eight of the ten highest-performing countries and economies on the overall mathematics scale. In those countries and economies, the average score in *interpreting* is lower than the average score in overall mathematics proficiency, with a difference ranging from less than 10 points in Switzerland, Japan, Macao-China and Hong Kong-China, to between 10 and 20 points in Chinese Taipei, Korea and Singapore, to 34 points in Shanghai-China. In the high-performing OECD country, the Netherlands, and the partner country Liechtenstein, the opposite pattern is observed (Figure I.2.37).

In fact, performance on the *interpreting* subscale does not appear to be related to overall mathematics performance. In eight countries, students score at least ten points higher on the *interpreting* subscale than they do in mathematics overall, while in eight other countries the *interpreting* score is at least 10 points lower than the overall score. This latter group of countries includes the four highest-performing countries (Chinese Taipei, Korea, Singapore and Shanghai-China), one high-performing country (Viet Nam), and three countries that perform below the OECD average (Albania, Kazakhstan and the Russian Federation).

Descriptions of the six levels of proficiency on the subscale *interpreting, applying and evaluating mathematical outcomes* are given in Figure I.2.35 and the distribution of students among these six proficiency levels is shown in Figure I.2.36.

The relative strengths and weaknesses of countries in mathematics process subscales

Figure I.2.37 shows the country mean for the overall mathematics scale and the difference between each process subscale and the overall mathematics scale. As the figure makes clear, the levels of performance on the process subscales are somewhat aligned with each other and with the overall mean mathematics performance. However, it is also clear that countries' and economies' strengths in the three processes vary considerably.

Across all participating countries and economies, the average difference between the highest and lowest performance in mathematics processes is around 14 points. Within that variability, 16 countries/economies show the highest mean score in *formulating*; 21 countries/economies perform best in *employing;* and 28 countries/economies have the highest mean score in *interpreting*.

Shanghai-China shows the largest difference (46 points) between its highest (*formulating*) and lowest (*interpreting*) performance in processes, followed by Chinese Taipei, which has a difference 30 points between its highest (*formulating*) and lowest (*employing*) performance in processes. France shows a large difference (27 points) between its highest (*interpreting*) and lowest (*formulating*) performance in processes, the largest among OECD countries, and Singapore shows the same difference as France but its strongest performance is in *formulating* while its weakest is in *interpreting*. Viet Nam has a difference of 26 points between its strongest (*employing*) and weakest (*interpreting*) process subscales, and both Brazil and Croatia shows a difference of 25 points between their strongest and weakest process subscales. Peru, Turkey, Uruguay and Belgium show a negligible difference (2 to 3 score points) between their highest and lowest performance in processes (Figure I.2.37).

The OECD average difference between the highest and lowest performance in processes is around 5 points. Switzerland, Iceland, Japan, Korea, the Netherlands and Turkey have the highest mean score in *formulating*, and four of these countries are the best-performing OECD countries. Austria, Belgium, the Czech Republic, Estonia, Hungary, Israel, Mexico, Poland, the Slovak Republic and Slovenia perform best in *employing*; and the remaining 18 OECD countries have the highest mean scores in *interpreting*.

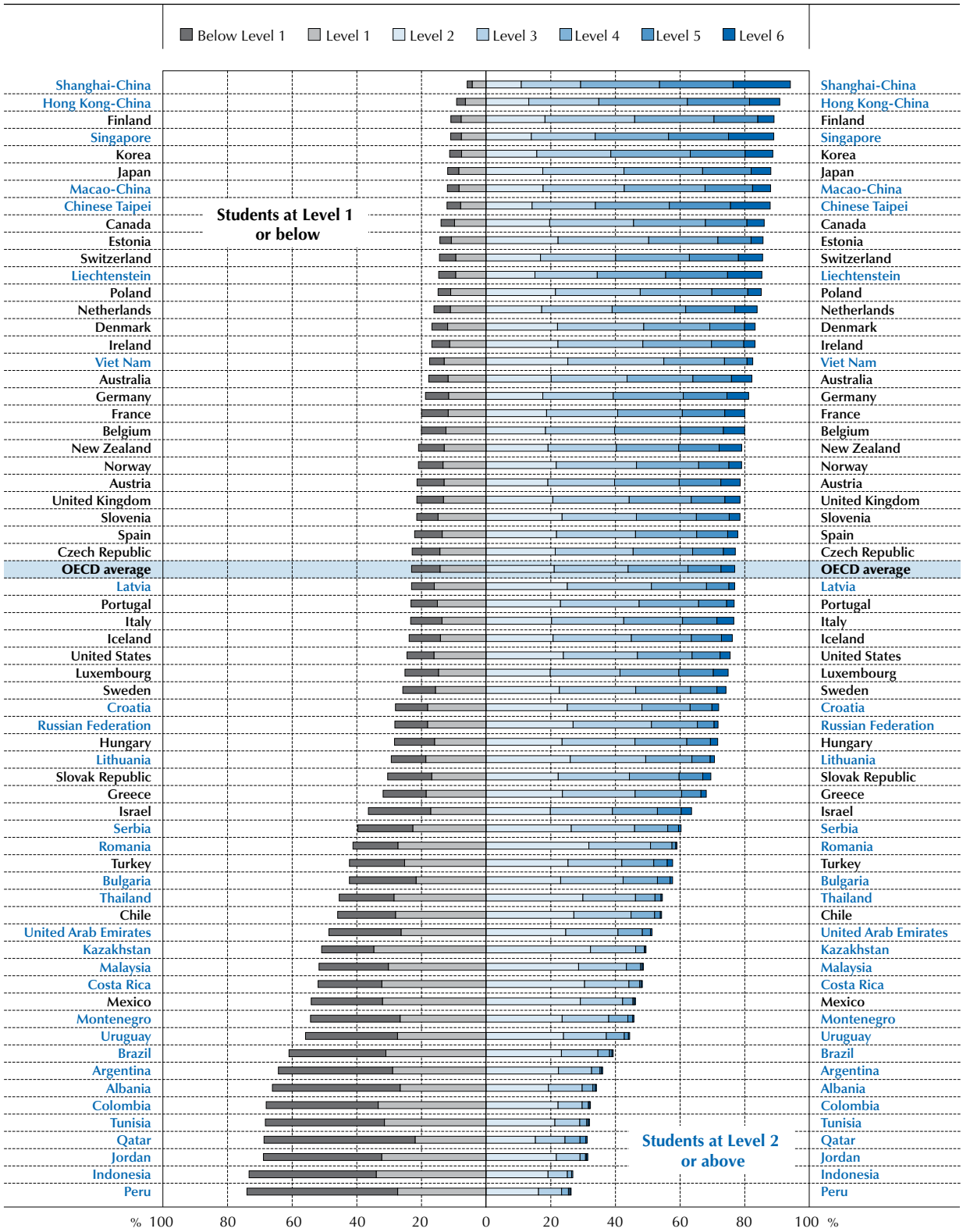
Ten partner countries and economies – Shanghai-China, Chinese Taipei, Singapore, Kazakhstan, Albania, Hong Kong-China, Macao-China, Jordan, Qatar and Peru – have the highest mean scores in *formulating*; ten other partner countries and economies – Brazil, Colombia, Costa Rica, Thailand, Indonesia, Montenegro, Argentina, Liechtenstein, Bulgaria and Uruguay – perform best in *interpreting*; and the remaining eleven partner countries and economies have the highest mean scores in *employing*.



■ Figure I.2.36 ■

Proficiency in the mathematics subscale *interpreting*

Percentage of students at each level of mathematics proficiency



Countries and economies are ranked in descending order of the percentage of students at Levels 2, 3, 4, 5 and 6.

Source: OECD, PISA 2012 Database, Table I.2.11.

StatLink http://dx.doi.org/10.1787/888932935572



■ Figure I.2.37 ■

Comparing countries and economies on the different mathematics process subscales

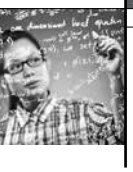
Country's/economy's performance on the subscale is between 0 to 3 score points **higher** than on the overall mathematics scale
Country's/economy's performance on the subscale is between 3 to 10 score points **higher** than on the overall mathematics scale
Country's/economy's performance on the subscale is 10 or more score points **higher** than on the overall mathematics scale

Country's/economy's performance on the subscale is between 0 to 3 score points **lower** than on the overall mathematics scale
Country's/economy's performance on the subscale is between 3 to 10 score points **lower** than on the overall mathematics scale
Country's/economy's performance on the subscale is 10 or more score points **lower** than on the overall mathematics scale

	Mathematics score	Performance difference between the overall mathematics scale and each process subscale		
		Formulating	Employing	Interpreting
Shanghai-China	613	12	0	-34
Singapore	573	8	1	-18
Hong Kong-China	561	7	-3	-10
Chinese Taipei	560	19	-11	-11
Korea	554	8	-1	-14
Macao-China	538	7	-2	-9
Japan	536	18	-6	-5
Liechtenstein	535	0	1	5
Switzerland	531	7	-2	-2
Netherlands	523	4	-4	3
Estonia	521	-3	4	-8
Finland	519	0	-3	9
Canada	518	-2	-2	3
Poland	518	-2	1	-3
Belgium	515	-2	1	-2
Germany	514	-3	2	3
Viet Nam	511	-14	12	-15
Austria	506	-6	4	3
Australia	504	-6	-4	10
Ireland	501	-9	1	5
Slovenia	501	-9	4	-3
Denmark	500	2	-5	8
New Zealand	500	-4	-5	11
Czech Republic	499	-4	5	-5
France	495	-12	1	16
OECD average	**494**	**-2**	**-1**	**3**
United Kingdom	494	-5	-2	7
Iceland	493	7	-3	0
Latvia	491	-3	5	-4
Luxembourg	490	-8	3	5
Norway	489	0	-3	9
Portugal	487	-8	2	3
Italy	485	-10	0	13
Spain	484	-8	-3	11
Russian Federation	482	-1	5	-11
Slovak Republic	482	-1	4	-8
United States	481	-6	-1	8
Lithuania	479	-1	3	-8
Sweden	478	1	-4	7
Hungary	477	-8	4	0
Croatia	471	-19	6	6
Israel	466	-2	2	-5
Greece	453	-5	-4	14
Serbia	449	-2	2	-3
Turkey	448	1	0	-2
Romania	445	0	1	-6
Cyprus[1, 2]	440	-3	3	-4
Bulgaria	439	-2	0	2
United Arab Emirates	434	-8	6	-6
Kazakhstan	432	10	1	-12
Thailand	427	-11	-1	5
Chile	423	-3	-6	10
Malaysia	421	-15	2	-3
Mexico	413	-4	0	0
Montenegro	410	-6	0	4
Uruguay	409	-3	-2	0
Costa Rica	407	-8	-6	11
Albania	394	4	3	-16
Brazil	391	-16	-4	10
Argentina	388	-5	-1	1
Tunisia	388	-15	2	-3
Jordan	386	4	-2	-3
Colombia	376	-2	-9	11
Qatar	376	1	-3	-1
Indonesia	375	-7	-6	4
Peru	368	2	0	0

1. Note by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".
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Source: OECD, PISA 2012 Database, Tables I.2.3a, I.2.7, I.2.10 and I.2.13.
StatLink http://dx.doi.org/10.1787/888932935572



■ Figure I.2.38 [Part 1/3] ■

Where countries and economies rank on the different mathematics process subscales

Statistically significantly **above** the OECD average
Not statistically significantly different from the OECD average
Statistically significantly **below** the OECD average

	Formulating subscale				
		Range of ranks			
		OECD countries		All countries/economies	
	Mean score	Upper rank	Lower rank	Upper rank	Lower rank
Shanghai-China	624			1	1
Singapore	582			2	3
Chinese Taipei	578			2	3
Hong Kong-China	568			4	5
Korea	562	1	2	4	6
Japan	554	1	2	5	6
Macao-China	545			7	8
Switzerland	538	3	3	8	9
Liechtenstein	535			8	10
Netherlands	527	4	5	9	10
Finland	519	5	8	11	14
Estonia	517	5	9	11	15
Canada	516	5	9	11	15
Poland	516	5	10	11	16
Belgium	512	7	10	13	16
Germany	511	7	11	13	17
Denmark	502	11	14	16	20
Iceland	500	11	15	17	21
Austria	499	11	16	17	23
Australia	498	12	16	18	23
Viet Nam	497			17	27
New Zealand	496	12	18	18	25
Czech Republic	495	12	19	18	27
Ireland	492	15	20	21	27
Slovenia	492	16	20	22	27
Norway	489	16	21	22	29
United Kingdom	489	15	22	22	31
Latvia	488			23	30
France	483	20	25	27	34
Luxembourg	482	21	24	29	33
Russian Federation	481			27	37
Slovak Republic	480	20	28	28	38
Sweden	479	21	27	29	37
Portugal	479	20	28	28	38
Lithuania	477			30	38
Spain	477	23	28	32	38
United States	475	22	29	30	39
Italy	475	24	29	33	39
Hungary	469	27	30	37	40
Israel	465	28	30	38	41
Croatia	453			41	45
Turkey	449	31	32	41	46
Greece	448	31	32	41	45
Serbia	447			41	46
Romania	445			41	47
Kazakhstan	442			43	48
Bulgaria	437			45	48
Cyprus[1, 2]	437			46	48
United Arab Emirates	426			49	50
Chile	420	33	33	49	51
Thailand	416			50	52
Mexico	409	34	34	51	53
Uruguay	406			52	56
Malaysia	406			52	56
Montenegro	404			53	56
Costa Rica	399			54	57
Albania	398			56	57
Jordan	390			58	59
Argentina	383			58	61
Qatar	378			59	62
Brazil	376			60	64
Colombia	375			59	64
Tunisia	373			60	65
Peru	370			62	65
Indonesia	368			62	65

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Source: OECD, PISA 2012 Database.
StatLink http://dx.doi.org/10.1787/888932935572



■ Figure I.2.38 [Part 2/3] ■

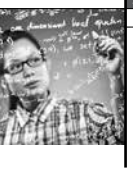
Where countries and economies rank on the different mathematics process subscales

Statistically significantly **above** the OECD average
Not statistically significantly different from the OECD average
Statistically significantly **below** the OECD average

	Employing subscale				
		Range of ranks			
		OECD countries		All countries/economies	
	Mean score	Upper rank	Lower rank	Upper rank	Lower rank
Shanghai-China	613			1	1
Singapore	574			2	2
Hong Kong-China	558			3	4
Korea	553	1	1	3	5
Chinese Taipei	549			4	5
Liechtenstein	536			6	8
Macao-China	536			6	7
Japan	530	2	4	6	10
Switzerland	529	2	4	7	10
Estonia	524	3	5	9	12
Viet Nam	523			8	17
Poland	519	4	10	10	17
Netherlands	518	4	10	10	17
Canada	517	5	10	12	17
Germany	516	5	11	12	18
Belgium	516	5	10	12	17
Finland	516	6	10	12	17
Austria	510	9	12	16	19
Slovenia	505	12	14	19	21
Czech Republic	504	11	15	18	22
Ireland	502	12	16	19	23
Australia	500	13	16	20	23
France	496	15	20	22	28
Latvia	495			22	29
New Zealand	495	15	20	22	28
Denmark	495	16	21	23	29
Luxembourg	493	17	21	25	29
United Kingdom	492	16	23	23	32
Iceland	490	19	23	27	32
Portugal	489	17	26	24	36
Russian Federation	487			28	37
Norway	486	20	26	28	36
Italy	485	22	27	30	36
Slovak Republic	485	21	28	28	38
Lithuania	482			32	39
Spain	481	24	28	33	39
Hungary	481	23	29	32	40
United States	480	24	29	33	40
Croatia	478			35	41
Sweden	474	28	30	38	41
Israel	469	29	30	39	41
Serbia	451			42	45
Greece	449	31	32	42	45
Turkey	448	31	32	42	47
Romania	446			42	48
Cyprus[1, 2]	443			44	47
United Arab Emirates	440			45	48
Bulgaria	439			45	49
Kazakhstan	433			48	50
Thailand	426			49	51
Malaysia	423			50	52
Chile	416	33	34	51	53
Mexico	413	33	34	52	54
Montenegro	409			54	55
Uruguay	408			53	56
Costa Rica	401			55	57
Albania	397			56	58
Tunisia	390			57	61
Brazil	388			58	61
Argentina	387			58	61
Jordan	383			59	61
Qatar	373			62	63
Indonesia	369			62	65
Peru	368			62	65
Colombia	367			63	65

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Source: OECD, PISA 2012 Database.
StatLink http://dx.doi.org/10.1787/888932935572



■ Figure I.2.38 [Part 3/3] ■

Where countries and economies rank on the different mathematics process subscales

Statistically significantly **above** the OECD average
Not statistically significantly different from the OECD average
Statistically significantly **below** the OECD average

	Interpreting subscale				
		Range of ranks			
		OECD countries		All countries/economies	
	Mean score	Upper rank	Lower rank	Upper rank	Lower rank
Shanghai-China	579			1	1
Singapore	555			2	3
Hong Kong-China	551			2	4
Chinese Taipei	549			3	5
Liechtenstein	540			4	7
Korea	540	1	2	4	7
Japan	531	2	5	6	11
Macao-China	530			7	10
Switzerland	529	2	5	7	11
Finland	528	2	5	7	11
Netherlands	526	2	6	7	12
Canada	521	5	7	11	13
Germany	517	6	12	12	18
Poland	515	6	14	12	20
Australia	514	7	12	13	18
Belgium	513	7	14	13	20
Estonia	513	8	14	13	20
New Zealand	511	8	16	14	22
France	511	9	16	14	22
Austria	509	9	17	15	23
Denmark	508	11	17	17	23
Ireland	507	12	17	18	23
United Kingdom	501	15	22	21	29
Norway	499	16	23	22	30
Italy	498	17	22	23	29
Slovenia	498	17	21	23	28
Viet Nam	497			22	33
Spain	495	18	25	25	32
Luxembourg	495	20	24	26	31
Czech Republic	494	18	26	24	33
Iceland	492	21	26	28	33
Portugal	490	20	27	26	35
United States	489	21	27	28	35
Latvia	486			31	35
Sweden	485	25	27	33	36
Croatia	477			35	39
Hungary	477	28	29	35	39
Slovak Republic	473	28	30	36	41
Russian Federation	471			37	41
Lithuania	471			37	41
Greece	467	29	31	39	42
Israel	462	30	31	40	42
Turkey	446	32	32	43	46
Serbia	445			43	45
Bulgaria	441			43	47
Romania	438			44	48
Cyprus[1, 2]	436			45	48
Chile	433	33	33	46	50
Thailand	432			46	50
United Arab Emirates	428			48	50
Kazakhstan	420			51	53
Malaysia	418			51	55
Costa Rica	418			51	54
Montenegro	413			53	56
Mexico	413	34	34	53	56
Uruguay	409			54	56
Brazil	401			57	57
Argentina	390			58	61
Colombia	387			58	61
Tunisia	385			58	62
Jordan	383			59	63
Indonesia	379			60	65
Albania	379			61	64
Qatar	375			63	64
Peru	368			64	65

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StatLink http://dx.doi.org/10.1787/888932935572



Gender differences in performance on the process subscales

Figures I.2.39a, b and c show the extent of gender-related differences in performance on the three mathematical processes. In most countries, boys and girls show similar performance on the processes subscales as on the mathematics proficiency scale. Boys also outnumber girls in the top three proficiency levels of the subscales, while girls outnumber boys in the lower levels of the subscales (Tables I.2.6, I.2.9 and I.2.12).

On average across OECD countries, boys outperform girls on the *formulating* subscale by around 16 points. The largest differences in favour of boys are observed in Luxembourg (33 points), Austria (32 points), Chile (29 points), Italy (24 points), New Zealand (23 points) and Korea (22 points). Ireland, Switzerland and Mexico show a gender difference of 20 points. The difference was less than 10 points in the United States (8 points). Among partner countries and economies, boys outperform girls by 33 points in Costa Rica, and by between 20 and 30 points in Colombia, Liechtenstein, Brazil, Tunisia, Peru, Hong Kong-China, and Uruguay. Several partner countries and economies show gender differences of less than 10 points, including Macao-China (9 points), Shanghai-China (8 points), Kazakhstan (7 points) and Montenegro (6 points). Only one country shows performance differences in favour of girls – Qatar (9 points).

On average among OECD countries, boys outperform girls on the *employing* subscale by 9 points. In only one OECD country, Iceland, do girls outperform boys – by 7 points. Among partner countries and economies, girls outperform boys on the *employing* subscale in 6 countries and economies, notably in Jordan (25 points), Thailand (17 points), Qatar (15 points), Malaysia (9 points), Latvia (6 points) and Singapore (6 points). Boys outperform girls by more than 20 points in the partner countries Colombia (28 points) and Costa Rica (23 points).

On average across OECD countries, boys outperform girls on the *interpreting* subscale by 9 points. The largest differences in favour of boys are recorded in Chile (22 points), Spain (21 points) and Luxembourg (20 points). Among partner countries and economies, large differences in favour of boys are recorded in Liechtenstein (27 points), Costa Rica (21 points) and Colombia (21 points). In Iceland and Finland, girls outperform boys by 11 points, and four partner countries show differences in favour of girls, with measurable differences in Jordan (25 points), Qatar (23 points), Thailand (15 points) and Malaysia (11 points).

Content subscales

The four content categories in the PISA 2012 assessment – *change and relationships*, *space and shape*, *quantity* and *uncertainty and data* – aim to capture broad groups of mathematical phenomena that involve different kinds of mathematical thinking and expertise, and that relate to broad parts of the mathematics curriculum found in all countries and economies.

PISA outcomes presented according to this categorisation may reflect differences in curriculum priorities and in course content available to 15-year-olds. For example, in previous PISA assessment, a different profile of outcomes related to the *uncertainty and data* category compared to the other areas was observed and could be attributed to the fact that the teaching of probability and statistics is not uniform among countries/economies or even within them. Similarly, it might be expected that students who have studied predominantly basic computation and quantitative skills (related most strongly to the *quantity* category) might have different outcomes from those whose courses emphasised algebra and the study of mathematical functions and relations (which link most strongly to the *change and relationships* category); and that students in school systems that emphasise geometry can be expected to perform better on the items related to the *space and shape* category.

Student performance on the mathematics subscale change and relationships

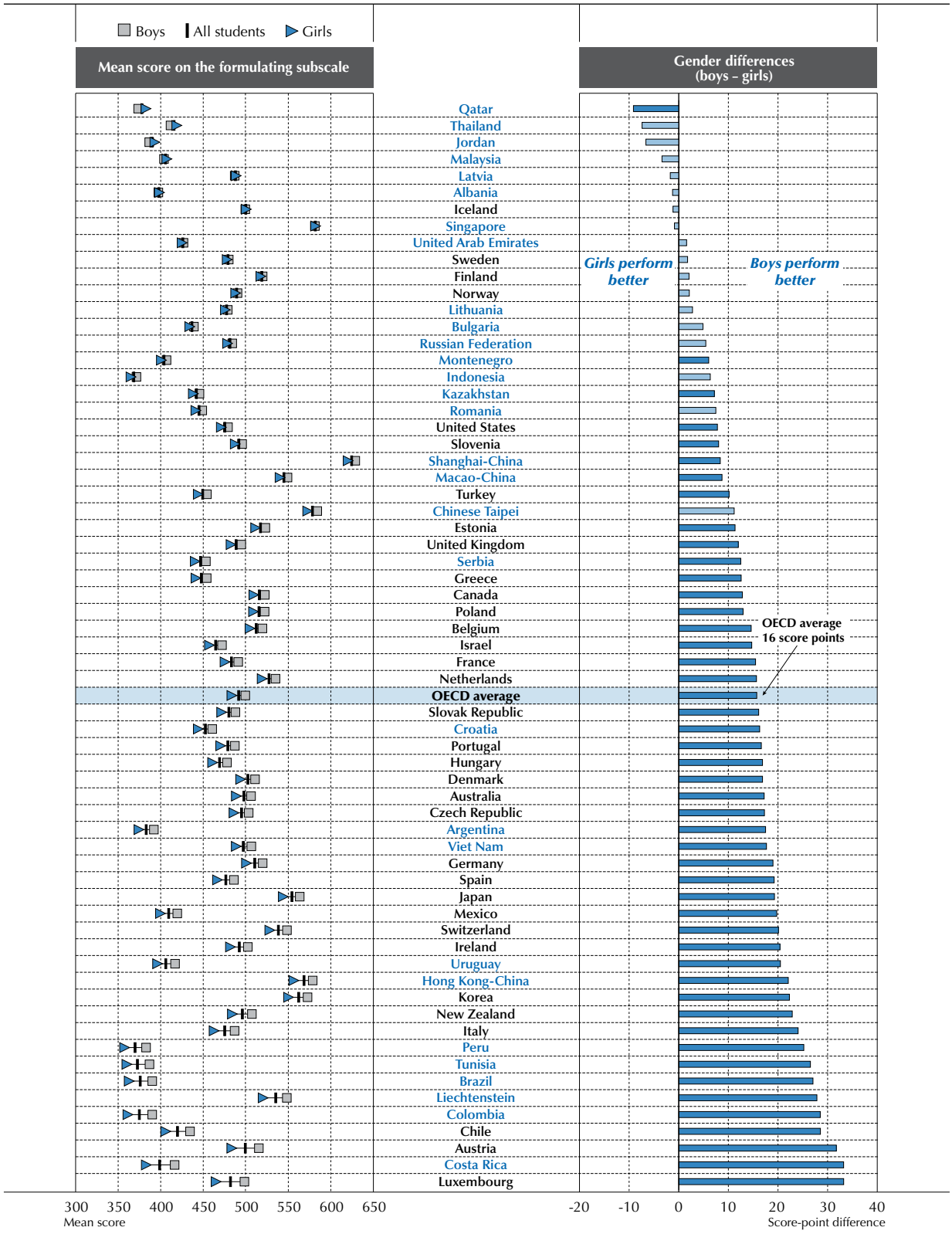
PISA items in this category emphasise the relationships among objects, and the mathematical processes associated with changes in those relationships. Items listed in Figure I.2.9 that have been classified in this category are HELEN THE CYCLIST Question 1, Question 2 and Question 3, and CLIMBING MOUNT FUJI Question 2. The questions in HELEN THE CYCLIST relate to the relationships among the variables speed, distance and time in relation to travel by bicycle. CLIMBING MOUNT FUJI also involves thinking about the relationships among the variables distance, speed and time in relation to a walking trip.

The OECD average score on the *change and relationships* subscale is 493 points. The ten top-performing countries, with a mean score of at least 530 points on this subscale, are Shanghai-China, Singapore, Hong Kong-China, Chinese Taipei, Korea, Macao-China, Japan, Liechtenstein, Estonia and Switzerland (Figure I.2.40 and Table I.2.16). The average score among OECD countries on this subscale is one point lower than the average score on the overall mathematics proficiency scale (Figure I.2.52).



■ Figure I.2.39a ■

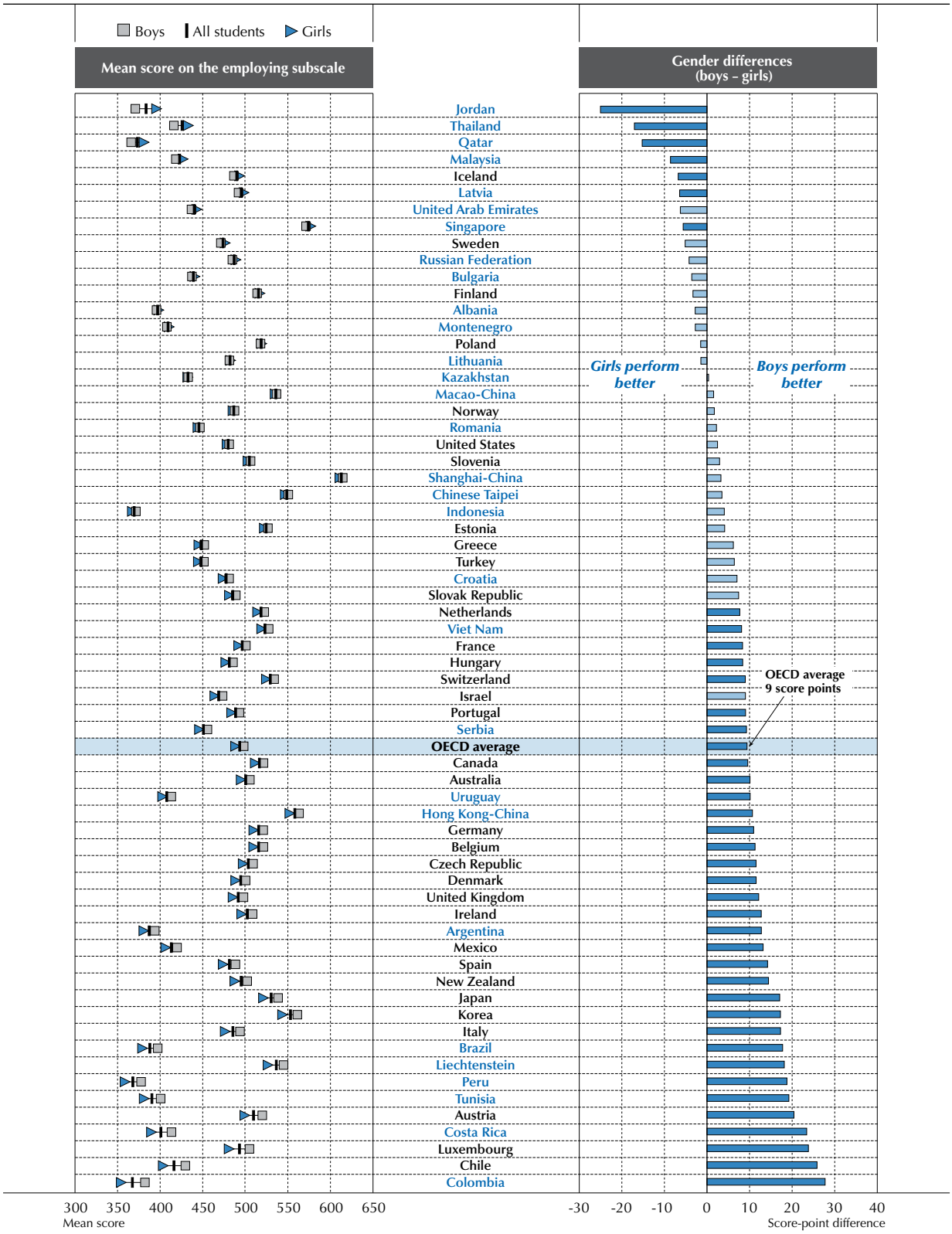
Gender differences in performance on the *formulating* subscale



Note: Statistically significant gender differences are marked in a darker tone (see Annex A3).
Countries and economies are ranked in ascending order of the gender score-point difference (boys – girls).
Source: OECD, PISA 2012 Database, Table I.2.7.
StatLink http://dx.doi.org/10.1787/888932935572

■ Figure I.2.39b ■

Gender differences in performance on the *employing* subscale



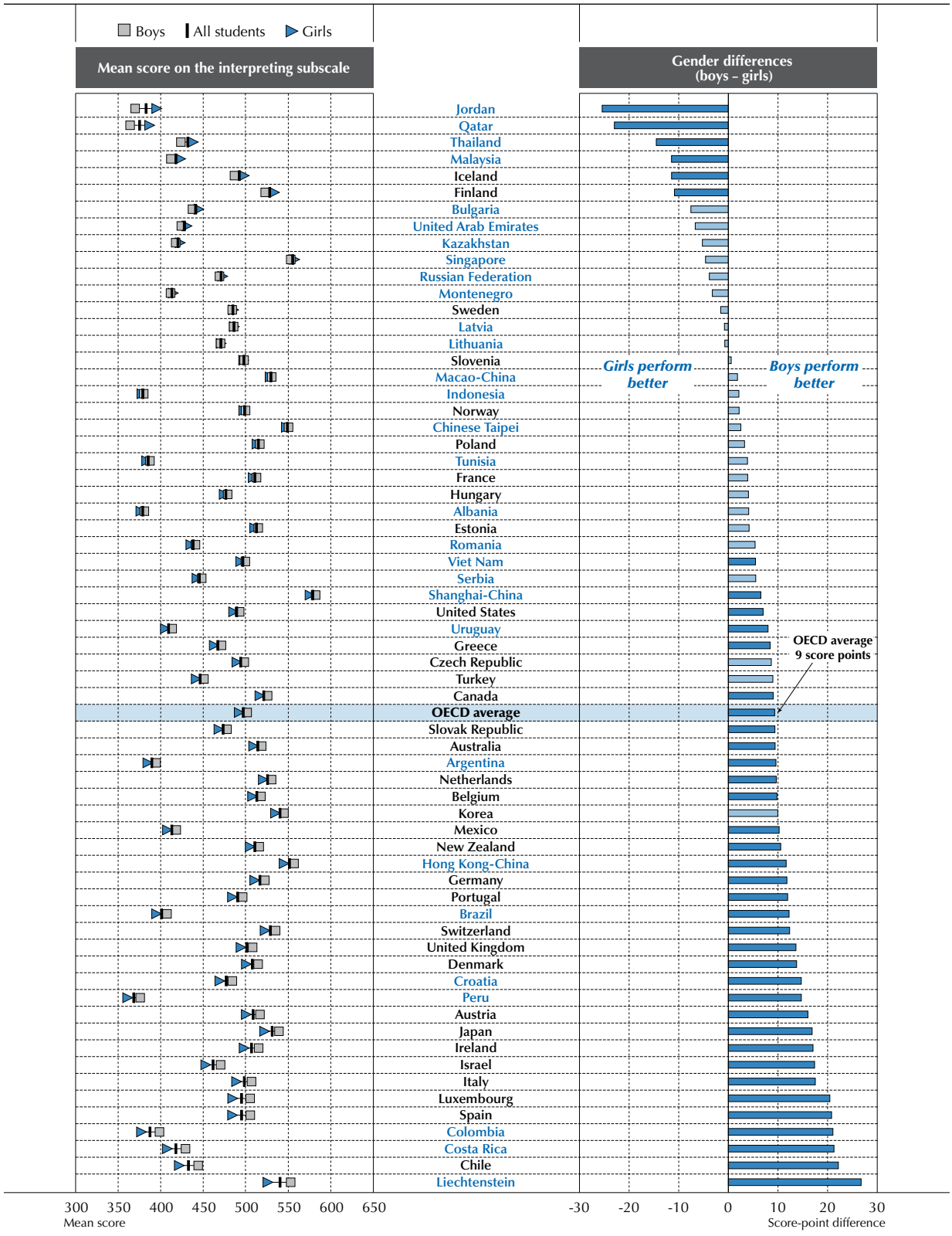
Note: Statistically significant gender differences are marked in a darker tone (see Annex A3).
Countries and economies are ranked in ascending order of the gender score-point difference (boys – girls).
Source: OECD, PISA 2012 Database, Table I.2.10.

StatLink http://dx.doi.org/10.1787/888932935572



■ Figure I.2.39c ■

Gender differences in performance on the *interpreting* subscale



Note: Statistically significant gender differences are marked in a darker tone (see Annex A3).
Countries and economies are ranked in ascending order of the gender score-point difference (boys – girls).
Source: OECD, PISA 2012 Database, Table I.2.13.

StatLink http://dx.doi.org/10.1787/888932935572



■ Figure I.2.40 ■

Comparing countries' and economies' performance on the mathematics subscale *change and relationships*

Statistically significantly **above** the OECD average
Not statistically significantly different from the OECD average
Statistically significantly **below** the OECD average

Mean score	Comparison country/economy	Countries/economies whose mean score is NOT statistically significantly different from that comparison country's/economy's score
624	Shanghai-China	
580	Singapore	
564	Hong Kong-China	Chinese Taipei, Korea
561	Chinese Taipei	Hong Kong-China, Korea
559	Korea	Hong Kong-China, Chinese Taipei
542	Macao-China	Japan, Liechtenstein
542	Japan	Macao-China, Liechtenstein
542	Liechtenstein	Macao-China, Japan
530	Estonia	Switzerland, Canada
530	Switzerland	Estonia, Canada
525	Canada	Estonia, Switzerland, Finland, Netherlands
520	Finland	Canada, Netherlands, Germany, Belgium, Viet Nam
518	Netherlands	Canada, Finland, Germany, Belgium, Viet Nam, Poland
516	Germany	Finland, Netherlands Belgium, Viet Nam, Poland, Australia, Austria
513	Belgium	Finland, Netherlands, Germany, Viet Nam, Poland, Australia, Austria
509	Viet Nam	Finland, Netherlands, Germany, Belgium, Poland, Australia, Austria, Ireland, New Zealand, Czech Republic, Slovenia
509	Poland	Netherlands, Germany, Belgium, Viet Nam, Australia, Austria, Ireland, New Zealand, Czech Republic
509	Australia	Germany, Belgium, Viet Nam, Poland, Austria
506	Austria	Germany, Belgium, Viet Nam, Poland, Australia, Ireland, New Zealand, Czech Republic
501	Ireland	Viet Nam, Poland, Austria, New Zealand, Czech Republic, Slovenia, France, Latvia, United Kingdom, Denmark
501	New Zealand	Viet Nam, Poland, Austria, Ireland, Czech Republic, Slovenia, France, Latvia, United Kingdom, Denmark
499	Czech Republic	Viet Nam, Poland, Austria, Ireland, New Zealand, Slovenia, France, Latvia, United Kingdom, Denmark, Russian Federation
499	Slovenia	Viet Nam, Ireland, New Zealand, Czech Republic, France, Latvia, United Kingdom, Denmark
497	France	Ireland, New Zealand, Czech Republic, Slovenia, Latvia, United Kingdom, Denmark, Russian Federation, United States
496	Latvia	Ireland, New Zealand, Czech Republic, Slovenia, France, United Kingdom, Denmark, Russian Federation, United States, Portugal
496	United Kingdom	Ireland, New Zealand, Czech Republic, Slovenia, France, Latvia, Denmark, Russian Federation, United States, Portugal
494	Denmark	Ireland, New Zealand, Czech Republic, Slovenia, France, Latvia, United Kingdom, Russian Federation, United States, Portugal
491	Russian Federation	Czech Republic, France, Latvia, United Kingdom, Denmark, United States, Luxembourg, Iceland, Portugal
488	United States	France, Latvia, United Kingdom, Denmark, Russian Federation, Luxembourg, Iceland, Portugal, Spain, Hungary, Lithuania
488	Luxembourg	Russian Federation, United States, Iceland, Portugal, Hungary
487	Iceland	Russian Federation, United States, Luxembourg, Portugal, Spain, Hungary
486	Portugal	Latvia, United Kingdom, Denmark, Russian Federation, United States, Luxembourg, Iceland, Spain, Hungary, Lithuania, Norway
482	Spain	United States, Iceland, Portugal, Hungary, Lithuania, Norway, Italy, Slovak Republic
481	Hungary	United States, Luxembourg, Iceland, Portugal, Spain, Lithuania, Norway, Italy, Slovak Republic
479	Lithuania	United States, Portugal, Spain, Hungary, Norway, Italy, Slovak Republic
478	Norway	Portugal, Spain, Hungary, Lithuania, Italy, Slovak Republic, Croatia
477	Italy	Spain, Hungary, Lithuania, Norway, Slovak Republic, Croatia
474	Slovak Republic	Spain, Hungary, Lithuania, Norway, Italy, Sweden, Croatia, Israel
469	Sweden	Slovak Republic, Croatia, Israel
468	Croatia	Norway, Italy, Slovak Republic, Sweden, Israel
462	Israel	Slovak Republic, Sweden, Croatia, Turkey
448	Turkey	Israel, Greece, Romania, United Arab Emirates, Serbia, Cyprus[1, 2]
446	Greece	Turkey, Romania, United Arab Emirates, Serbia, Cyprus[1, 2]
446	Romania	Turkey, Greece, United Arab Emirates, Serbia, Cyprus[1, 2], Bulgaria
442	United Arab Emirates	Turkey, Greece, Romania, Serbia, Cyprus[1, 2], Bulgaria
442	Serbia	Turkey, Greece, Romania, United Arab Emirates, Cyprus[1, 2], Bulgaria, Kazakhstan
440	Cyprus[1, 2]	Turkey, Greece, Romania, United Arab Emirates, Serbia, Bulgaria
434	Bulgaria	Romania, United Arab Emirates, Serbia, Cyprus[1, 2], Kazakhstan
433	Kazakhstan	Serbia, Bulgaria
414	Thailand	Chile
411	Chile	Thailand, Mexico, Costa Rica, Malaysia
405	Mexico	Chile, Costa Rica, Uruguay, Malaysia
402	Costa Rica	Chile, Mexico, Uruguay, Malaysia, Montenegro
401	Uruguay	Mexico, Costa Rica, Malaysia, Montenegro
401	Malaysia	Chile, Mexico, Costa Rica, Uruguay, Montenegro
399	Montenegro	Costa Rica, Uruguay, Malaysia
388	Albania	Jordan, Tunisia, Argentina
387	Jordan	Albania, Tunisia, Argentina
379	Tunisia	Albania, Jordan, Argentina, Brazil, Indonesia
379	Argentina	Albania, Jordan, Tunisia, Brazil, Indonesia
372	Brazil	Tunisia, Argentina, Indonesia
364	Indonesia	Brazil, Qatar, Colombia
363	Qatar	Colombia
357	Colombia	Qatar, Peru
349	Peru	Colombia

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Fourteen countries and economies score more than three points higher on this subscale than on the overall mathematics scale. Eleven of these countries and economies score more than five points above the overall mathematics scale. They include Shanghai-China, which scores 11 points higher (the largest difference) on the *change and relationships* subscale than on the overall mathematics scale, followed by Estonia, the Russian Federation, the United Arab Emirates, Liechtenstein, Canada, Singapore, the United States, Japan, Latvia and Korea. Seven of these countries and economies score well above the OECD average on the overall mathematics proficiency scale.

At the other end of the spectrum, 28 countries show average scores on the *change and relationships* subscale that are more than three points lower than the average score on the overall mathematics proficiency scale. Among these countries, Brazil, Colombia, Malaysia and Peru score between 19 and 20 points lower on the subscale than on the overall mathematics proficiency scale; Qatar, Thailand, Norway, Chile, Montenegro and Indonesia score between 10 and 14 points lower; and 14 other countries and economies also score lower on the subscale than on the overall proficiency scale, by a difference of at least 5 points (Figure I.2.52).

Figure I.2.41 describes the six levels of proficiency on the mathematics subscale *change and relationships* and the distribution of students among these six proficiency levels is shown in Figure I.2.42.

■ Figure I.2.41 ■

Summary descriptions of the six proficiency levels for the mathematical subscale *change and relationships*

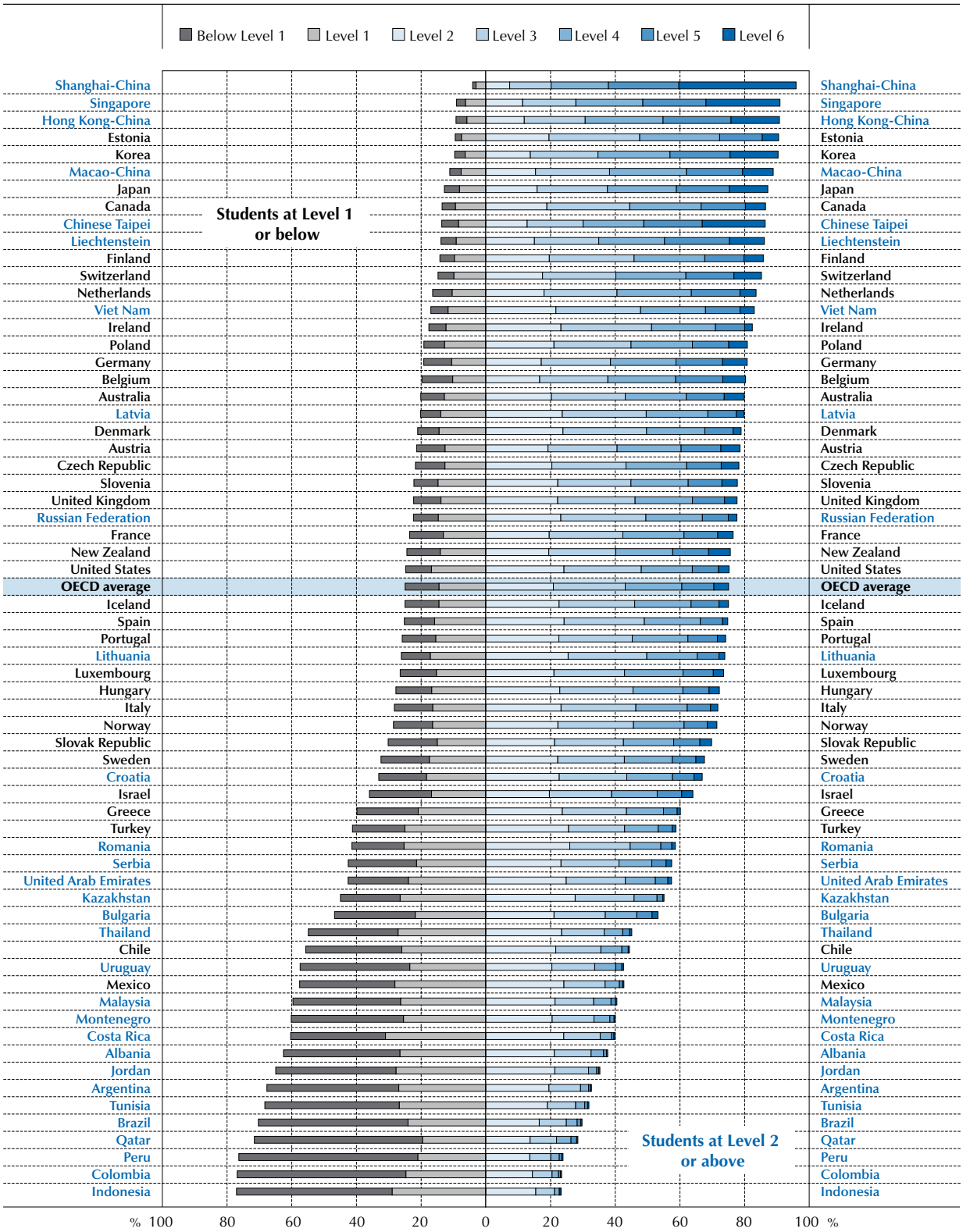
Level	Percentage of students able to perform tasks at each level or above (OECD average)	What students can do
6	4.5%	At Level 6, students use significant insight, abstract reasoning and argumentation skills, and technical knowledge and conventions to solve problems involving relationships among variables and to generalise mathematical solutions to complex real-world problems. They can create and use an algebraic model of a functional relationship incorporating multiple quantities. They apply deep geometrical insight to work with complex patterns; and they can use complex proportional reasoning, and complex calculations with percentages to explore quantitative relationships and change.
5	14.5%	At Level 5, students can solve problems by using algebraic and other formal mathematical models, including in scientific contexts. They can use complex and multi-step problem-solving skills, and can reflect on and communicate reasoning and arguments, for example in evaluating and using a formula to predict the quantitative effect of change in one variable on another. They can use complex proportional reasoning, for example to work with rates, and they can work competently with formulae and with expressions including inequalities.
4	31.9%	Students at Level 4 can understand and work with multiple representations, including algebraic models of real-world situations. They can reason about simple functional relationships between variables, going beyond individual data points to identifying simple underlying patterns. They can use some flexibility in interpretation and reasoning about functional relationships (for example, in exploring distance-time-speed relationships) and can modify a functional model or graph to fit a specified change to the situation; and they can communicate the resulting explanations and arguments.
3	54.2%	At Level 3, students can solve problems that involve working with information from two related representations (text, graph, table, formulae), requiring some interpretation, and use reasoning in familiar contexts. They show some ability to communicate their arguments. Students at this level can make a straightforward modification to a given functional model to fit a new situation; and they use a range of calculation procedures to solve problems, including ordering data, time difference calculations, substitution of values into a formula, or linear interpolation.
2	75.1%	Students at Level 2 can locate relevant information about a relationship from data provided in a table or graph and make direct comparisons, for example, to match given graphs to a specified change process. They can reason about the basic meaning of simple relationships expressed in text or numeric form by linking text with a single representation of a relationship (graph, table, simple formula), and can correctly substitute numbers into simple formulae, sometimes expressed in words. At this level, student can use interpretation and reasoning skills in a straightforward context involving linked quantities.
1	89.6%	Students at Level 1 can evaluate single given statements about a relationship expressed clearly and directly in a formula, or in a graph. Their ability to reason about relationships, and to change in those relationships, is limited to simple expressions and to those located in familiar situations. They may apply simple calculations needed to solve problems related to clearly expressed relationships.



■ Figure I.2.42 ■

Proficiency in the mathematics subscale *change and relationships*

Percentage of students at each level of mathematics proficiency



Countries and economies are ranked in descending order of the percentage of students at Levels 2, 3, 4, 5 and 6.

Source: OECD, PISA 2012 Database, Table I.2.14.

StatLink http://dx.doi.org/10.1787/888932935572



■ Figure I.2.43 ■

Comparing countries' and economies' performance on the mathematics subscale *space and shape*

Statistically significantly **above** the OECD average
Not statistically significantly different from the OECD average
Statistically significantly **below** the OECD average

Mean score	Comparison country/economy	Countries/economies whose mean score is NOT statistically significantly different from that comparison country's/economy's score
649	Shanghai-China	
592	Chinese Taipei	
580	Singapore	Korea
573	Korea	Singapore, Hong Kong-China
567	Hong Kong-China	Korea, Japan
558	Macao-China	Japan
558	Japan	Hong Kong-China, Macao-China
544	Switzerland	Liechtenstein
539	Liechtenstein	Switzerland
524	Poland	
513	Estonia	Canada, Belgium, Netherlands, Germany, Viet Nam, Finland
510	Canada	Estonia, Belgium, Netherlands, Germany, Viet Nam, Finland
509	Belgium	Estonia, Canada, Netherlands, Germany, Viet Nam, Finland
507	Netherlands	Estonia, Canada, Belgium, Germany, Viet Nam, Finland, Slovenia, Austria, Czech Republic
507	Germany	Estonia, Canada, Belgium, Netherlands, Viet Nam, Finland, Slovenia, Austria, Czech Republic
507	Viet Nam	Estonia, Canada, Belgium, Netherlands, Germany, Finland, Slovenia, Austria, Czech Republic, Latvia, Denmark, Australia, Russian Federation
507	Finland	Estonia, Canada, Belgium, Netherlands, Germany, Viet Nam, Slovenia, Austria
503	Slovenia	Netherlands, Germany, Viet Nam, Finland, Austria, Czech Republic, Latvia, Russian Federation
501	Austria	Netherlands, Germany, Viet Nam, Finland, Slovenia, Czech Republic, Latvia, Denmark, Australia, Russian Federation, Portugal
499	Czech Republic	Netherlands, Germany, Viet Nam, Slovenia, Austria, Latvia, Denmark, Australia, Russian Federation, Portugal, New Zealand, Slovak Republic
497	Latvia	Viet Nam, Slovenia, Austria, Czech Republic, Denmark, Australia, Russian Federation, Portugal, New Zealand, Slovak Republic, France
497	Denmark	Viet Nam, Austria, Czech Republic, Latvia, Australia, Russian Federation, Portugal, New Zealand, Slovak Republic
497	Australia	Viet Nam, Austria, Czech Republic, Latvia, Denmark, Russian Federation, Portugal, New Zealand, Slovak Republic
496	Russian Federation	Viet Nam, Slovenia, Austria, Czech Republic, Latvia, Denmark, Australia, Portugal, New Zealand, Slovak Republic, France, Iceland, Italy
491	Portugal	Austria, Czech Republic, Latvia, Denmark, Australia, Russian Federation, New Zealand, Slovak Republic, France, Iceland, Italy, Luxembourg
491	New Zealand	Czech Republic, Latvia, Denmark, Australia, Russian Federation, Portugal, Slovak Republic, France, Iceland, Italy, Luxembourg
490	Slovak Republic	Czech Republic, Latvia, Denmark, Australia, Russian Federation, Portugal, New Zealand, France, Iceland, Italy, Luxembourg, Norway
489	France	Latvia, Russian Federation, Portugal, New Zealand, Slovak Republic, Iceland, Italy, Luxembourg
489	Iceland	Russian Federation, Portugal, New Zealand, Slovak Republic, France, Italy, Luxembourg
487	Italy	Russian Federation, Portugal, New Zealand, Slovak Republic, France, Iceland Luxembourg, Norway
486	Luxembourg	Portugal, New Zealand, Slovak Republic, France, Iceland, Italy, Norway
480	Norway	Slovak Republic, Italy, Luxembourg, Ireland, Spain, United Kingdom, Hungary, Lithuania
478	Ireland	Norway, Spain, United Kingdom, Hungary, Lithuania
477	Spain	Norway, Ireland, United Kingdom, Hungary, Lithuania
475	United Kingdom	Norway, Ireland, Spain, Hungary, Lithuania, Sweden
474	Hungary	Norway, Ireland, Spain, United Kingdom, Lithuania, Sweden, United States
472	Lithuania	Norway, Ireland, Spain, United Kingdom, Hungary, Sweden, United States
469	Sweden	United Kingdom, Hungary, Lithuania, United States, Croatia
463	United States	Hungary, Lithuania, Sweden, Croatia
460	Croatia	Sweden, United States, Kazakhstan, Israel
450	Kazakhstan	Croatia, Israel, Romania, Serbia, Turkey, Bulgaria
449	Israel	Croatia, Kazakhstan, Romania, Serbia, Turkey, Bulgaria
447	Romania	Kazakhstan, Israel, Serbia, Turkey, Bulgaria
446	Serbia	Kazakhstan, Israel, Romania, Turkey, Bulgaria
443	Turkey	Kazakhstan, Israel, Romania, Serbia, Bulgaria, Greece, Cyprus[1, 2], Malaysia, Thailand
442	Bulgaria	Kazakhstan, Israel, Romania, Serbia, Turkey, Greece, Cyprus[1, 2], Malaysia, Thailand
436	Greece	Turkey, Bulgaria, Cyprus[1, 2], Malaysia, Thailand
436	Cyprus[1, 2]	Turkey, Bulgaria, Greece, Malaysia, Thailand
434	Malaysia	Turkey, Bulgaria, Greece, Cyprus[1, 2], Thailand
432	Thailand	Turkey, Bulgaria, Greece, Cyprus[1, 2], Malaysia, United Arab Emirates
425	United Arab Emirates	Thailand, Chile
419	Chile	United Arab Emirates, Albania, Uruguay, Mexico
418	Albania	Chile, Uruguay, Mexico, Montenegro
413	Uruguay	Chile, Albania, Mexico, Montenegro
413	Mexico	Chile, Albania, Uruguay, Montenegro
412	Montenegro	Albania, Uruguay, Mexico
397	Costa Rica	
385	Jordan	Argentina, Indonesia, Tunisia, Brazil, Qatar
385	Argentina	Jordan, Indonesia, Tunisia, Brazil, Qatar
383	Indonesia	Jordan, Argentina, Tunisia, Brazil, Qatar
382	Tunisia	Jordan, Argentina, Indonesia, Brazil, Qatar
381	Brazil	Jordan, Argentina, Indonesia, Tunisia, Qatar
380	Qatar	Jordan, Argentina, Indonesia, Tunisia, Brazil
370	Peru	Colombia
369	Colombia	Peru

1. Note by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".
2. Note by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Source: OECD, PISA 2012 Database.
StatLink http://dx.doi.org/10.1787/888932935572



Student performance on the mathematics subscale space and shape

PISA items in this category emphasise spatial relationships among objects, and measurement and other geometric aspects of the spatial world. Items listed in Figure I.2.9 that have been classified in this category are GARAGE Question 1 and Question 2, and REVOLVING DOOR Question 1 and Question 2. The questions in GARAGE involve spatial reasoning (Question 1), and working with measurements and area calculations with a model of a real-world object. REVOLVING DOOR involves knowledge of angle relationships, spatial reasoning and some calculations with circle geometry.

Across OECD countries, the average score attained on the *space and shape* subscale is 490 points. Top-performing countries and economies on this subscale are Shanghai-China, Chinese Taipei, Singapore, Korea, Hong Kong-China, Macao-China, Japan, Switzerland, Liechtenstein and Poland (Figure I.2.43 and Table I.2.19). The average score among OECD countries on this subscale is four points lower than the average score on the overall mathematics proficiency scale (Figure I.2.52). However, this difference varies widely among countries.

■ Figure I.2.44 ■

Summary descriptions of the six proficiency levels for the mathematical subscale *space and shape*

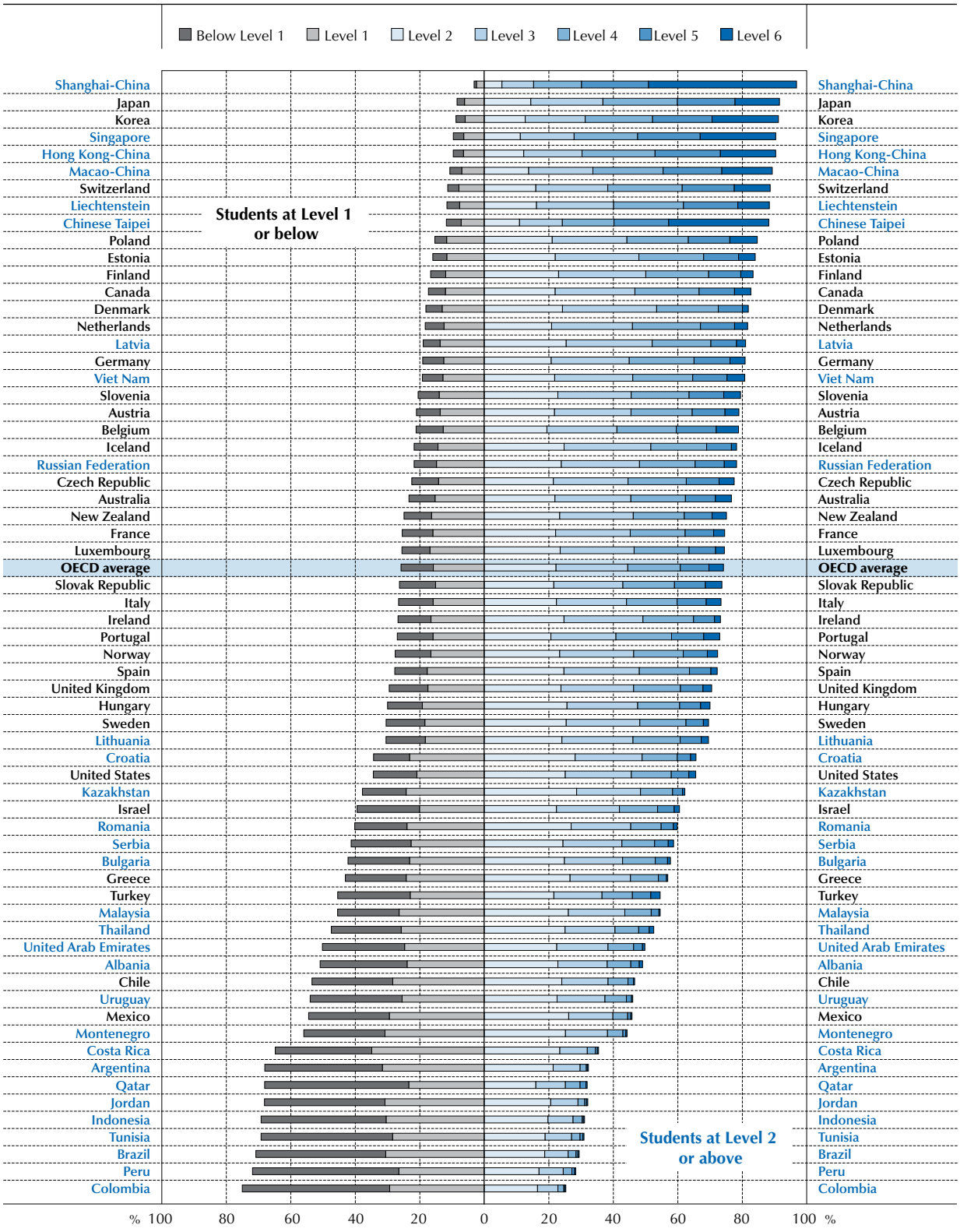
Level	Percentage of students able to perform tasks at each level or above (OECD average)	What students can do
6	4.5%	At Level 6, students can solve complex problems involving multiple representations or calculations; identify, extract, and link relevant information, for example by extracting relevant dimensions from a diagram or map and using scale to calculate an area or distance; use spatial reasoning, significant insight and reflection, for example, by interpreting text and related contextual material to formulate a useful geometric model and applying it while taking into account contextual constraints; recall and apply relevant procedural knowledge from their base of mathematical knowledge, such as in circle geometry, trigonometry, Pythagoras's rule, or area and volume formulae to solve problems; and can generalise results and findings, communicate solutions and provide justifications and argumentation.
5	13.4%	At Level 5, students can solve problems that require appropriate assumptions to be made, or that involve reasoning from assumptions provided while taking into account explicitly stated constraints, for example, in exploring and analysing the layout of a room and the furniture it contains. They solve problems using theorems or procedural knowledge, such as symmetry properties, or similar triangle properties or formulae including those for calculating area, perimeter or volume of familiar shapes. They use well-developed spatial reasoning, argument and insight to infer relevant conclusions and to interpret and link different representations, for example to identify a direction or location on a map from textual information.
4	29.7%	Students at Level 4 can solve problems by using basic mathematical knowledge, such as angle and side-length relationships in triangles, and by doing so in a way that involves multistep, visual and spatial reasoning, and argumentation in unfamiliar contexts. They can link and integrate different representations, for example to analyse the structure of a three-dimensional object based on two different perspectives of it; and can compare objects using geometric properties.
3	51.9%	At Level 3, students can solve problems that involve elementary visual and spatial reasoning in familiar contexts, such as calculating a distance or a direction from a map or a GPS device; link different representations of familiar objects or appreciate properties of objects under some simple specified transformation; and devise simple strategies and apply basic properties of triangles and circles. They can use appropriate supporting calculation techniques, such as scale conversions needed to analyse distances on a map.
2	74.2%	At Level 2, students can solve problems involving a single familiar geometric representation (for example, a diagram or other graphic) by comprehending and drawing conclusions in relation to clearly presented basic geometric properties and associated constraints. They can also evaluate and compare spatial characteristics of familiar objects in a situation where given constraints apply, such as comparing the height or circumference of two cylinders having the same surface area, or deciding whether a given shape can be dissected to produce another specified shape.
1	90.0%	Students at Level 1 can recognise and solve simple problems in a familiar context using pictures or drawings of familiar geometric objects and applying basic spatial skills, such as recognising elementary symmetry properties, comparing lengths or angle sizes, or using procedures, such as dissection of shapes.



■ Figure I.2.45 ■

Proficiency in the mathematics subscale *space and shape*

Percentage of students at each level of mathematics proficiency



Countries and economies are ranked in descending order of the percentage of students at Levels 2, 3, 4, 5 and 6.

Source: OECD, PISA 2012 Database, Table I.2.17.

StatLink http://dx.doi.org/10.1787/888932935572



Ten countries and economies score more than 10 points higher on the *space and shape* subscale than on their overall proficiency scale. These differences are quiet large in some countries, with Shanghai-China showing the largest difference (36 points), followed by Chinese Taipei (32 points), Albania (23 points), Japan (21 points), Macao-China (20 points), Korea (19 points), Kazakhstan (18 points), Malaysia (14 points), the Russian Federation (14 points) and Switzerland (13 points). Five of the best-performing countries and economies on the mathematics scale, Shanghai-China, Chinese Taipei, Korea, Macao-China and Japan, are included in this group.

Conversely, nine countries score at least 10 points lower on the *space and shape* subscale than on the overall proficiency scale. Ireland shows the largest difference (24 points), while in the eight other countries, differences range from 10 to 20 points: the United Kingdom (19 points), the United States (18 points), Israel (17 points), Greece (17 points), the Netherlands (16 points), Finland (12 points), Croatia (11 points) and Brazil (11 points) (Figure I.2.52).

Figure I.2.44 describes the six levels of proficiency on the mathematics subscale *space and shape* and the distribution of students among these six proficiency levels is shown in Figure I.2.45.

Student performance on the mathematics subscale quantity

PISA items in this category emphasise comparisons and calculations based on quantitative relationships and numeric properties of objects and phenomena. Items listed in Figure I.2.9 that have been classified in this category are WHICH CAR*?* Question 2 and Question 3, CLIMBING MOUNT FUJI Question 1 and Question 3, and REVOLVING DOOR Question 3. The questions in WHICH CAR*?* involve reasoning about quantities of given properties of different objects, and computation with percentages. CLIMBING MOUNT FUJI also involves calculations with given quantities. REVOLVING DOOR Question 3 involves reasoning and calculations using given quantitative information.

The average score on the *quantity* subscale is 495 points. The ten top-performing countries and economies on this subscale are Shanghai-China, Singapore, Hong Kong-China, Chinese Taipei, Liechtenstein, Korea, the Netherlands, Switzerland, Macao-China and Finland (Figure I.2.46 and Table I.2.22).

The average score among OECD countries on the *quantity* subscale is one point higher than the average score on the overall mathematics proficiency scale (Figure I.2.52). Twenty-two countries and economies have an average *quantity* score that is within about three score points of their average score on the overall mathematics proficiency scale.

Israel scores 13 points higher on the *quantity* subscale than on the overall mathematics scale, and seven other countries also score higher on this subscale than on the main scale by at least five points: Croatia (9 points), the Netherlands (9 points), Finland (8 points), Serbia (7 points), Spain (7 points), the Czech Republic (6 points) and Italy (5 points).

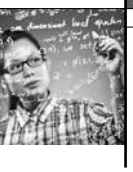
Shanghai-China scores 22 points lower on the *quantity* subscale than on the main proficiency scale, and Jordan scores 19 points lower. Japan (18 points), Chinese Taipei (16 points), Korea (16 points), Indonesia (13 points) and Malaysia (11 points) score at least 10 points lower on the subscale than on the main scale.

Figure I.2.47 describes the six levels of proficiency on the mathematics subscale *quantity* and the distribution of students among these six proficiency levels is shown in Figure I.2.48.

Student performance on the mathematics subscale uncertainty and data

PISA items in this category emphasise interpreting and working with data and with different data presentation forms, and problems involving probabilistic reasoning. Items listed in Figure I.2.9 that have been classified in this category are WHICH CAR*?* Question 1, and CHARTS Question 1, Question 2 and Question 3. The question in WHICH CAR*?* involves interpreting data in a two-way table to identify an object that satisfies various criteria. The questions in CHARTS involve interpreting a bar chart and understanding the relationships depicted in the chart.

Across OECD countries, the average score on the *uncertainty and data* subscale is 493 points. Top-performing countries and economies on this subscale are Shanghai-China, Singapore, Hong Kong-China, Chinese Taipei, Korea, the Netherlands, Japan, Liechtenstein, Macao-China and Switzerland (Figure I.2.49 and Table I.2.25). The average score among OECD countries on the *uncertainty and data* subscale is one point lower than the average score on the overall mathematics scale, but the difference between the two sets of scores varies widely among countries (Figure I.2.52).



■ Figure I.2.46 ■

Comparing countries' and economies' performance on the mathematics subscale *quantity*

Statistically significantly **above** the OECD average
Not statistically significantly different from the OECD average
Statistically significantly **below** the OECD average

Mean score	Comparison country/economy	Countries/economies whose mean score is NOT statistically significantly different from that comparison country's/economy's score
591	Shanghai-China	
569	Singapore	Hong Kong-China
566	Hong Kong-China	Singapore
543	Chinese Taipei	Liechtenstein, Korea
538	Liechtenstein	Chinese Taipei, Korea, Netherlands, Switzerland, Macao-China
537	Korea	Chinese Taipei, Liechtenstein, Netherlands, Switzerland, Macao-China
532	Netherlands	Liechtenstein, Korea, Switzerland, Macao-China, Finland, Estonia
531	Switzerland	Liechtenstein, Korea, Netherlands, Macao-China, Finland, Estonia
531	Macao-China	Liechtenstein, Korea, Netherlands, Switzerland, Finland
527	Finland	Netherlands, Switzerland, Macao-China, Estonia
525	Estonia	Netherlands, Switzerland, Finland, Belgium, Poland, Japan
519	Belgium	Estonia, Poland, Japan, Germany, Canada, Viet Nam
519	Poland	Estonia, Belgium, Japan, Germany, Canada, Austria, Viet Nam
518	Japan	Estonia, Belgium, Poland, Germany, Canada, Austria, Viet Nam
517	Germany	Belgium, Poland, Japan, Canada, Austria, Viet Nam
515	Canada	Belgium, Poland, Japan, Germany, Austria, Viet Nam
510	Austria	Poland, Japan, Germany, Canada, Viet Nam, Ireland, Czech Republic
509	Viet Nam	Belgium, Poland, Japan, Germany, Canada, Austria, Ireland, Czech Republic, Slovenia, Denmark, Australia, New Zealand
505	Ireland	Austria, Viet Nam, Czech Republic, Slovenia, Denmark, Australia, New Zealand
505	Czech Republic	Austria, Viet Nam, Ireland, Slovenia, Denmark, Australia, New Zealand
504	Slovenia	Viet Nam, Ireland, Czech Republic, Denmark, Australia
502	Denmark	Viet Nam, Ireland, Czech Republic, Slovenia, Australia, New Zealand, Iceland, France, United Kingdom
500	Australia	Viet Nam, Ireland, Czech Republic, Slovenia, Denmark, New Zealand, Iceland, France, United Kingdom
499	New Zealand	Viet Nam, Ireland, Czech Republic, Denmark, Australia, Iceland, France, Luxembourg, United Kingdom, Norway
496	Iceland	Denmark, Australia, New Zealand, France, Luxembourg, United Kingdom, Norway, Spain
496	France	Denmark, Australia, New Zealand, Iceland, Luxembourg, United Kingdom, Norway, Spain, Italy
495	Luxembourg	New Zealand, Iceland, France, United Kingdom, Norway, Spain, Italy
494	United Kingdom	Denmark, Australia, New Zealand, Iceland, France, Luxembourg, Norway, Spain, Italy, Latvia, Slovak Republic
492	Norway	New Zealand, Iceland, France, Luxembourg, United Kingdom, Spain, Italy, Latvia, Slovak Republic
491	Spain	Iceland, France, Luxembourg, United Kingdom, Norway, Italy, Latvia, Slovak Republic
491	Italy	France, Luxembourg, United Kingdom, Norway, Spain, Latvia, Slovak Republic
487	Latvia	United Kingdom, Norway, Spain, Italy, Slovak Republic, Lithuania, Sweden, Portugal, Croatia, Israel, United States
486	Slovak Republic	United Kingdom, Norway, Spain, Italy, Latvia, Lithuania, Sweden, Portugal, Croatia, Israel, Russian Federation, United States
483	Lithuania	Latvia, Slovak Republic, Sweden, Portugal, Croatia, Israel, Russian Federation, United States, Hungary
482	Sweden	Latvia, Slovak Republic, Lithuania, Portugal, Croatia, Israel, Russian Federation, United States, Hungary
481	Portugal	Latvia, Slovak Republic, Lithuania, Sweden, Croatia, Israel, Russian Federation, United States, Hungary
480	Croatia	Latvia, Slovak Republic, Lithuania, Sweden, Portugal, Israel, Russian Federation, United States, Hungary
480	Israel	Latvia, Slovak Republic, Lithuania, Sweden, Portugal, Croatia, Russian Federation, United States, Hungary
478	Russian Federation	Slovak Republic, Lithuania, Sweden, Portugal, Croatia, Israel, United States, Hungary
478	United States	Latvia, Slovak Republic, Lithuania, Sweden, Portugal, Croatia, Israel, Russian Federation, Hungary
476	Hungary	Lithuania, Sweden, Portugal, Croatia, Israel, Russian Federation, United States
456	Serbia	Greece
455	Greece	Serbia
443	Romania	Bulgaria, Turkey, Cyprus[1, 2]
443	Bulgaria	Romania, Turkey, Cyprus[1, 2]
442	Turkey	Romania, Bulgaria, Cyprus[1, 2], United Arab Emirates
439	Cyprus[1, 2]	Romania, Bulgaria, Turkey
431	United Arab Emirates	Turkey, Kazakhstan
428	Kazakhstan	United Arab Emirates, Chile, Thailand
421	Chile	Kazakhstan, Thailand
419	Thailand	Kazakhstan, Chile, Mexico, Uruguay, Malaysia
414	Mexico	Thailand, Uruguay, Malaysia, Costa Rica
411	Uruguay	Thailand, Mexico, Malaysia, Montenegro, Costa Rica
409	Malaysia	Thailand, Mexico, Uruguay, Montenegro, Costa Rica
409	Montenegro	Uruguay, Malaysia, Costa Rica
406	Costa Rica	Mexico, Uruguay, Malaysia, Montenegro
393	Brazil	Argentina, Albania
391	Argentina	Brazil, Albania
386	Albania	Brazil, Argentina, Tunisia
378	Tunisia	Albania, Colombia, Qatar, Jordan
375	Colombia	Tunisia, Qatar, Jordan, Peru
371	Qatar	Tunisia, Colombia, Jordan, Peru, Indonesia
367	Jordan	Tunisia, Colombia, Qatar, Peru, Indonesia
365	Peru	Colombia, Qatar, Jordan, Indonesia
362	Indonesia	Qatar, Jordan, Peru

1. Note by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".
2. Note by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Source: OECD, PISA 2012 Database.
StatLink http://dx.doi.org/10.1787/888932935572



■ Figure I.2.47 ■

Summary descriptions of the six proficiency levels on the mathematical subscale *quantity*

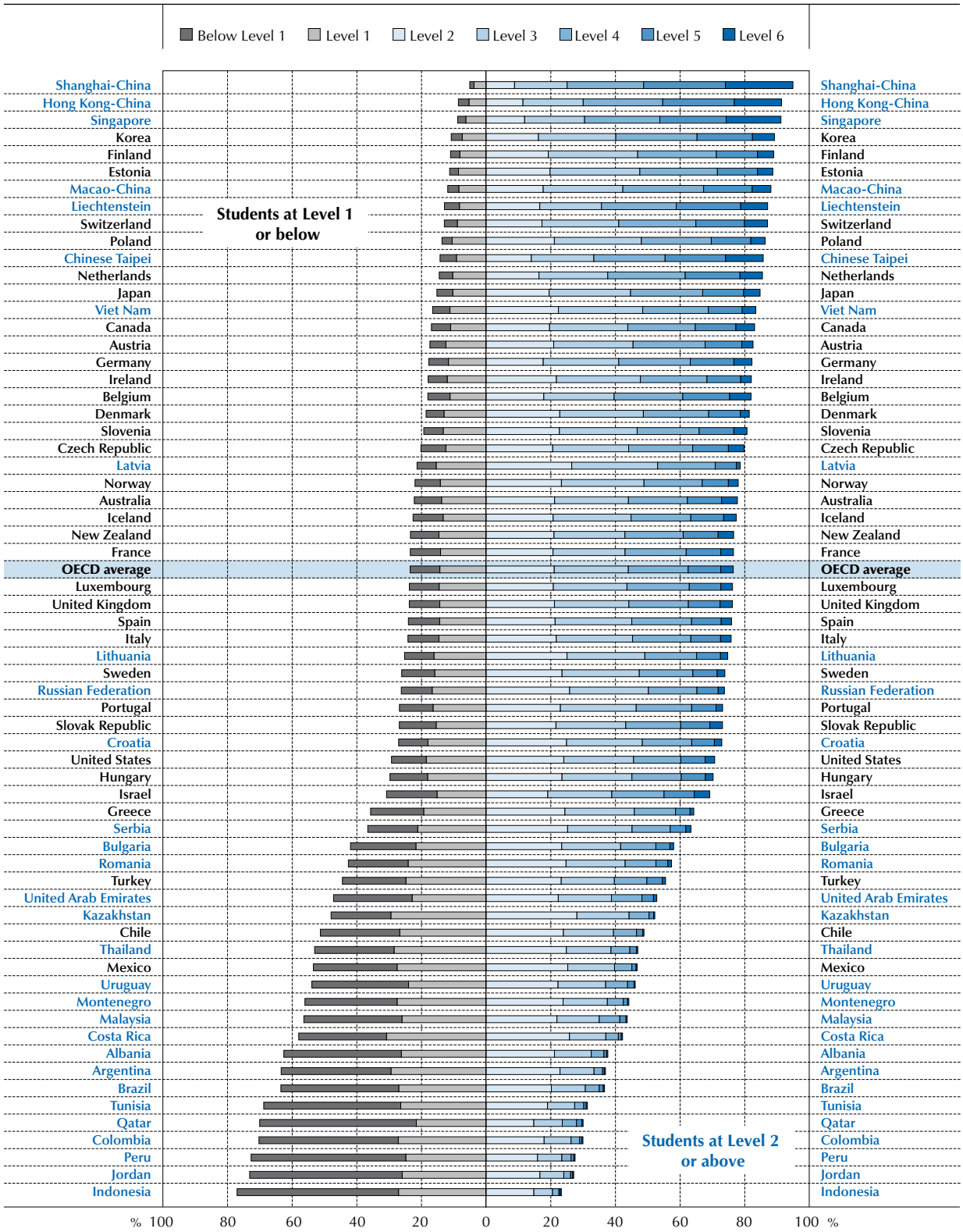
Level	Percentage of students able to perform tasks at each level or above (OECD average)	What students can do
6	3.9%	At Level 6 and above, students conceptualise and work with models of complex quantitative processes and relationships; devise strategies for solving problems; formulate conclusions, arguments and precise explanations; interpret and understand complex information, and link multiple complex information sources; interpret graphical information and apply reasoning to identify, model and apply a numeric pattern. They can analyse and evaluate interpretive statements based on data provided; work with formal and symbolic expressions; plan and implement sequential calculations in complex and unfamiliar contexts, including working with large numbers, for example to perform a sequence of currency conversions, entering values correctly and rounding results. Students at this level work accurately with decimal fractions; they use advanced reasoning concerning proportions, geometric representations of quantities, combinatorics and integer number relationships; and they interpret and understand formal expressions of relationships among numbers, including in a scientific context.
5	14.0%	At Level 5, students can formulate comparison models and compare outcomes to determine highest price, and interpret complex information about real-world situations (including graphs, drawings and complex tables, for example two graphs using different scales). They can generate data for two variables and evaluate propositions about the relationship between them. Students can communicate reasoning and argument; recognise the significance of numbers to draw inferences; and provide a written argument evaluating a proposition based on data provided. They can make an estimation using knowledge about daily life; calculate relative and/or absolute change; calculate an average; calculate relative and/or absolute difference, including percentage difference, given raw difference data; and can convert units (for example calculations involving areas in different units).
4	32.5%	At Level 4, students can interpret complex instructions and situations; relate text-based numerical information to a graphic representation; identify and use quantitative information from multiple sources; deduce system rules from unfamiliar representations; formulate a simple numeric model; set up comparison models; and explain their results. They can carry out accurate and more complex or repeated calculations, such as adding 13 given times in hour/minute format; carry out time calculations using given data on distance and speed of a journey; perform simple division of large multiples in context; carry out calculations involving a sequence of steps; and accurately apply a given numeric algorithm involving a number of steps. Students at this level can perform calculations involving proportional reasoning, divisibility or percentages in simple models of complex situations.
3	55.4%	At Level 3, students can use basic problem-solving processes, including devising a simple strategy to test scenarios, understand and work with given constraints, use trial and error, and use simple reasoning in familiar contexts. At this level students can interpret a text description of a sequential calculation process, and correctly implement the process; identify and extract data presented directly in textual explanations of unfamiliar data; interpret text and diagrams describing a simple pattern; and perform calculations, including working with large numbers, calculations with speed and time, conversion of units (for example from an annual rate to a daily rate). They understand place value involving mixed 2- and 3-decimal values and including working with prices; can order a small series of (4) decimal values; calculate percentages of up to 3-digit numbers; and apply calculation rules given in natural language.
2	76.5%	At Level 2, students can interpret simple tables to identify and extract relevant quantitative information, and can interpret a simple quantitative model (such as a proportional relationship) and apply it using basic arithmetic calculations. They can identify the links between relevant textual information and tabular data to solve word problems; interpret and apply simple models involving quantitative relationships; identify the simple calculation required to solve a straight-forward problem; carry out simple calculations involving basic arithmetic operations; order 2- and 3-digit whole numbers and decimal numbers with one or two decimal places; and calculate percentages.
1	90.8%	At Level 1, students can solve basic problems in which relevant information is explicitly presented, and the situation is straightforward and very limited in scope. Students at this level can handle situations where the required computational activity is obvious and the mathematical task is basic, such as a one-step simple arithmetic operation, or to total the columns of a simple table and compare the results. They can read and interpret a simple table of numbers; extract data and perform simple calculations; use a calculator to generate relevant data; and extrapolate from the data generated, using reasoning and calculation with a simple linear model.



■ Figure I.2.48 ■

Proficiency in the mathematics subscale *quantity*

Percentage of students at each level of mathematics proficiency



Countries and economies are ranked in descending order of the percentage of students at Levels 2, 3, 4, 5 and 6.
Source: OECD, PISA 2012 Database, Table I.2.20.
StatLink http://dx.doi.org/10.1787/888932935572



■ Figure I.2.49 ■

Comparing countries' and economies' performance on the mathematics subscale *uncertainty and data*

Statistically significantly **above** the OECD average
Not statistically significantly different from the OECD average
Statistically significantly **below** the OECD average

Mean score	Comparison country/economy	Countries/economies whose mean score is NOT statistically significantly different from that comparison country's/economy's score
592	Shanghai-China	
559	Singapore	Hong Kong-China
553	Hong Kong-China	Singapore, Chinese Taipei
549	Chinese Taipei	Hong Kong-China
538	Korea	Netherlands, Japan
532	Netherlands	Korea, Japan, Liechtenstein, Macao-China
528	Japan	Korea, Netherlands, Liechtenstein, Macao-China, Switzerland, Viet Nam
526	Liechtenstein	Netherlands, Japan, Macao-China, Switzerland, Viet Nam, Finland, Poland
525	Macao-China	Netherlands, Japan, Liechtenstein, Switzerland, Viet Nam
522	Switzerland	Japan, Liechtenstein, Macao-China, Viet Nam, Finland, Poland, Canada
519	Viet Nam	Japan, Liechtenstein, Macao-China, Switzerland, Finland, Poland, Canada, Estonia
519	Finland	Liechtenstein, Switzerland, Viet Nam, Poland, Canada
517	Poland	Liechtenstein, Switzerland, Viet Nam, Finland, Canada, Estonia, Germany, Ireland
516	Canada	Switzerland, Viet Nam, Finland, Poland
510	Estonia	Viet Nam, Poland, Germany, Ireland, Belgium, Australia, New Zealand, Denmark
509	Germany	Poland, Estonia, Ireland, Belgium, Australia, New Zealand, Denmark, United Kingdom
509	Ireland	Poland, Estonia, Germany, Belgium, Australia, New Zealand, Denmark, United Kingdom
508	Belgium	Estonia, Germany, Ireland, Australia, New Zealand, Denmark, United Kingdom
508	Australia	Estonia, Germany, Ireland, Belgium, New Zealand, Denmark, United Kingdom
506	New Zealand	Estonia, Germany, Ireland, Belgium, Australia, Denmark, United Kingdom, Austria
505	Denmark	Estonia, Germany, Ireland, Belgium, Australia, New Zealand, United Kingdom, Austria
502	United Kingdom	Germany, Ireland, Belgium, Australia, New Zealand, Denmark, Austria, Norway, Iceland
499	Austria	New Zealand, Denmark, United Kingdom, Norway, Slovenia, Iceland, France
497	Norway	United Kingdom, Austria, Slovenia, Iceland, France, United States
496	Slovenia	Austria, Norway, Iceland, France
496	Iceland	United Kingdom, Austria, Norway, Slovenia, France, United States
492	France	Austria, Norway, Slovenia, Iceland, Czech Republic, United States, Spain, Portugal
488	Czech Republic	France, United States, Spain, Portugal, Luxembourg, Sweden, Italy
488	United States	Norway, Iceland, France, Czech Republic, Spain, Portugal, Luxembourg, Sweden, Italy
487	Spain	France, Czech Republic, United States, Portugal, Luxembourg, Sweden, Italy
486	Portugal	France, Czech Republic, United States, Spain, Luxembourg, Sweden, Italy, Latvia
483	Luxembourg	Czech Republic, United States, Spain, Portugal, Sweden, Italy, Latvia
483	Sweden	Czech Republic, United States, Spain, Portugal, Luxembourg, Italy, Latvia, Hungary
482	Italy	Czech Republic, United States, Spain, Portugal, Luxembourg, Sweden, Latvia, Hungary
478	Latvia	Portugal, Luxembourg, Sweden, Italy, Hungary, Lithuania, Slovak Republic
476	Hungary	Sweden, Italy, Latvia, Lithuania, Slovak Republic, Croatia, Israel
474	Lithuania	Latvia, Hungary, Slovak Republic, Croatia, Israel
472	Slovak Republic	Latvia, Hungary, Lithuania, Croatia, Israel, Russian Federation
468	Croatia	Hungary, Lithuania, Slovak Republic, Israel, Russian Federation, Greece
465	Israel	Hungary, Lithuania, Slovak Republic, Croatia, Russian Federation, Greece
463	Russian Federation	Slovak Republic, Croatia, Israel, Greece
460	Greece	Croatia, Israel, Russian Federation
448	Serbia	Turkey, Cyprus[1, 2]
447	Turkey	Serbia, Cyprus[1, 2], Romania
442	Cyprus[1, 2]	Serbia, Turkey, Romania
437	Romania	Turkey, Cyprus[1, 2], Thailand, United Arab Emirates, Bulgaria, Chile
433	Thailand	Romania, United Arab Emirates, Bulgaria, Chile
432	United Arab Emirates	Romania, Thailand, Bulgaria, Chile
432	Bulgaria	Romania, Thailand, United Arab Emirates, Chile, Malaysia
430	Chile	Romania, Thailand, United Arab Emirates, Bulgaria
422	Malaysia	Bulgaria, Costa Rica
415	Montenegro	Costa Rica, Kazakhstan, Mexico
414	Costa Rica	Malaysia, Montenegro, Kazakhstan, Mexico, Uruguay
414	Kazakhstan	Montenegro, Costa Rica, Mexico, Uruguay
413	Mexico	Montenegro, Costa Rica, Kazakhstan
407	Uruguay	Costa Rica, Kazakhstan, Brazil, Tunisia
402	Brazil	Uruguay, Tunisia
399	Tunisia	Uruguay, Brazil, Jordan
394	Jordan	Tunisia, Argentina, Colombia, Albania, Indonesia
389	Argentina	Jordan, Colombia, Albania, Indonesia, Qatar
388	Colombia	Jordan, Argentina, Albania, Indonesia
386	Albania	Jordan, Argentina, Colombia, Indonesia, Qatar
384	Indonesia	Jordan, Argentina, Colombia, Albania, Qatar
382	Qatar	Argentina, Albania, Indonesia
373	Peru	

1. Note by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".
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Source: OECD, PISA 2012 Database.
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Colombia (12 points), Tunisia (12 points) and Brazil (11 points) score more than 10 points higher on the subscale than on the mathematics proficiency scale. Twenty other countries scores between three and ten points lower on this subscale than on the overall proficiency scale.

Eleven countries and economies score 10 points or more lower on the *uncertainty and data* subscale than they do on the mathematics proficiency scale. Shanghai-China (21 points lower), the Russian Federation (19 points lower) and Kazakhstan (18 points lower) show the largest differences. Korea (16 points), Singapore (14 points), Macao-China (13 points), Latvia (12 points), Chinese Taipei (11 points), the Czech Republic (11 points), Estonia (10 points) and the Slovak Republic (10 points) complete this group.

Figure I.2.50 describes the six levels of proficiency in the mathematics subscale *uncertainty and data* and the distribution of students among these six proficiency levels is shown in Figure I.2.51.

■ Figure I.2.50 ■

Summary descriptions of the six proficiency levels on the mathematical subscale *uncertainty and data*

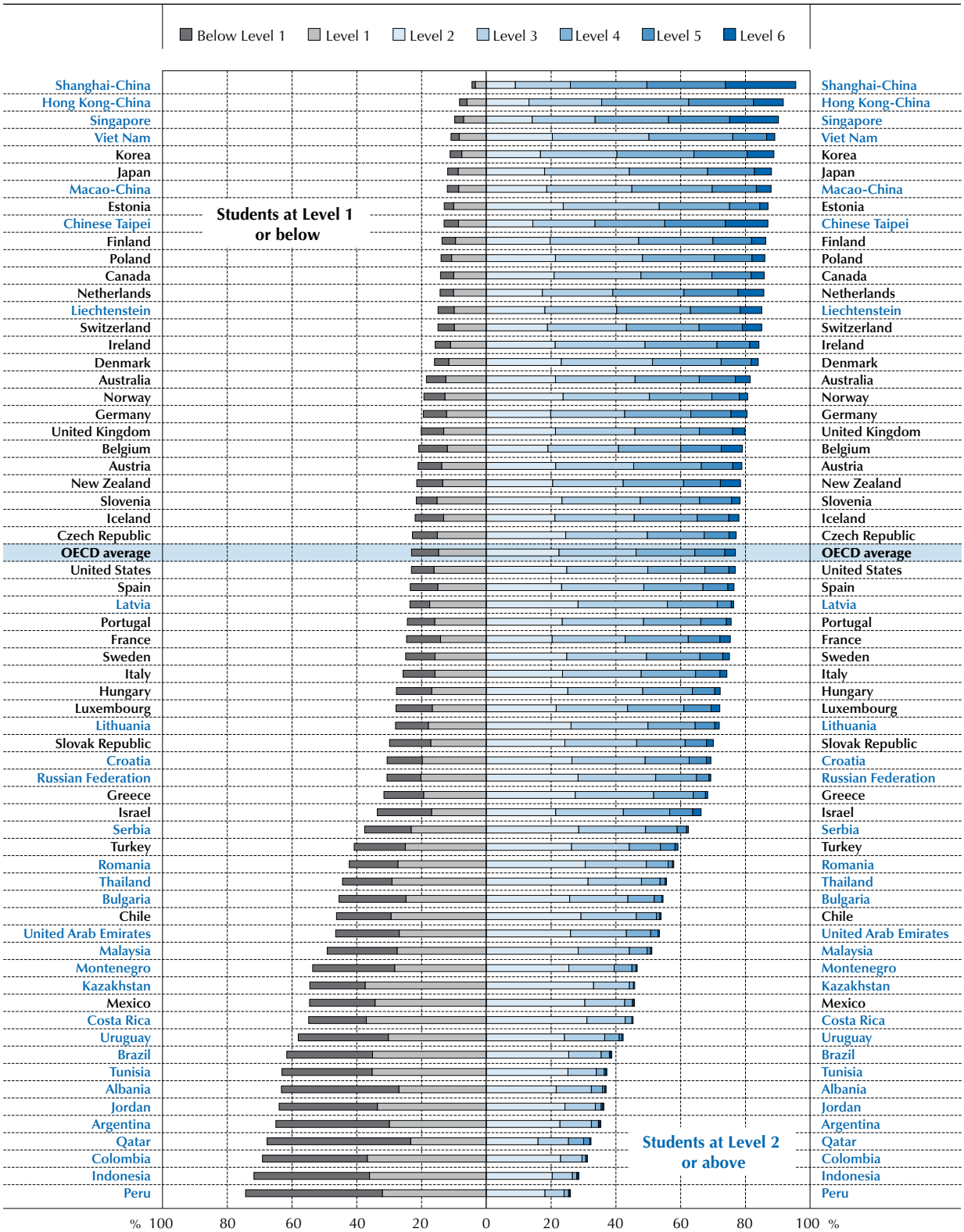
Level	Percentage of students able to perform tasks at each level or above (OECD average)	What students can do
6	3.2%	At Level 6, students can interpret, evaluate and critically reflect on a range of complex statistical or probabilistic data, information and situations to analyse problems. Students at this level bring insight and sustained reasoning across several problem elements; they understand the connections between data and the situations they represent and are able to make use of those connections to explore problem situations fully. They bring appropriate calculation techniques to bear to explore data or to solve probability problems; and they can produce and communicate conclusions, reasoning and explanations.
5	12.5%	At Level 5, students can interpret and analyse a range of statistical or probabilistic data, information and situations to solve problems in complex contexts that require linking of different problem components. They can use proportional reasoning effectively to link sample data to the population they represent, can appropriately interpret data series over time, and are systematic in their use and exploration of data. Students at this level can use statistical and probabilistic concepts and knowledge to reflect, draw inferences and produce and communicate results.
4	30.6%	Students at Level 4 can activate and employ a range of data representations and statistical or probabilistic processes to interpret data, information and situations to solve problems. They can work effectively with constraints, such as statistical conditions that might apply in a sampling experiment, and they can interpret and actively translate between two related data representations (such as a graph and a data table). Students at this level can perform statistical and probabilistic reasoning to make contextual conclusions.
3	54.4%	At Level 3, students can interpret and work with data and statistical information from a single representation that may include multiple data sources, such as a graph representing several variables, or from two related data representations ,such as a simple data table and graph. They can work with and interpret descriptive statistical, probabilistic concepts and conventions in contexts such as coin tossing or lotteries, and draw conclusions from data, such as calculating or using simple measures of centre and spread. Students at this level can perform basic statistical and probabilistic reasoning in simple contexts.
2	76.9%	Students at Level 2 can identify, extract and comprehend statistical data presented in a simple and familiar form such as a simple table, a bar graph or pie chart. They can identify, understand and use basic descriptive statistical and probabilistic concepts in familiar contexts, such as tossing coins or rolling dice. At this level students can interpret data in simple representations, and apply suitable calculation procedures that connect given data to the problem context represented.
1	91.7%	At Level 1, students can identify and read information presented in a small table or simple well-labelled graph to locate and extract specific data values while ignoring distracting information, and recognise how these relate to the context. Students at this level can recognise and use basic concepts of randomness to identify misconceptions in familiar experimental contexts, such as lottery outcomes.



■ Figure I.2.51 ■

Proficiency in the mathematics subscale *uncertainty and data*

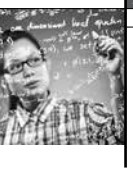
Percentage of students at each level of mathematics proficiency



Countries and economies are ranked in descending order of the percentage of students at Levels 2, 3, 4, 5 and 6.

Source: OECD, PISA 2012 Database, Table I.2.23.

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The relative strengths and weaknesses of countries in different mathematics content areas

Figure I.2.52 shows the country means for the overall mathematics scale and the difference in performance between each content subscale and the overall mathematics scale. As the figure makes clear, the levels of performance on the content subscales are relatively well aligned with each other and with overall mean mathematics performance, as is the case with the process subscales. However, it is also clear that the relative strength of countries in relation to the four content categories varies considerably; in fact, there is even more variability than is the case with the process subscales. It is also evident that while *space and shape* is frequently the strongest area among some of the higher-performing countries, this is certainly not always the case; and similarly, while *change and relationships* is the weakest of the four areas in several of the lower-performing countries, this is by no means true for all countries and economies.

Among OECD countries, where the average score on the easiest subscale (*quantity*) and the most difficult subscale (*space and shape*), relative to overall mathematical performance, is about 6 points, Japan shows the largest difference between its strongest (*space and shape*) and weakest (*quantity*) content areas of 39 points; Turkey has the smallest difference between its strongest and weakest content areas, as it did between its strongest and weakest process areas, this time of about 7 points. Between these extremes there is a great spread, with an average difference between the strongest and weakest performance of about 17 points. Within that variation, six countries had the highest mean score for *change and relationships* (Estonia, Canada, Australia, Hungary, France and Turkey); six countries performed strongest in *space and shape* (Japan, Korea, Switzerland, the Slovak Republic, Poland and Portugal); 13 performed strongest in *quantity* (Israel, the Netherlands, Finland, Spain, the Czech Republic, Italy, Luxembourg, Austria, Belgium, Iceland, Germany, Slovenia and Mexico); and the remaining nine had the highest mean scores in *uncertainty and data* (the United Kingdom, Chile, Norway, Greece, Ireland, the United States, New Zealand, Denmark, and Sweden).

Among partner countries and economies, Shanghai-China shows the largest difference (about 58 points) between its strongest content category (*space and shape*) and its weakest (*quantity*); while the smallest difference between the best and worst performance in the content subscales is around 11 points, seen in Uruguay, Bulgaria, Lithuania and Romania. Once again, between these extremes there is a great spread, with an average difference between the best and worst performance of about 22 points. Within that variation, three countries had the highest mean score for *change and relationships*; 11 countries performed best in *space and shape*; five had the highest mean score in *quantity;* and 12 performed best in *uncertainty and data*.

Figure I.2.53 shows the mean score on each of the four content scales for all countries, and indicates the range of ranks (highest and lowest) that might apply to each country, taking into account the statistical uncertainty in the estimates of ranks.

Gender differences in performance on the content subscales

Figures I.2.54a, b, c and d, show the performance differences between boys and girls on the content subscales. On average, a larger proportion of boys than girls attains the top two proficiency levels on all four of the content subscales (Tables I.2.15, I.2.18, I.2.21 and I.2.25).

On the *change and relationships* subscale, boys outperform girls by 11 points, on average across OECD countries. Differences of more than 20 points, in favour of boys, are seen in Chile (32 points), Colombia (29 points), Luxembourg (25 points), Austria (23 points), Japan (22 points), Korea, Liechtenstein and Costa Rica (21 points each). Twenty-four other countries and economies show significant differences in favour of boys.

Six partner countries and economies show girls outperforming boys on the *change and relationships* subscale: Jordan (29 points), Thailand (20 points), Qatar (18 points), Malaysia (15 points), Latvia (9 points), and Kazakhstan (8 points). By contrast, in no OECD country did girls outperform boys on the subscale.

On the *space and shape* subscale, boys outperform girls by 15 points, on average across OECD countries. Differences of more than 20 points, in favour of boys, are seen in 18 countries and economies, with the largest differences in Austria (37 points), Luxembourg (34 points), Colombia (34 points) and Chile (31 points). Twenty-seven other countries and economies show differences in favour of boys. In Iceland, girls outperform boys by a statistically significant 8 points. Statistically significant differences in favour of girls are observed in Albania (10 points), Qatar (15 points) and Jordan (15 points).

Boys outperform girls on the *quantity* subscale by an average of 11 points across OECD countries. Differences of more than 20 points in favour of boys are seen in Colombia (31 points), Costa Rica (29 points), Luxembourg (23 points), Chile (22 points), Peru (22 points) and Liechtenstein (22 points). Meanwhile, only in four countries do girls outperform boys: Qatar (19 points), Thailand (16 points), Sweden (7 points) and Singapore (6 points).



■ Figure I.2.52 ■

Comparing countries and economies on the different mathematics content subscales

Country's/economy's performance on the subscale is between 0 to 3 score points **higher** than on the overall mathematics scale
Country's/economy's performance on the subscale is between 3 to 10 score points **higher** than on the overall mathematics scale
Country's/economy's performance on the subscale is 10 or more score points **higher** than on the overall mathematics scale

Country's/economy's performance on the subscale is between 0 to 3 score points **lower** than on the overall mathematics scale
Country's/economy's performance on the subscale is between 3 to 10 score points **lower** than on the overall mathematics scale
Country's/economy's performance on the subscale is 10 or more score points **lower** than on the overall mathematics scale

		Performance difference between the overall mathematics scale and each content subscale			
	Mathematics score	Change and relationships	Space and shape	Quantity	Uncertainty and data
Shanghai-China	613	11	36	-22	-21
Singapore	573	7	6	-5	-14
Hong Kong-China	561	3	6	4	-8
Chinese Taipei	560	1	32	-16	-11
Korea	554	5	19	-16	-16
Macao-China	538	4	20	-8	-13
Japan	536	6	21	-18	-8
Liechtenstein	535	7	4	3	-9
Switzerland	531	-1	13	0	-9
Netherlands	523	-5	-16	9	9
Estonia	521	9	-8	4	-10
Finland	519	2	-12	8	0
Canada	518	7	-8	-3	-2
Poland	518	-8	7	1	-1
Belgium	515	-1	-6	4	-7
Germany	514	2	-6	4	-5
Viet Nam	511	-2	-4	-2	8
Austria	506	1	-5	5	-7
Australia	504	5	-8	-4	4
Ireland	501	0	-24	4	7
Slovenia	501	-2	2	3	-5
Denmark	500	-6	-3	2	5
New Zealand	500	1	-9	-1	6
Czech Republic	499	0	0	6	-11
France	495	2	-6	1	-3
OECD average	**494**	**-1**	**-4**	**1**	**-1**
United Kingdom	494	2	-19	0	8
Iceland	493	-6	-4	4	3
Latvia	491	6	6	-3	-12
Luxembourg	490	-2	-3	5	-7
Norway	489	-12	-10	3	7
Portugal	487	-1	4	-6	-1
Italy	485	-9	2	5	-3
Spain	484	-3	-7	7	2
Russian Federation	482	9	14	-4	-19
Slovak Republic	482	-7	8	5	-10
United States	481	7	-18	-4	7
Lithuania	479	0	-7	4	-5
Sweden	478	-9	-10	3	4
Hungary	477	4	-3	-2	-1
Croatia	471	-3	-11	9	-3
Israel	466	-4	-17	13	-1
Greece	453	-7	-17	2	7
Serbia	449	-7	-3	7	-1
Turkey	448	0	-5	-6	-1
Romania	445	1	3	-1	-8
Cyprus[1, 2]	440	0	-3	-1	3
Bulgaria	439	-4	3	4	-7
United Arab Emirates	434	8	-9	-3	-2
Kazakhstan	432	1	18	-4	-18
Thailand	427	-13	5	-8	6
Chile	423	-12	-4	-1	8
Malaysia	421	-19	14	-11	2
Mexico	413	-9	-1	0	0
Montenegro	410	-11	2	-1	5
Uruguay	409	-8	3	2	-2
Costa Rica	407	-5	-10	-1	7
Albania	394	-6	23	-8	-8
Brazil	391	-20	-11	1	11
Argentina	388	-10	-3	3	0
Tunisia	388	-9	-5	-10	12
Jordan	386	2	-1	-19	8
Colombia	376	-20	-8	-1	12
Qatar	376	-14	4	-6	5
Indonesia	375	-11	7	-13	9
Peru	368	-19	2	-3	5

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Source: OECD, PISA 2012 Database, Tables I.2.3a, I.2.16, I.2.19, I.2.22 and I.2.25.
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■ Figure I.2.53 [Part 1/4] ■

Where countries and economies rank on the different mathematics content subscales

Statistically significantly **above** the OECD average
Not statistically significantly different from the OECD average
Statistically significantly **below** the OECD average

	Change and relationships subscale				
		Range of ranks			
		OECD countries		All countries/economies	
	Mean score	Upper rank	Lower rank	Upper rank	Lower rank
Shanghai-China	624			1	1
Singapore	580			2	2
Hong Kong-China	564			3	5
Chinese Taipei	561			3	5
Korea	559	1	1	3	5
Macao-China	542			6	8
Japan	542	2	2	6	8
Liechtenstein	542			6	8
Estonia	530	3	4	9	10
Switzerland	530	3	5	9	11
Canada	525	4	6	10	12
Finland	520	5	8	11	14
Netherlands	518	5	9	11	16
Germany	516	6	10	12	17
Belgium	513	7	11	13	17
Viet Nam	509			13	21
Poland	509	7	13	13	20
Australia	509	9	12	15	19
Austria	506	9	14	15	21
Ireland	501	12	17	19	25
New Zealand	501	12	17	19	25
Czech Republic	499	12	19	19	27
Slovenia	499	13	17	20	25
France	497	13	19	21	28
Latvia	496			20	28
United Kingdom	496	13	20	20	28
Denmark	494	15	20	23	29
Russian Federation	491			24	32
United States	488	18	24	26	33
Luxembourg	488	20	23	28	32
Iceland	487	20	24	28	33
Portugal	486	19	26	27	36
Spain	482	23	26	32	36
Hungary	481	22	28	31	38
Lithuania	479			32	38
Norway	478	24	28	33	38
Italy	477	25	28	34	38
Slovak Republic	474	25	29	34	40
Sweden	469	28	30	38	41
Croatia	468			38	41
Israel	462	28	30	39	42
Turkey	448	31	32	42	47
Greece	446	31	32	42	46
Romania	446			42	47
United Arab Emirates	442			43	48
Serbia	442			42	48
Cyprus[1, 2]	440			45	48
Bulgaria	434			46	49
Kazakhstan	433			48	49
Thailand	414			50	51
Chile	411	33	34	50	52
Mexico	405	33	34	51	54
Costa Rica	402			52	56
Uruguay	401			52	56
Malaysia	401			52	56
Montenegro	399			54	56
Albania	388			57	58
Jordan	387			57	59
Tunisia	379			58	61
Argentina	379			58	61
Brazil	372			60	62
Indonesia	364			61	64
Qatar	363			62	63
Colombia	357			63	65
Peru	349			64	65

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Source: OECD, PISA 2012 Database.
StatLink http://dx.doi.org/10.1787/888932935572



■ Figure I.2.53 [Part 2/4] ■
Where countries and economies rank on the different mathematics content subscales

Statistically significantly **above** the OECD average
Not statistically significantly different from the OECD average
Statistically significantly **below** the OECD average

	Space and shape subscale				
		Range of ranks			
		OECD countries		All countries/economies	
	Mean score	Upper rank	Lower rank	Upper rank	Lower rank
Shanghai-China	649			1	1
Chinese Taipei	592			2	2
Singapore	580			3	4
Korea	573	1	1	3	5
Hong Kong-China	567			4	6
Macao-China	558			6	7
Japan	558	2	2	5	7
Switzerland	544	3	3	8	9
Liechtenstein	539			8	9
Poland	524	4	4	10	10
Estonia	513	5	8	11	14
Canada	510	5	9	11	16
Belgium	509	5	10	11	17
Netherlands	507	5	12	11	19
Germany	507	5	12	11	19
Viet Nam	507			11	21
Finland	507	6	11	12	18
Slovenia	503	9	12	16	20
Austria	501	9	15	16	24
Czech Republic	499	10	16	17	25
Latvia	497			18	26
Denmark	497	12	16	19	25
Australia	497	12	16	20	25
Russian Federation	496			18	28
Portugal	491	13	22	21	31
New Zealand	491	15	21	23	30
Slovak Republic	490	14	22	22	32
France	489	16	22	24	31
Iceland	489	16	21	25	30
Italy	487	16	22	25	31
Luxembourg	486	19	22	28	31
Norway	480	22	27	31	36
Ireland	478	23	27	32	36
Spain	477	23	27	32	36
United Kingdom	475	23	28	32	37
Hungary	474	24	28	32	38
Lithuania	472			33	38
Sweden	469	27	29	36	39
United States	463	28	29	37	40
Croatia	460			39	41
Kazakhstan	450			41	45
Israel	449	30	31	40	46
Romania	447			41	46
Serbia	446			41	46
Turkey	443	30	32	41	49
Bulgaria	442			42	49
Greece	436	31	32	46	50
Cyprus[1, 2]	436			46	49
Malaysia	434			46	50
Thailand	432			46	51
United Arab Emirates	425			50	52
Chile	419	33	33	51	54
Albania	418			52	55
Uruguay	413			53	56
Mexico	413	34	34	53	56
Montenegro	412			54	56
Costa Rica	397			57	57
Jordan	385			58	62
Argentina	385			58	62
Indonesia	383			58	63
Tunisia	382			58	63
Brazil	381			59	63
Qatar	380			60	63
Peru	370			64	65
Colombia	369			64	65

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Source: OECD, PISA 2012 Database.
StatLink http://dx.doi.org/10.1787/888932935572



■ Figure I.2.53 [Part 3/4] ■

Where countries and economies rank on the different mathematics content subscales

Statistically significantly **above** the OECD average
Not statistically significantly different from the OECD average
Statistically significantly **below** the OECD average

	Quantity subscale				
		Range of ranks			
		OECD countries		All countries/economies	
	Mean score	Upper rank	Lower rank	Upper rank	Lower rank
Shanghai-China	591			1	1
Singapore	569			2	3
Hong Kong-China	566			2	3
Chinese Taipei	543			4	5
Liechtenstein	538			4	7
Korea	537	1	3	4	8
Netherlands	532	1	4	5	10
Switzerland	531	1	4	6	10
Macao-China	531			7	9
Finland	527	3	5	8	11
Estonia	525	3	6	9	12
Belgium	519	6	10	12	16
Poland	519	5	10	11	17
Japan	518	5	11	11	17
Germany	517	6	11	12	17
Canada	515	7	11	13	17
Austria	510	9	13	15	19
Viet Nam	509			13	24
Ireland	505	11	15	17	22
Czech Republic	505	11	16	17	23
Slovenia	504	12	15	18	22
Denmark	502	12	17	18	24
Australia	500	14	19	21	26
New Zealand	499	14	20	21	27
Iceland	496	16	22	23	29
France	496	16	23	22	29
Luxembourg	495	18	22	25	29
United Kingdom	494	16	25	22	32
Norway	492	18	25	25	33
Spain	491	20	25	27	33
Italy	491	21	25	28	33
Latvia	487			29	36
Slovak Republic	486	22	28	29	37
Lithuania	483			32	39
Sweden	482	25	29	33	40
Portugal	481	25	30	32	41
Croatia	480			33	41
Israel	480	25	30	32	41
Russian Federation	478			35	41
United States	478	26	30	34	41
Hungary	476	27	30	36	41
Serbia	456			42	43
Greece	455	31	31	42	43
Romania	443			44	47
Bulgaria	443			44	47
Turkey	442	32	32	44	48
Cyprus[1, 2]	439			45	47
United Arab Emirates	431			47	49
Kazakhstan	428			48	50
Chile	421	33	33	49	51
Thailand	419			50	53
Mexico	414	34	34	51	54
Uruguay	411			52	56
Malaysia	409			52	56
Montenegro	409			53	56
Costa Rica	406			53	56
Brazil	393			57	58
Argentina	391			57	59
Albania	386			58	60
Tunisia	378			59	62
Colombia	375			60	62
Qatar	371			61	63
Jordan	367			62	65
Peru	365			62	65
Indonesia	362			63	65

1. Note by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".
2. Note by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Source: OECD, PISA 2012 Database.
StatLink http://dx.doi.org/10.1787/888932935572



■ Figure I.2.53 [Part 4/4] ■

Where countries and economies rank on the different mathematics content subscales

Statistically significantly **above** the OECD average
Not statistically significantly different from the OECD average
Statistically significantly **below** the OECD average

	Uncertainty and data subscale				
		Range of ranks			
		OECD countries		All countries/economies	
	Mean score	Upper rank	Lower rank	Upper rank	Lower rank
Shanghai-China	592			1	1
Singapore	559			2	2
Hong Kong-China	553			3	4
Chinese Taipei	549			3	4
Korea	538	1	2	5	7
Netherlands	532	1	3	5	8
Japan	528	2	4	6	10
Liechtenstein	526			6	11
Macao-China	525			7	10
Switzerland	522	3	6	7	13
Viet Nam	519			8	15
Finland	519	4	7	10	14
Poland	517	4	8	10	16
Canada	516	4	7	11	14
Estonia	510	7	12	14	19
Germany	509	7	14	14	21
Ireland	509	8	14	15	21
Belgium	508	8	14	15	21
Australia	508	9	14	16	21
New Zealand	506	9	15	16	22
Denmark	505	10	16	17	23
United Kingdom	502	11	17	18	24
Austria	499	14	19	21	26
Norway	497	15	20	22	27
Slovenia	496	16	20	23	27
Iceland	496	16	20	23	27
France	492	18	23	24	30
Czech Republic	488	20	25	27	32
United States	488	19	26	26	34
Spain	487	20	25	28	33
Portugal	486	20	27	27	35
Luxembourg	483	24	27	31	34
Sweden	483	23	28	29	35
Italy	482	23	27	30	35
Latvia	478			32	37
Hungary	476	27	29	34	39
Lithuania	474			35	39
Slovak Republic	472	28	30	35	40
Croatia	468			37	41
Israel	465	29	31	38	42
Russian Federation	463			39	42
Greece	460	30	31	40	42
Serbia	448			43	44
Turkey	447	32	32	43	45
Cyprus[1, 2]	442			44	46
Romania	437			45	49
Thailand	433			46	50
United Arab Emirates	432			46	50
Bulgaria	432			46	50
Chile	430	33	33	47	50
Malaysia	422			50	52
Montenegro	415			52	55
Costa Rica	414			52	55
Kazakhstan	414			52	55
Mexico	413	34	34	52	55
Uruguay	407			55	57
Brazil	402			56	58
Tunisia	399			56	59
Jordan	394			58	61
Argentina	389			59	63
Colombia	388			59	63
Albania	386			60	63
Indonesia	384			60	64
Qatar	382			63	64
Peru	373			65	65

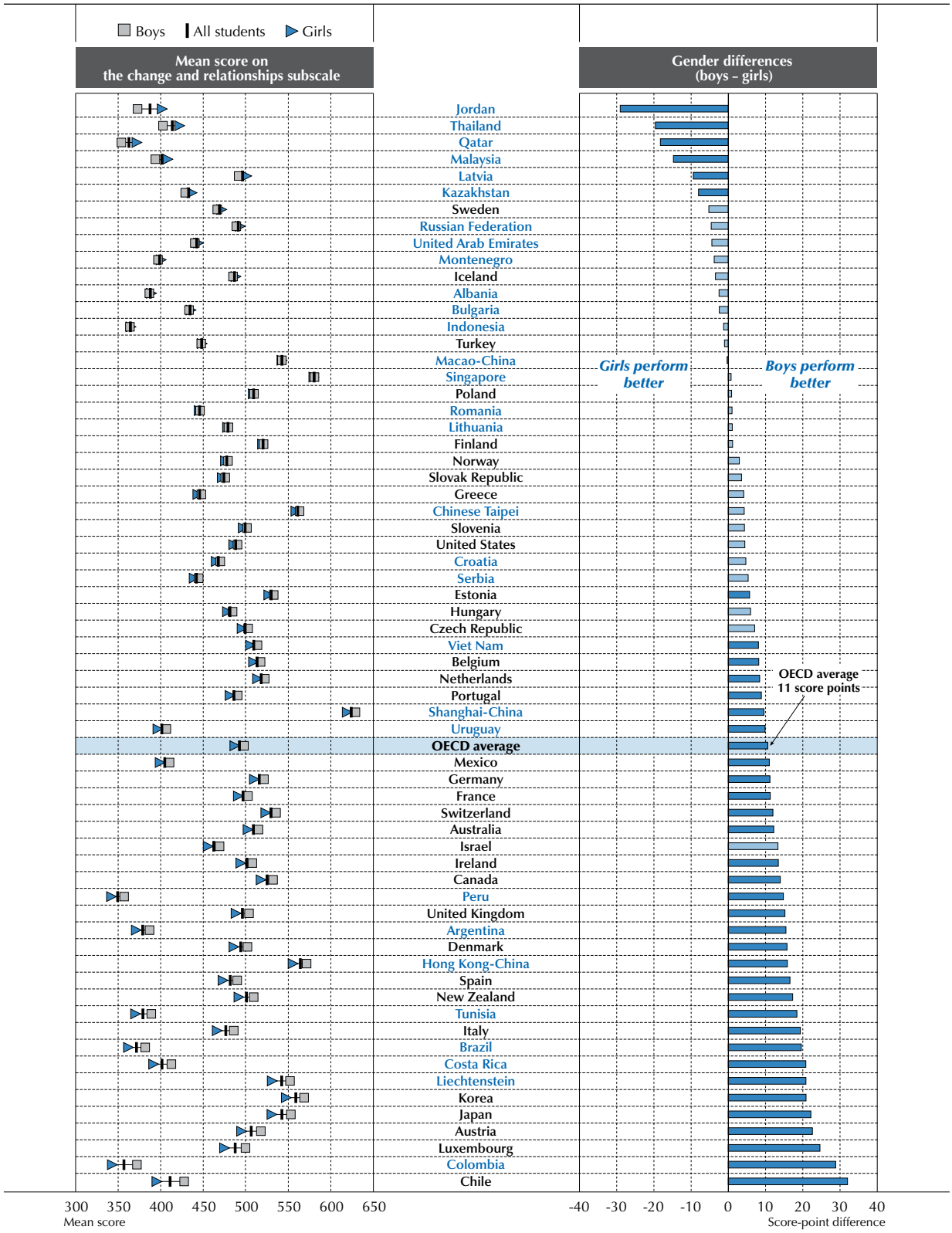
1. Note by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".
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Source: OECD, PISA 2012 Database.
StatLink http://dx.doi.org/10.1787/888932935572



■ Figure I.2.54a ■

Gender differences in performance on the *change and relationships* subscale

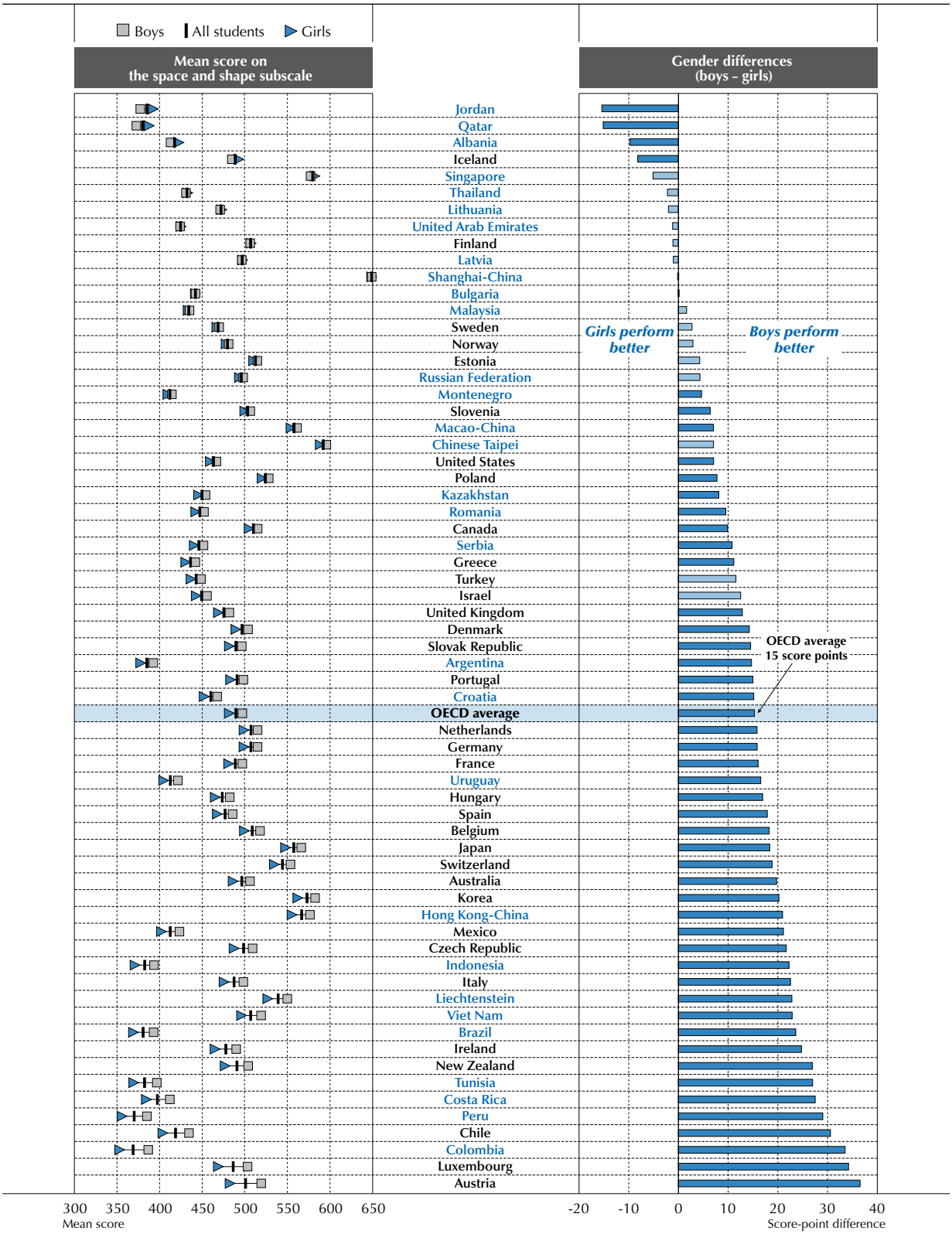


Note: Statistically significant gender differences are marked in a darker tone (see Annex A3).
Countries and economies are ranked in ascending order of the gender score-point difference (boys – girls).
Source: OECD, PISA 2012 Database, Table I.2.16.

StatLink http://dx.doi.org/10.1787/888932935572

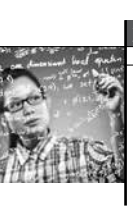
■ Figure I.2.54b ■

Gender differences in performance on the *space and shape* subscale



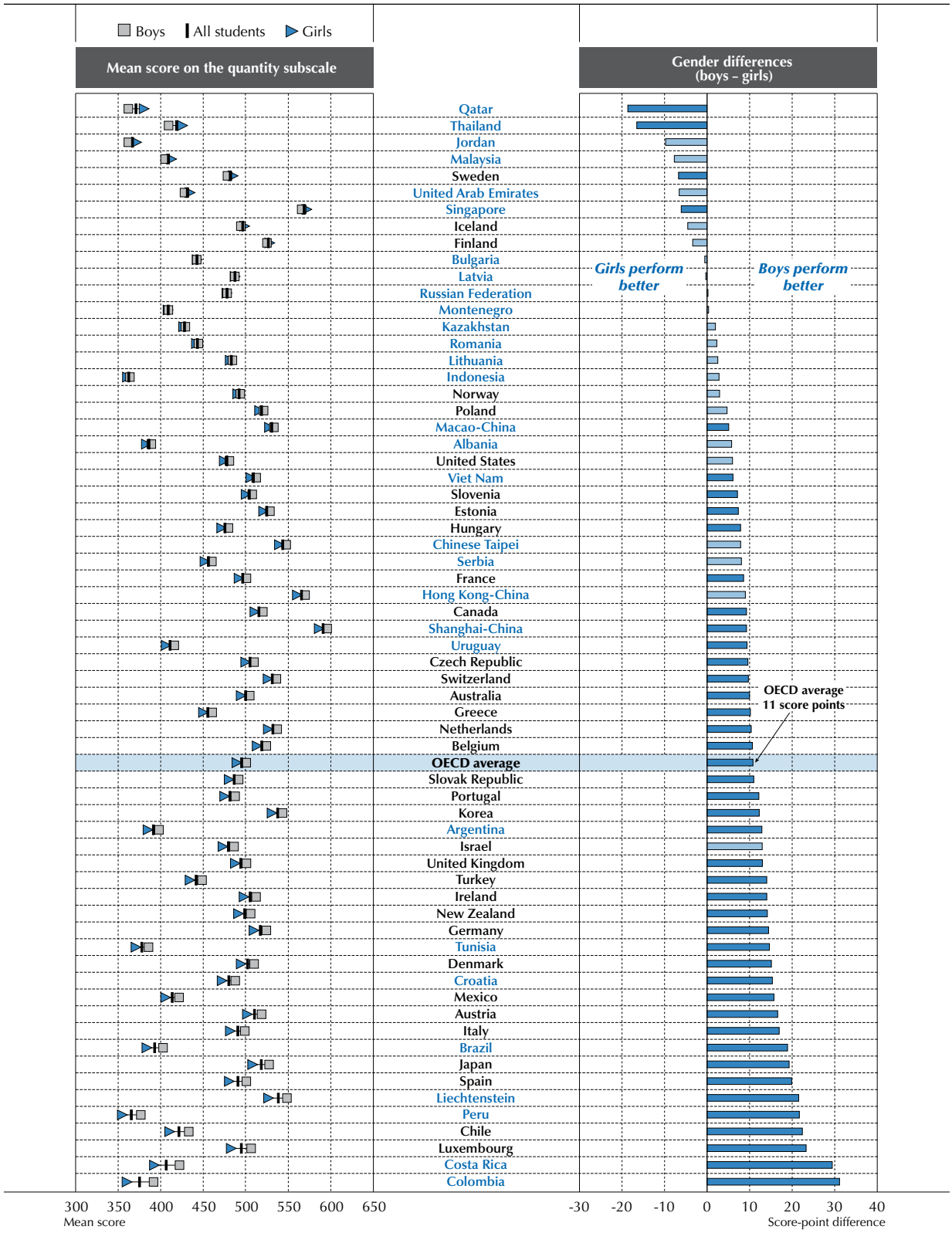
Note: Statistically significant gender differences are marked in a darker tone (see Annex A3).
Countries and economies are ranked in ascending order of the gender score-point difference (boys – girls).
Source: OECD, PISA 2012 Database, Table I.2.19.

StatLink http://dx.doi.org/10.1787/888932935572



■ Figure I.2.54c ■

Gender differences in performance on the *quantity* subscale



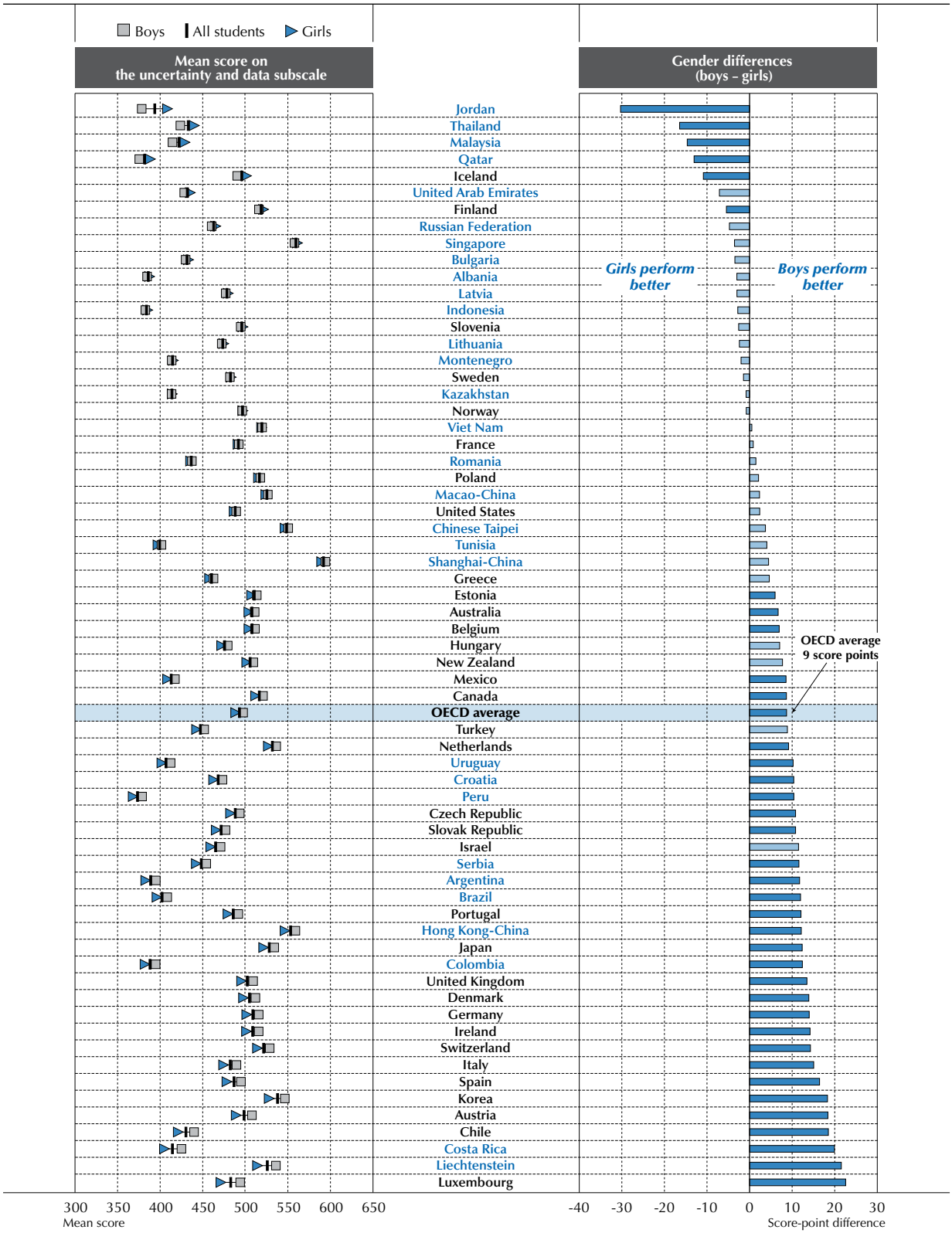
Note: Statistically significant gender differences are marked in a darker tone (see Annex A3).
Countries and economies are ranked in ascending order of the gender score-point difference (boys – girls).
Source: OECD, PISA 2012 Database, Table I.2.22.

StatLink http://dx.doi.org/10.1787/888932935572



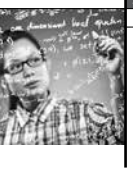
■ Figure I.2.54d ■

Gender differences in performance on the *uncertainty and data* subscale



Note: Statistically significant gender differences are marked in a darker tone (see Annex A3).
Countries and economies are ranked in ascending order of the gender score-point difference (boys – girls).
Source: OECD, PISA 2012 Database, Table I.2.25.

StatLink http://dx.doi.org/10.1787/888932935572



Across OECD countries, boys outperform girls on the *uncertainty and data* subscale by an average of 9 points – the smallest average difference of the four content subscales. The largest performance difference in favour of boys (23 points) is seen in Luxembourg. In Liechtenstein this difference is about 22 points, and in 31 other countries and economies boys outperform girls on this subscale by less than 20 points. Iceland and Finland are the only OECD countries where girls outperform boys on this subscale (11 and 5 points in favour for girls, respectively), but among partner countries and economies, four show substantial differences in favour of girls: Jordan (30 points), Thailand (16 points), Malaysia (15 points) and Qatar (13 points).

Box I.2.5. **Improving in PISA: Turkey**

When it first participated in PISA, in 2003, Turkey was among the lowest-performing OECD countries in mathematics, reading and science. Yet Turkey's performance in all three domains has improved markedly since then, at an average yearly rate of 3.2, 4.1 and 6.4 points per year. In 2003, for example, the average 15-year-old student in Turkey scored 423 points in mathematics. With an average annual increase of 3.2 points, the average score in mathematics in 2012 was 448 points – an improvement over 2003 scores that is the equivalent of more than half a year of schooling. Much of this improvement was concentrated among students with the greatest educational needs. The mathematics scores of Turkey's lowest-achieving students (the 10th percentile) improved from 300 to 338 points between 2003 and 2012, with no significant change among the highest-achieving students during the period. Consistent with this trend, the share of students who perform below proficiency Level 2 in mathematics shrank from 52% in 2003 to 42% in 2012. Between-school differences in average mathematics performance did not change between 2003 and 2012, but differences in performance among students within schools narrowed during that time, meaning that much of the improvement in mathematics performance observed between 2003 and 2012 is the result of low-performing students across all schools improving their performance (Table II.2.1b).

The observed improvement in mathematics was concentrated among socio-economically disadvantaged and low-achieving students. Between 2003 and 2012, both the average difference in performance between advantaged and disadvantaged students and the degree to which students' socio-economic status predicts their performance shrank. In 2003, advantaged students outperformed disadvantaged students by almost 100 score points; in 2012, the difference was around 60 score points. In 2003, 28% of the variation in students' scores (around the OECD average) was explained by students' socio-economic status; by 2012, 15% of the variation (below the OECD average) was explained by students' socio-economic status. While all students, on average, improved their scores no matter where their schools were located, students attending schools in towns (population of 3 000 to 100 000) improved their mathematics scores by 59 points between 2003 and 2012 – more than the increase observed among students in cities or large cities (population greater than 100 000; no change in performance detected).

Turkey has a highly centralised school system: education policy is set centrally at the Ministry of National Education and schools have comparatively little autonomy. Education policy is guided by a two-year Strategic Plan and a four-year Development Plan. The Basic Education Programme (BEP), launched in 1998, sought to expand primary education, improve the quality of education and overall student outcomes, narrow the gender gap in performance, align performance indicators with those of the European Union, develop school libraries, ensure that qualified teachers were employed, integrate information and communication technologies into the education system, and create local learning centres, based in schools, that are open to everyone (OECD, 2007). The Master Implementation Plan (2001-05), designed in collaboration with UNICEF, and the Secondary Project (2006-11), in collaboration with the World Bank, included multiple projects to improve both equity and quality in the education system. The Standards for Primary Education, piloted in 2010 and recently expanded to all primary institutions, defines quality standards for primary education, guides schools in achieving these standards, develops a system of school self-assessments, and guides local and central authorities in addressing inequalities among schools.

One of the major changes introduced with the BEP programme involved the compulsory education law. This change was first implemented in the 1997/98 school year, and in 2003 the first students graduated from the eight-year compulsory education system. Since the launch of this programme, the attendance rate among primary students increased from around 85% to nearly 100%, while the attendance rate in pre-primary programmes increased from 10% to 25%. In addition, the system was expanded to include 3.5 million more pupils, average class size was reduced to roughly 30 students, all students learn at least one foreign language, computer laboratories were established in every primary school, and overall physical conditions were improved in all 35 000 rural schools.

...



Resources devoted to the programme exceeded USD 11 billion. This programme did not directly affect school participation for most of the 15-year-olds assessed by PISA, who are mainly in secondary schools where enrolment rates are close to 60%. In 2012, compulsory education was increased from 8 to 12 years of schooling, and the school system was redefined into three levels (primary, lower secondary and upper secondary) of four years each.

Fifteen-year-old students in Turkey are the least likely among students in all OECD countries to have attended pre-primary education. Several initiatives are in place to change this, but none has yet had a direct impact on the students who participated in PISA 2012. Early childhood education and care is featured in the current Development Plan (2014-18) and other on-going programmes include the Mobile Classroom (for children aged 36-66 months from low-income families), the Summer Preschool (for children aged 60-66 months), the Turkey Country Programme, and the Pre-School Education Project.

New curricula were introduced in the 2006/07 school year, starting from the 6th grade. The secondary school mathematics and language curricula were also revised and a new science curriculum was applied in the 9th grade for the 2008/09 school year. In PISA 2012 students had already been taught the new curriculum for four years, although their primary school education was part of the former system. The standards of the new curricula were intended to meet PISA goals: "Increased importance has been placed on students' doing mathematics which means exploring mathematical ideas, solving problems, making connections among mathematical ideas, and applying them in real life situations" (Talim ve Terbiye Kurulu [TTKB] [Board of Education], 2008).

The curricular reform was designed not only to change the content of school education and encourage the introduction of innovative teaching methods, but above all to change the teaching philosophy and culture within schools. The new curricula and teaching materials emphasise "student-centred learning", giving students a more active role than before, when memorising information had been the predominant approach. They also reflect the assumption, on which PISA is based, that schools should equip students with the skills needed to ensure success at school and in life, in general.

In 2003, more than one in four students reported having arrived late for school at least once in the two weeks prior to the PISA test; by 2012, more than four in ten students reported having arrived late. By contrast, students' sense of belonging at school seems to have improved during the same period. Students in 2012 also spent one half an hour less per week in mathematics instruction than students in 2003 did, and almost an hour and a half less per week in after-school study.

Students in 2012 attended schools with better physical infrastructure and better educational resources than their counterparts in 2003 did. Throughout 2004 and 2005, private-sector investments funded 14 000 additional classrooms in the country. Taxes were reduced for private businesses that invested in education. This was particularly helpful in provinces where there was large internal migration (OECD, 2006).

Several policies had sought to change the culture and management of schools. Schools were obliged to propose a plan of work, including development targets and strategic plans for reaching them. More democratic governance, parental involvement and teamwork were suggested. In 2004, a project aimed at teaching students democratic skills was started in all primary and secondary schools, with many responsibilities assigned to student assemblies. In addition, more transparent and performance-oriented inspection tools were introduced.

Teachers were also the target of policy changes. New arrangements were implemented in 2008 to train teachers for upper secondary education through five-year graduate programmes. The arrangements also stipulated that graduates in other fields, such as science or literature, who wanted to teach would also have to attend a year-and-a-half of graduate training in education. The Teacher Formation Programmes of Education Faculties (2008) links pre-service training courses to the Ministry's curriculum and teacher-practice standards while giving more autonomy to faculties on the courses that should be taught. The New Teacher Programme, introduced in 2011, established stricter requirements for certain subjects.

Several projects implemented over the past decade have addressed equity issues. The Girls to Schools Now campaign, in collaboration with UNICEF, that started in 2003 aimed to ensure that all girls aged 6 to 14 attend primary school. Efforts to increase enrolment in school continue through programmes like the Address-Based Population Registry System, which creates a registry to identify non-schooled children, the Education with Transport programme, which benefits students who have no access to school, and the Complementary Transitional Training

…



Programme, which tries to ensure that 10-14 year-olds acquire a basic education even if they have never been enrolled in a school or if they had dropped out of school. The Project for Increasing Enrolment Rates Especially for Girls, in a pilot phase in the 16 provinces with the lowest enrolment rates among girls, addresses families' awareness about the links between education and the labour market. Since 2003, textbooks for all primary students have been supplied free of charge by the Ministry of National Education. The International Inspiration Project, begun in 2011, and the Strengthening Special Education Project, begun in 2010, are designed to promote disadvantaged students' performance.

Sources:

OECD (2013d), *Education Policy Outlook: Turkey,* OECD Publishing.
http://www.oecd.org/edu/EDUCATION%20POLICY%20OUTLOOK%20TURKEY_EN.pdf

OECD (2007), *Reviews of National Policies for Education: Basic Education in Turkey*, OECD Publishing.
http://dx.doi.org/10.1787/9789264030206-en

OECD (2006), *Economic Survey of Turkey: 2006*, OECD Publishing.
http://dx.doi.org/10.1787/eco_surveys-tur-2006-en

Talim ve Terbiye Kurulu (TTKB) (2008), *İlkögretim Matematik Dersi 6-8 Sınıflar Öğretim Programı ve Kılavuzu (Teaching Syllabus and Curriculum Guidebook for Elementary School Mathematics Course: Grades 6 to 8)*, Milli Eğitim Bakanlığı, Ankara.



EXAMPLES OF PISA MATHEMATICS UNITS

■ Figure I.2.55 ■

HELEN THE CYCLIST

Helen has just got a new bike. It has a speedometer which sits on the handlebar.

The speedometer can tell Helen the distance she travels and her average speed for a trip.



This unit is concerned with journeys by bicycle. Its storyline about an individual person places it into the *personal* context category. Slight changes in the context of the unit could place these questions into the *occupational* or *scientific* categories. These categories are designed to ensure breadth of appeal to students in the contexts used in the assessment and are a checklist to promote inclusion of all aspects of life. They are not reporting categories. The concern with relationships between distance, time and speed puts these questions in the *change and relationships* content category.

HELEN THE CYCLIST – *QUESTION 1*

On one trip, Helen rode 4 km in the first 10 minutes and then 2 km in the next 5 minutes.

Which one of the following statements is correct?

A. Helen's average speed was greater in the first 10 minutes than in the next 5 minutes.

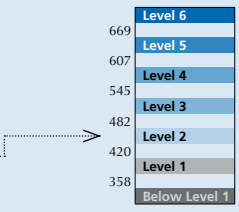
B. Helen's average speed was the same in the first 10 minutes and in the next 5 minutes.

C. Helen's average speed was less in the first 10 minutes than in the next 5 minutes.

D. It is not possible to tell anything about Helen's average speed from the information given.

Scoring

Description: *Compare average speeds given distances travelled and times taken*
Mathematical content area: *Change and relationships*
Context: *Personal*
Process: *Employ*
Question format: *Simple multiple choice*
Difficulty: *440.5*



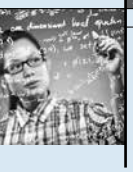
Full Credit

B. Helen's average speed was the same in the first 10 minutes and in the next 5 minutes.

No Credit

Other responses.

Missing.



Comment

Question 1, a simple multiple choice item, requires comparison of speed when travelling 4 km in 10 minutes versus 2 km in 5 minutes. It is been classified within the employing *process category because it requires the precise mathematical understanding that speed is a rate and that proportionality is the key. This question can be solved by recognising the doubles involved (2 km – 4 km; 5 km – 10 km), which is the very simplest notion of proportion. Consequently, with this Level 2 question, successful students demonstrate a very basic understanding of speed and of proportion calculations. If distance and time are in the same proportion, the speed is the same. Of course, students could correctly solve the problem in more complicated ways (e.g. calculating that both speeds are 24 km per hour) but this is not necessary. PISA results for this question do not incorporate information about the solution method used. The correct response option here is B (Helen's average speed was the same in the first 10 minutes and in the next 5 minutes).*

HELEN THE CYCLIST – *QUESTION 2*

Helen rode 6 km to her aunt's house. Her speedometer showed that she had averaged 18 km/h for the whole trip.

Which one of the following statements is correct?

A. It took Helen 20 minutes to get to her aunt's house.

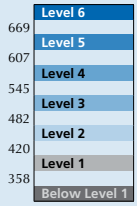
B. It took Helen 30 minutes to get to her aunt's house.

C. It took Helen 3 hours to get to her aunt's house.

D. It is not possible to tell how long it took Helen to get to her aunt's house.

Scoring

Description: *Calculate time travelled given average speed and distance travelled*
Mathematical content area: *Change and relationships*
Context: *Personal*
Process: *Employ*
Question format: *Simple multiple choice*
Difficulty: *510.6*



Full Credit

A. It took Helen 20 minutes to get to her aunt's house.

No Credit

Other responses.

Missing.

Comment

Question 2 is at Level 3. Again, it is classified in the employing *process category and can be solved by simple proportional reasoning, from the understanding of the meaning of the speed: 18 kilometres travelled in one hour. For one third of the distance, the time is one third of an hour, which is 20 minutes (hence the correct answer A: It took Helen 20 minutes to get to her aunt's house). Information about the percentage of students choosing each multiple choice is available for future analysis through the public databases.*

HELEN THE CYCLIST – *QUESTION 3*

Helen rode her bike from home to the river, which is 4 km away. It took her 9 minutes. She rode home using a shorter route of 3 km. This only took her 6 minutes.

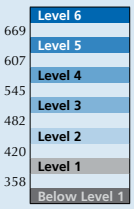
What was Helen's average speed, in km/h, for the trip to the river and back?

Average speed for the trip: .....km/h



Scoring

Description: *Calculate average speed over two trips given two distances travelled and the times taken*
Mathematical content area: *Change and relationships*
Context: *Personal*
Process: *Employ*
Question format: *Constructed response manual*
Difficulty: *696.6*



Full Credit

28

No Credit

Other responses.
28.3 *[Incorrect method: average of speeds for 2 trips (26.67 and 30)].*

Missing.

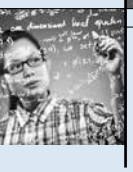
Comment

Question 3 requires a deeper understanding of the meaning of average speed, appreciating the importance of linking total time with total distance. Average speed cannot be obtained just by averaging the speeds, even though in this specific case the incorrect answer (28.3 km/hr) obtained by averaging the speeds (26.67 km/hr and 30 km/hr) is not much different from the correct answer of 28 km/hr. There are both mathematical and real world understandings of this phenomenon, leading to high demands on the fundamental mathematical capabilities of mathematisation *and* reasoning and argumentation *and also* using symbolic, formal and technical language and operations.

For students who know to work from total time (9 + 6 = 15 minutes) and total distance (4 + 3 = 7 km), the answer can be obtained simply by proportional reasoning (7 km in ¼ hour is 28 km in 1 hour), or by more complicated formula approaches (e.g. distance / time = 7 / (15/60) = 420 / 15 = 28). This question has been classified as an employing *process because the greatest part of the demand was judged to arise from the mathematical definition of average speed and possibly also the unit conversion, especially for students using speed–distance–time formulas. It is one of the more difficult tasks of the item pool, and sits in Level 6 on the proficiency scale.*

General comment on this unit

Some indication of the increasing difficulty of the three questions of this unit can be appreciated by looking at the overall strategies for the three questions. In Question 1, two rates are to be compared. In Question 2, the solution strategy goes from speed and distance, to time with a unit conversion. In Question 3, the four quantities have to be combined in a way that students often find counter-intuitive. Instead of combining the distance-time information for each trip, the two distances and the two times are combined, giving new distance and time, and so average speed. In the most elegant solutions, all the arithmetic is simple, but in practice students' methods may often involve more complicated calculation.



■ Figure I.2.56 ■
CLIMBING MOUNT FUJI

CLIMBING MOUNT FUJI

Mount Fuji is a famous dormant volcano in Japan.



CLIMBING MOUNT FUJI – *QUESTION 1*

Mount Fuji is only open to the public for climbing from 1 July to 27 August each year. About 200 000 people climb Mount Fuji during this time.

On average, about how many people climb Mount Fuji each day?

A. 340

B. 710

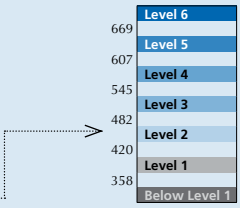
C. 3 400

D. 7 100

E. 7 400

Scoring

Description: *Identify an average daily rate given a total number and a specific time period (dates provided)*
Mathematical content area: *Quantity*
Context: *Societal*
Process: *Formulate*
Question format: *Simple multiple choice*
Difficulty: *464*



Full Credit

C. 3 400

No Credit

Other responses.

Missing.

Comment

Question 1 goes beyond personal concerns of a walker to wider community issues – in this case possibly concerns of use of the public trail. Items classified as societal *involve such things as voting systems, public transport, government, public policies, demographics, advertising, national statistics and economics. Although individuals are involved in these things in a personal way, in the societal context category the focus of problems is more on the community perspective. Allocation to the context category is only carried out in order to ensure a balance across the assessment and is not used for reporting. With minor rewording, presenting the challenges from the point of view of the decisions made by park rangers, this unit could have belonged to the occupational category.*



Question 1 is presented in the simple multiple choice format (choose one out of four). Question 2 requires the answer 11 a.m. and so is a constructed response item with expert scoring needed to ensure that all equivalent ways of writing the time are picked up. Question 3, requiring the number 40 for full score, or the number 0.4 (answering in metres) for partial credit, also had expert scoring.

Question 1 requires calculation of the number of days the trail is open using the given dates, and then calculation of an average. It has been allocated to the quantity *content category because it involves quantification of time and of an average. The formula for average is required and this is indeed a relationship, but in this question the focus is on its use in finding the number of people per day, rather than inherently about the relationship. For this reason, the question is not in the* change and relationships *category. Question 3 has similar characteristics, involving units of length. The correct response to Question 1 is C: 3400.*

CLIMBING MOUNT FUJI – *QUESTION 2*

The Gotemba walking trail up Mount Fuji is about 9 kilometres (km) long.

Walkers need to return from the 18 km walk by 8 p.m.

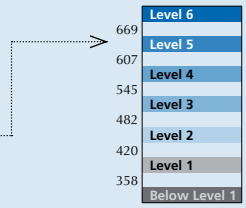
Toshi estimates that he can walk up the mountain at 1.5 kilometres per hour on average, and down at twice that speed. These speeds take into account meal breaks and rest times.

Using Toshi's estimated speeds, what is the latest time he can begin his walk so that he can return by 8 p.m.?

.....

Scoring

Description: *Calculate the start time for a trip given two different speeds, a total distance to travel and a finish time*
Mathematical content area: *Change and relationships*
Context: *Societal*
Process: *Formulate*
Question format: *Constructed response expert*
Difficulty: *641.6*



Full Credit

11 (a.m.) *[with or without a.m., or an equivalent way of writing time, for example, 11:00]*

No Credit

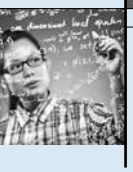
Other responses.

Missing.

Comment

Question 2 is allocated to the change and relationships *category, because here the relationship between distance and time, encapsulated as speed, is paramount. From information about distances and speed, the time to go up and the time to go down have to be quantified, and then used in combination with the finishing time to get the starting time. Had the times to go up and down been given directly, rather than indirectly through distance and speed, then the question could have also belonged in the* quantity *category. Because PISA questions are set in real contexts, they usually involve multiple mathematical topics and underlying mathematical phenomena, so it is necessary to make judgements about the major source of demand in order to categorise them.*

Allocating the process category similarly requires judgement about the major demand of the item. Question 1 has been allocated to the formulating *category, because of the judgement that the major demand in this relatively easy item is to take the two pieces of real world information (open season and total number of climbers), and to set up the mathematical problem to be solved: find the length of the open season from the dates and use it with the information about the total to find the average. Expert judgement is that the major cognitive demand for 15-year-olds lies in this movement from the real world problem to the mathematical relationships, rather than in the ensuing whole number calculations. Question 2 has also been allocated to the formulating process category, because again the major demand is judged to arise from the*



transformation from the real world data to the mathematical problem, identifying all the relationships involved, rather than in carrying out the calculations or in interpreting the answer as a starting time of 11 a.m. In this difficult item, the mathematical structure involves multiple relationships: starting time = finishing time – duration, duration = time up + time down, time up (down) = distance / speed (or equivalent proportional reasoning), time down = half time up, and appreciating the simplifying assumptions that average speeds already include consideration of variable speed during the day and that no further allowance is required for breaks.

CLIMBING MOUNT FUJI – *QUESTION 3*

Toshi wore a pedometer to count his steps on his walk along the Gotemba trail.

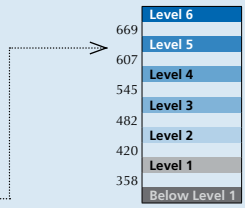
His pedometer showed that he walked 22 500 steps on the way up.

Estimate Toshi's average step length for his walk up the 9 km Gotemba trail. Give your answer in centimetres (cm).

Answer: ..... cm

Scoring

Description: *Divide a length given in km by a specific number and express the quotient in cm*
Mathematical content area: *Quantity*
Context: *Societal*
Process: *Employ*
Question format: *Constructed response manual*
Difficulty: *610*



Full Credit

40

Partial Credit

Responses with the digit 4 based on incorrect conversion to centimetres.

- 0.4 *[answer given in metres].*
- 4 000 *[incorrect conversion].*

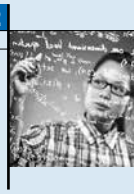
No Credit

Other responses.

Missing.

Comment

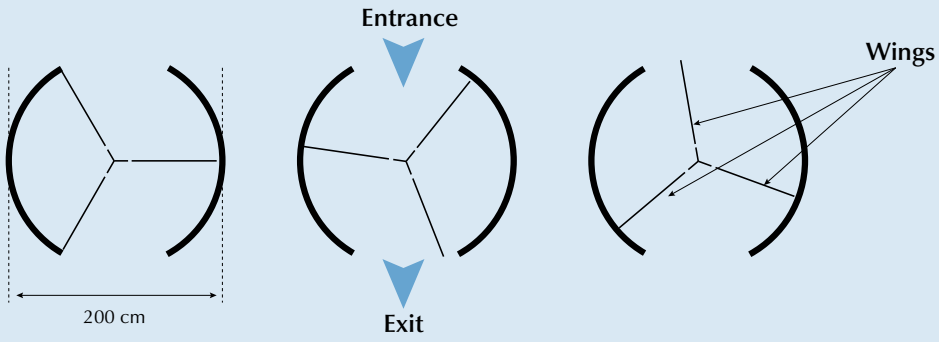
Question 3 has been allocated to the employing *category. There is one main relationship involved: the distance walked = number of steps × average step length. To use this relationship to solve the problem, there are two obstacles: rearranging the formula (which is probably done by students informally rather than formally using the written relationship) so that the average step length can be found from distance and number of steps, and making appropriate unit conversions. For this question, it was judged that the major cognitive demand comes from carrying out these steps; hence it has been categorised in the* employing *process, rather than identifying the relationships and assumptions to be made (the* formulating *process) or interpreting the answer in real world terms.*



■ Figure I.2.57 ■
REVOLVING DOOR

REVOLVING DOOR

A revolving door includes three wings which rotate within a circular-shaped space. The inside diameter of this space is 2 metres (200 centimetres). The three door wings divide the space into three equal sectors. The plan below shows the door wings in three different positions viewed from the top.



The stimulus for these three questions concerns a revolving door, which is common in cold and hot countries to prevent heat moving into or out of buildings.

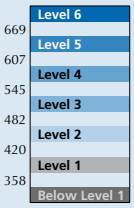
REVOLVING DOOR – *QUESTION 1*

What is the size in degrees of the angle formed by two door wings?

Size of the angle: .....°

Scoring

Description: *Compute the central angle of a sector of a circle*
Mathematical content area: *Space and shape*
Context: *Scientific*
Process: *Employ*
Question format: *Constructed response manual*
Difficulty: *512.3*



Full Credit

120 *[accept the equivalent reflex angle: 240].*

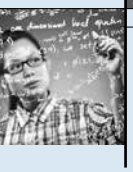
No Credit

Other responses.

Missing.

Comment

The first question may appear very simple: finding the angle of 120 degrees between the two door wings, but the student responses indicate it is at Level 3. This is probably because of the demand arising from communication, representation *and* mathematisation *as well as the specific knowledge of circle geometry that is needed. The context of three-dimensional revolving doors has to be understood from the written descriptions. It also needs to be understood that the three diagrams in the initial stimulus provide different two-dimensional information about just one revolving door (not three doors) – first the diameter, then the directions in which people enter and exit from the door, and thirdly connecting the wings mentioned within the text with the lines of the diagrams. The fundamental mathematical capability*



of representation *is required at a high level to interpret these diagrams mathematically. This question is allocated to the* space and shape *content category because it requires knowledge that there are 360 degrees in a complete revolution, and because of the requirement for spatial understanding of the diagrams.*

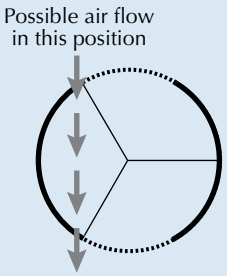
These diagrams give the view from above, but students also need to visualise real revolving doors especially in answering Questions 2 and 3.

REVOLVING DOOR – *QUESTION 2*

The two door openings (the dotted arcs in the diagram) are the same size. If these openings are too wide the revolving wings cannot provide a sealed space and air could then flow freely between the entrance and the exit, causing unwanted heat loss or gain. This is shown in the diagram opposite.

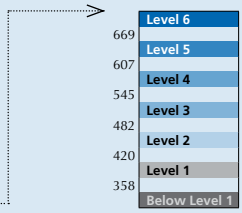
What is the maximum arc length in centimetres (cm) that each door opening can have, so that air never flows freely between the entrance and the exit?

Maximum arc length: ..... cm



Scoring

Description: *Interpret a geometrical model of a real life situation to calculate the length of an arc*
Mathematical content area: *Space and shape*
Context: *Scientific*
Process: *Formulate*
Question format: *Constructed response expert*
Difficulty: *840.3*



Full Credit

Answers in the range from 103 to 105. *[Accept answers calculated as 1/6th of the circumference ($\frac{100\pi}{3}$). Also accept an answer of 100 only if it is clear that this response resulted from using $\pi = 3$. Note: Answer of 100 without supporting working could be obtained by a simple guess that it is the same as the radius (length of a single wing).]*

No Credit

Other responses.

- 209 *[states the total size of the openings rather than the size of "each" opening].*

Missing.

Comment

Question 2 was one of the most challenging questions in the survey, lying towards the upper end of Level 6. It addresses the main purpose of revolving doors, which is to provide an airlock between inside and outside the building and it requires substantial geometric reasoning, which places it in the space and shape *content category. The complexity of coding such a multi-step response in so many countries led to this item being assessed only as full credit or no credit. For full credit, the complex geometrical reasoning showing that the maximum door opening is one sixth of the circumference needed to be followed by an accurate calculation in centimetres. The item is classified in the* formulating *process, and it draws very heavily on the* mathematisation *fundamental mathematical capability, because the real situation has to be carefully analysed and this analysis needs to be translated into geometric terms and back again at multiple points to the contextual situation of the door. As the diagram supplied in the question shows, air will pass from the outside to the inside, or vice versa, if the wall between the front and back openings is shorter than the circumference subtended by one sector. Since the sectors each subtend one third of the circumference, and there are two walls, together the walls must close at least two thirds of the circumference, leaving no more than one third for the two openings. Arguing from symmetry of front and back, each opening cannot be more than one sixth of the circumference. There is further geometric reasoning required to check that the airlock is indeed maintained if this opening length is used. The question therefore draws very heavily on the* reasoning and argument *fundamental mathematical capability.*



REVOLVING DOOR – *QUESTION 3*

The door makes 4 complete rotations in a minute. There is room for a maximum of two people in each of the three door sectors.

What is the maximum number of people that can enter the building through the door in 30 minutes?

A. 60

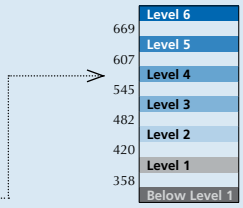
B. 180

C. 240

D. 720

Scoring

Description: *Identify information and construct an (implicit) quantitative model to solve the problem*
Mathematical content area: *Quantity*
Context: *Scientific*
Process: *Formulate*
Question format: *Simple multiple choice*
Difficulty: *561.3*



Full Credit

D. 720

No Credit

Other responses.

Missing.

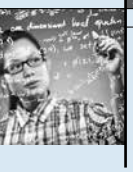
Comment

Question 3 addresses a different type of challenge, involving rates and proportional reasoning, and it sits within Level 4 on the mathematics proficiency scale. In one minute, the door revolves 4 times bringing 4 × 3 = 12 sectors to the entrance, which enables 12 × 2 = 24 people to enter the building. In 30 minutes, 12 × 30 = 720 people can enter (hence, the correct answer is response option D). The question is allocated to the quantity *content category because of the way in which the multiple relevant quantities (number of people per sector [2], number of sectors per revolution [3], number of revolutions per minute [4], number of minutes [30]) have to be combined by number operations to produce the required number of persons to enter in 30 minutes. The high frequency of PISA items that involve proportional reasoning highlights its centrality to mathematical literacy, especially for students whose mathematics has reached a typical stage for 15-year-olds. Many real contexts involve direct proportion and rates, which as in this case are often used in chains of reasoning. Coordinating such a chain of reasoning requires* devising a strategy *to bring the information together in a logical sequence.*

This item also makes considerable demand on the mathematisation *fundamental mathematical capability, especially in the* formulating *process. A student needs to understand the real situation, perhaps visualising how the doors rotate, presenting one sector at a time, making the only way for people to enter the building. This understanding of the real world problem enables the data given in the problem to be assembled in the right way.*

General comment on this unit

The questions in this unit have been allocated to the *scientific* context category, even though they do not explicitly involve scientific or engineering concepts, as do many of the other items in this category. The scientific category includes items that explain why things are as they are in the real world. Question 2 is a good example of such an essentially scientific endeavour. Formal geometric proof is not required by the question, but in answering this item correctly, the highest students will have almost constructed such a proof.

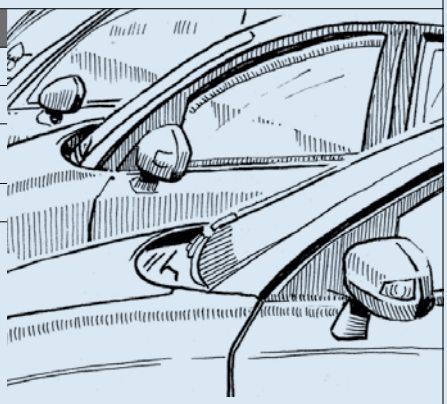


■ Figure I.2.58 ■
WHICH CAR?

WHICH CAR?

Chris has just received her car driving licence and wants to buy her first car.
This table below shows the details of four cars she finds at a local car dealer.

Model:	Alpha	Bolte	Castel	Dezal
Year	2003	2000	2001	1999
Advertised price (zeds)	4 800	4 450	4 250	3 990
Distance travelled (kilometres)	105 000	115 000	128 000	109 000
Engine capacity (litres)	1.79	1.796	1.82	1.783



WHICH CAR? – *QUESTION 1*

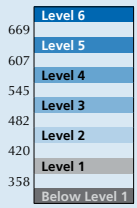
Chris wants a car that meets **all** of these conditions:

- The distance travelled is **not** higher than 120 000 kilometres.
- It was made in the year 2000 or a later year.
- The advertised price is **not** higher than 4 500 zeds.
- Which car meets Chris's conditions?

A. Alpha
B. Bolte
C. Castel
D. Dezal

Scoring

Description: *Select a value that meets four numerical conditions/statements set within a financial context*
Mathematical content area: *Uncertainty and data*
Context: Personal
Process: Interpret
Question format: *Simple multiple choice*
Difficulty: *327.8*

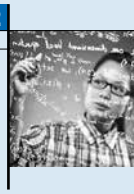


Full Credit

B. Bolte.

No Credit

Other responses.
Missing.



WHICH CAR? – *QUESTION 2*

Which car's engine capacity is the smallest?

A. Alpha

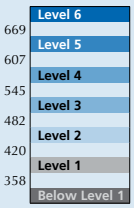
B. Bolte

C. Castel

D. Dezal

Scoring

Description: *Choose the smallest decimal number in a set of four, in context*
Mathematical content area: *Quantity*
Context: *Personal*
Process: *Employ*
Question format: *Simple multiple choice*
Difficulty: *490.9*



Full Credit

D. Dezal.

No Credit

Other responses.

Missing.

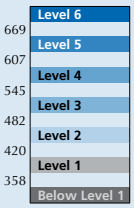
WHICH CAR? – *QUESTION 3*

Chris will have to pay an extra 2.5% of the advertised cost of the car as taxes.
How much are the extra taxes for the Alpha?

Extra taxes in zeds: .....

Scoring

Description: *Calculate 2.5% of a value in the thousands within a financial context*
Mathematical content area: *Quantity*
Context: *Personal*
Process: *Employ*
Question format: *Constructed response manual*
Difficulty: *552.6*



Full Credit

120

No Credit

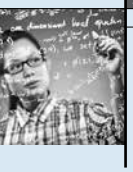
Other responses.

- 2.5% of 4 800 zeds *[Needs to be evaluated]*.

Missing.

General comment on this unit

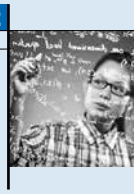
Because buying a car is a situation which many people face in their everyday life, all three questions have been allocated to the *personal* context category. Question 1 and Question 2 are simple multiple choice responses, and Question 3, which asks for a single number, is a constructed response item that does not require expert scoring. Question 1 has been allocated to *uncertainty and data*. The item requires knowledge of the basic row-column conventions of a table, as well as co-ordinated data-handling ability to identify where the three conditions are simultaneously satisfied. The solution also requires basic knowledge of large whole numbers, but the expert judgement is that this knowledge is unlikely to be the main source of difficulty in the item for 15-year-old students. The correct response is B: Bolte.



In contrast, Question 2 has been allocated to the *quantity* content category because it is well known that even at age 15, many students have misconceptions about the base ten and place value ideas required to order "ragged" decimal numbers. Credit is given here for response option D: Dezal.

Question 3 is also allocated to the *quantity* content category because the calculation of 2.5% of the advertised cost, 120 zeds, is expected to be a much larger source of cognitive demand than identifying the correct data from the table. The difficulty for this age group in dealing with decimal numbers and percentages is reflected in the empirical results, with Question 1 being an easy item, Question 2 close to the international average and Question 3 above it.

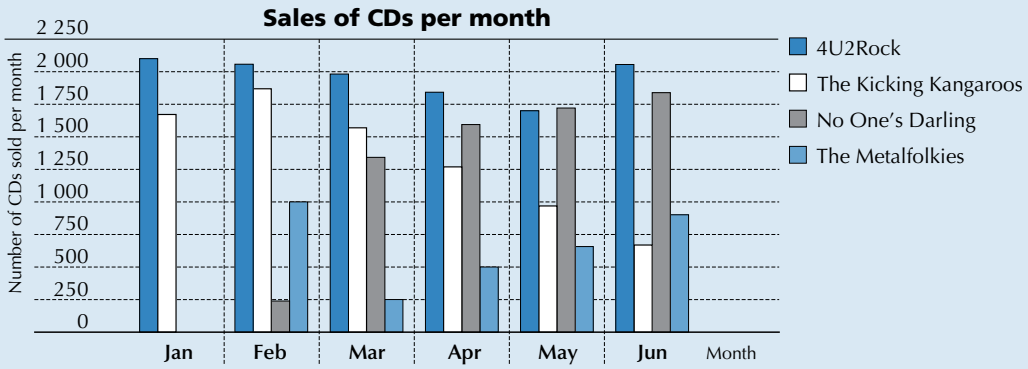
To allocate the items to process categories, it is necessary to consider how the real world situation is involved. Items in the *formulating* category have their major demand in the transition from the real world problem to the mathematical problem. Items in the *employing* category have their major demand within the mathematical world. Items in the *interpreting* category have their major demand in using mathematical information to give a real world solution. Questions 2 and 3 are allocated to the *employing* category. This is because in both of these items, the major source of cognitive demand has been identified as being within mathematics: the concept of decimal notation and the calculation of a percentage. In Question 1, a table of data is presented, and its construction (with the identification of key variables etc.) represents a mathematisation of the real situation. The question then requires these mathematical entities as presented to be interpreted in relation to the real world constraints and situation they represent.



■ Figure I.2.59 ■

CHARTS

In January, the new CDs of the bands 4U2Rock and The Kicking Kangaroos were released. In February, the CDs of the bands No One's Darling and The Metalfolkies followed. The following graph shows the sales of the bands' CDs from January to June.



The three questions making up the unit CHARTS are all of below average difficulty in the main survey. All three items are simple multiple choice, so the demand for communication is only receptive. The unit presents a bar chart showing 6 months of sales data for music. The complication of the bar chart is that it displays four separate data series (four different music bands). Students have to read values from the graphical representation of data and draw conclusions. This is a common task type in the content category *uncertainty and data*. All three items have all been classified in the *societal* context category because it provides information about community behaviour, in this case, aggregated music choices.

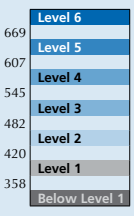
CHARTS – *QUESTION 1*

How many CDs did the band *The Metalfolkies* sell in April?

A. 250
B. 500
C. 1 000
D. 1 270

Scoring

Description: *Read a bar chart*
Mathematical content area: *Uncertainty and data*
Context: *Societal*
Process: *Interpret*
Question format: *Simple multiple choice*
Difficulty: *347.7*

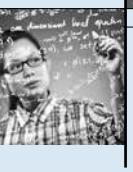


Full Credit

B. 500

No Credit

Other responses.
Missing.



Comment

Question 1, with a difficulty of 347.7, is below Level 1 on the mathematical proficiency scale, being one of the easiest tasks in the PISA 2012 item pool. It requires the student to find the bars for April, select the correct bar for the Metafolkies, and read the height of the bar to obtain the required response selection B (500). No scale reading or interpolation is required. This question is classified in the interpreting *process category.*

CHARTS – *QUESTION 2*

In which month did the band *No One's Darling* sell more CDs than the band *The Kicking Kangaroos* for the first time?

A. No month

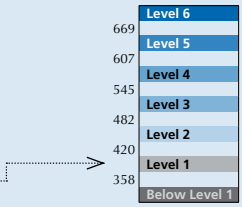
B. March

C. April

D. May

Scoring

Description: *Read a bar chart and compare the height of two bars*
Mathematical content area: *Uncertainty and data*
Context: *Societal*
Process: *Interpret*
Question format: *Simple multiple choice*
Difficulty: *415*



Full Credit

C. April.

No Credit

Other responses.

Missing.

Comment

Question 2 is a little more difficult, and lies near the bottom of Level 3 on the scale. The bars representing two bands need to be identified and the heights compared, starting from January and working through the year. No reading of the vertical scale is required. It is only necessary to make visual comparisons of adjacent bars against a very simple characteristic (which is bigger), –and to identify the correct response option C (April). In comparison with Question 1, Question 2 is a little more demanding of communication *(receptive component),* representation, *and* devising strategies, *and similar on the other fundamental mathematical capabilities. It is also classified in the* interpreting *process category.*

CHARTS – *QUESTION 5*

The manager of *The Kicking Kangaroos* is worried because the number of their CDs that sold decreased from February to June.

What is the estimate of their sales volume for July if the same negative trend continues?

A. 70 CDs

B. 370 CDs

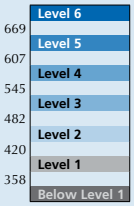
C. 670 CDs

D. 1 340 CDs



Scoring

Description: *Interpret a bar chart and estimate the number of CDs sold in the future assuming that the linear trend continues*
Mathematical content area: *Uncertainty and data*
Context: *Societal*
Process: *Employ*
Question format: *Simple multiple choice*
Difficulty: *428.2*



Full Credit

B. 370 CDs.

No Credit

Other responses.
Missing.

Comment

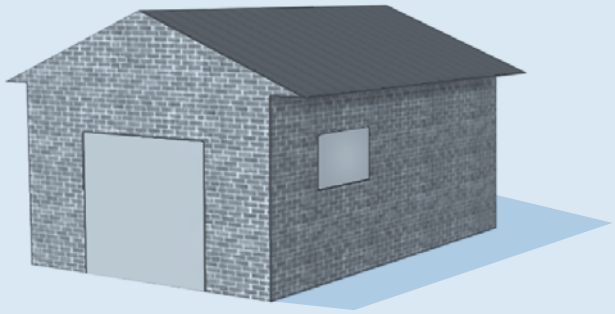
Question 5 requires identifying the data series for the Kangaroos band and observing the negative trend noted in the lead-in to the item stimulus. It involves some work with numbers and also an appreciation that the correct answer to choose may be an approximation to a calculated answer. There are several ways to continue the trend by one more month. A student might work out each monthly decrease and average them, which involves a lot of calculation. A student might take one fifth of the total decrease from February to June. Another student might place a ruler along the tops of the bars for the Kangaroos and find that the July bar would show something between 250 and 500. The correct response option is B (370 CDs), and the task lies in Level 2 on the mathematics scale. The question has been allocated to the Employing *process because it was judged that most students at this level are likely to take the calculation routes, and that carrying these out accurately is likely to present the greatest difficulty for the item.*

■ Figure I.2.60 ■

GARAGE

A garage manufacturer's "basic" range includes models with just one window and one door.

George chooses the following model from the "basic" range. The position of the window and the door are shown here.

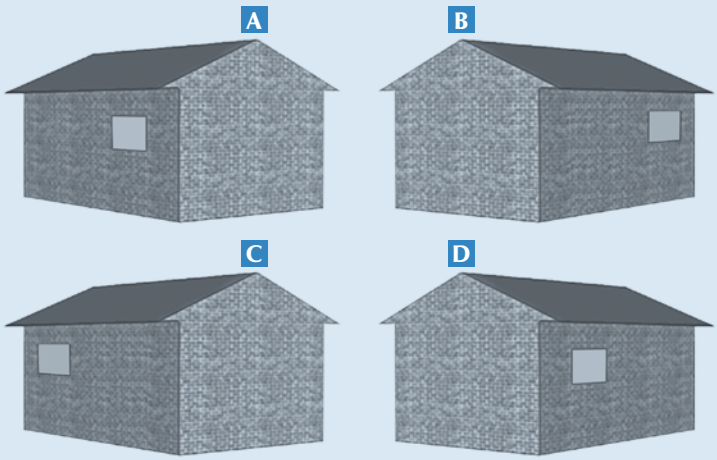


The unit GARAGE consists of two questions, both in the *space and shape* content category because they deal with spatial visualisation and reading building plans, and both in the *occupational* context category, because these questions may arise in the construction, painting or other completion of a building project. Because of the need to derive mathematical information from the diagrams, both questions require activation of the *representation* fundamental mathematical capability.

GARAGE – *QUESTION 1*

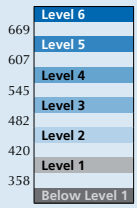
The illustrations below show different "basic" models as viewed from the back. Only one of these illustrations matches the model above chosen by George.

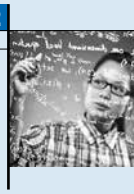
Which model did George choose? Circle A, B, C or D.



Scoring

Description: *Use space ability to identify a 3D view corresponding to another given 3D view*
Mathematical content area: *Space and shape*
Context: *Occupational*
Process: *Interpret*
Question format: *Simple multiple choice*
Difficulty: *419.6*





Full Credit

C. *[Graphic C].*

No Credit

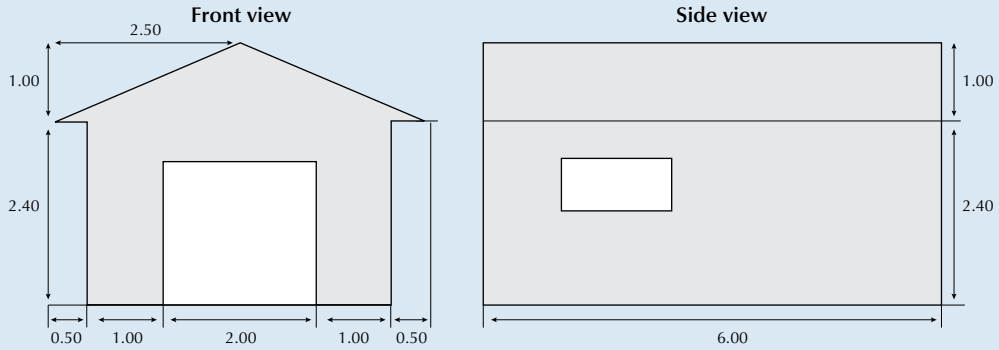
Other responses.
Missing.

Comment

Question 1 lies very close to the Level 1/Level 2 boundary on the proficiency scale. It asks students to identify a picture of a building from the back, given the view from the front. The diagrams must be interpreted in relation to the real world positioning of "from the back", so this question is classified in the interpreting *process. The correct response is C. Mental rotation tasks such as this are solved by some people using intuitive spatial visualisation. Other people need explicit reasoning processes. They may analyse the relative positions of multiple features (door, window, nearest corner), discounting the multiple choice alternatives one by one. Others might draw a bird's eye view, and then physically rotate it. This is just one example of how different students may use quite different methods to solve PISA questions: in this case explicit reasoning for some students is intuitive for others.*

GARAGE – *QUESTION 2*

The two plans below show the dimensions, in metres, of the garage George chose.



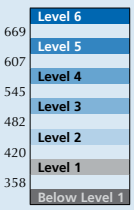
Note: Drawing not to scale.

The roof is made up of two identical rectangular sections.
Calculate the total area of the roof. Show your work.

.....

Scoring

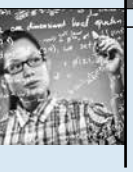
Description: *Interpret a plan and calculate the area of a rectangle using the Pythagorean theorem or measurement*
Mathematical content area: *Space and shape*
Context: *Occupational*
Process: *Employ*
Question format: *Constructed response expert*
Difficulty: *687.3*



Full Credit

Any value from 31 to 33, either showing no working at all or supported by working that shows the use of the Pythagorean theorem (or including elements indicating that this method was used) *[Units (m^2) not required].*

- $12\sqrt{7.25}\ m^2$
- $12 \times 2.69 = 32.28\ m^2$
- $32.4\ m^2$



Partial Credit

Working shows correct use of the Pythagorean theorem but makes a calculation error or uses incorrect length or does not double roof area.

- $2.5^2 + 1^2 = 6$, $12 \times \sqrt{6} = 29.39$ *[correct use of Pythagoras theorem with calculation error].*
- $2^2 + 1^2 = 5$, $2 \times 6 \times \sqrt{5} = 26.8$ m^2 *[incorrect length used].*
- $6 \times 2.6 = 15.6$ *[Did not double roof area].*

Working does not show use of Pythagorean theorem but uses reasonable value for width of roof (for example, any value from 2.6 to 3) and completes rest of calculation correctly.

- $2.75 \times 12 = 33$
- $3 \times 6 \times 2 = 36$
- $12 \times 2.6 = 31.2$

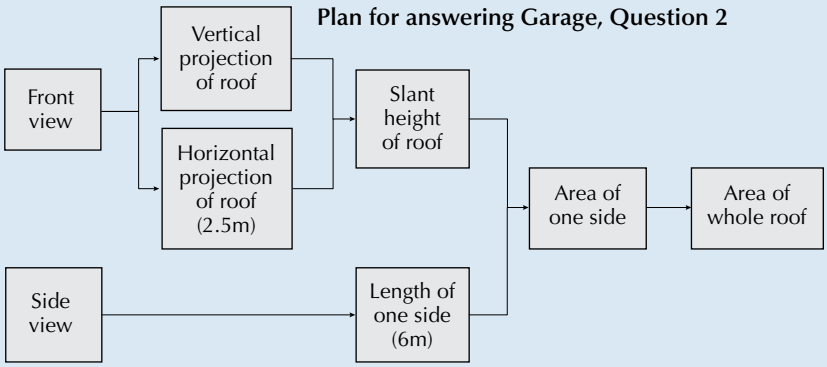
No Credit

Other responses.

- $2.5 \times 12 = 30$ *[Estimate of width of roof lies outside the acceptable range which is from 2.6 to 3].*
- $3.5 \times 6 \times 2 = 42$ *[Estimate of width of roof lies outside the acceptable range which is from 2.6 to 3].*

Missing.

Plan for answering Garage, Question 2



Comment

Question 2 requires complicated calculation, with multiple calls upon the mathematical diagrams, and knowing to use Pythagoras's theorem. For this reason, it has been classified in the employing process. There are multiple reasons why this item is at Level 5 for partial credit answers and at Level 6 for full credit answers. Question 2 requires a constructed response, although in this case the explanation of reasoning is only used to award partial credit for incorrect answers, rather than being scored for quality of explanation. There is high level demand for the representation *capability, in understanding and deriving exact information from the front and side views presented.* Mathematisation *is also called upon, especially in reconciling the apparent 1.0 m height of the roof from the side view with the real situation and with the front view. The devising strategies capability is called up at a high level to make a plan to get the area from the information presented. The plan above shows the basic structure of the solution. To carry out such a plan also requires careful monitoring. Future analysis of the data beyond the scope of this first report may show interesting differences between the students who score partial credit.*



Notes

1. The GDP values represent per capita GDP in 2012 at current prices, adjusted for differences in purchasing power among OECD countries.

2. It should be borne in mind, however, that the number of countries involved in this comparison is small, and that the trend line is therefore strongly affected by the particular characteristics of the countries included in the comparison.

3. Spending per student is approximated by multiplying public and private expenditure on educational institutions per student in 2012 at each level of education by the theoretical duration of education at the respective level, up to the age of 15. Cumulative expenditure for a given country is approximated as follows: let *n(0)*, *n(1)* and *n(2)* be the typical number of years spent by a student from the age of 6 up to the age of 15 years in primary, lower secondary and upper secondary education. Let *E(0)*, *E(1)* and *E(2)* be the annual expenditure per student in USD converted using purchasing power parities in primary, lower secondary and upper secondary education, respectively. The cumulative expenditure is then calculated by multiplying current annual expenditure *E* by the typical duration of study *n* for each level of education *i* using the following formula:

$$CE = \sum_{i=0}^{2} n(i) * E(i)$$

4. For this purpose, the respective data were standardised across countries and then averaged over the different aspects.

5. For more details, see Butler and Adams (2007).

6. For trend purposes, Dubai (UAE) and the rest of the United Arab Emirates are counted as separate economies. Dubai (UAE) implemented PISA 2009 in 2009 and the rest of the United Arab Emirates implemented PISA 2009 in 2010, as part of PISA 2009+.

7. As described in more detail in Annex A5, the annualised change takes into account the specific year in which the assessment was conducted. In the case of mathematics, this is especially relevant for the PISA 2009 assessment as Costa Rica, Malaysia and the United Arab Emirates (excluding Dubai) implemented the assessment in 2010 as part of PISA 2009+.

8. Normally, when comparing two concurrent means, the significance is indicated by calculating the ratio of the difference of the means to the standard error of the difference of the means. If the absolute value of this ratio is greater than 1.96, then a true difference is indicated with 95% confidence. When comparing two means taken at different times, with instruments that have a subset of common items, as in different PISA surveys, an extra error term, known as the link error, is introduced, and the resulting statement of significant difference is more conservative. For more details, see Annex A5.

9. By accounting for students' gender, age, socio-economic status, immigrant background and language spoken at home, the adjusted trends allow for a comparison of trends in performance assuming no change in the underlying population or the effective samples' average socio-economic status, age and percentage of girls, students with an immigrant background or students that speak a language at home that is different than the language of assessment.

10. The *PISA index of social, economic and cultural status* is unavailable for Albania in PISA 2012. Albania improved throughout its participation in PISA, but it is impossible to calculate adjusted trends for the country.

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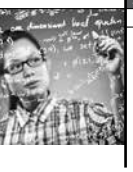
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3

Measuring Opportunities to Learn Mathematics

This chapter examines whether and how exposure to mathematics content, known as "opportunity to learn", is associated with student performance. The analysis is based on students' responses to questions that appeared in the PISA Student Questionnaire on the degree to which they encountered various types of mathematics problems during their schooling, how familiar they were with certain formal mathematics content, and how frequently they had been taught to solve specific mathematics tasks involving formal or applied mathematics.



Previous research has shown a relationship between students' exposure to subject content in school, what is known as "opportunity to learn", and student performance (e.g. Schmidt et al., 2001). Building on previous measures of opportunity to learn (Carroll, 1963; Wiley and Harnischfeger, 1974; Sykes, Schneider and Planck, 2009; Schmidt et al., 2001), the PISA 2012 assessment included questions to students on the mathematics theories, concepts and content to which they have been exposed to in school, and the amount of class time they spent studying this content.

What the data tell us

- Students in the high-performing East Asian countries and economies – Shanghai-China, Singapore, Hong Kong-China, Chinese Taipei, Korea, Macao-China and Japan – are more frequently exposed to formal mathematics than students in most of the other PISA-participating countries and economies.
- Exposure to more advanced mathematics content, such as algebra and geometry, appears to be related to high performance on the PISA mathematics assessment, even if the causal nature of this relationship cannot be established.
- Strong mathematics performance in PISA is not only related to opportunities to learn formal mathematics, such as solving a quadratic equation, using complex numbers, or calculating the volume of a box, but also to opportunities to learn applied mathematics (using mathematics in a real-world context).

Six questions were created in the Student Questionnaire to cover both the content and time aspects of students' opportunity to learn.

Four of the questions focused on the degree to which students encountered various types of mathematics problems or tasks during their schooling, which all form part of the PISA mathematics framework and assessment. Some of the tasks included in those questions involved formal mathematics content, such as solving an equation or calculating the volume of a box (see Question 4 at the end of this chapter). Others involved using mathematics in a real-world applied context (see Question 6 at the end of this chapter). Another type of task required using mathematics in its own context, such as using geometric theorems to determine the height of a pyramid (see Question 5 at the end of this chapter). The last type of tasks involved formal mathematics, but situated in a word problem like those typically found in textbooks (see Question 3 at the end of this chapter) where it is obvious to students what mathematics knowledge and skills are needed to solve them. Students were asked to indicate how frequently they encountered similar tasks in their mathematics lessons using a four-point scale: never, rarely, sometimes, or frequently.

In another question, students were asked how familiar they were with certain formal mathematics content, including such topics as quadratic functions, radicals and the cosine of an angle (see Question 2 at the end of this chapter). Responses to these tasks were recorded on a five-point scale indicating the degree to which students had heard of the topic. Having heard of a topic more often was assumed to reflect a greater degree of opportunity to learn.

In addition, a question asked students to indicate, on a four-point scale, how frequently they had been taught to solve eight specific mathematics tasks (see Question 1 at the end of this chapter). These tasks included both formal and applied mathematics.

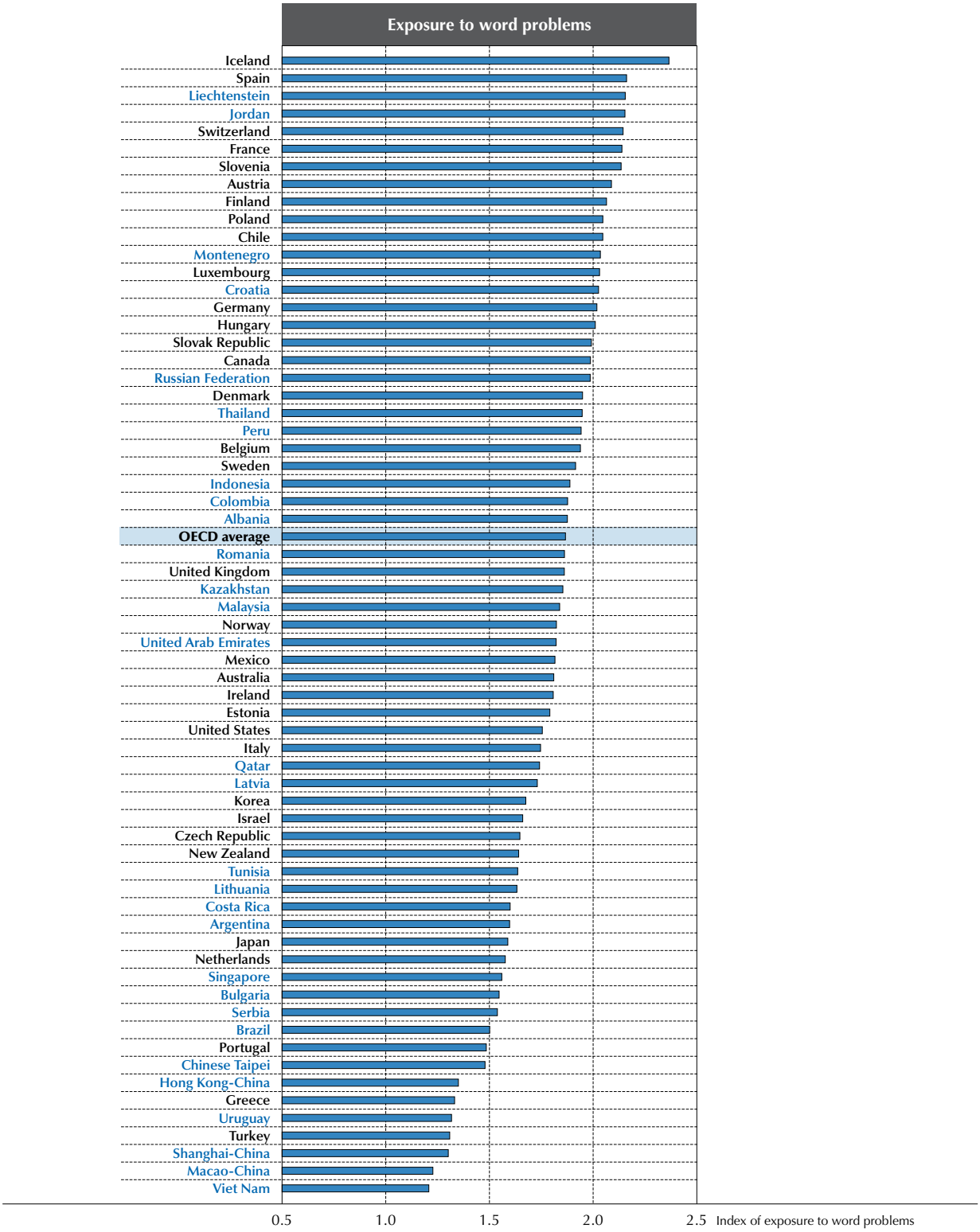
All but the last question were used to create three indices: "formal mathematics", "word problems", and "applied mathematics". Values of these indices range from 0 to 3, indicating the degree of exposure to opportunity to learn, with 0 corresponding to no exposure and 3 to frequent exposure. (For more details on how these indices are constructed, see the section in blue at the end of this chapter.). When interpreting these data, it needs to be borne in mind that the 15-year-olds assessed by PISA are, in some countries, dispersed over a range of grades and mathematical programmes and will therefore be exposed to a range of mathematical content.

On average, 15-year-olds in OECD countries indicated that they encounter applied mathematics tasks and word problems "sometimes" and formal mathematics tasks somewhat less frequently (Figures I.3.1a, b, c and Table I.3.1).



■ Figure I.3.1a ■

Students' exposure to word problems

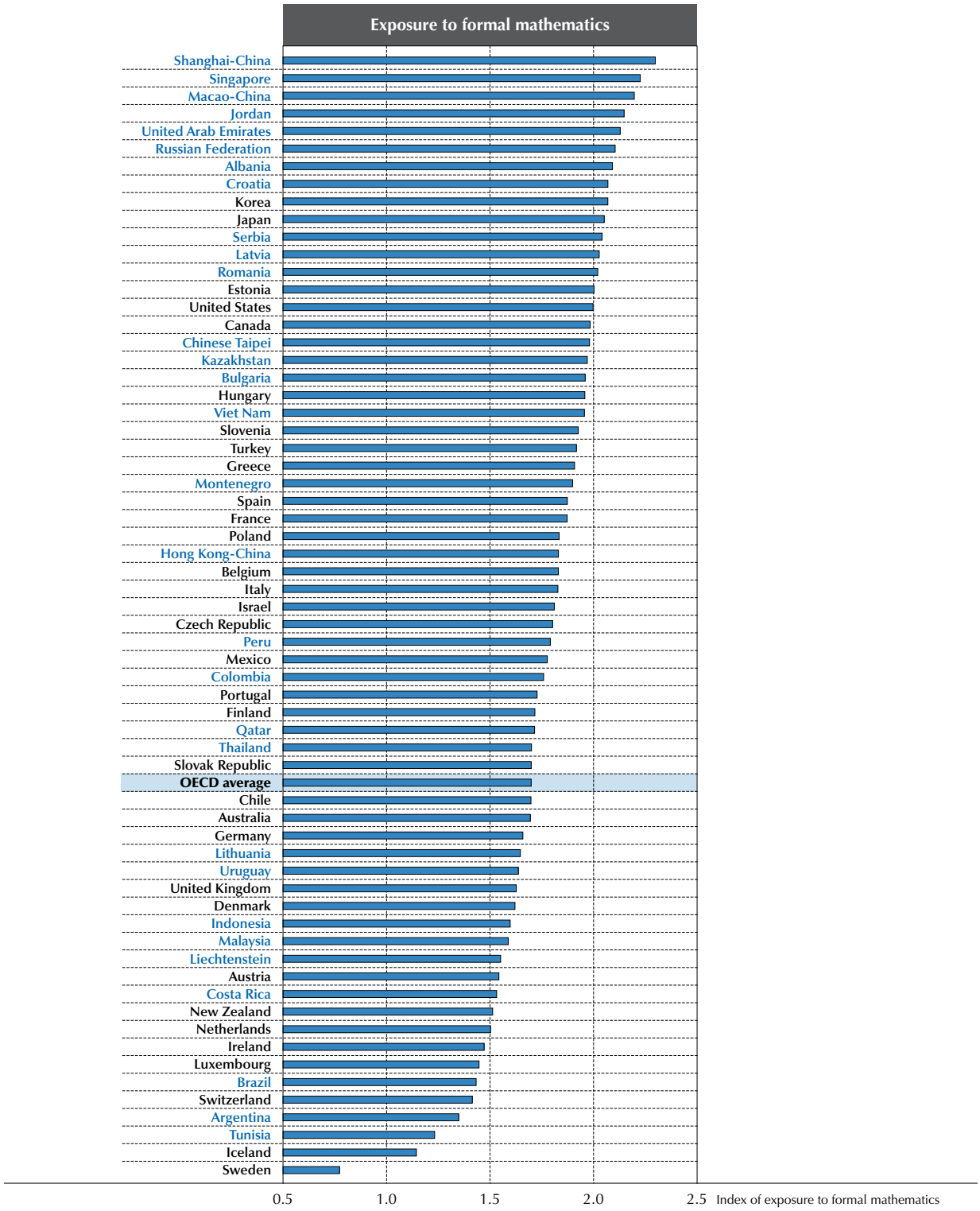


Countries and economies are ranked in descending order of the index of exposure to word problems.
Source: OECD, PISA 2012 Database, Table I.3.1.
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■ Figure I.3.1b ■

Students' exposure to formal mathematics

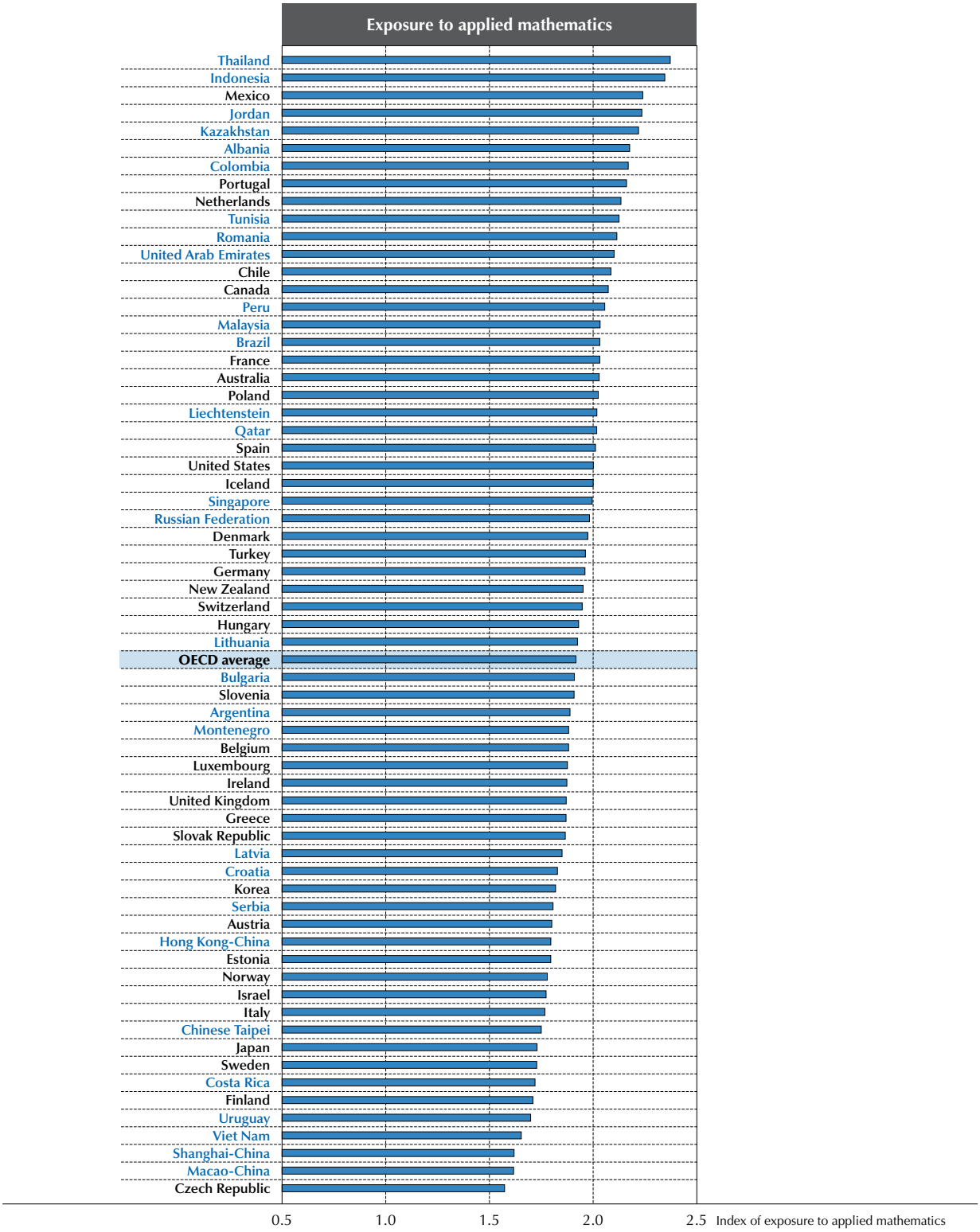


Countries and economies are ranked in descending order of the index of exposure to formal mathematics.
Source: OECD, PISA 2012 Database, Table I.3.1.
StatLink http://dx.doi.org/10.1787/888932935591



■ Figure I.3.1c ■

Students' exposure to applied mathematics



Countries and economies are ranked in descending order of the index of exposure to applied mathematics.
Source: OECD, PISA 2012 Database, Table I.3.1.
StatLink http://dx.doi.org/10.1787/888932935591



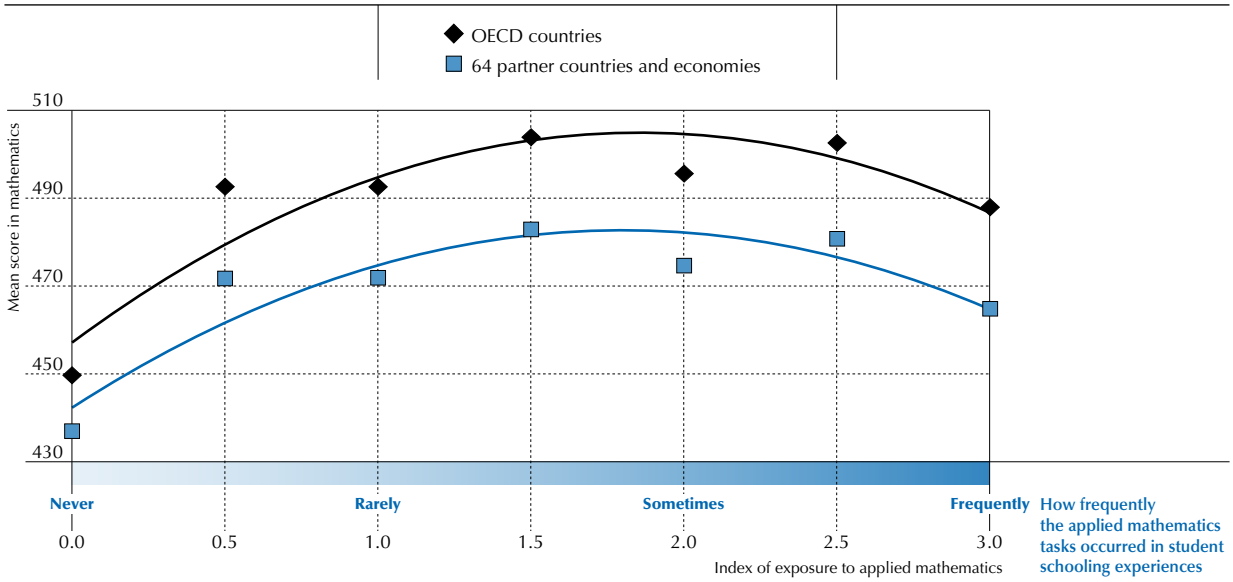
OPPORTUNITY TO LEARN AND STUDENT ACHIEVEMENT

To examine the overall relationship between opportunity to learn and achievement, a three-level model was fitted to the data showing that at all three levels – country, school and student – there was a statistically significant relationship between opportunity to learn and student performance. Therefore, examinations of the relationship between opportunity to learn and achievement can be made at student, school and country levels simultaneously.

For applied mathematics, the relationship at all three levels is curvilinear (e.g. quadratic): on average, the more frequently students are exposed to problems involving applied mathematics, the better their mathematics performance, but only up to a point; after this point, performance declines. Figure I.3.2 graphically portrays the nature of the relationship averaged over the 65 countries, as well as over the OECD countries.

■ Figure I.3.2 ■

Relationship between mathematics performance and students' exposure to applied mathematics



Source: OECD, PISA 2012 Database.

StatLink http://dx.doi.org/10.1787/888932935591

Among OECD countries, student performance is higher by about 40 points as the frequency of the encounters increased from "never" to "rarely"; but at a point between "rarely" and "sometimes" student performance reached a peak after which more frequent encounters with such problems had a negative relationship to performance. Fifteen-year-olds who frequently encounter applied problems scored about ten PISA score points below students who sometimes encounter such problems.

For both of the other opportunity-to-learn variables, i.e. word problems and formal mathematics – the relationship is linear. Exposure to word problems is positively related to performance at both the school and student levels, but not at the country level; the relationship between exposure to formal mathematics and performance is significant at all three levels.

Within each country the relationship between opportunity to learn and performance can be observed at both the school and student levels. These relationships were analysed using a two-level model. Of the 64 countries and economies that participated in PISA 2012 with available data for the index of opportunity to learn formal mathematics, all but Albania and Liechtenstein show a positive and statistically significant relationship between exposure to formal mathematics and performance at both the student and school levels (Figure I.3.3). Among the OECD countries, the average impact of the degree of exposure to algebra and geometry topics on performance is around 50 points at the student level (i.e. increase in PISA mathematics score associated with one unit increase in the index of exposure to formal mathematics). The student level impact of the degree of exposure to word problems on performance is more limited, involving 49 countries with an OECD average estimated impact of 4 points (Table I.3.2).



■ Figure I.3.3 ■

Country-level regressions between opportunity to learn variables and mathematics performance at the student and school levels

		Student			School		
		Word problems	Applied mathematics	Formal mathematics	Word problems	Applied mathematics	Formal mathematics
OECD	Australia	L		L	L		L
	Austria			L	L	Q	L
	Belgium			L			L
	Canada	L	Q	L	L	Q	L
	Chile	L	Q	L	L	Q	L
	Czech Republic			L	L		L
	Denmark	L	Q	L		Q	L
	Estonia	L		L	L	Q	L
	Finland	L	Q	L	L	L	L
	France		Q	L			L
	Germany			L	L		L
	Greece	L		L	L		L
	Hungary			L			L
	Iceland	L	Q	L	L	Q	L
	Ireland	L	Q	L		L	L
	Israel			L		Q	L
	Italy	L	Q	L	L	Q	L
	Japan	L	Q	L	L		L
	Korea	L		L			L
	Luxembourg	L	Q	L	L		L
	Mexico	L	Q	L	L	Q	L
	Netherlands	L	Q	L			L
	New Zealand	L	Q	L			L
	Norway	L	Q	m	L		m
	Poland	L		L	L		L
	Portugal			L			L
	Slovak Republic	L	Q	L	L	Q	L
	Slovenia			L	L		L
	Spain	L	Q	L	L		L
	Sweden	L	Q	L	L		L
	Switzerland	L	Q	L	L	Q	L
	Turkey		L	L			L
	United Kingdom	L	Q	L		Q	L
	United States	L		L	L		L
Partners	Albania						
	Argentina	L		L	L		L
	Brazil		Q	L	L		L
	Bulgaria		Q	L		Q	L
	Colombia	L	Q	L	L	Q	L
	Costa Rica	L	Q	L	L	Q	L
	Croatia		Q	L			L
	Hong Kong-China			L			L
	Indonesia			L		Q	L
	Jordan	L	Q	L			L
	Kazakhstan			L		Q	L
	Latvia	L		L			L
	Liechtenstein			L			
	Lithuania	L	Q	L	L		L
	Macao-China	L	Q	L			L
	Malaysia	L	Q	L			L
	Montenegro	L	Q	L			L
	Peru	L	Q	L	L	Q	L
	Qatar	L	Q	L	L	Q	L
	Romania	L	Q	L	L	Q	L
	Russian Federation	L		L			L
	Serbia	L	Q	L			L
	Shanghai-China	L	L	L	L	L	L
	Singapore	L	Q	L	L		L
	Chinese Taipei		Q	L			L
	Thailand	L	Q	L	L	Q	L
	Tunisia	L		L	L	L	L
	United Arab Emirates			L	L	Q	L
	Uruguay	L	L	L		Q	L
	Viet Nam			L			L

Note: "L" and "Q" show a statistically significant relationship between the opportunity to learn variables and mathematics performance. "L" when the relationship is linear and "Q" when it is quadratic.

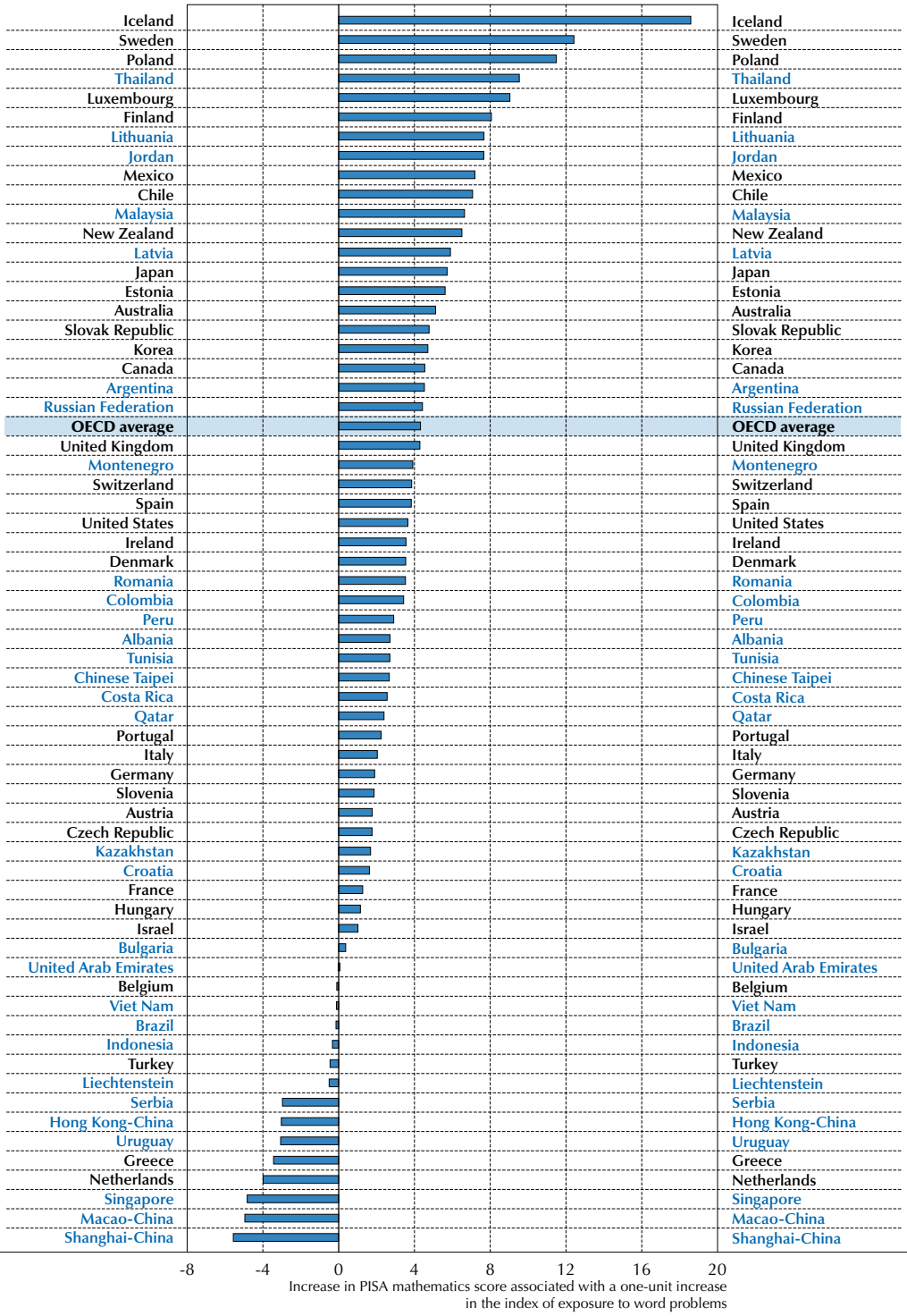
Source: OECD, PISA 2012 Database, Table I.3.2.

StatLink http://dx.doi.org/10.1787/888932935591



■ Figure I.3.4a ■

Relationship between the index of exposure to word problems and students' mathematics performance



Note: For the index of exposure to word problems the estimates come from a linear regression, positive values thus signal that greater exposure is more strongly associated with students' mathematics performance.

Countries and economies are ranked in descending order of the strength of the relationship between the index of exposure to word problems and mathematics performance.

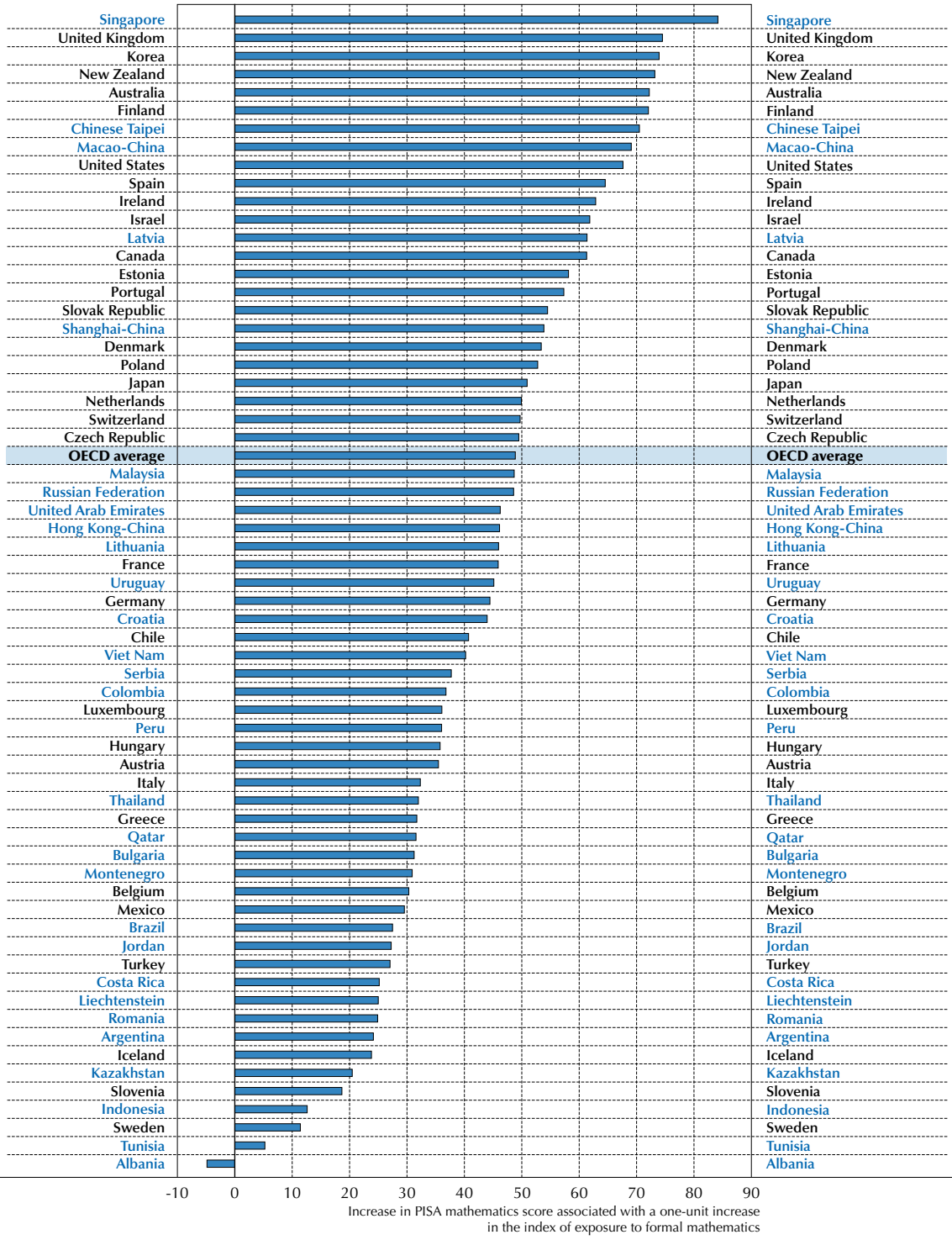
Source: OECD, PISA 2012 Database, Table I.3.2.

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■ Figure I.3.4b ■

Relationship between the index of exposure to formal mathematics and students' mathematics performance



Note: For the index of exposure to formal mathematics the estimates come from a linear regression, positive values thus signal that greater exposure is more strongly associated with students' mathematics performance.

Countries and economies are ranked in descending order of the strength of the relationship between the index of exposure to formal mathematics and mathematics performance.

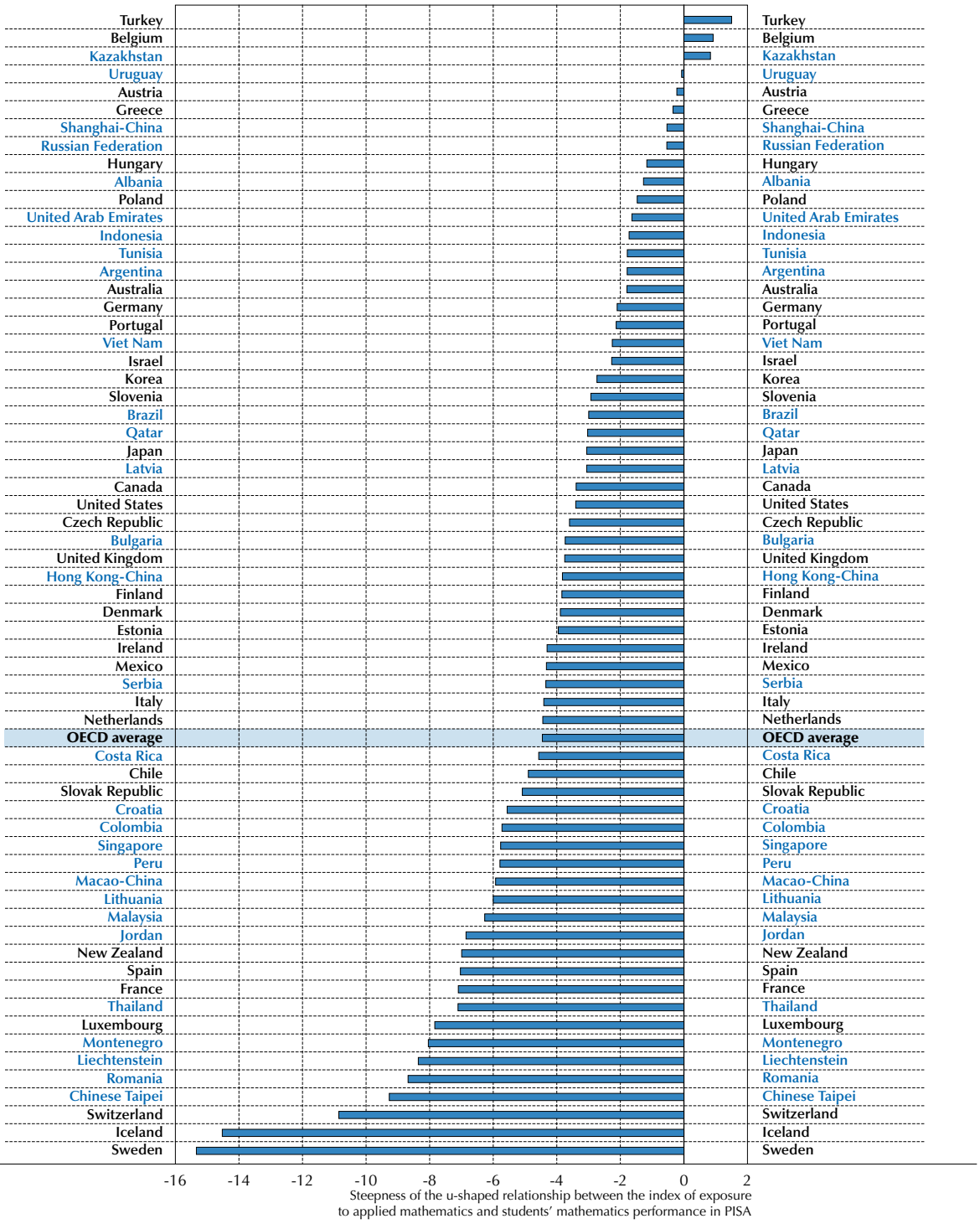
Source: OECD, PISA 2012 Database, Table I.3.2.

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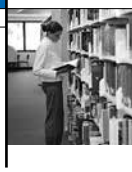


■ Figure I.3.4c ■

Relationship between the index of exposure to applied mathematics and students' mathematics performance



Note: For the index of exposure to applied mathematics the estimates are from a regression with a quadratic term, meaning that negative values indicate an inverted-u shape relationship between the index and students' mathematics performance. Lower negative numbers point to steeper inverted u-shaped relationships.
Countries and economies are ranked in descending order of the strength of the relationship between the index of exposure to applied mathematics and mathematics performance.
Source: OECD, PISA 2012 Database, Table I.3.2.
StatLink http://dx.doi.org/10.1787/888932935591



It is noteworthy that in the high-performing East Asian countries and economies on the PISA assessment – Shanghai-China, Singapore, Hong Kong-China, Chinese Taipei, Korea, Macao-China and Japan – the exposure to formal mathematics is significantly stronger than in the remaining PISA participating countries and economies (2.1 versus 1.7). The exposure to word problems shows the opposite pattern. In this case the exposure to word problems is less strong in the high-performing East Asian countries and economies than in the other countries (1.4 versus 1.8). For the index of exposure to applied mathematics, the difference between high-performing East Asian participants and other countries and economies is about 0.2 points (1.8 versus 2.0) (Table I.3.1).

The results suggest that opportunities to learn formal mathematics are related to PISA performance. Furthermore, exposure to more advanced mathematics content, such as algebra and geometry, appears to be related to high performance on the PISA mathematics assessment, even if the causal nature of this relationship cannot be established.

At the student level, the estimated effect of a greater degree of familiarity with such content on performance is almost 50 points (Figure I.3.4b and Table I.3.2). The results could indicate that students exposed to advanced mathematics content are also good at applying that content to PISA tasks. Alternatively, the results could indicate that high-performing students attend mathematics classes that offer more advanced mathematics content. Exposure to word problems, which are usually designed by textbook writers as applications of mathematics, are also related to performance, but not as strongly (Figure I.3.4a and Table I.3.2).

In 47 of the 65 participating countries and economies, the opportunity-to-learn variable measuring the frequency of student encounters with applied mathematics tasks was related to PISA performance at either the student or school level or both (Figures I.3.3 and I.3.5).[1] Again, the causal nature of the relationship cannot be established. In some countries the relationship is likely to be the result of low-performing students attending programmes and tracks that offer more applied mathematics content.

■ Figure I.3.5 ■

Significance of exposure to applied mathematics

Where exposure is related to performance, at the school and student levels

		School	
		Significant	*Not significant*
Student	*Significant*	Bulgaria, Canada, Chile, Colombia, Costa Rica, Denmark, Finland, Iceland, Ireland, Italy, Mexico, Peru, Qatar, Romania, Shanghai-China, Slovak Republic, Switzerland, Thailand, United Kingdom, Uruguay	Brazil, Croatia, France, Japan, Jordan, Lithuania, Luxembourg, Macao-China, Malaysia, Montenegro, New Zealand, Netherlands, Norway, Serbia, Singapore, Spain, Sweden, Chinese Taipei, Turkey
	Not significant	Austria, Estonia, Indonesia, Israel, Kazakhstan, Tunisia, United Arab Emirates	Albania, Argentina, Australia, Belgium, Czech Republic, Germany, Greece, Hong Kong-China, Hungary, Korea, Latvia, Liechtenstein, Poland, Portugal, Russian Federation, Slovenia, United States, Viet Nam

Source: OECD, PISA 2012 Database, Table I.3.2.

In all 40 countries and economies showing a relationship between applied mathematics and performance at the student level, except Uruguay, Turkey and Shanghai-China, the relationship is curvilinear. This means that the positive relationship between applied mathematics and performance at the student level holds until a certain point, and then it becomes negative. The average of the top-achieving East Asian countries on the applied mathematics index (1.76) falls between "rarely" and "sometimes" on the index. As shown in Figure I.3.2, the average is just at the inflection point as the curve begins its downward slope. The other 58 countries'/economies' mean places them further down the curve where the decline in performance is greater (Table I.3.1). In 20 of them, namely Uruguay, the United Kingdom, Finland, the Slovak Republic, Thailand, Canada, Ireland, Bulgaria, Chile, Denmark, Peru, Costa Rica, Switzerland, Iceland, Qatar, Colombia, Mexico, Romania, Italy and Shanghai-China there is a relationship between applied mathematics and performance at both the school and student levels (Figure I.3.5).



Educators and education policy makers tend to agree that the capacity of students to apply mathematical content is central to their success later in life, because modern economies tend to pay people not for what they know but for what they can do with what they know. They often debate the extent to which mathematics that is related to real-world problems should be incorporated into school curricula. Some argue that students learn advanced mathematics content best when studying it in an applied context; others contend that contextual material could detract from the content and therefore exposure to advanced mathematics content with as little contextual material as possible will be most effective in helping students learn and apply the content.

PISA results on the opportunity-to-learn measure do not answer the question directly, but they suggest that it is a matter of balance. It appears that strong mathematics performance in PISA is not only related to opportunities to learn formal mathematics, but also to opportunities to learn applied mathematics. Learning formal mathematics is necessary, but not sufficient by itself. Even with a higher level of opportunities related to formal mathematics, a degree of exposure to applied mathematics problems is, up to some point, positively related to performance.

DIFFERENCES IN OPPORTUNITIES TO LEARN

Decisions on curriculum content, whether taken at the national, regional, local or school level, have direct consequences on students' academic achievement (Schmidt et al., 2001 and Sykes, Schneider and Plank, 2009). As an integral feature of curricula, opportunities to learn thus fall under the purview of education policy. Given the significant relationship between opportunities to learn and performance, as described above, policy makers can learn through PISA how their decisions about curricula are ultimately reflected in student performance.

Students were asked about the frequency with which they had encountered six types of fairly common real-world mathematics problems during their time at school (see Question 1 at the end of this chapter). The average proportion of students across OECD countries who answered "frequently" ranged from 11.2% (calculating the power consumption of an electric appliance per week, Figure I.3.6 and Table I.3.10) to 25.4% (calculating how many square metres of tiles were needed to cover a floor, Figure I.3.7 and Table I.3.5). The average proportion of 15-year-olds who rarely or never were taught to do these kinds of tasks ranged from 35.9% to 57.2%.

Countries varied widely on these measures, though some of this variation may be due to differences in what students in different countries and contexts consider to be frequent. For example, in some countries and economies, namely Hong Kong-China, the Czech Republic, Macao-China and Viet Nam, fewer than 10% of students say they frequently encounter an applied problem like one that requires them to calculate the taxes imposed when purchasing a computer. In Viet Nam, only 3.6% of 15-year-olds say they are frequently exposed to such a problem.

By contrast, 60% to 61% of students in OECD and partner countries and economies say they frequently encounter formal mathematics tasks like the two items that involved solving quadratic equations (Tables I.3.7 and I.3.9); and there was much less variation between countries.

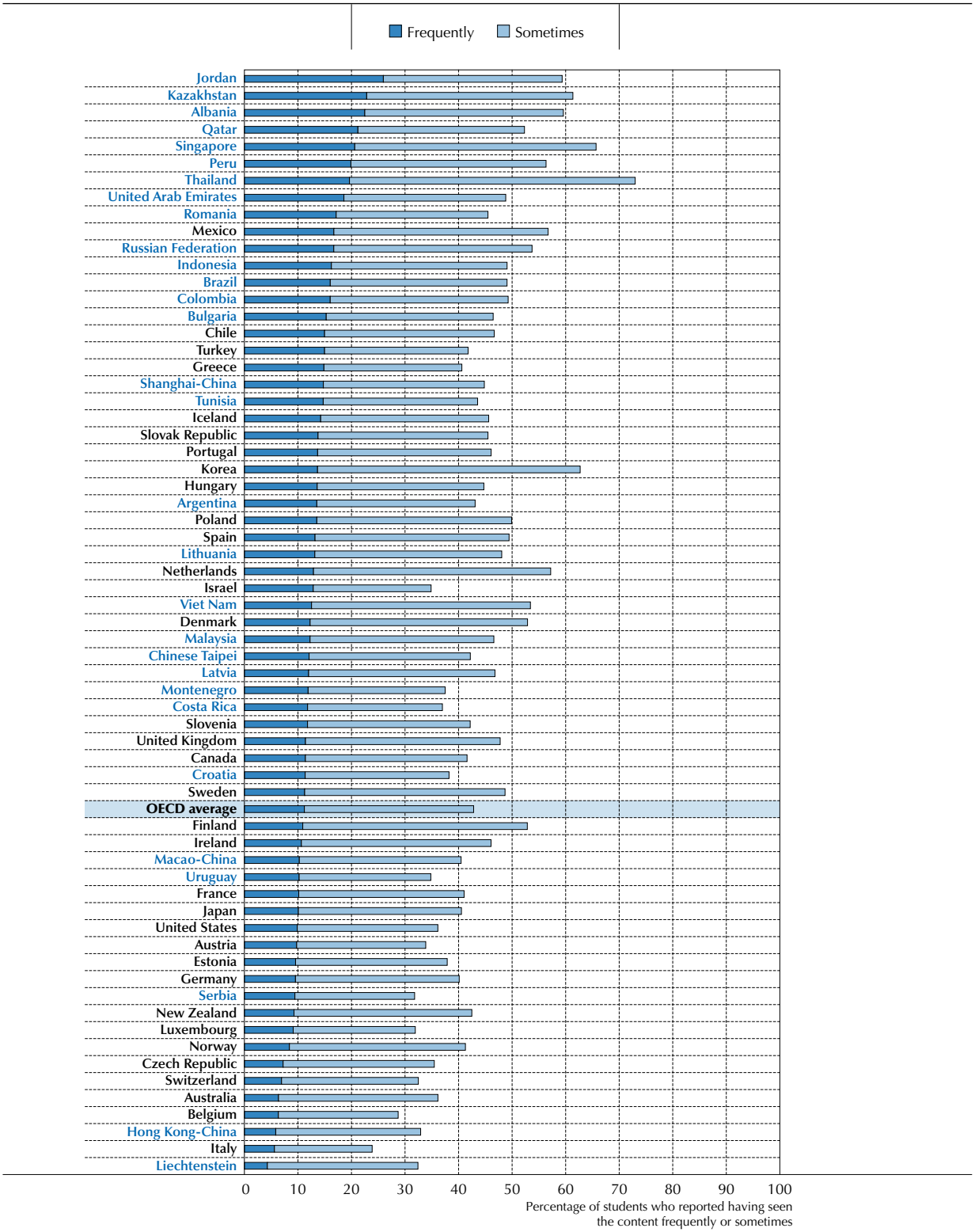
PISA also categorised mathematics problems into four types – formal mathematics (Figure I.3.8), word problems (Figure I.3.9), applied problems in mathematics (Figure I.3.10), and real-world problems (Figure I.3.11) – in order to more finely distinguish between formal and applied mathematics. PISA found that an average of 68.4% of students in OECD countries said they frequently encounter formal mathematics tasks (e.g. $2x + 3 = 7$, and finding the volume of a box) in their mathematics lessons. This proportion varies from a high of 85.4% in Iceland to a low of 49.0% in Portugal (Figure I.3.8 and Table I.3.11). Among partner countries and economies, the proportion of students who are frequently exposed to these types of tasks ranges from 78.4% in Croatia to 43.2% in Brazil. By contrast, only around 6.5% of students in OECD countries rarely or never encounter this type of problem.

A second category of mathematics problem includes formal mathematics concepts placed in a word problem of the kind often found in textbooks. These types of word problems do have an "applied" component, but they are often perceived by students as contrived real-world problems. Students can often recognise such word problems as requiring the same computations that they are being asked to perform in the lesson, but with verbiage surrounding the computation. The examples given included purchasing furniture with a discount, and finding the age of someone, given his/her relationship to the age of others.



■ Figure I.3.6 ■

Percentage of students who reported having seen applied mathematics problems like "calculating the power consumption of an electric appliance per week" frequently or sometimes



Countries and economies are ranked in descending order of the percentage of students who reported having seen applied mathematics problems, for instance calculating the power consumption of an electronic appliance per week frequently (see Question 1 at the end of this chapter).

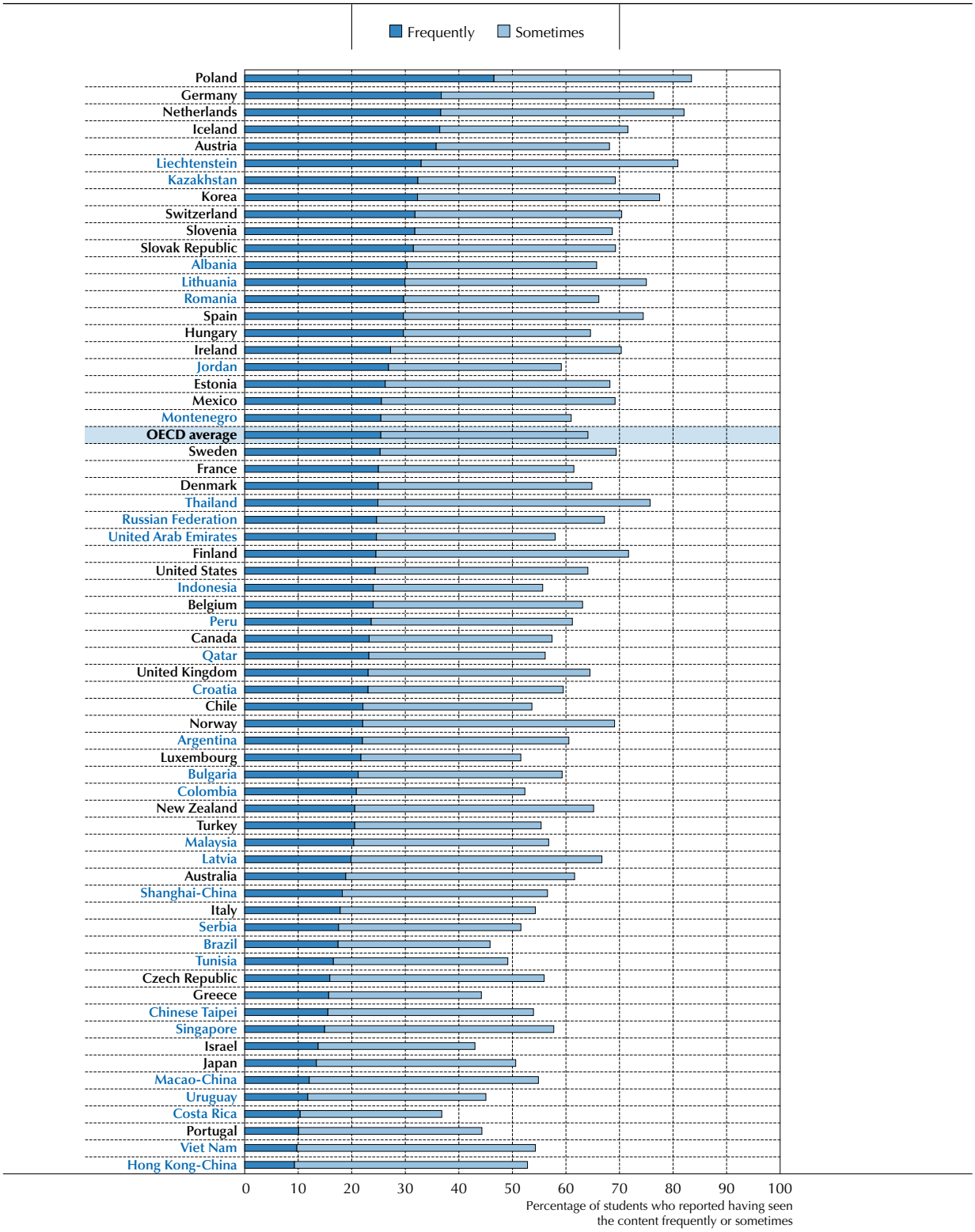
Source: OECD, PISA 2012 Database, Table I.3.10.

StatLink http://dx.doi.org/10.1787/888932936427



■ Figure I.3.7 ■

Percentage of students who reported having seen applied mathematics problems like "calculating how many square metres of tiles you need to cover a floor" frequently or sometimes



Countries and economies are ranked in descending order of the percentage of students who reported having seen applied mathematics problems, for instance calculating how many square metres of tiles you need to cover a floor, frequently (see Question 1 at the end of this chapter).

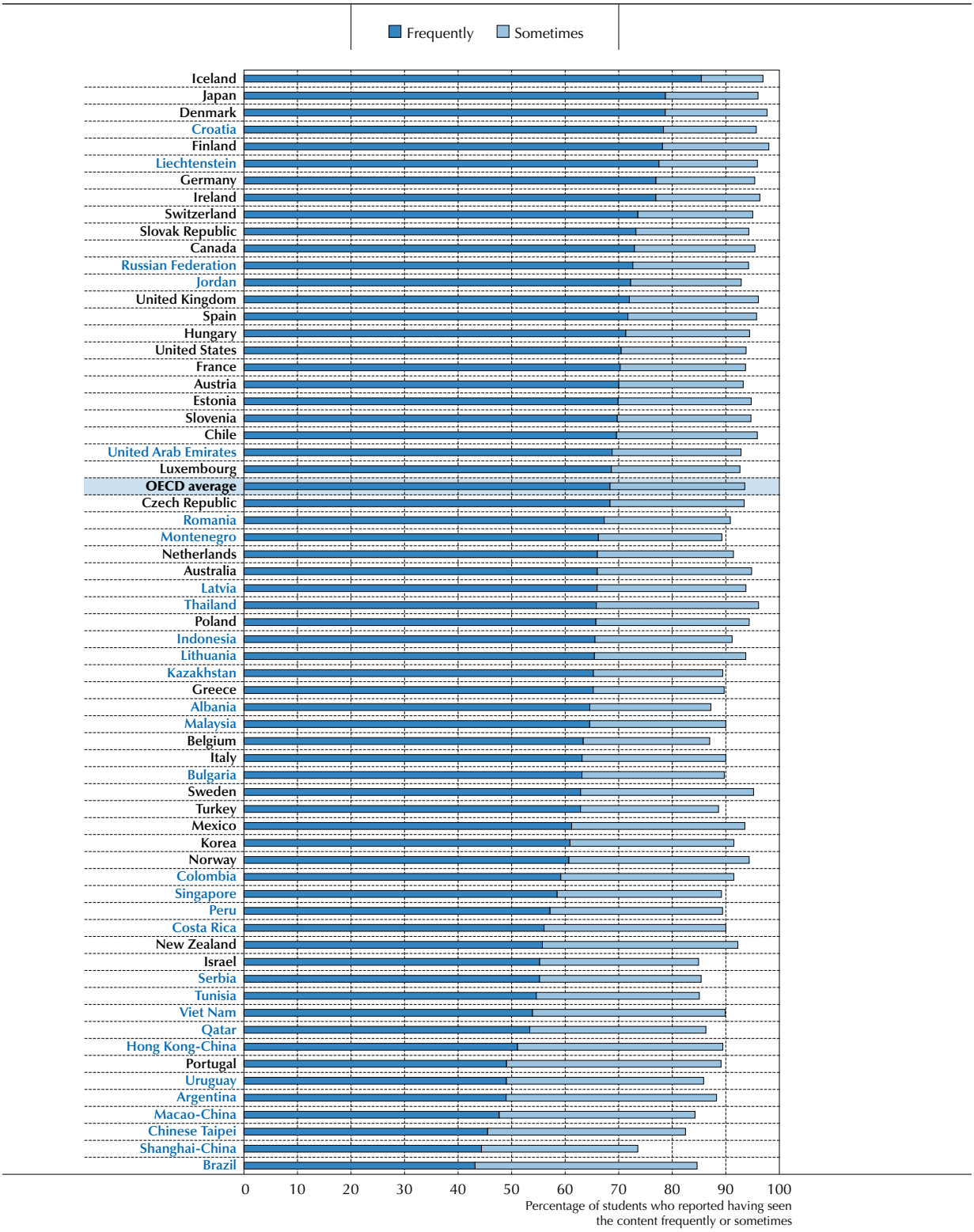
Source: OECD, PISA 2012 Database, Table I.3.5.

StatLink http://dx.doi.org/10.1787/888932936427



■ Figure I.3.8 ■

Percentage of students who reported having seen formal mathematics problems in their mathematics lessons frequently or sometimes



Countries and economies are ranked in descending order of the percentage of students who reported having seen formal mathematics problems, for instance solving an equation or finding the volume of a box, frequently (see Question 4 at the end of this chapter).

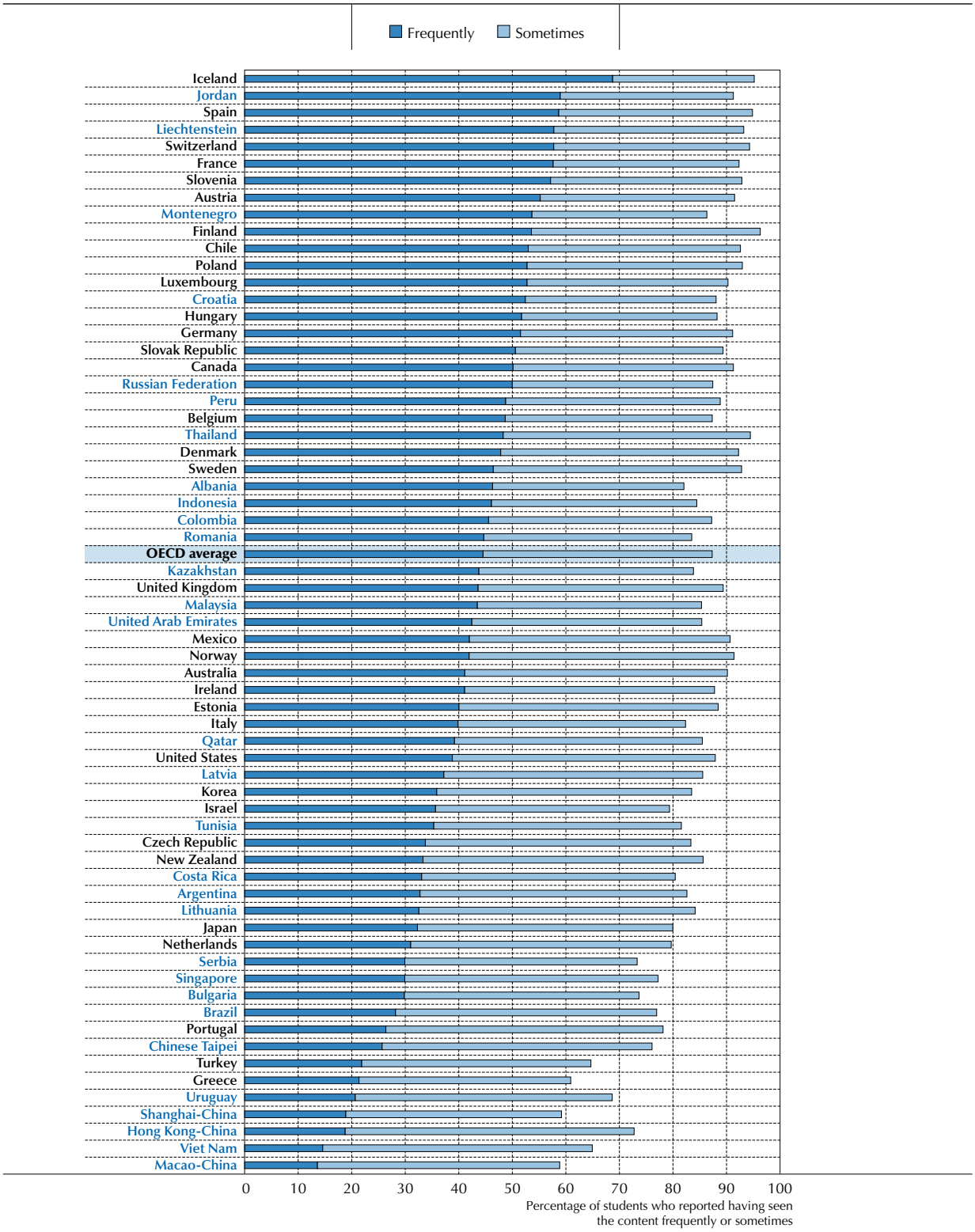
Source: OECD, PISA 2012 Database, Table I.3.11.

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■ Figure I.3.9 ■

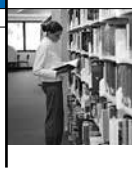
Percentage of students who reported having seen word problems in their mathematics lessons frequently or sometimes



Countries and economies are ranked in descending order of the percentage of students who reported having seen word problems in their mathematics lessons frequently (see Question 3 at the end of this chapter).

Source: OECD, PISA 2012 Database, Table I.3.12.

StatLink http://dx.doi.org/10.1787/888932936427



Some 44.5% of 15-year-olds in OECD countries say they frequently encounter this type of word problem in their mathematics lessons (Figure I.3.9 and Table I.3.12), while an average of 12.7% of students rarely or never encounter such word problems. In France, Spain, Switzerland, Iceland and Slovenia, and in the partner countries Jordan and Liechtenstein, around 60% of students are exposed to these types of word problems frequently.

In the PISA categorisation of mathematics, two types of applied contexts were studied: mathematics as a context in itself (applied problems in mathematics), and real-world contexts. Across OECD countries, the proportion of students who frequently encounter these two types of problems in their lessons is significantly smaller than the proportion of those who frequently encounter formal mathematics problems and word problems.

Applied problems in mathematics require the use of mathematics theorems, such as finding the height of a pyramid or determining prime numbers – tasks with a primarily mathematical context but that also have more practical applications. Some 34% of 15-year-old students in OECD countries say they encounter these problems during their mathematics lessons, but nearly one in four students say they rarely or never encounter these types of problems (Figure I.3.10 and Table I.3.13). Among OECD countries, only Turkey shows that just over half of its students frequently encounter these types of problems during their lessons. By contrast, in Israel, nearly one in five students never encounters these types of problems in mathematics class.

An average of 21.2% of students in OECD countries say they frequently encounter mathematics problems that are set in a real-world context; and about 33.6% of students encounters such problems rarely or never in class (Figure I.3.11 and Table I.3.14). In Mexico, Portugal, Iceland, Chile, Canada, the Netherlands, and in the partner countries and economies Thailand, Jordan, Indonesia, Tunisia, the United Arab Emirates and Colombia, at least 30% of students frequently encounter these kinds of problems in class.

When looking across the four types of problems in the typology, two observations can be made. First, the typology represents a rough continuum in the percentage of students who are frequently exposed to each type of problem, declining steadily from formal mathematics (68%) to mathematically-oriented word problems (45%) to applied problems in mathematics (34%) to real-world applied problems (21%) (Figure I.3.12). At the other end of this distribution, the percentage of students who indicated that they never or rarely have such lessons increased over the same continuum from 7% to 13% to 24% to 34%.

Second, the opportunities to learn the different types of mathematics problems varied greatly among countries – and even more so within countries.

To measure students' familiarity with mathematics content, PISA 2012 asked students how often they had heard of 13 mathematics topics. Tables I.3.15 to I.3.27 show the proportion of students in a country who indicated they had never heard of a particular topic, heard of it once or twice, heard of it a few times, heard of it often, or knew it well. The variation in responses, both across the mathematics topics and across countries, is striking. Considered along with other PISA opportunity-to-learn measures, such as encounters with particular types of problems, these results suggest a wide variation in opportunity to learn – one that is similar to that found in other international mathematics studies, such as the Trends in International Mathematics and Science Study (Mullis et al., 2012).

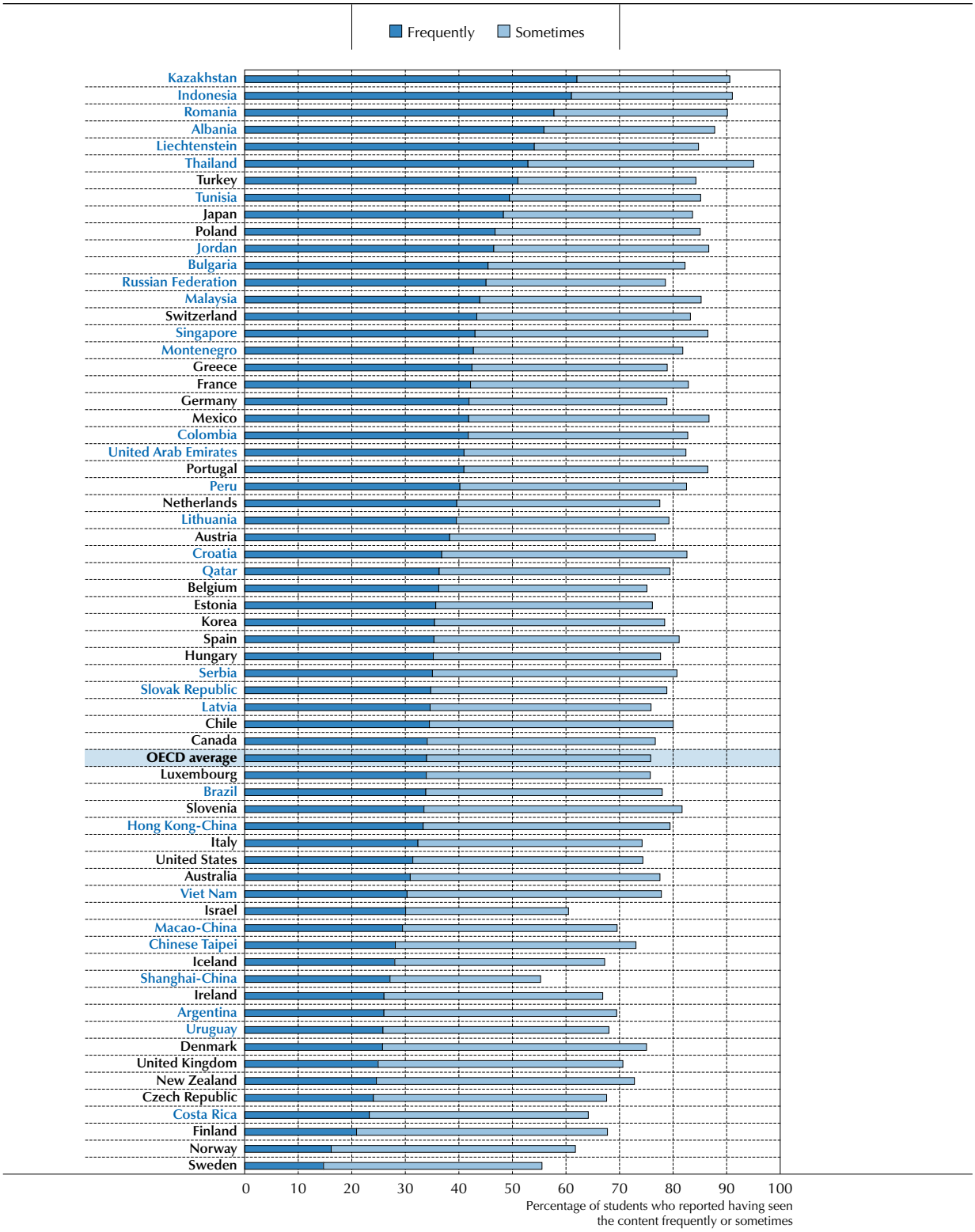
Assuming familiarity with mathematics topics is related to exposure and by extension to opportunity, the average country results for the 13 topics can be divided into three categories reflecting varying degrees of exposure: the topics with low, medium and high exposure. Fewer than 40% of students say they "heard often" or "know well" the mathematics topics in the category "low exposure" and more than 60% in the category "high exposure" do (Table I.3.28). There were clear differences in opportunity to learn different mathematics content.

On average, students identified topics such as linear equations (Figure I.3.13), radicals and polygons as those that they had heard of often and knew well; other topics, such as complex numbers (Figure I.3.14) and exponential functions, which are typically taught in later grades, were much less well known among 15-year-olds (Figure I.3.15). Only 42% of students in OECD countries reported that they know linear equations well, but when the category "heard of it often" was included, almost two out of three (64.4%) 15-year-olds say they have heard of them. However, this varies considerably across countries. In Iceland, only 17.8% of 15-year-old students say they either know linear equations well or have often heard about them. By contrast, at least 90% of students in Japan, Korea and Estonia, and in the partner countries and economies Croatia, Macao-China and the Russian Federation have frequent opportunities to learn about linear equations. In the partner country Viet Nam, less than 10% of students have a similar exposure to linear equations – the core topic of an elementary algebra course.



■ Figure I.3.10 ■

Percentage of students who reported having seen applied problems in mathematics in their mathematics lessons frequently or sometimes



Countries and economies are ranked in descending order of the percentage of students who reported having seen applied problems in mathematics, for instance geometrical theorems or prime numbers, frequently (see Question 5 at the end of this chapter).

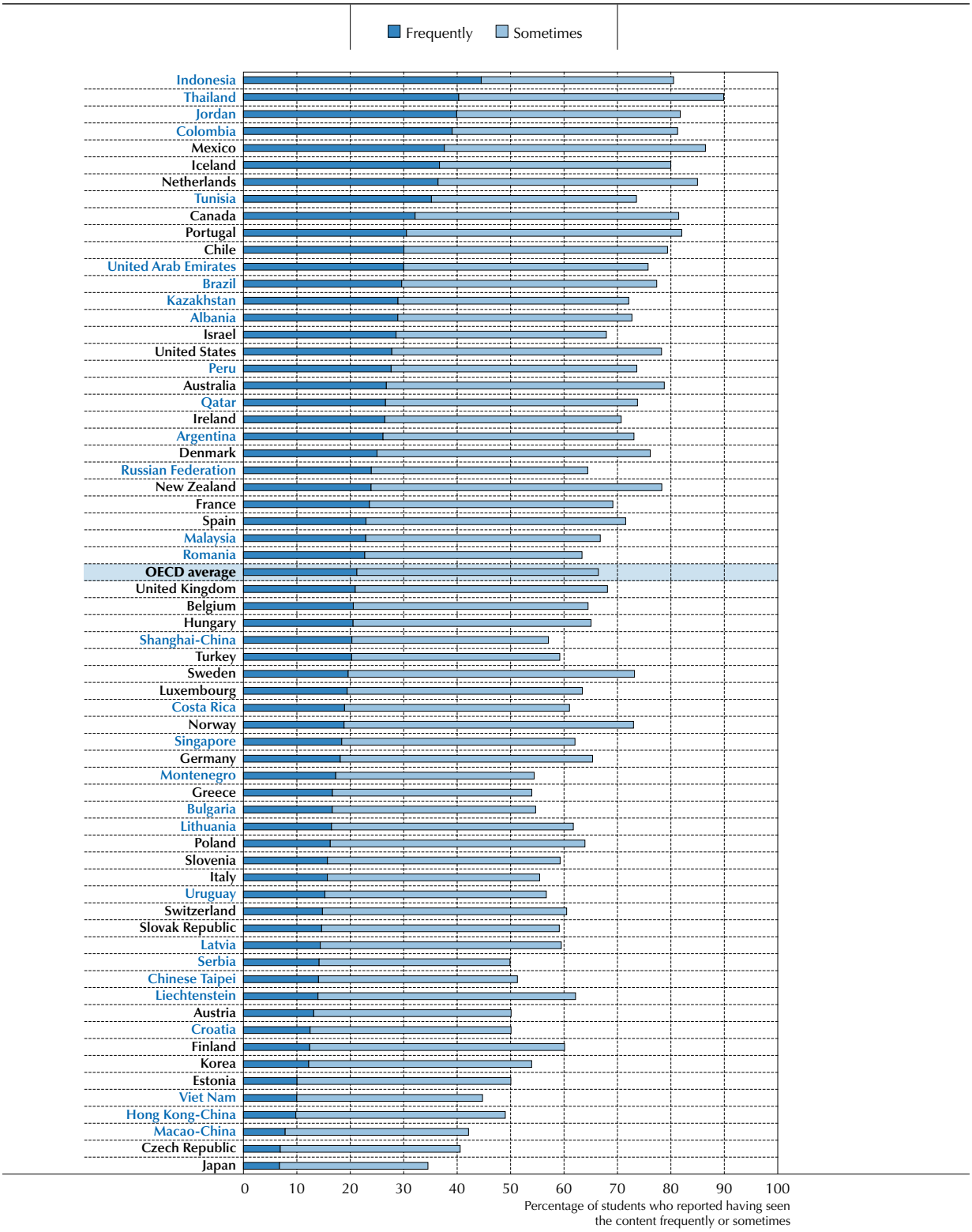
Source: OECD, PISA 2012 Database, Table I.3.13.

StatLink http://dx.doi.org/10.1787/888932936427



■ Figure I.3.11 ■

Percentage of students who reported having seen real-world problems in their mathematics lessons frequently or sometimes



Countries and economies are ranked in descending order of the percentage of students who reported having seen real-world problems frequently (see Question 6 at the end of this chapter).

Source: OECD, PISA 2012 Database, Table I.3.14.

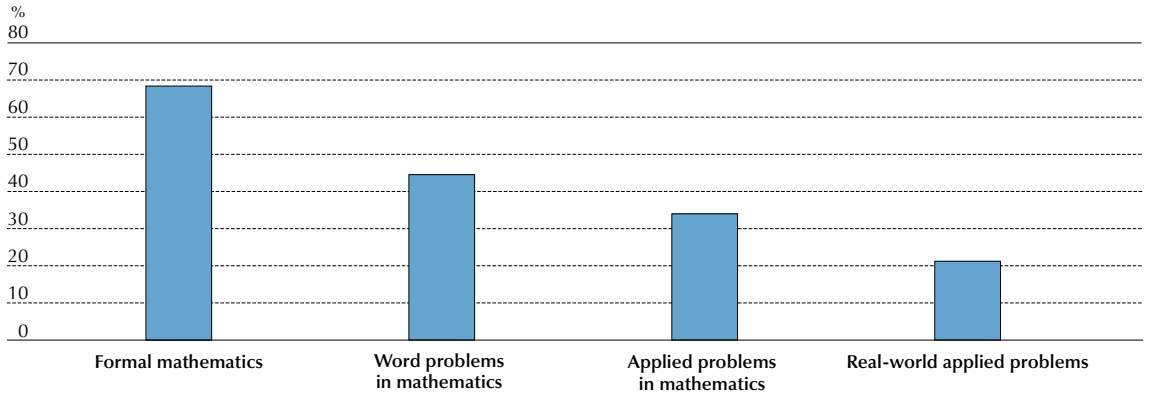
StatLink http://dx.doi.org/10.1787/888932936427



■ Figure I.3.12 ■

Student exposure to mathematics problems

Percentage of students who reported having seen the four types of mathematics problems frequently or sometimes, OECD average



Source: OECD, PISA 2012 Database, Tables I.3.11, I.3.12, I.3.13 and I.3.14.
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There is also a substantial variation of the familiarity with mathematics topics within some countries, suggesting considerable variability in the implemented curriculum. The point can be illustrated with the algebra topic of quadratic function. For example, in the United Kingdom the distribution of how often students had heard of the topic was almost even across the five response categories (never heard of it, heard of it once or twice, heard of it a few times, heard of it often, or knew it well), with around one in five students self-reporting to fall into each of these categories. A similar type of distribution can be found in Poland, Greece, Colombia and Mexico. For other countries, there is a higher degree of consistency in student reports about their familiarity with mathematics topics. In Shanghai-China, 81% knew the topic well while fewer than 2% had never heard of it. Conversely, in Sweden, 63% of 15-year-old students had never heard of it while fewer than 5% knew it well (Figure I.3.16).

OECD countries also show considerable variation on the opportunity-to-learn indices (Figures I.3.1a, b, c and Table I.3.1). The OECD countries Portugal and Mexico had a mean of 2.2 on the applied mathematics index, which implied that, on average, 15-year-old students are sometimes to frequently exposed to these types of problems, while the mean for the Czech Republic was 1.6, between "sometimes" and "rarely". This is a relatively large difference between these countries, given the limited range of the scale. Even larger differences are observed among partner countries and economies: Thailand had a mean of 2.4, indicating that the country's 15-year-olds are between "sometimes" and "frequently" exposed to these types of mathematics problems, while Macao-China shows a mean similar to that of the Czech Republic.

Variations on the formal mathematics index are even larger, with Shanghai-China having a mean of 2.3 (students in these countries encounter such tasks in mathematics class "sometimes" to "frequently") while Sweden shows a mean of 0.8 (meaning students there almost never encounter such problems in their mathematics class).

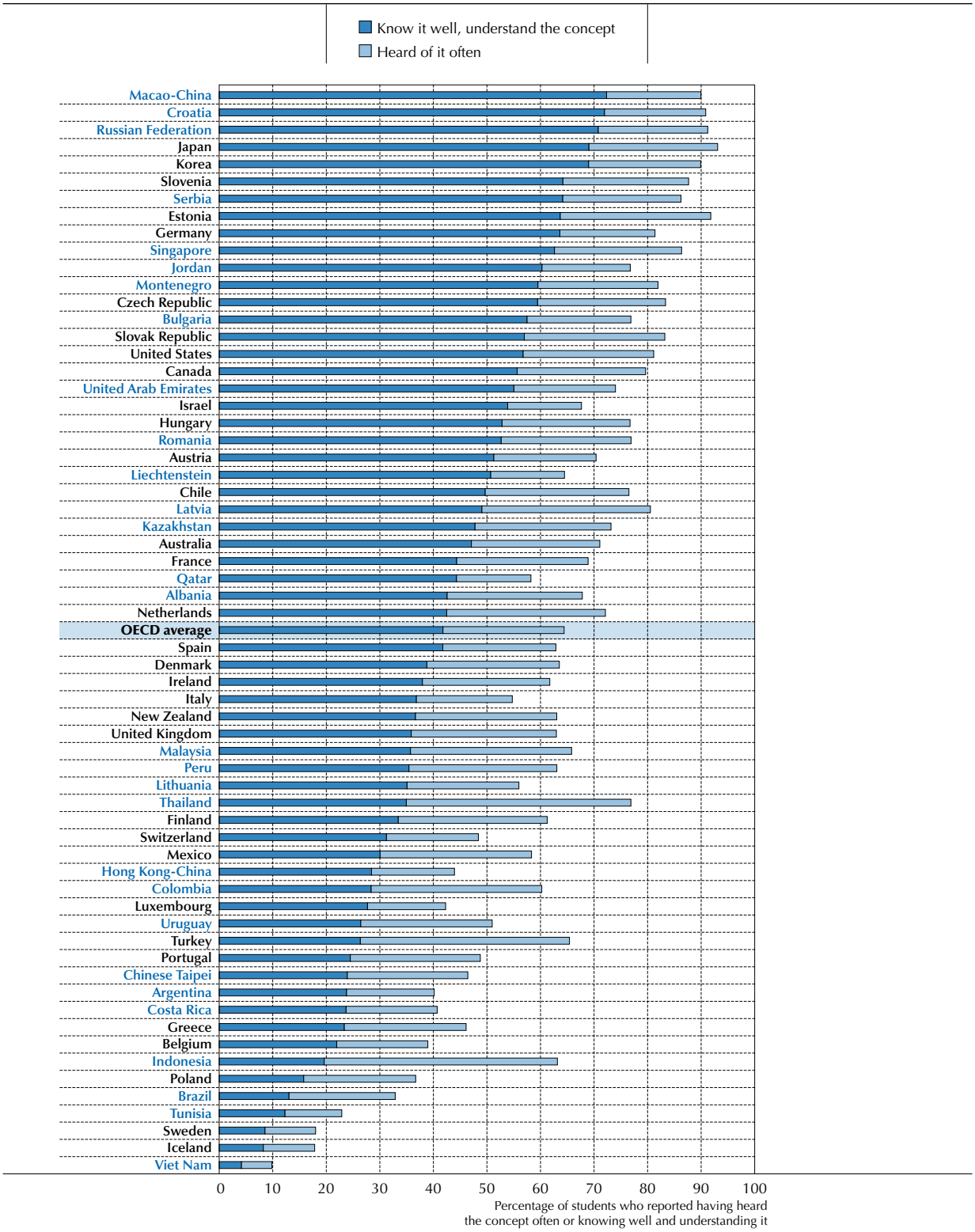
Using the formal and applied mathematics scales, countries can be categorised into four different groups (Figure I.3.17). The horizontal axis represents the OECD average frequency with which the country's 15-year-olds have the opportunity to learn formal mathematics, while the vertical axis represents the OECD average frequency of the opportunity to learn applied mathematics.

The upper right quadrant shows the countries whose students indicated that, on average, they have more opportunities to learn both applied and formal mathematics. Of the 19 countries in this group, eight of them are OECD countries. Six OECD countries (the United Kingdom, Ireland, Luxembourg, Norway, Sweden and Austria) and three partner countries (Uruguay, Costa Rica and Argentina) are included in the group shown in the lower left quadrant, which includes countries whose students have fewer opportunities to learn both formal and applied mathematics. In partner countries and economies such as Shanghai-China and Macao-China, students reported more opportunities to learn formal mathematics, on average, but fewer opportunities to learn applied mathematics.



■ Figure I.3.13 ■

Percentage of students who reported having seen linear equations often or knowing the concept well and understanding it



Countries and economies are ranked in descending order of the percentage of students who reported knowing the linear equations concept well and understanding it (see Question 2 at the end of this chapter).

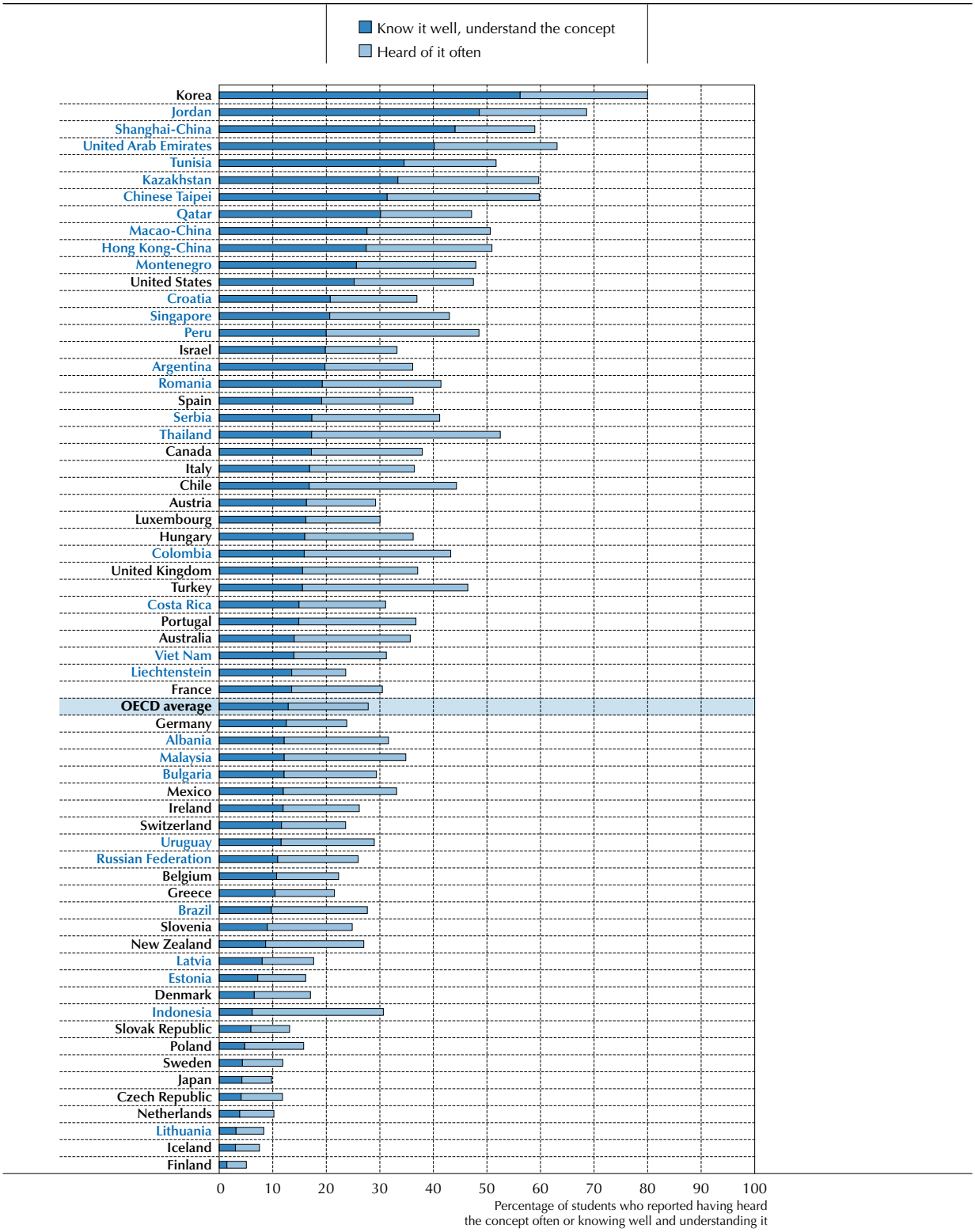
Source: OECD, PISA 2012 Database, Table I.3.18.

StatLink http://dx.doi.org/10.1787/888932936427



■ Figure I.3.14 ■

Percentage of students who reported having seen complex numbers often or knowing the concept well and understanding it



Countries and economies are ranked in descending order of the percentage of students who reported knowing the complex numbers concept well and understanding it (see Question 2 at the end of this chapter).

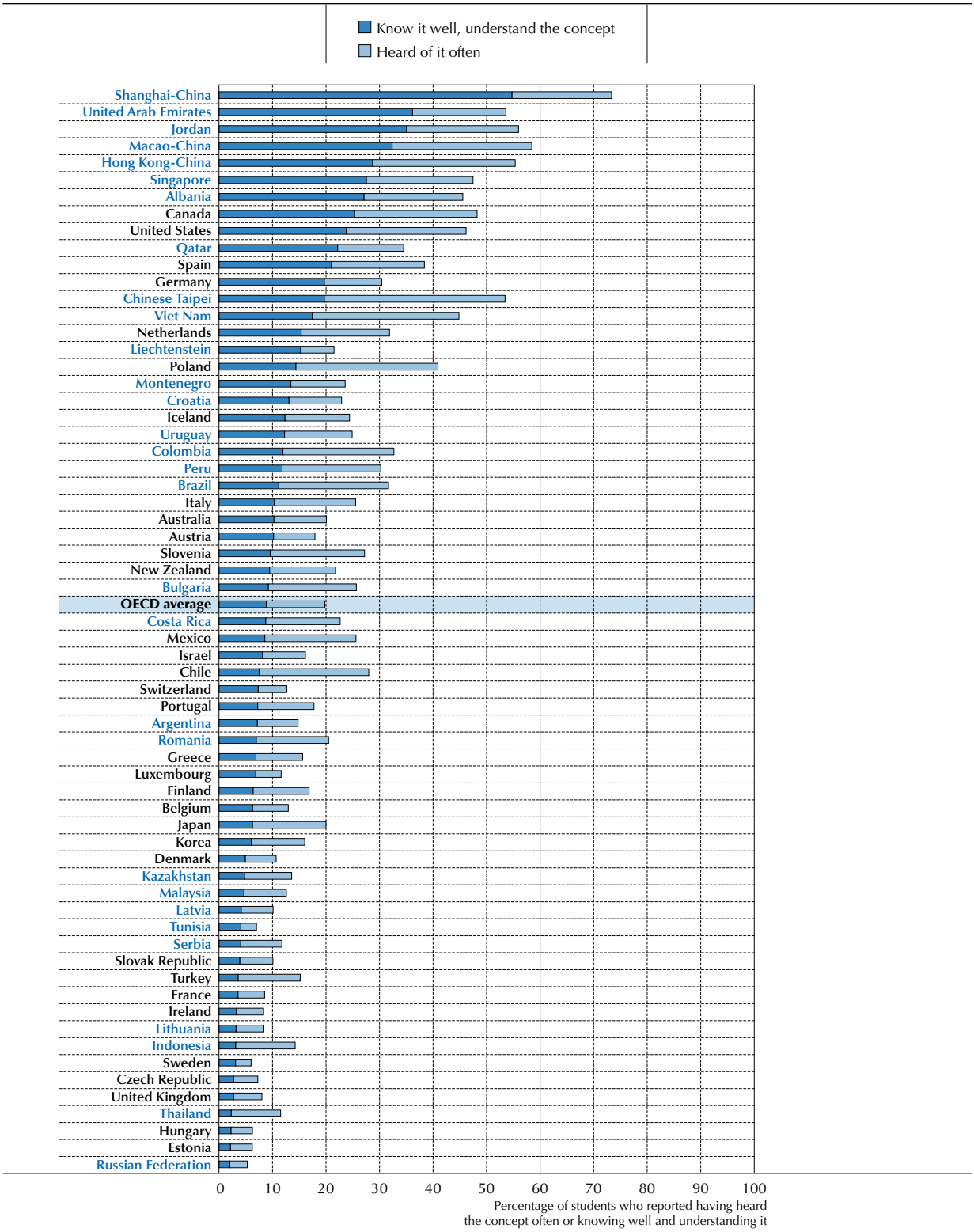
Source: OECD, PISA 2012 Database, Table I.3.20.

StatLink http://dx.doi.org/10.1787/888932936427



■ Figure I.3.15 ■

Percentage of students who reported having seen exponential functions often or knowing the concept well and understanding it



Countries and economies are ranked in descending order of the percentage of students who reported knowing the exponential functions concept well and understanding it (see Question 2 at the end of this chapter).

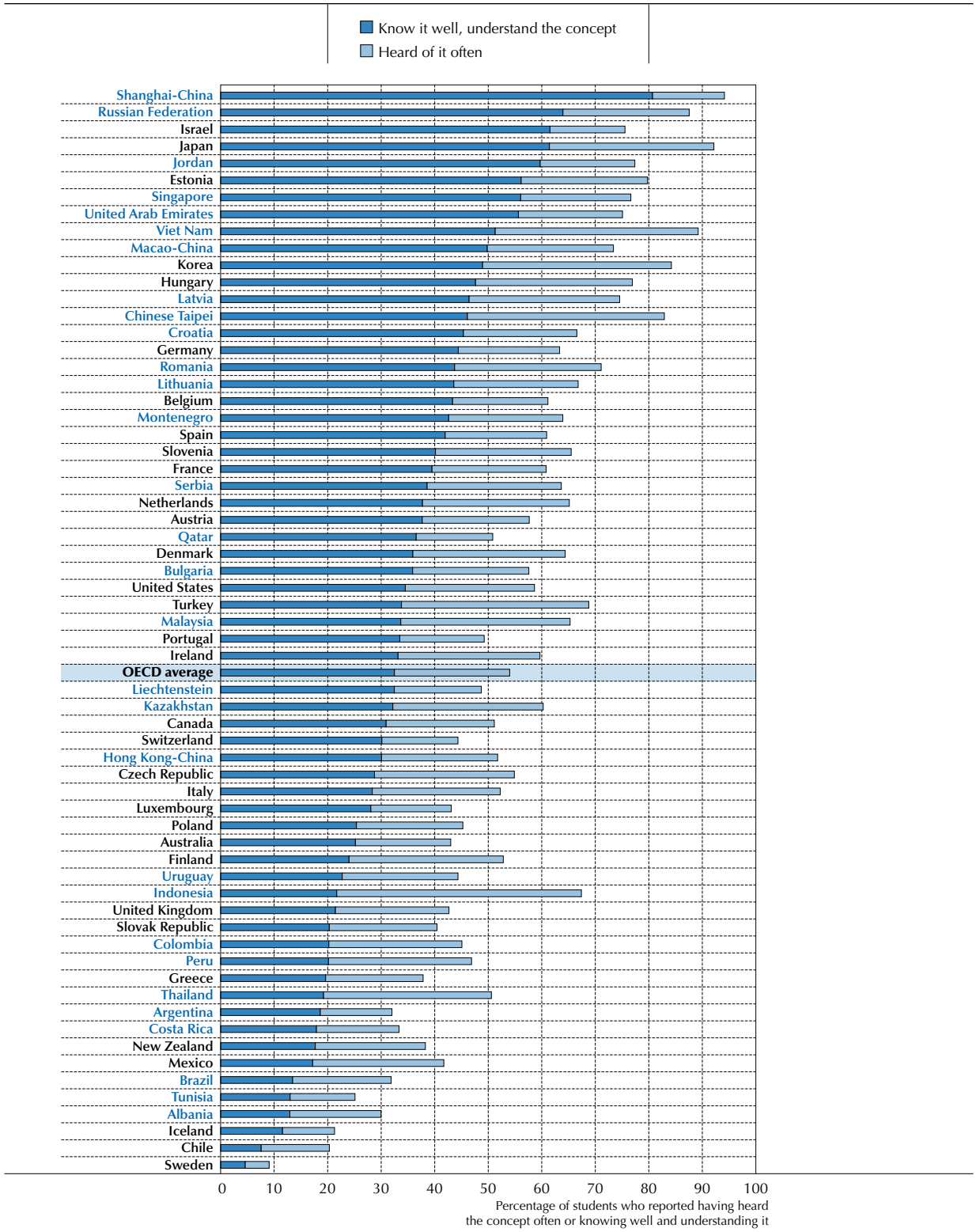
Source: OECD, PISA 2012 Database, Table I.3.15.

StatLink http://dx.doi.org/10.1787/888932936427



■ Figure I.3.16 ■

Percentage of students who reported having seen quadratic functions often or knowing the concept well and understanding it



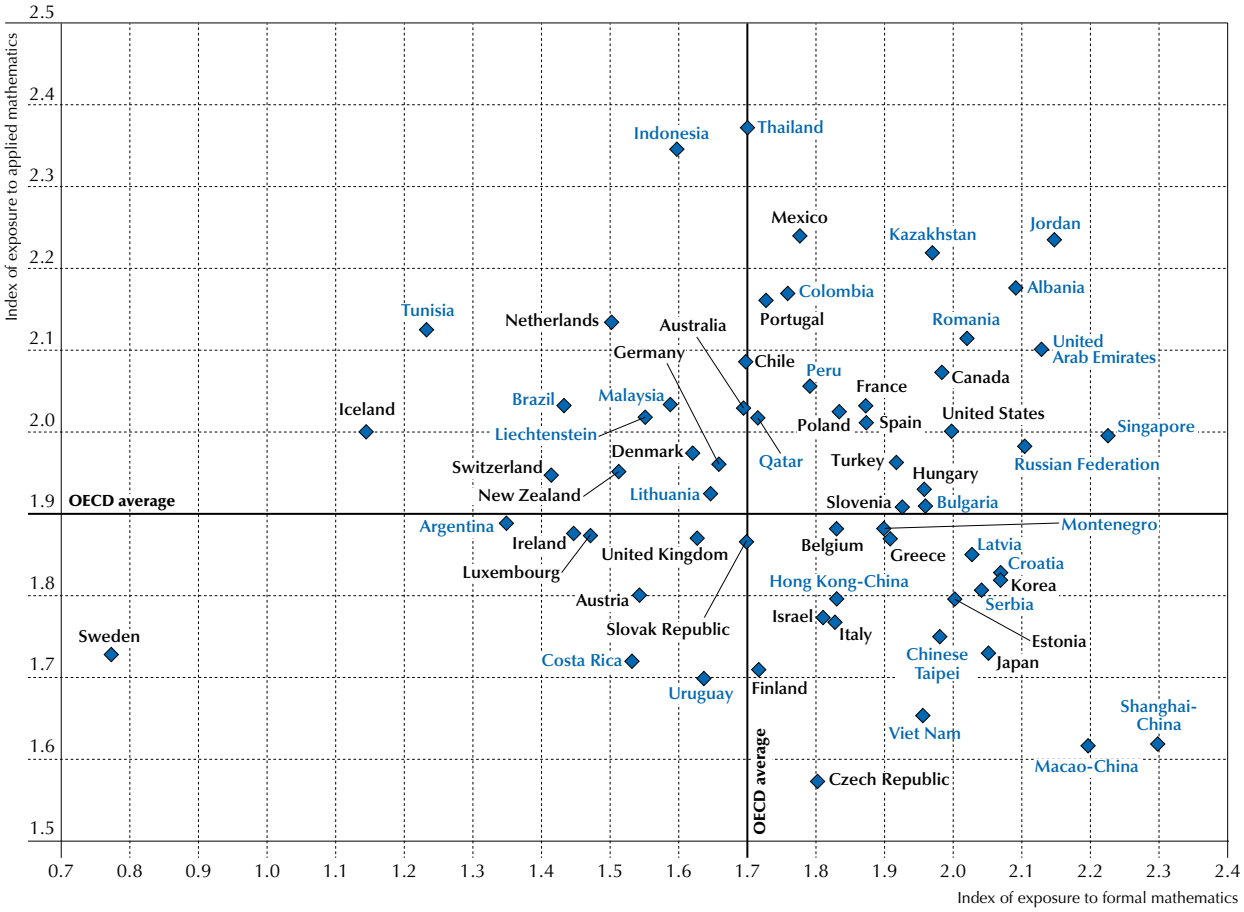
Countries and economies are ranked in descending order of the percentage of students who reported knowing the quadratic functions concept well and understanding it (see Question 2 at the end of this chapter).

Source: OECD, PISA 2012 Database, Table I.3.17.

StatLink http://dx.doi.org/10.1787/888932936427

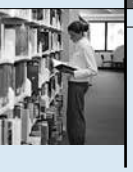
■ Figure I.3.17 ■

Exposure to applied mathematics vs. exposure to formal mathematics



Source: OECD, PISA 2012 Database, Tables I.3.1.

StatLink http://dx.doi.org/10.1787/888932936427



QUESTIONS USED FOR THE CONSTRUCTION OF THE THREE OPPORTUNITY TO LEARN INDICES

Six questions were used from the Student Questionnaire to cover both the content and the time aspects of the opportunity to learn. These questions are shown below.

Question 1

How often have you encountered the following types of mathematics tasks during your time at school?
(Please tick only one box on each row.)

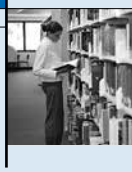
		Frequently	Sometimes	Rarely	Never
a)	Working out from a <train timetable> how long it would take to get from one place to another.	☐1	☐2	☐3	☐4
b)	Calculating how much more expensive a computer would be after adding tax.	☐1	☐2	☐3	☐4
c)	Calculating how many square metres of tiles you need to cover a floor.	☐1	☐2	☐3	☐4
d)	Understanding scientific tables presented in an article.	☐1	☐2	☐3	☐4
e)	Solving an equation like: $6x^2 + 5 = 29$	☐1	☐2	☐3	☐4
f)	Finding the actual distance between two places on a map with a 1:10,000 scale.	☐1	☐2	☐3	☐4
g)	Solving an equation like $2(x+3) = (x + 3)(x - 3)$	☐1	☐2	☐3	☐4
h)	Calculating the power consumption of an electronic appliance per week.	☐1	☐2	☐3	☐4
i)	Solving an equation like: $3x+5=17$	☐1	☐2	☐3	☐4

Question 2

Thinking about mathematical concepts: how familiar are you with the following terms?
(Please tick only one box in each row.)

		Never heard of it	Heard of it once or twice	Heard of it a few times	Heard of it often	Know it well, understand the concept
a)	Exponential Function	☐1	☐2	☐3	☐4	☐5
b)	Divisor	☐1	☐2	☐3	☐4	☐5
c)	Quadratic Function	☐1	☐2	☐3	☐4	☐5
d)	Linear Equation	☐1	☐2	☐3	☐4	☐5
e)	Vectors	☐1	☐2	☐3	☐4	☐5
f)	Complex Number	☐1	☐2	☐3	☐4	☐5
g)	Rational Number	☐1	☐2	☐3	☐4	☐5
h)	Radicals	☐1	☐2	☐3	☐4	☐5
i)	Polygon	☐1	☐2	☐3	☐4	☐5
j)	Congruent Figure	☐1	☐2	☐3	☐4	☐5
k)	Cosine	☐1	☐2	☐3	☐4	☐5
l)	Arithmetic Mean	☐1	☐2	☐3	☐4	☐5
m)	Probability	☐1	☐2	☐3	☐4	☐5

The next four questions are about students' experience with different kinds of mathematics problems at school. They include some descriptions of problems and dark blue-coloured boxes, each containing a mathematics problem. The students had to read each problem but did not have to solve it.



Question 3

In the box is a series of problems. Each requires you to understand a problem written in text and perform the appropriate calculations. Usually the problem talks about practical situations, but the numbers and people and places mentioned are made up. All the information you need is given. Here are two examples:

1. <Ann> is two years older than <Betty> and <Betty> is four times as old as <Sam>. When <Betty> is 30, how old is <Sam>?

2. Mr <Smith> bought a television and a bed. The television cost <$625> but he got a 10% discount. The bed cost <$200>. He paid <$20> for delivery. How much money did Mr <Smith> spend?

We want to know about your experience with these types of word problems at school. Do not solve them!
(Please tick only one box in each row.)

		Frequently	Sometimes	Rarely	Never
a)	How often have you encountered these types of problems in your **mathematics lessons**?	☐1	☐2	☐3	☐4
b)	How often have you encountered these types of problems in the **tests you have taken at school?**	☐1	☐2	☐3	☐4

Question 4

Below are examples of another set of mathematical skills.

1) Solve 2x + 3 = 7.

2) Find the volume of a box with sides 3m, 4m and 5m.

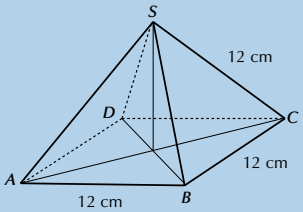
We want to know about your experience with these types of problems at school. Do not solve them!
(Please tick only one box in each row.)

		Frequently	Sometimes	Rarely	Never
a)	How often have you encountered these types of problems in your **mathematics lessons**?	☐1	☐2	☐3	☐4
b)	How often have you encountered these types of problems in the **tests you have taken at school?**	☐1	☐2	☐3	☐4

Question 5

In the next type of problem, you have to use mathematical knowledge and draw conclusions. There is no practical application provided. Here are two examples.

1) Here you need to use geometrical theorems:



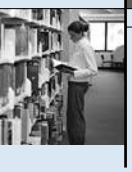
Determine the height of the pyramid.

2) Here you have to know what a prime number is:

If n is any number: can $(n+1)^2$ be a prime number?

We want to know about your experience with these types of problems at school. Do not solve them!
(Please tick only one box in each row.)

		Frequently	Sometimes	Rarely	Never
a)	How often have you encountered these types of problems in your **mathematics lessons**?	☐1	☐2	☐3	☐4
b)	How often have you encountered these types of problems in the **tests you have taken at school?**	☐1	☐2	☐3	☐4

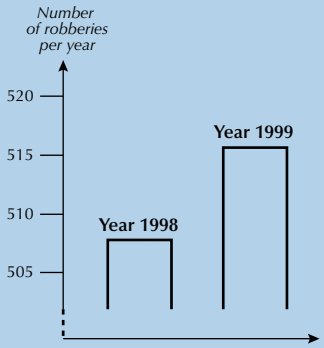


Question 6

In this type of problem, you have to apply suitable mathematical knowledge to find a useful answer to a problem that arises in everyday life or work. The data and information are about real situations. Here are two examples.

Example 1

A TV reporter says "This graph shows that there is a huge increase in the number of robberies from 1998 to 1999."



Example 2

For years the relationship between a person's recommended maximum heart rate and the person's age was described by the following formula:

Recommended maximum heart rate = 220 – age

Recent research showed that this formula should be modified slightly. The new formula is as follows:

Recommended maximum heart rate = 208 – (0.7 × age)

From which age onwards does the recommended maximum heart rate increase as a result of the introduction of the new formula? Show your work.

We want to know about your experience with these types of problems at school. Do not solve them!

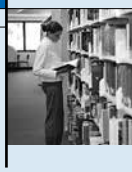
(Please check only one box in each row.)

		Frequently	Sometimes	Rarely	Never
a)	How often have you encountered these types of problems in your **mathematics lessons**?	☐1	☐2	☐3	☐4
b)	How often have you encountered these types of problems in the **tests you have taken at school?**	☐1	☐2	☐3	☐4

THE THREE OPPORTUNITY TO LEARN INDICES

From these questions, three indices were constructed:

- **The index of exposure to word problems**
  This index was coded using the frequency choices for the word-problem type of task (Question 3) as follows: frequently = 3, sometimes and rarely = 1, and never = 0.
- **The index of exposure to applied mathematics**
  This index was constructed as the mean of the applied tasks involving both the mathematics contexts (Question 5) and the real-world contexts (Question 6). Each was separately scaled as:
  frequently = 3, sometimes = 2, rarely =1, and never = 0.
- **The index of exposure to formal mathematics**
  This index was created as the average of three scales.
  - Two separate scales were constructed using the item asking for the degree of the student's familiarity with 7 of the 13 mathematics content areas (Question 2). The five response categories reflecting the degree to which they had heard of the topic were scaled 0 to 4 with 0 representing "never heard of it" 4 representing they "knew it well".



The frequency codes for the three topics – exponential functions, quadratic functions, and linear equations – were averaged to define familiarity with algebra. Similarly, the average of four topics defined a geometry scale, including vectors, polygons, congruent figures, and cosines.

– The third scale was derived from the item where students indicated how often they had been confronted with problems defined as formal mathematics (Question 4). The frequency categories were coded as "frequently", "sometimes", and "rarely" equalling 1 and "never" equal to 0, resulting in a dichotomous variable. The algebra, geometry and formal mathematics tasks were averaged to form the index "formal mathematics", which ranged in values from 0 to 3, similar to the other three indices.



Note

1. The 18 countries/economies that show no relationship between the frequency of student encounters with applied mathematics problems and the performance of 15-year-olds on PISA are the United States, Poland, Hong Kong-China, Greece, Albania, Latvia, Germany, the Czech Republic, Hungary, Australia, Belgium, Argentina, Slovenia, Portugal, Liechtenstein, Korea, the Russian Federation and Viet Nam.

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4

A Profile of Student Performance in Reading

This chapter examines student performance in reading in PISA 2012. It provides examples of assessment questions, relating them to each PISA proficiency level, discusses gender differences in student performance, compares countries' and economies', performance in reading, and highlights trends in reading performance up to 2012.



What can 15-year-old students do in reading? This chapter compares countries' and economies' performance, shows some regions' performance, and analyses the changes over the various PISA assessments. It highlights the differences between girls' and boys' performance and provides examples of assessment questions at each PISA proficiency level.

Reading literacy focuses on the ability of students to use written information in real-life situations. PISA defines reading literacy as *understanding, using, reflecting on and engaging with written texts, in order to achieve one's goals, to develop one's knowledge and potential, and to participate in society* (OECD, 2009). This definition goes beyond the traditional notion of decoding information and literal interpretation of what is written towards more applied tasks. PISA's conception of reading literacy encompasses the range of situations in which people read, the different ways written texts are presented through different media, and the variety of ways that readers approach and use texts, from the functional and finite, such as finding a particular piece of practical information, to the deep and far-reaching, such as understanding other ways of doing, thinking and being.

Reading literacy was the major domain assessed in 2000, the first PISA assessment, and in 2009, the fourth PISA assessment. In this fifth PISA assessment, mathematics was the major domain, thus less time was devoted to assessing students' reading skills. As a result, only an update on overall performance is possible, rather than the kind of in-depth analysis of knowledge and skills shown in the PISA 2009 report (OECD, 2009).

This chapter presents the results of the paper-based assessment in PISA 2012. Thirty-two of the 65 participating countries and economies participated in the computer-based (digital reading assessment). Annex B3 presents results on both the computer-based scale and a combined paper-and-computer scale.

What the data tell us

- Of the 64 countries and economies that have comparable data in reading performance since 2000, 32 show an improvement in mean reading performance, 22 show no change, and 10 show a deterioration in performance.
- Among OECD countries, Chile, Estonia, Germany, Hungary, Israel, Japan, Korea, Luxembourg, Mexico, Poland, Portugal, Switzerland and Turkey all improved their reading performance across successive PISA assessments.
- Between 2000 and 2012, Albania, Israel and Poland increased the share of top-performing students and simultaneously reduced the share of students who do not meet the baseline level of proficiency in reading.
- The gender gap in reading performance – favouring girls – widened in 11 countries and economies between 2000 and 2012.

STUDENT PERFORMANCE IN READING

The metric for the overall reading scale is based on a mean for participating OECD countries set at 500, with a standard deviation of 100. These were set when reporting the results of the first PISA reading assessment, administered in 2000 (OECD, 2001). To help interpret what students' scores mean in substantive terms, the scale is divided into levels of proficiency that indicate the kinds of tasks that students at those levels are capable of completing successfully (OECD, 2009).

Average performance in reading

One way to summarise student performance and to compare the relative standing of countries in reading is through countries' and economies' mean performance, both relative to each other and to the OECD mean. For PISA 2012, the OECD mean is 496, with a standard deviation of 94. This establishes the benchmark against which each country's and each economy's reading performance in PISA 2012 is compared.

When interpreting mean performance, only those differences among countries and economies that are statistically significant should be taken into account. Figure I.4.1 shows each country/economy's mean score and also for which pairs of countries/economies the differences between the means are statistically significant. For each country/economy shown in the middle column, the countries/economies whose mean scores are not statistically significantly different are listed in the right column. In all other cases, country/economy A scores higher than country/economy B if country/economy A is situated above country/economy B in the middle column, and scores lower if country/economy A is situated below country/economy B. For example: Shanghai-China ranks first and Hong Kong-China ranks second, but the performance of Singapore, which appears third on the list, cannot be distinguished with confidence from that of Hong Kong-China.



■ Figure I.4.1 ■

Comparing countries' and economies' performance in reading

Statistically significantly **above** the OECD average
Not statistically significantly different from the OECD average
Statistically significantly **below** the OECD average

Mean score	Comparison country/economy	Countries/economies whose mean score is NOT statistically significantly different from that comparison country's/economy's score
570	Shanghai-China	
545	Hong Kong-China	Singapore, Japan, Korea
542	Singapore	Hong Kong-China, Japan, Korea
538	Japan	Hong Kong-China, Singapore, Korea
536	Korea	Hong Kong-China, Singapore, Japan
524	Finland	Ireland, Chinese Taipei, Canada, Poland, Liechtenstein
523	Ireland	Finland, Chinese Taipei, Canada, Poland, Liechtenstein
523	Chinese Taipei	Finland, Ireland, Canada, Poland, Estonia, Liechtenstein
523	Canada	Finland, Ireland, Chinese Taipei, Poland, Liechtenstein
518	Poland	Finland, Ireland, Chinese Taipei, Canada, Estonia, Liechtenstein, New Zealand, Australia, Netherlands, Viet Nam
516	Estonia	Chinese Taipei, Poland, Liechtenstein, New Zealand, Australia, Netherlands, Viet Nam
516	Liechtenstein	Finland, Ireland, Chinese Taipei, Canada, Poland, Estonia, New Zealand, Australia, Netherlands, Switzerland, Macao-China, Belgium, Viet Nam, Germany
512	New Zealand	Poland, Estonia, Liechtenstein, Australia, Netherlands, Switzerland, Macao-China, Belgium, Viet Nam, Germany, France
512	Australia	Poland, Estonia, Liechtenstein, New Zealand, Netherlands, Switzerland, Macao-China, Belgium, Viet Nam, Germany, France
511	Netherlands	Poland, Estonia, Liechtenstein, New Zealand, Australia, Switzerland, Macao-China, Belgium, Viet Nam, Germany, France, Norway
509	Switzerland	Liechtenstein, New Zealand, Australia, Netherlands, Macao-China, Belgium, Viet Nam, Germany, France, Norway
509	Macao-China	Liechtenstein, New Zealand, Australia, Netherlands, Switzerland, Belgium, Viet Nam, Germany, France, Norway
509	Belgium	Liechtenstein, New Zealand, Australia, Netherlands, Switzerland, Macao-China, Viet Nam, Germany, France, Norway
508	Viet Nam	Poland, Estonia, Liechtenstein, New Zealand, Australia, Netherlands, Switzerland, Macao-China, Belgium, Germany, France, Norway, United Kingdom, United States
508	Germany	Liechtenstein, New Zealand, Australia, Netherlands, Switzerland, Macao-China, Belgium, Viet Nam, France, Norway, United Kingdom
505	France	New Zealand, Australia, Netherlands, Switzerland, Macao-China, Belgium, Viet Nam, Germany, Norway, United Kingdom, United States
504	Norway	Netherlands, Switzerland, Macao-China, Belgium, Viet Nam, Germany, France, United Kingdom, United States, Denmark
499	United Kingdom	Viet Nam, Germany, France, Norway, United States, Denmark, Czech Republic
498	United States	Viet Nam, France, Norway, United Kingdom, Denmark, Czech Republic, Italy, Austria, Hungary, Portugal, Israel
496	Denmark	Norway, United Kingdom, United States, Czech Republic, Italy, Austria, Hungary, Portugal, Israel
493	Czech Republic	United Kingdom, United States, Denmark, Italy, Austria, Latvia, Hungary, Spain, Luxembourg, Portugal, Israel, Croatia
490	Italy	United States, Denmark, Czech Republic, Austria, Latvia, Hungary, Spain, Luxembourg, Portugal, Israel, Croatia, Sweden
490	Austria	United States, Denmark, Czech Republic, Italy, Latvia, Hungary, Spain, Luxembourg, Portugal, Israel, Croatia, Sweden
489	Latvia	Czech Republic, Italy, Austria, Hungary, Spain, Luxembourg, Portugal, Israel, Croatia, Sweden
488	Hungary	United States, Denmark, Czech Republic, Italy, Austria, Latvia, Spain, Luxembourg, Portugal, Israel, Croatia, Sweden, Iceland
488	Spain	Czech Republic, Italy, Austria, Latvia, Hungary, Luxembourg, Portugal, Israel, Croatia, Sweden
488	Luxembourg	Czech Republic, Italy, Austria, Latvia, Hungary, Spain, Portugal, Israel, Croatia, Sweden
488	Portugal	United States, Denmark, Czech Republic, Italy, Austria, Latvia, Hungary, Spain, Luxembourg, Israel, Croatia, Sweden, Iceland, Slovenia
486	Israel	United States, Denmark, Czech Republic, Italy, Austria, Latvia, Hungary, Spain, Luxembourg, Portugal, Croatia, Sweden, Iceland, Slovenia, Lithuania, Greece, Turkey, Russian Federation
485	Croatia	Czech Republic, Italy, Austria, Latvia, Hungary, Spain, Luxembourg, Portugal, Israel, Sweden, Iceland, Slovenia, Lithuania, Greece, Turkey
483	Sweden	Italy, Austria, Latvia, Hungary, Spain, Luxembourg, Portugal, Israel, Croatia, Iceland, Slovenia, Lithuania, Greece, Turkey, Russian Federation
483	Iceland	Hungary, Portugal, Israel, Croatia, Sweden, Slovenia, Lithuania, Greece, Turkey
481	Slovenia	Portugal, Israel, Croatia, Sweden, Iceland, Lithuania, Greece, Turkey, Russian Federation
477	Lithuania	Israel, Croatia, Sweden, Iceland, Slovenia, Greece, Turkey, Russian Federation
477	Greece	Israel, Croatia, Sweden, Iceland, Slovenia, Lithuania, Turkey, Russian Federation
475	Turkey	Israel, Croatia, Sweden, Iceland, Slovenia, Lithuania, Greece, Russian Federation
475	Russian Federation	Israel, Sweden, Slovenia, Lithuania, Greece, Turkey
463	Slovak Republic	
449	Cyprus[1, 2]	Serbia
446	Serbia	Cyprus[1, 2], United Arab Emirates, Chile, Thailand, Costa Rica, Romania, Bulgaria
442	United Arab Emirates	Serbia, Chile, Thailand, Costa Rica, Romania, Bulgaria
441	Chile	Serbia, United Arab Emirates, Thailand, Costa Rica, Romania, Bulgaria
441	Thailand	Serbia, United Arab Emirates, Chile, Costa Rica, Romania, Bulgaria
441	Costa Rica	Serbia, United Arab Emirates, Chile, Thailand, Romania, Bulgaria
438	Romania	Serbia, United Arab Emirates, Chile, Thailand, Costa Rica, Bulgaria
436	Bulgaria	Serbia, United Arab Emirates, Chile, Thailand, Costa Rica, Romania
424	Mexico	Montenegro
422	Montenegro	Mexico
411	Uruguay	Brazil, Tunisia, Colombia
410	Brazil	Uruguay, Tunisia, Colombia
404	Tunisia	Uruguay, Brazil, Colombia, Jordan, Malaysia, Indonesia, Argentina, Albania
403	Colombia	Uruguay, Brazil, Tunisia, Jordan, Malaysia, Indonesia, Argentina
399	Jordan	Tunisia, Colombia, Malaysia, Indonesia, Argentina, Albania, Kazakhstan
398	Malaysia	Tunisia, Colombia, Jordan, Indonesia, Argentina, Albania, Kazakhstan
396	Indonesia	Tunisia, Colombia, Jordan, Malaysia, Argentina, Albania, Kazakhstan
396	Argentina	Tunisia, Colombia, Jordan, Malaysia, Indonesia, Albania, Kazakhstan
394	Albania	Tunisia, Jordan, Malaysia, Indonesia, Argentina, Kazakhstan, Qatar, Peru
393	Kazakhstan	Jordan, Malaysia, Indonesia, Argentina, Albania, Qatar, Peru
388	Qatar	Albania, Kazakhstan, Peru
384	Peru	Albania, Kazakhstan, Qatar

1. Note by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".
2. Note by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Source: OECD, PISA 2012 Database.
StatLink http://dx.doi.org/10.1787/888932935610



■ Figure I.4.2 [Part 1/3] ■

Reading performance among PISA 2012 participants, at national and regional levels

	Reading scale				
		Range of ranks			
		OECD countries		All countries/economies	
	Mean score	Upper rank	Lower rank	Upper rank	Lower rank
Shanghai-China	570			1	1
Hong Kong-China	545			2	4
Singapore	542			2	4
Japan	538	1	2	2	5
Korea	536	1	2	3	5
Massachusetts (United States)	527				
Australian Capital Territory (Australia)	525				
Finland	524	3	5	6	10
Ireland	523	3	6	6	10
Chinese Taipei	523			6	10
Canada	523	3	6	6	10
Connecticut (United States)	521				
Veneto (Italy)	521				
Trento (Italy)	521				
Lombardia (Italy)	521				
Western Australia (Australia)	519				
Friuli Venezia Giulia (Italy)	518				
Poland	518	4	9	7	14
Flemish community (Belgium)	518				
Victoria (Australia)	517				
Estonia	516	6	9	10	14
Liechtenstein	516			7	18
New South Wales (Australia)	513				
New Zealand	512	7	12	11	19
Australia	512	8	12	12	18
Netherlands	511	6	14	11	21
Madrid (Spain)	511				
Navarre (Spain)	509				
Switzerland	509	8	14	13	21
Macao-China	509			13	22
Belgium	509	9	15	15	20
Viet Nam	508			12	23
Queensland (Australia)	508				
Germany	508	9	15	13	22
Scotland (United Kingdom)	506				
Piemonte (Italy)	506				
France	505	10	16	16	23
Castile and Leon (Spain)	505				
Asturias (Spain)	504				
Norway	504	11	17	17	24
Valle d'Aosta (Italy)	502				
Catalonia (Spain)	501				
South Australia (Australia)	500				
England (United Kingdom)	500				
German-speaking community (Belgium)	499				
United Kingdom	499	14	19	20	26
Galicia (Spain)	499				
Emilia Romagna (Italy)	498				
Basque Country (Spain)	498				
Northern Ireland (United Kingdom)	498				
United States	498	14	20	21	28
French community (Belgium)	497				
Bolzano (Italy)	497				
Marche (Italy)	497				
Denmark	496	16	20	23	27
Aragon (Spain)	493				
Puglia (Italy)	493				
Czech Republic	493	16	23	23	31
Umbria (Italy)	492				
Florida (United States)	492				
Liguria (Italy)	490				
La Rioja (Spain)	490				
Alentejo (Portugal)	490				

Notes: OECD countries are shown in bold black. Partner countries are shown in bold blue. Participating economies and subnational entities that are not included in national results are shown in bold blue italics. Regions are shown in black italics (OECD countries) or blue italics (partner countries).
1. Note by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".
2. Note by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.
Countries, economies and subnational entities are ranked in descending order of mean reading performance.
Source: OECD, PISA 2012 Database.
StatLink http://dx.doi.org/10.1787/888932935610



■ Figure I.4.2 [Part 2/3] ■

Reading performance among PISA 2012 participants, at national and regional levels

	Reading scale				
		Range of ranks			
		OECD countries		All countries/economies	
	Mean score	Upper rank	Lower rank	Upper rank	Lower rank
Italy	490	19	25	26	34
Austria	490	18	26	25	34
Latvia	489			26	35
Hungary	488	18	27	25	36
Spain	488	20	27	27	35
Luxembourg	488	20	26	28	35
Portugal	488	18	28	25	37
Toscana (Italy)	488				
Israel	486	19	31	25	40
Cantabria (Spain)	485				
Croatia	485			28	39
Tasmania (Australia)	485				
Sweden	483	23	30	30	40
Iceland	483	25	30	33	39
Perm Territory region (Russian Federation)	482				
Slovenia	481	27	30	35	39
Lazio (Italy)	480				
Abruzzo (Italy)	480				
Wales (United Kingdom)	480				
Lithuania	477			37	42
Greece	477	28	31	36	42
Andalusia (Spain)	477				
Molise (Italy)	476				
Balearic Islands (Spain)	476				
Turkey	475	27	31	36	42
Russian Federation	475			38	42
Basilicata (Italy)	474				
Dubai (United Arab Emirates)	468				
Northern Territory (Australia)	466				
Campania (Italy)	464				
Sardegna (Italy)	464				
Slovak Republic	463	32	32	43	43
Murcia (Spain)	462				
Extremadura (Spain)	457				
Sicilia (Italy)	455				
Sharjah (United Arab Emirates)	451				
Querétaro (Mexico)	451				
Cyprus[1, 2]	449			44	45
Distrito Federal (Mexico)	448				
Aguascalientes (Mexico)	447				
Serbia	446			44	48
Chihuahua (Mexico)	444				
United Arab Emirates	442			45	50
Nuevo León (Mexico)	442				
Chile	441	33	33	45	50
Thailand	441			45	51
Costa Rica	441			45	51
Colima (Mexico)	440				
Romania	438			46	51
Mexico (Mexico)	437				
Durango (Mexico)	436				
Jalisco (Mexico)	436				
Bulgaria	436			45	51
Calabria (Italy)	434				
Rio Grande do Sul (Brazil)	433				
Manizales (Colombia)	431				
Coahuila (Mexico)	431				
Abu Dhabi (United Arab Emirates)	431				
Quintana Roo (Mexico)	430				
Ciudad Autónoma de Buenos Aires (Argentina)	429				
Baja California (Mexico)	428				
Federal District (Brazil)	428				
Mato Grosso do Sul (Brazil)	428				

Notes: OECD countries are shown in bold black. Partner countries are shown in bold blue. Participating economies and subnational entities that are not included in national results are shown in bold blue italics. Regions are shown in black italics (OECD countries) or blue italics (partner countries).
1. Note by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".
2. Note by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.
Countries, economies and subnational entities are ranked in descending order of mean reading performance.
Source: OECD, PISA 2012 Database.
StatLink http://dx.doi.org/10.1787/888932935610



■ Figure I.4.2 [Part 3/3] ■

Reading performance among PISA 2012 participants, at national and regional levels

	Reading scale				
		Range of ranks			
		OECD countries		All countries/economies	
	Mean score	Upper rank	Lower rank	Upper rank	Lower rank
Espírito Santo (Brazil)	427				
Minas Gerais (Brazil)	427				
Yucatán (Mexico)	426				
Morelos (Mexico)	425				
San Luis Potosí (Mexico)	425				
Mexico	424	34	34	52	53
Baja California Sur (Mexico)	423				
Puebla (Mexico)	423				
Medellín (Colombia)	423				
Santa Catarina (Brazil)	423				
Bogota (Colombia)	422				
Montenegro	422			52	53
Paraná (Brazil)	422				
São Paulo (Brazil)	422				
Tamaulipas (Mexico)	421				
Tlaxcala (Mexico)	418				
Nayarit (Mexico)	418				
Sinaloa (Mexico)	417				
Fujairah (United Arab Emirates)	415				
Ras Al Khaimah (United Arab Emirates)	415				
Ajman (United Arab Emirates)	414				
Guanajuato (Mexico)	414				
Hidalgo (Mexico)	414				
Campeche (Mexico)	413				
Zacatecas (Mexico)	412				
Paraíba (Brazil)	411				
Uruguay	411			54	56
Veracruz (Mexico)	410				
Brazil	410			54	56
Cali (Colombia)	408				
Rio de Janeiro (Brazil)	408				
Tunisia	404			54	60
Colombia	403			55	60
Piauí (Brazil)	403				
Umm Al Quwain (United Arab Emirates)	400				
Rondônia (Brazil)	400				
Jordan	399			56	62
Malaysia	398			57	63
Sergipe (Brazil)	397				
Ceará (Brazil)	397				
Amapá (Brazil)	396				
Indonesia	396			56	63
Argentina	396			57	63
Tabasco (Mexico)	395				
Albania	394			58	64
Goiás (Brazil)	393				
Rio Grande do Norte (Brazil)	393				
Kazakhstan	393			59	64
Bahia (Brazil)	388				
Qatar	388			63	65
Pará (Brazil)	387				
Peru	384			63	65
Acre (Brazil)	383				
Amazonas (Brazil)	382				
Mato Grosso (Brazil)	382				
Tocantins (Brazil)	381				
Roraima (Brazil)	377				
Pernambuco (Brazil)	376				
Chiapas (Mexico)	371				
Maranhão (Brazil)	369				
Guerrero (Mexico)	368				
Alagoas (Brazil)	355				

Notes: OECD countries are shown in bold black. Partner countries are shown in bold blue. Participating economies and subnational entities that are not included in national results are shown in bold blue italics. Regions are shown in black italics (OECD countries) or blue italics (partner countries).
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Countries, economies and subnational entities are ranked in descending order of mean reading performance.
Source: OECD, PISA 2012 Database.
StatLink http://dx.doi.org/10.1787/888932935610



Moreover, countries and economies are divided into three broad groups: those whose mean scores are statistically around the OECD mean (highlighted in dark blue), those whose mean scores are above the OECD mean (highlighted in pale blue), and those whose mean scores are below the OECD mean (highlighted in medium blue).

As shown in Figure I.4.1, Shanghai-China, Hong Kong-China, Singapore, Japan and Korea are the five highest-performing countries and economies in reading. Shanghai-China has a mean score of 570 points in reading – the equivalent of more than a year-and-a-half of schooling above the OECD average of 496 score points, and 25 score points above the second best-performing participant, Hong Kong-China. Finland, Ireland, Chinese Taipei, Canada, Poland, Estonia and Liechtenstein perform at least 20 score points above the OECD average. Ten other countries and economies – New Zealand, Australia, the Netherlands, Switzerland, Macao-China, Belgium, Viet Nam, Germany, France and Norway – also score above the OECD average. Meanwhile, the United Kingdom, the United States, Denmark and the Czech Republic perform around the OECD average; and 39 countries and economies perform below the OECD average.

Among OECD countries, performance differences are large: 114 score points separate the mean scores of the highest- and lowest-performing OECD countries; when the partner countries and economies are considered along with OECD countries, this difference amounts to 185 score points.

Because the figures are derived from samples, it is not possible to determine a country's or economy's precise ranking among all countries and economies. However, it is possible to determine, with confidence, a range of rankings in which the country's/economy's performance level lies (Figure I.4.2). For entities other than those for which full samples were drawn (i.e. Shanghai-China, Hong Kong-China, Chinese Taipei and Macao-China), it is not possible to calculate a rank order but the mean score provides a possibility to position subnational entities against the performance of the countries and economies. For example, Massachusetts shows a score between the performance of top-performer Korea and Finland.

Trends in average reading performance

The change in a school system's average performance over time indicates how and to what extent the system is progressing towards achieving the goal of providing all students with the knowledge and skills needed to become full participants in a knowledge-based society. Trends in reading performance up to 2012 are available for 64 countries and economies.[1] PISA 2012 results for 30 countries and economies can be compared with data from all the previous cycles (PISA 2000, 2003, 2006 and 2009); for the other countries and economies, annualised trends can be calculated even if these countries/economies did not begin their participation in PISA assessments in PISA 2000, missed some assesments between PISA 2000 and 2012, or have results from previous assessments that are not comparable over time. The following analyses calculate the average trend using all the available information. Results are presented as the annualised change – the average yearly change in performance observed throughout a country's or economy's participation in PISA. (For further details on the estimation of the annualised change, see Annex A5).[2]

Of the 64 countries and economies with comparable data in reading performance, 32 show a positive annualised trend in mean reading performance across all PISA assessments, 22 show no change, and the remaining 10 countries and economies show a deteriorating annualised trend in average student performance.

Among OECD countries, average yearly improvements (i.e. positive annualised change) in reading performance across successive PISA assessments are observed in Chile, Estonia, Germany, Hungary, Israel, Japan, Korea, Luxembourg, Mexico, Poland, Portugal, Switzerland and Turkey. Figure I.4.3 shows that Montenegro, Peru, Qatar, Serbia and Singapore saw an average yearly improvement of more than five score points in reading throughout their participation in subsequent PISA assessments. Albania, Chinese Taipei, Turkey and Shanghai-China saw an average yearly improvement of more than four score points, and Chile, Israel and Tunisia saw an average yearly improvement of more than three score points. These are significant improvements. Most of these countries and economies, except Shanghai-China and Singapore, have participated in at least three PISA assessments.

Six other countries and economies show a yearly improvement of at least two score points in reading; 11 countries and economies saw a yearly improvement of at least one score point; and three countries and economies saw an annual improvement in performance, albeit of less than one score point.

In 2000, the average 15-year-old in Peru scored 327 points on the PISA reading assessment, 370 score points in 2009 and 384 points in 2012. Improvements over time were also consistent in Turkey, where the average reading performance

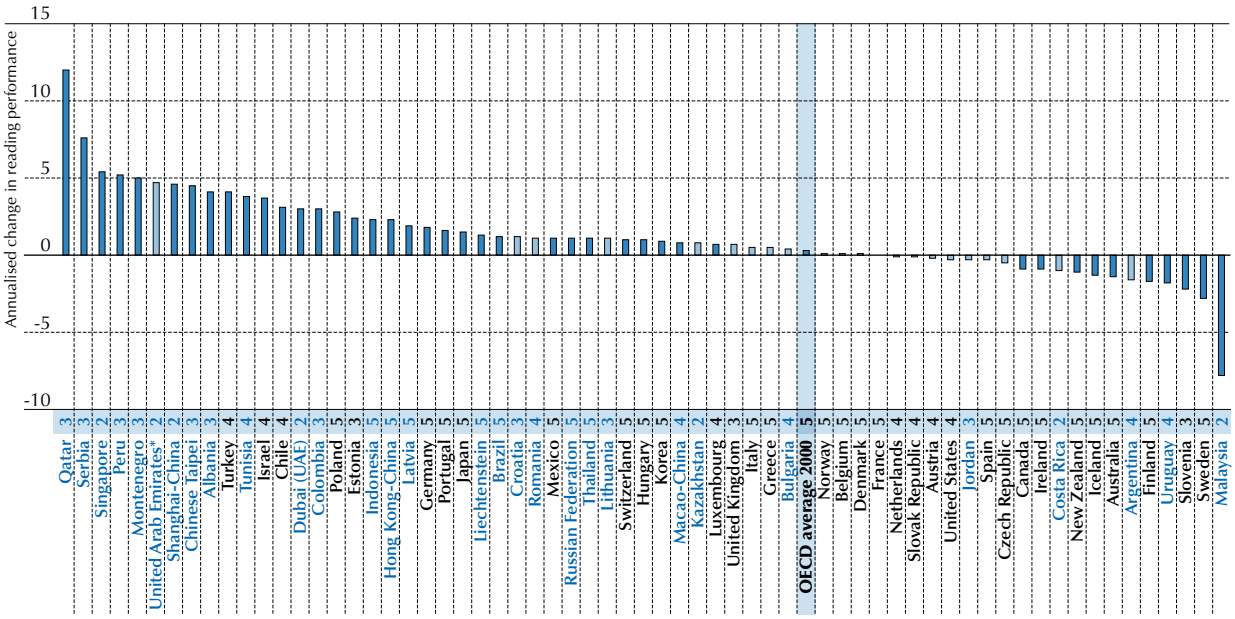


improved relatively steadily from 441 points to 475 points between 2003 and 2012. Poland also saw consistent progress across the five PISA assessments, moving from a below-OECD-average score of 479 score points in reading in 2000 to an above-OECD-average score of 518 points in 2012. Korea's improvement in PISA and recent education policies and programmes are outlined in Box I.4.1.

■ Figure I.4.3 ■

Annualised change in reading performance throughout participation in PISA

Reading score-point difference associated with one calendar year



* United Arab Emirates excluding Dubai.

Notes: Statistically significant score point changes are marked in a darker tone (see Annex A3).

The number of comparable reading scores used to calculate the annualised change is shown next to the country/economy name.

The annualised change is the average annual change in PISA score points from a country's/economy's earliest participation in PISA to PISA 2012. It is calculated taking into account all of a country's/economy's participation in PISA. For more details on the calculation of the annualised change, see Annex A5.

OECD average 2000 compares only OECD countries with comparable reading scores since 2000.

Countries and economies are ranked in descending order of the annualised change in reading performance.

Source: OECD, PISA 2012 Database, Table I.4.3b.

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The average change experienced over successive PISA assessments doesn't capture the extent to which this change is steady, or whether it is decelerating or accelerating. Of the 32 countries and economies that show a statistically an annualised improvement in reading performance, 29 participated in at least two PISA assessments in addition to PISA 2012, so it is possible to determine whether their improvement is steady, accelerating or decelerating. The average reading performance in Chinese Taipei, Israel, Japan, Luxembourg, Macao-China, the Russian Federation and Thailand shows an improvement, the rate of which is higher in the later PISA assessments than in the earlier assessments. Improvements in reading have remained relatively steady in Albania, Brazil, Estonia, Germany, Hong Kong-China, Hungary, Indonesia, Mexico, Montenegro, Peru, Portugal, Poland, Switzerland, Tunisia and Turkey, and was slower in the later PISA assessments than the earlier assessments in Chile, Colombia, Korea, Latvia, Liechtenstein, Qatar and Serbia (Figure I.4.4).

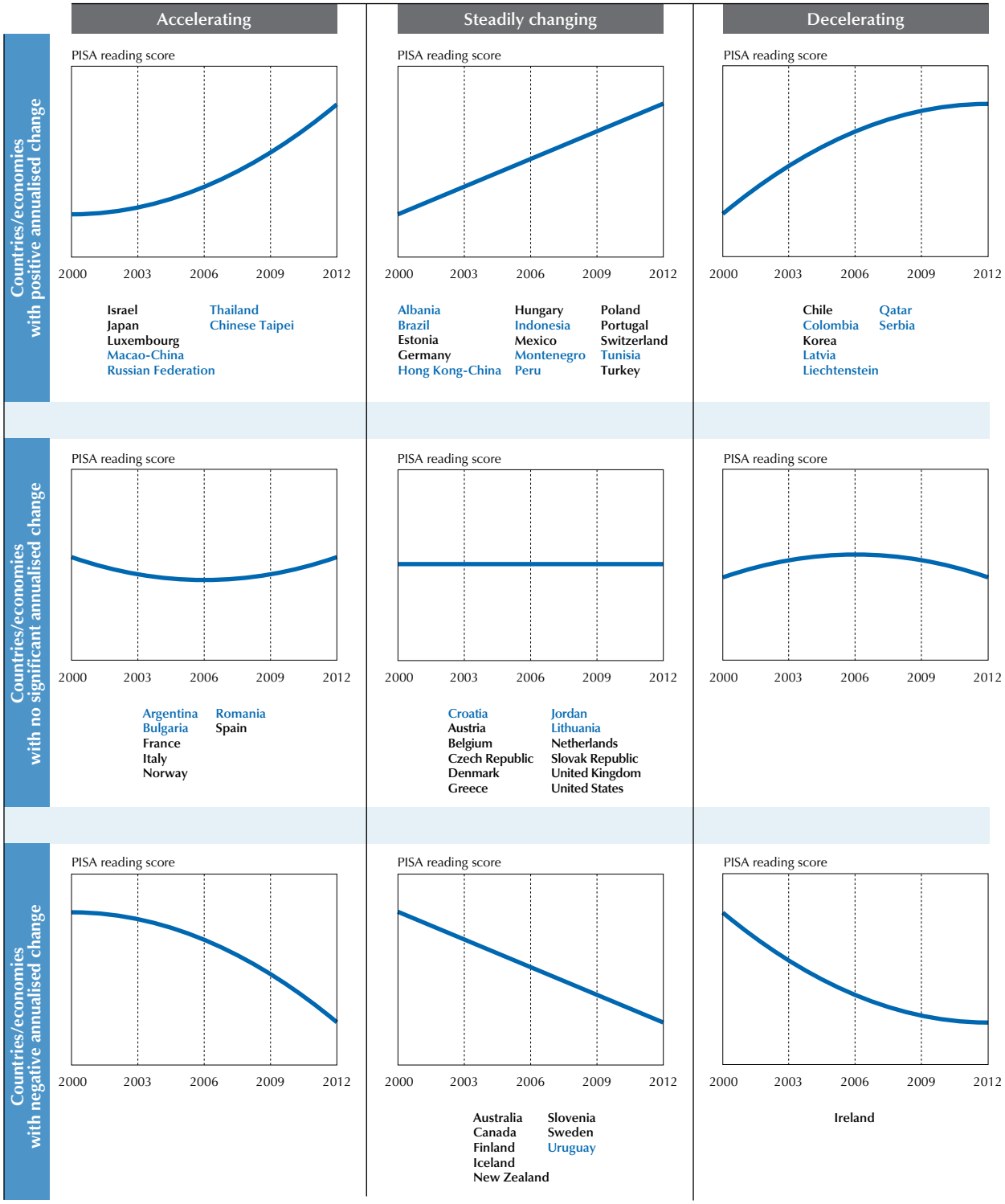
Other countries and economies show no annualised improvement, but this is because of a deterioration between their first two PISA assessments followed by improvements in later assessments. This was observed in Argentina, Bulgaria, France, Italy, Norway, Romania and Spain. Spain, for example, saw a decline in performance between PISA 2000 and PISA 2003 which continued through PISA 2006. But this initially negative trend reversed itself between 2006 and 2009 to the extent that Spain's performance in PISA 2012 was similar to that recorded in PISA 2000.



■ Figure I.4.4 ■

Curvilinear trajectories of average reading performance across PISA assessments

Rate of acceleration or deceleration in performance (quadratic term)



Notes: Figures are for illustrative purposes only. Countries and economies are grouped according to the direction and significance of their annualised change and their rate of acceleration.
Countries and economies with data from only one PISA assessments other than 2012 are excluded.
Source: OECD, PISA 2012 Database, Table I.4.3b.

StatLink http://dx.doi.org/10.1787/888932935610



■ Figure I.4.5 [Part 1/2] ■

Multiple comparisons of reading performance between 2000 and 2012

	Reading performance in 2000	Reading performance in 2012	Countries/economies with similar performance in 2000 but lower performance in 2012	Countries/economies with similar performance in 2000 and similar performance in 2012	Countries/economies with similar performance in 2000 but higher performance in 2012
Hong Kong-China	525	545	New Zealand, Sweden, Australia, Ireland	Japan, Korea	
Japan	522	538	United States, New Zealand, Sweden, Australia, Canada, Ireland, Belgium	Hong Kong-China, Korea	
Korea	525	536	New Zealand, Sweden, Australia	Hong Kong-China, Japan, Ireland	
Finland	546	524			
Ireland	527	523	New Zealand, Sweden, Australia	Canada, Korea	Hong Kong-China, Japan
Canada	534	523	New Zealand, Australia	Ireland	Japan
Poland	479	518	Greece, Austria, Czech Republic, Hungary, Spain, Portugal, Italy	Germany, Switzerland, Liechtenstein	
Liechtenstein	483	516	United States, Greece, Austria, Czech Republic, Hungary, Spain, Portugal, Italy	Poland, Germany, Switzerland	
New Zealand	529	512		Australia	Hong Kong-China, Japan, Canada, Ireland, Korea
Australia	528	512		New Zealand	Hong Kong-China, Japan, Canada, Ireland, Korea
Belgium	507	509	Sweden, Denmark, Iceland	United States, France, Switzerland, Norway	Japan
Switzerland	494	509	Austria, Czech Republic, Hungary, Spain, Denmark, Italy	United States, Poland, Germany, France, Belgium, Norway, Liechtenstein	
Germany	484	508	Greece, Austria, Czech Republic, Hungary, Spain, Italy	Poland, Switzerland, Liechtenstein	
France	505	505	Iceland	United States, Belgium, Denmark, Switzerland, Norway	
Norway	505	504	Iceland	United States, France, Belgium, Denmark, Switzerland	
United States	504	498	Sweden, Iceland	Austria, Czech Republic, France, Belgium, Spain, Denmark, Switzerland, Norway, Italy	Japan, Liechtenstein
Denmark	497	496		United States, Austria, Czech Republic, France, Spain, Norway, Italy	Belgium, Switzerland
Czech Republic	492	493		United States, Austria, Hungary, Spain, Denmark, Italy	Poland, Germany, Switzerland, Liechtenstein
Italy	487	490	Greece	United States, Austria, Czech Republic, Hungary, Spain, Denmark	Poland, Germany, Switzerland, Liechtenstein
Austria	492	490		United States, Czech Republic, Hungary, Spain, Denmark, Italy	Poland, Germany, Switzerland, Liechtenstein
Latvia	458	489	Greece, Russian Federation	Israel, Portugal	
Hungary	480	488		Greece, Austria, Czech Republic, Spain, Portugal, Italy	Poland, Germany, Switzerland, Liechtenstein
Spain	493	488		United States, Austria, Czech Republic, Hungary, Denmark, Italy	Poland, Germany, Switzerland, Liechtenstein
Portugal	470	488		Greece, Latvia, Hungary, Israel, Russian Federation	Poland, Liechtenstein
Israel	452	486	Thailand, Bulgaria, Argentina	Greece, Latvia, Portugal, Russian Federation	
Sweden	516	483			United States, Hong Kong-China, Japan, Ireland, Belgium, Korea
Iceland	507	483			United States, France, Belgium, Norway
Greece	474	477		Hungary, Israel, Portugal, Russian Federation	Poland, Latvia, Germany, Liechtenstein, Italy
Russian Federation	462	475		Greece, Israel, Portugal	Latvia
Chile	410	441	Argentina, Mexico		
Thailand	431	441	Argentina, Mexico	Bulgaria, Romania	Israel
Romania	428	438	Argentina, Mexico	Thailand, Bulgaria	
Bulgaria	430	436	Argentina	Thailand, Mexico, Romania	Israel
Mexico	422	424	Argentina	Bulgaria	Thailand, Chile, Romania
Brazil	396	410	Argentina		
Indonesia	371	396			
Argentina	418	396			Brazil, Thailand, Israel, Bulgaria, Chile, Mexico, Romania
Albania	349	394			
Peru	327	384			

Note: Only countries and economies that participated in the PISA 2000 and PISA 2012 assessments are shown.
Countries and economies are ranked in descending order of their mean reading performance in PISA 2012.
Source: OECD, PISA 2012 Database, Table I.4.3b.
StatLink http://dx.doi.org/10.1787/888932935610



■ Figure I.4.5 [Part 2/2] ■

Multiple comparisons of reading performance between 2000 and 2012

Countries/economies with lower performance in 2000 but similar performance in 2012	Countries/economies with lower performance in 2000 but higher performance in 2012	Countries/economies with higher performance in 2000 but with similar performance in 2012	Countries/economies with higher performance in 2000 but lower performance in 2012	Reading performance in 2012	Reading performance in 2000	
			Finland, Canada	545	525	Hong Kong-China
			Finland	538	522	Japan
		Finland	Canada	536	525	Korea
Poland, Canada, Ireland, Liechtenstein, Korea	Hong Kong-China, Japan			524	546	Finland
Poland, Liechtenstein		Finland		523	527	Ireland
Poland, Liechtenstein	Hong Kong-China, Korea	Finland		523	534	Canada
		New Zealand, Finland, Australia, Canada, Ireland, Belgium	United States, France, Sweden, Denmark, Iceland, Norway	518	479	Poland
		New Zealand, Finland, France, Australia, Canada, Ireland, Belgium, Norway	Sweden, Denmark, Iceland	516	483	Liechtenstein
Poland, Germany, France, Belgium, Switzerland, Norway, Liechtenstein				512	529	New Zealand
Poland, Germany, France, Belgium, Switzerland, Norway, Liechtenstein				512	528	Australia
Poland, Germany, Liechtenstein		New Zealand, Australia		509	507	Belgium
		New Zealand, Australia	Sweden, Iceland	509	494	Switzerland
		United States, New Zealand, France, Australia, Belgium, Norway	Sweden, Denmark, Iceland	508	484	Germany
Germany, Liechtenstein	Poland	New Zealand, Australia	Sweden	505	505	France
Germany, Czech Republic, Liechtenstein	Poland	New Zealand, Australia	Sweden	504	505	Norway
Latvia, Germany, Hungary, Israel, Portugal	Poland			498	504	United States
Latvia, Hungary, Israel, Portugal	Poland, Germany, Liechtenstein		Sweden, Iceland	496	497	Denmark
Latvia, Israel, Portugal		Sweden, Norway	Iceland	493	492	Czech Republic
Latvia, Israel, Portugal		Sweden, Iceland		490	487	Italy
Latvia, Israel, Portugal		Sweden, Iceland		490	492	Austria
		United States, Austria, Czech Republic, Sweden, Hungary, Spain, Denmark, Iceland, Italy		489	458	Latvia
Latvia, Israel		United States, Sweden, Denmark, Iceland		488	480	Hungary
Latvia, Israel, Portugal		Sweden, Iceland		488	493	Spain
		United States, Austria, Czech Republic, Sweden, Spain, Denmark, Iceland, Italy		488	470	Portugal
		United States, Austria, Czech Republic, Sweden, Hungary, Spain, Denmark, Iceland, Italy		486	452	Israel
Greece, Latvia, Austria, Czech Republic, Hungary, Israel, Spain, Iceland, Portugal, Russian Federation, Italy	Poland, Germany, France, Denmark, Switzerland, Norway, Liechtenstein			483	516	Sweden
Greece, Latvia, Austria, Hungary, Israel, Spain, Portugal, Russian Federation, Italy	Poland, Germany, Czech Republic, Denmark, Switzerland, Liechtenstein	Sweden		483	507	Iceland
		Sweden, Iceland		477	474	Greece
		Sweden, Iceland		475	462	Russian Federation
		Thailand, Bulgaria, Romania		441	410	Chile
Chile				441	431	Thailand
Chile				438	428	Romania
Chile				436	430	Bulgaria
				424	422	Mexico
				410	396	Brazil
Albania, Peru		Argentina		396	371	Indonesia
Albania, Indonesia, Peru				396	418	Argentina
Peru		Argentina, Indonesia		394	349	Albania
		Albania, Argentina, Indonesia		384	327	Peru

Note: Only countries and economies that participated in the PISA 2000 and PISA 2012 assessments are shown.
Countries and economies are ranked in descending order of their mean reading performance in PISA 2012.
Source: OECD, PISA 2012 Database, Table I.4.3b.
StatLink http://dx.doi.org/10.1787/888932935610

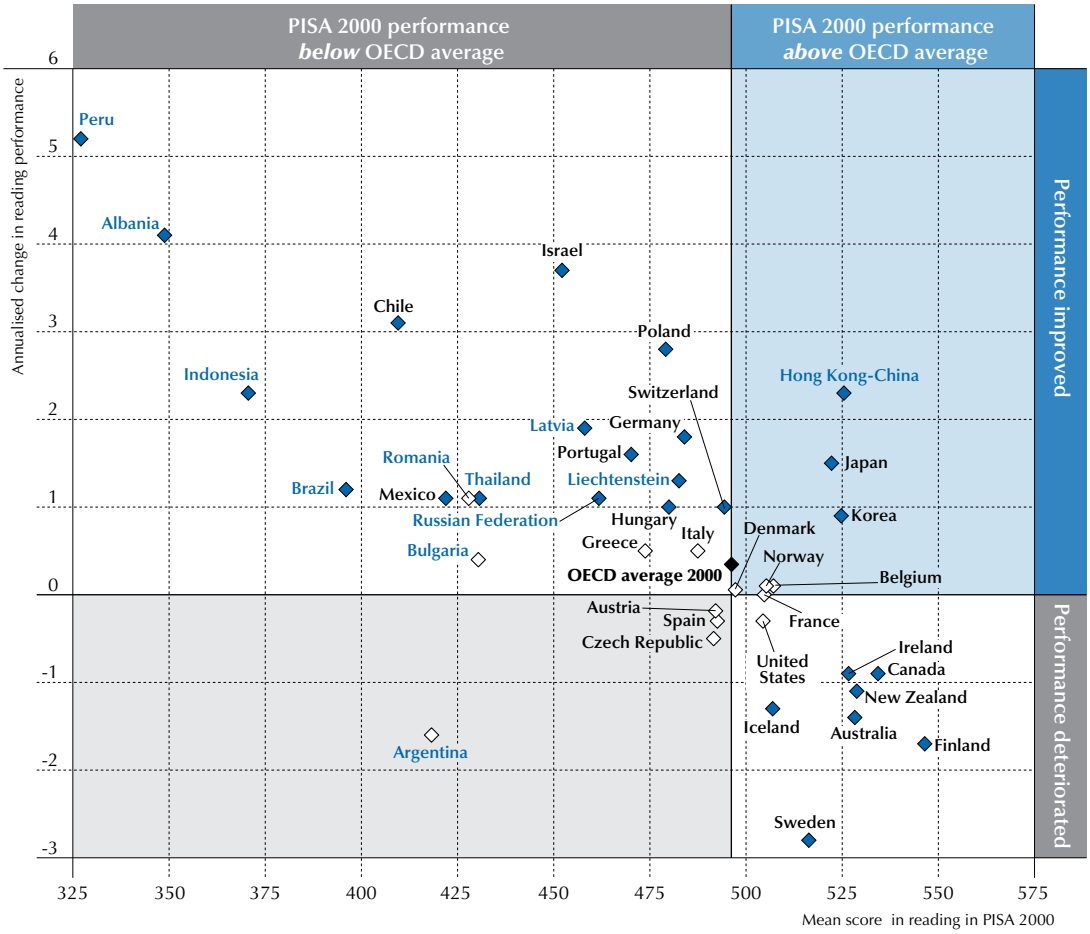


At any point in time, countries and economies share similar levels of performance with other countries and economies. But since the pace of change varies over time and across school systems, the relative standing of countries and economies evolves. Figure I.4.5 shows, for each country and economy with comparable results in 2000 and PISA 2012, those other countries and economies that had similar reading performance in 2000 but whose performance improved or deteriorated in 2012. In 2000, for example, Germany was similar in reading performance to Austria, the Czech Republic, Greece, Hungary, Italy, Liechtenstein, Poland, Spain and Switzerland; but after improvements in performance, it scored higher than Austria, the Czech Republic, Greece, Hungary, Italy and Spain in 2012. In 2000, Germany's score in PISA was lower than those of Australia and New Zealand; but by 2012, the country had reached the same performance level as these two countries. Along the same lines, Chile had similar levels of performance as Argentina and Mexico in 2000. By 2012, Chile showed better performance than these two and attained the same level of performance as Bulgaria, Romania and Thailand– all of which had higher average reading scores than Chile in PISA 2000.

Figure I.4.6 shows the relationship between each country's and economy's average reading performance in PISA 2000 and their annualised change between 2000 and 2012.[3] Countries and economies that show the strongest improvement in this period are more likely to have had comparatively low performance in PISA 2000 or their earliest comparable PISA score.

■ Figure I.4.6 ■

Relationship between annualised change in performance and average PISA 2000 reading scores



Notes: Annualised score point change in reading that are statistically significant are indicated in a darker tone (see Annex A3).
The annualised change is the average annual change in PISA score points from a country's/economy's earliest participation in PISA to PISA 2012. It is calculated taking into account all of a country's/economy's participation in PISA. For more details on the calculation of the annualised change, see Annex A5.
OECD average 2000 considers only those countries with comparable reading scores since PISA 2000.
The correlation between a country's/economy's mean score in 2000 and its annualised performance is -0.67.
Source: OECD, PISA 2012 Database, Table I.4.3b.
StatLink http://dx.doi.org/10.1787/888932935610



In fact, the correlation between a country's/economy's PISA 2000 reading score and their annualised change in reading is -0.67. Among other things, this means that 45% of the variation in the annualised change since 2000 can be explained by a country's/economy's PISA 2000 reading score. Of the 20 countries and economies that showed an annualised improvement in reading performance and participated in PISA in the 2000 assessment, eleven had an average reading performance of 470 points in PISA 2000, well below the OECD average.

It is by no means the case that all low-performing countries improve at a faster pace. Greece, Hungary, Poland and Portugal, for example, had relatively similar levels of performance in PISA 2000 (between 470 and 480 score points in reading), yet by 2012, the degree of improvement, if any, varied among them. Poland improved by 2.8 score points per year, Portugal by 1.6 points and Hungary by 1.0 per year, while no improvement was observed in Greece. Similarly, while Mexico, Argentina and Chile had similar levels of performance in PISA 2000 (between 410 and 422 score points), by 2012 improvements were observed in Chile and Mexico, but no improvement was observed in Argentina.

Indeed, even some of those countries and economies that scored at or above the OECD average in the earlier assessments of PISA showed annualised improvements across their participation in PISA. These include Chinese Taipei, Estonia, Hong Kong-China, Japan, Korea, Macao-China, Shanghai-China, Singapore and Switzerland (Figure I.4.6 and Table I.4.3b).

Trends in reading performance adjusted for sampling and demographic changes

Improvements in a country's or economy's overall reading performance may be the result of specific education policies; they may also be due to demographic or socio-economic changes that shift the country's/economy's population profile. For example, because of trends in migration, the characteristics of the PISA reference population – 15-year-olds enrolled in school – may have shifted; or, as a result of development, the socio-economic status of students who were assessed in PISA 2012 is higher than that of students assessed in 2000.

Adjusted trends shed light on changes in reading performance that are not due to alterations in the demographic characteristics of the student population or the sample. Figure I.4.7 presents the adjusted annualised changes in reading performance. These adjusted trends assume that the socio-economic status of students and their age, as well as the proportion of girls, students with an immigrant background and students speaking a language at home different from the language of instruction remain intact across PISA cycles, using the PISA 2012 sample as the reference. In short, it assumes that the population and sample characteristics observed in 2012 along these student-level attributes did not change between 2000 and 2012.[4] If countries and economies see a difference between the adjusted trends and the observed trends, particularly when the observed trend tends lower (or negative) in relation to the adjusted trend (non-negative), that means that changes in the student population are having adverse effects on performance. It is the observed, not the adjusted, trends that measure the quality of education in a school system. Annex A5 provides details on how adjusted trends are calculated.

After accounting for these differences in population and samples, 21 countries and economies experience an average yearly improvement in reading performance. Colombia, Croatia, Dubai (United Arab Emirates), Indonesia, Jordan, Mexico, New Zealand, Costa Rica, the Slovak Republic and Sweden have similar adjusted and un-adjusted trends, meaning that either the PISA samples or the reference population have not changed much during their participation in PISA; that even if the students' characteristics have changed, these have not affected their performance in school; or that improved education services have offset any negative effect on average reading performance related to changes in the population.

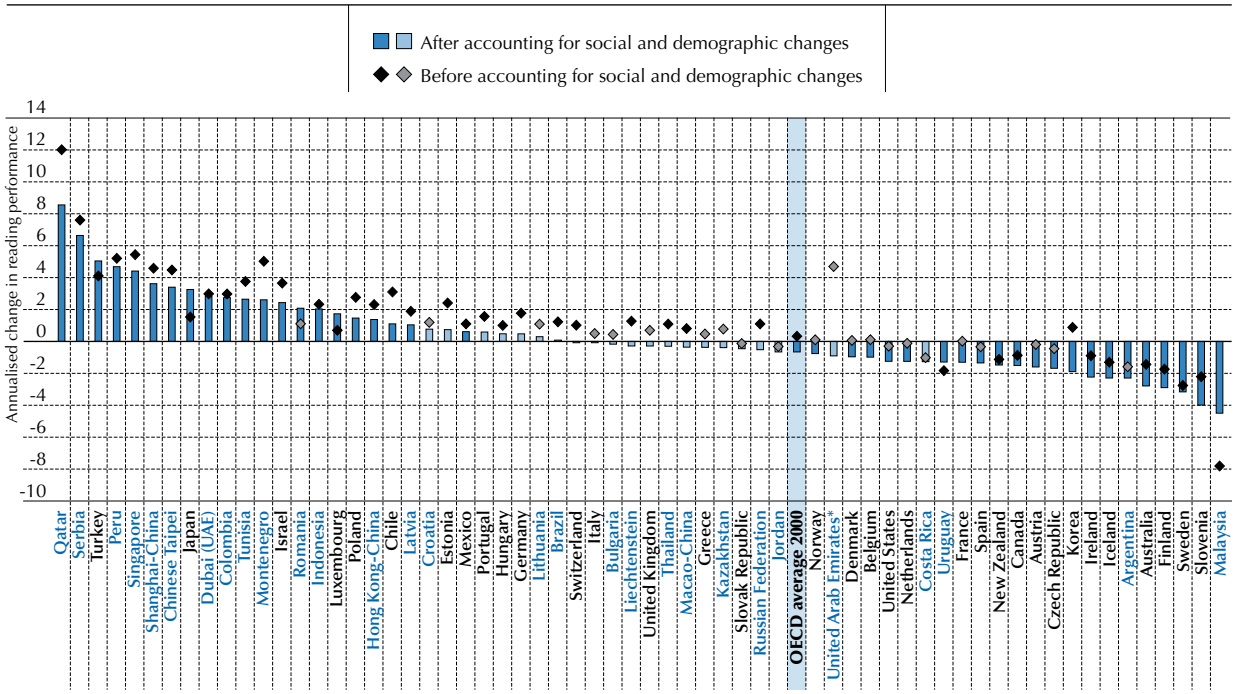
After accounting for changes in students' background characteristics, the observed improvements in Japan, Luxembourg, Malaysia, Romania and Turkey are greater. In these countries, improvements in reading performance were unrelated to changes in the student population; had students in the previous assessment shared the same characteristics as students who took the PISA 2012 test, the observed improvements would have been even greater. In Brazil, Estonia, Germany, Hungary, Liechtenstein, Macao-China, Portugal, the Russian Federation, Switzerland and Thailand the overall observed improvement loses statistical significance. In Korea, the observed improvement in reading performance becomes negative after accounting for students' background characteristics. In these countries and economies, a large part of the observed improvement can be attributed to the changes in the student population. Observed improvements in the remaining countries and economies remain, indicating that they are not fully explained by changes in the background characteristics of students. In these cases, changes in other student characteristics, such as students' attitudes towards learning, or the resources, policies and practices implemented in the school system may account for the improvements. Observed improvements remain, but are smaller in magnitude in Chile, Hong Kong-China, Israel, Latvia, Mexico, Montenegro and Poland. In these countries and economies, at least a third of the improvement is the result of a change in the student population – or the sample – towards students whose background characteristics are typically associated with better reading outcomes.



Informative as they may be, adjusted trends are merely hypothetical scenarios that help to determine the source of changes in students' performance over time. Observed trends depicted in Figure I.4.7 and throughout this chapter summarise the overall evolution of a school system, highlighting the challenges that countries and economies face in improving students' and schools' performance in reading.

■ Figure I.4.7 ■

Adjusted and observed annualised performance change in average PISA reading scores



* United Arab Emirates excluding Dubai.

Notes: Statistically significant values are marked in a darker tone (see Annex A3).

The annualised change is the average annual change in PISA score points. It is calculated taking into account all of a country's/economy's participation in PISA. For more details on the calculation of the annualised change, see Annex A5.

The annualised change adjusted for demographic changes assumes that the average age and *PISA index of social, cultural and economic status*, as well as the percentage of female students, those with an immigrant background and those who speak a language other than the assessment at home is the same in previous assessments as those observed in 2012. For more details on the calculation of the adjusted annualised change, see Annex A5.

OECD average 2000 considers only those countries with comparable reading scores since PISA 2000.

Countries and economies are ranked in descending order of the annualised change after accounting for demographic changes.

Source: OECD, PISA 2012 Database, Tables I.4.3b and I.4.4.

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Box I.4.1. **Improving in PISA: Korea**

Korea has consistently performed at the top level in PISA, and has still improved over time. In PISA 2000, Korea performed on a par with New Zealand, Sweden, Australia, Hong Kong-China, Japan and Ireland; by 2012 Korea outperformed the first three. Performance in reading, for example, has improved by an average of almost one score point per year since 2000. As a result, Korea's average score in reading increased from 525 points in 2003 to 536 points in 2012. This improvement was concentrated at the top of the performance distribution: the percentage of students scoring at or above proficiency Level 5 in mathematics increased by more than eight percentage points since 2000 to 14% in 2012. While the mathematics scores among the top 10% of students have improved by more than 30 points during the period, no change was observed among low-achieving students. Korea's performance in science also improved consistently throughout its participation in PISA: science performance increased by an average of 2.6 points per year since 2006 so that average scores in science rose from 522 points in PISA 2006 to 538 points in PISA 2012.

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Korea's improvements in reading were concentrated among high-achieving students. the average improvement of high-achieving students outpaced that of lower-achieving students. Higher standards in language literacy were put in place in the mid-2000s, and language literacy was given more weight in the competitive College Scholastic Ability Test (CSAT), the university entrance examination. This could explain the increase in the share of top-performing students in Korea, as high-achieving students have more incentives to invest in language and reading literacy. Also, and particularly since 2010, programmes for gifted students have been expanded at the primary and secondary levels, and the secondary curriculum has been strengthened to meet the needs of these students (MEST, 2010).

Education policies have been linked to macroeconomic development first through centralised planning (1962-91) then by co-ordinated and strategically oriented approaches through the National Human Resource Development Plans (one for 2001-05 and another for 2006-10, for example). They have followed a sequential approach. Prior to 1975, 65% of the education budget was spent on primary education; in the following decades, secondary education received a greater share of funding and by the late 1990s, public investment in tertiary education was expanded. In the mid-1990s, a comprehensive school reform was launched, introducing school deregulation, choice, a new curriculum and increased public expenditure. Individual schools began to assume more management responsibilities. By 2012, schools had greater autonomy, and programmes were specifically designed to assist school leaders in assuming their new roles (World Bank, 2010).

The National Assessment of Educational Achievement (NAEA) programme was introduced in 1998. NAEA assesses educational achievement and trends among all 6th-, 9th- and 10th-grade students in Korean Language Arts, English, mathematics, social studies and science. Since 2010, the programme changed the grade coverage from 6th-, 9th- and 10th to 6th-, 9th- and 11th. The Subject Learning Diagnostic Test (SLDT) was introduced in 2008 and is implemented by the Nationwide Association of Superintendents of metropolitan/provincial offices of education. The previous Diagnostic Evaluation of Basic Academic Competence (DEBAC), which had tested primary school 3rd grades at the national level since 2002, was delegated to metropolitan/provincial offices of education. The Subject Learning Diagnostic Test measures basic competency in reading, writing and mathematics among 3rd, 4th-, 5th-, 7th- and 8th-grade students. Through these assessment tools, the government and metropolitan/provincial offices can monitor individual student performance levels, establish achievement benchmarks, develop an accountability system for public education, and also identify students who need support. For example, in 2008, the government established the *Zero Plan for Below-Basic Students*, a national programme to ensure that all students meet basic achievement criteria. The NAEA assessment was converted from a sample-based test to a census-based test to identify and then support low-performing students. Also, MEST introduced a *Schools for Improvement* (SFI) policy in 2009 to provide support in closing education gaps and improving achievement, also with the aim of reducing the proportion of students who do not achieve basic proficiency. The SFI supports various education programmes, including providing more resources for low-income schools and schools with a high concentration of low-performing students (Kim et al., 2012).

The national curriculum was revised again in 2009, highlighting reasoning, problem solving and mathematical communication as key competencies in mathematics (MEST, 2011b). In 2012, the government announced a plan for improving mathematics education in keeping with the revised curriculum. The aim is to enhance skills in reasoning and creativity (MEST, 2012). This reform implies a profound change in the way teachers teach mathematics: up until now, teachers have largely taught to the CSAT.

Reforms have also affected the teaching of language and reading. The focus of the Korean Language Arts Curriculum shifted from proficiency in grammar and literature to skills and strategies needed for creative and critical understanding and representation, similar to the approach underlying PISA. Diverse teaching methods and materials that reflected those changes were developed, and investments were made in related digital and Internet infrastructure. Schools were requested to spend a fixed share of their budgets on reading education. Training programmes for reading teachers were developed and disseminated. Parents were encouraged to participate more in school activities and were given information on how to support their children's schoolwork.

In both 2009 and 2012 Korea was among the OECD countries with the largest classes and, since 2003, Korean students have also been more likely to attend schools where the principal reported a teacher shortage. A concerted effort is underway to create more teaching posts. In 2010, more than 53 000 new jobs were assigned to the

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education-services sector, including 2 000 English conversation lecturers, 7 000 intern teachers, who support instruction, 7 000 after-school lecturers and co-ordinators, 5 500 full-day kindergarten staff, and 5 000 special education assistants. The teacher-training system has been expanded to enable outside experts to acquire teaching certificates (MEST, 2010; 2011a).

The school- and teacher-evaluation systems have also been reformed. Since 2010, the teacher-evaluation system, which was developed to improve teachers' professional capacities, was expanded to all schools. Results from the evaluation lead to customised training programmes for teachers, depending on their results. Given the greater autonomy granted to school principals, evaluation information will be made public and regional offices of education will oversee monitoring, focusing more on output-oriented criteria. Schools will use internal assessments to measure the improvement of students who do not meet the national assessment benchmarks. School-based performance-award systems were introduced in 2011 (MEST, 2011).

Fifteen-year-old students in Korea spent an average of 30 minutes less in mathematics classes in 2012 than their counterparts in 2003 did, yet a large number of Korean students participate in after-school lessons. While private lessons are common among those who can afford them, after-school group classes are often subsidised, so even disadvantaged students frequently enrol. For example, in June 2011, 99.9% of all primary and secondary schools were operating after-school programmes and about 65% of all primary and secondary students participated in after-school activities (MEST, 2011c). Many observers suspect that the high participation rates in after-school classes may be due to cultural factors and an intense focus on preparing for university entrance examinations. PISA 2006 data show that Korean students attending schools with socio-economically advantaged students are more likely to attend after-school lessons with private teachers than students in other countries; and disadvantaged students in Korea are more likely to attend after-school group lessons than disadvantaged students in other countries. In both cases, attendance in these lessons, along with other factors, is associated with better performance on PISA (OECD, 2010).

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Students at the different levels of proficiency in reading

The seven proficiency levels used in the PISA 2012 reading assessment are the same as those established for the 2009 PISA assessment, when reading was the major area of assessment: Level 1b is the lowest described level, then Level 1a, Level 2, Level 3 and so on up to Level 6. Figure I.4.8 provides details of the nature of the reading skills, knowledge and understanding required at each level of the reading scale. The tasks related to each proficiency level are described according the three processes that students use to answer the questions. These three processes are classified as *access and retrieve* (skills associated with finding, selecting and collecting information), *integrate and interpret* (processing what is read to make sense of a text), and *reflect and evaluate* (drawing on knowledge, ideas or values external to the text).

Figure I.4.9 shows a map of some questions in relation to their position on the reading proficiency scale. The first column shows the proficiency level within which the task is located. The second column indicates the lowest score on the task that would still be described as achieving the given proficiency level. The last column shows the name of the unit, the question number and, within parentheses, the score given for the correct response to these questions. The selected questions have been ordered according to their difficulty, with the most difficult at the top, and the least difficult at the bottom.



■ Figure I.4.8 ■

Summary description for the seven levels of proficiency in print reading in PISA 2012

Level	Lower score limit	Percentage of students able to perform tasks at each level or above (OECD average)	Characteristics of tasks
6	698	1.1%	Tasks at this level typically require the reader to make multiple inferences, comparisons and contrasts that are both detailed and precise. They require demonstration of a full and detailed understanding of one or more texts and may involve integrating information from more than one text. Tasks may require the reader to deal with unfamiliar ideas, in the presence of prominent competing information, and to generate abstract categories for interpretations. Reflect and evaluate tasks may require the reader to hypothesise about or critically evaluate a complex text on an unfamiliar topic, taking into account multiple criteria or perspectives, and applying sophisticated understandings from beyond the text. A salient condition for access and retrieve tasks at this level is precision of analysis and fine attention to detail that is inconspicuous in the texts.
5	626	8.4%	Tasks at this level that involve retrieving information require the reader to locate and organise several pieces of deeply embedded information, inferring which information in the text is relevant. Reflective tasks require critical evaluation or hypothesis, drawing on specialised knowledge. Both interpretative and reflective tasks require a full and detailed understanding of a text whose content or form is unfamiliar. For all aspects of reading, tasks at this level typically involve dealing with concepts that are contrary to expectations.
4	553	29.5%	Tasks at this level that involve retrieving information require the reader to locate and organise several pieces of embedded information. Some tasks at this level require interpreting the meaning of nuances of language in a section of text by taking into account the text as a whole. Other interpretative tasks require understanding and applying categories in an unfamiliar context. Reflective tasks at this level require readers to use formal or public knowledge to hypothesise about or critically evaluate a text. Readers must demonstrate an accurate understanding of long or complex texts whose content or form may be unfamiliar.
3	480	58.6%	Tasks at this level require the reader to locate, and in some cases recognise the relationship between, several pieces of information that must meet multiple conditions. Interpretative tasks at this level require the reader to integrate several parts of a text in order to identify a main idea, understand a relationship or construe the meaning of a word or phrase. They need to take into account many features in comparing, contrasting or categorising. Often the required information is not prominent or there is much competing information; or there are other text obstacles, such as ideas that are contrary to expectation or negatively worded. Reflective tasks at this level may require connections, comparisons, and explanations, or they may require the reader to evaluate a feature of the text. Some reflective tasks require readers to demonstrate a fine understanding of the text in relation to familiar, everyday knowledge. Other tasks do not require detailed text comprehension but require the reader to draw on less common knowledge.
2	407	82.0%	Some tasks at this level require the reader to locate one or more pieces of information, which may need to be inferred and may need to meet several conditions. Others require recognising the main idea in a text, understanding relationships, or construing meaning within a limited part of the text when the information is not prominent and the reader must make low level inferences. Tasks at this level may involve comparisons or contrasts based on a single feature in the text. Typical reflective tasks at this level require readers to make a comparison or several connections between the text and outside knowledge, by drawing on personal experience and attitudes.
1a	335	94.3%	Tasks at this level require the reader to locate one or more independent pieces of explicitly stated information; to recognise the main theme or author's purpose in a text about a familiar topic, or to make a simple connection between information in the text and common, everyday knowledge. Typically the required information in the text is prominent and there is little, if any, competing information. The reader is explicitly directed to consider relevant factors in the task and in the text.
1b	262	98.7%	Tasks at this level require the reader to locate a single piece of explicitly stated information in a prominent position in a short, syntactically simple text with a familiar context and text type, such as a narrative or a simple list. The text typically provides support to the reader, such as repetition of information, pictures or familiar symbols. There is minimal competing information. In tasks requiring interpretation the reader may need to make simple connections between adjacent pieces of information.



■ Figure I.4.9 ■

Map of selected reading questions, by proficiency level

Level	Lower score limit	UNITS - Questions (position on PISA scale)
6	698	**THE PLAY'S THE THING** – Question 3 (730)
5	626	**LABOUR** – Question 16 (631)
4	553	**BALLOON** – Question 3.2 (595) **THE PLAY'S THE THING** – Question 7 (556)
3	480	**MISER** – Question 5 (548) **BALLOON** – Question 4 (510)
2	407	**THE PLAY'S THE THING** – Question 4 (474) **BALLOON** – Question 3.1 (449) **BALLOON** – Question 6 (411)
1a	335	**MISER** – Question 1 (373) **BALLOON** – Question 8 (370)
1b	262	**MISER** – Question 7 (310)

Figure I.4.10 shows the distribution of students among these different proficiency levels in each participating country and economy. Table I.4.1a shows the percentage of students at each proficiency level on the reading scale, with standard errors.

Proficiency at Level 6 (score higher than 698 points)

Tasks at Level 6 typically require the student to make multiple inferences, comparisons and contrasts that are both detailed and precise. They require demonstration of a full and detailed understanding of one or more texts and may involve *integrating* information from more than one text. Tasks may require the student to deal with unfamiliar ideas in the presence of prominent competing information, and to generate abstract categories for *interpretations*. *Reflect-and-evaluate* tasks may require the student to hypothesise about or critically evaluate a complex text on an unfamiliar topic, taking into account multiple criteria or perspectives, and applying sophisticated understandings from beyond the text. *Access-and-retrieve* tasks at this level require precise analysis and fine attention to detail that is inconspicuous in the texts.

Level 6 tasks are illustrated by Question 3 from the unit THE PLAY'S THE THING (Figure I.4.14). The text is long, by PISA standards, and it may be supposed that the fictional world depicted is remote from the experience of most 15-year-olds. The introduction to the unit tells students that the stimulus of THE PLAY'S THE THING is the beginning of a play by the Hungarian dramatist Ferenc Molnár, but there is no other external orientation. The setting ("a castle by the beach in Italy") is likely to be exotic to many, and the situation is only revealed gradually through the dialogue itself. While individual pieces of vocabulary are not particularly difficult, and the tone is often chatty, the register of the language is a little mannered. Perhaps most important, a level of unfamiliarity is introduced by the abstract theme of the discussion: a sophisticated conversation between characters about the relationship between life and art, and the challenges of writing for the theatre. The text is classified as *narration* because a story is told through the dialogue of the play.

A high level of interpretation skills is required to define the meaning of the question's terms. The student needs to be alert to the distinction between characters and actors. The question refers to what the characters (not the actors) were doing "just before the curtain went up". This is potentially confusing since it requires recognition of a shift between the real world of a stage in a theatre, which has a curtain, and the imaginary world of Gal, Turai and Adam, who were in the dining room having dinner just before they entered the guest room (the stage setting). A question that assesses students' capacity to distinguish between real and fictional worlds seems particularly appropriate in relation to a text whose theme is about just that, so that the complexity of the question is aligned with the content of the text.



In addition, the information required to complete the task is in an unexpected location. The question refers to the action "before the curtain went up", which would typically lead one to search at the opening of the scene, the beginning of the extract. But the information is actually found about half-way through the extract, when Turai reveals that he and his friends "have just arrived from the dining room". While the scoring for the question shows that several kinds of response are acceptable, to be given full credit students must demonstrate that they have found this inconspicuous piece of information. The need to assimilate information that is contrary to expectations is characteristic of the most demanding reading tasks in PISA.

Across OECD countries, around 1% of students performs at Level 6 in reading, but there is some variation among countries. Three percent of students or more perform at this level in Singapore (5.0%), Japan (3.9%), Shanghai-China (3.8%) and New Zealand (3.0%). In France, Finland and Canada between 2% and 3% of students attain proficiency Level 6. In contrast, 0.1% of students or fewer perform at Level 6 in Romania, Albania, Argentina, Thailand, Montenegro, Uruguay, Mexico, Chile, Brazil, Peru, Costa Rica, Jordan, Tunisia, Colombia, Indonesia, Kazakhstan and Malaysia (Figure I.4.10 and Table I.4.1a).

Proficiency at Level 5 (score higher than 626 but lower than or equal to 698 points)

Tasks at Level 5 that involve *retrieving* information require the student to locate and organise several pieces of deeply embedded information, inferring which information in the text is relevant. *Reflective* tasks require critical evaluation or hypotheses, drawing on specialised knowledge. Both *interpreting* and *reflective* tasks require a full and detailed understanding of a text whose content or form is unfamiliar. For all aspects of reading, tasks at this level typically involve dealing with concepts that are contrary to expectations.

Question 16 in the unit LABOUR (Figure I.4.15) is an example of a task at Level 5. In fact, this task yields two levels of difficulty: the full-credit response category falls within Level 5, with a PISA score of 631 points; and the partial-credit category falls within Level 3, with a PISA score of 485 points. The full-credit response category illustrates that *access and retrieve* items, like items from the other two aspect categories (*integrate and interpret* and *reflect and evaluate*), can pose a significant challenge.

For full credit (Level 5), students are required to locate and combine a piece of numerical information in the main body of the text (the tree diagram) with information in a footnote – that is, outside the main body of the text. In addition, students have to use this footnoted information to determine the correct number of people who fit into this category. Both of these features contribute to the difficulty of this task.

For partial credit (Level 3), this task merely requires students to locate the number given in the appropriate category of the tree diagram; they are not required to use the information provided in the footnote. Even without this important information, the task is still moderately difficult. The requirement to use information found outside the main body of a text – significantly increases the difficulty of a task. This is clearly demonstrated by the two categories of this task, since the difference between full-credit and partial-credit answers involves applying – or not applying – information from a footnote to correctly identified numerical information in the body of the text. The difference in difficulty between these two categories of response is more than two proficiency levels.

Across OECD countries, 8.4% of students are top performers, meaning that they are proficient at Level 5 or 6. Shanghai-China has the largest proportion of top performers – 25.1% – among all participating countries and economies. More than 15% of students in Singapore, Japan and Hong Kong-China are top performers in reading as are more than 10% of students in Korea, New Zealand, Finland, France, Canada, Belgium, Chinese Taipei, Australia, Ireland, Liechtenstein and Norway. In 15 countries and economies fewer than 1% of students perform at Level 5 or 6. With the exception of Mexico, Chile, Turkey and the Slovak Republic, more than 5% of students in every OECD country attains at least Level 5 (Figure I.4.10 and Table I.4.1a).

Proficiency at Level 4 (score higher than 553 but lower than or equal to 626 points)

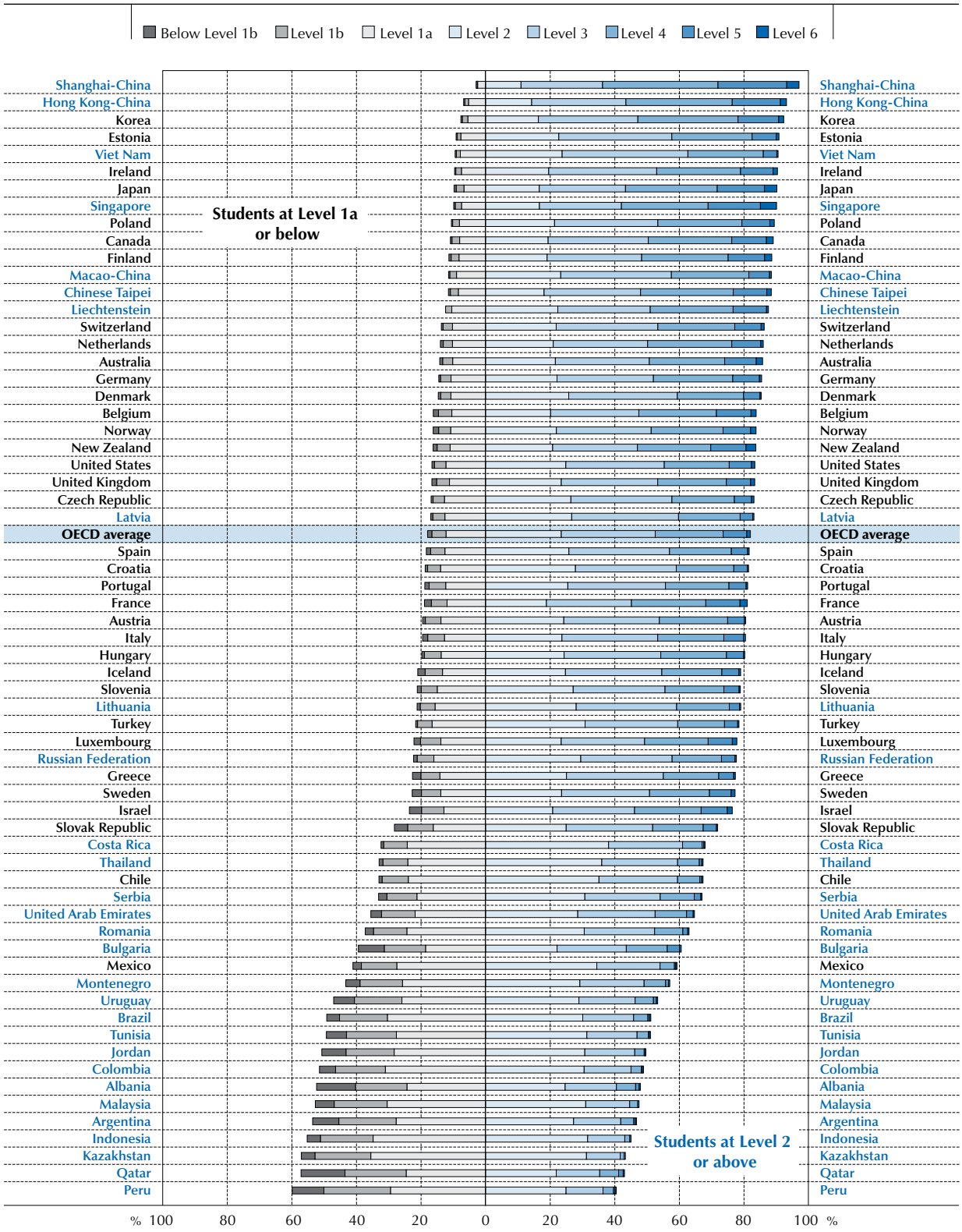
Tasks at Level 4 that involve *retrieving* information require the student to locate and organise several pieces of embedded information. Some tasks at this level require *interpreting* the meaning of nuances of language in a section of text by taking into account the text as a whole. Other interpretative tasks require understanding and applying categories in an unfamiliar context. *Reflective* tasks at this level require the student to use formal or public knowledge to hypothesise about or critically evaluate a text. The student must demonstrate an accurate understanding of long or complex texts whose content or form may be unfamiliar.



■ Figure I.4.10 ■

Proficiency in reading

Percentage of students at each level of reading proficiency



Countries and economies are ranked in descending order of the percentage of students at Levels 2, 3, 4, 5 and 6.
Source: OECD, PISA 2012 Database, Table I.4.1a.
StatLink http://dx.doi.org/10.1787/888932935610



Question 7 in the example THE PLAY'S THE THING (Figure I.4.14) requires Level 4 proficiency. In this task, the student is asked to take a global perspective, forming a broad understanding by integrating and interpreting the implications of the dialogue in the text. The task involves recognising the conceptual theme of a section of a play, where the theme is literary and abstract. The difficulty of the task largely stems from the abstract nature of the dialogue. A little under half of the students in OECD countries earned full credit for this task, with the others divided fairly evenly across the three other proposed answers.

Across OECD countries, an average of around 30% of students are proficient at Level 4 or higher (that is, proficient at Level 4, 5 or 6). In Hong Kong-China, Singapore, Japan, Korea, Chinese Taipei and Finland between 40% and 50% of students attain these levels; in Shanghai-China, more than 60% of students do. In more than half of all participating countries and economies, more than one in four students performs at Level 4 or higher. However, in the partner countries and economies Kazakhstan, Indonesia, Malaysia, Jordan, Colombia, Peru, Tunisia, Argentina, Mexico and Brazil, fewer than 5% of students attain at least this level (Figure I.4.10 and Table I.4.1a).

Proficiency at Level 3 (score higher than 480 but lower than or equal to 553 points)

Tasks at Level 3 require the student to *retrieve*, and in some cases recognise the relationship between, several pieces of information that must meet multiple conditions. *Interpreting* tasks at this level require the student to *integrate* several parts of a text in order to identify a main idea, understand a relationship or construe the meaning of a word or phrase. The student needs to take into account many features in comparing, contrasting or categorising. Often the required information is not prominent or there is much competing information; or there are other obstacles in the text, such as ideas that are contrary to expectation or negatively worded. *Reflective* tasks at this level may require connections, comparisons and explanations, or they may require the student to *evaluate* a feature of the text. Some reflective tasks require the student to demonstrate a fine understanding of the text in relation to familiar, everyday knowledge. Other tasks do not require detailed text comprehension but ask the student to draw on less common knowledge.

Question 5 in MISER (Figure I.4.17), a task at Level 3, requires an open-constructed response. The task sets up a dialogue between two imaginary readers representing two conflicting interpretations of the story. In fact, only the second speaker's position is consistent with the overall implication of the text, so that in providing a supporting explanation, readers demonstrate that they have understood the "punch line" – the moral import – of the fable. The relative difficulty of the task, among the most difficult questions at Level 3, is likely to be influenced by the fact that students need to do a good deal of work to generate a full-credit response. First they must make sense of the neighbour's speech in the story, which is expressed in a formal register. (Translators were asked to reproduce the fable-like style.) Secondly, the relationship between the question stem and the required information is not obvious: there is little or no support in the stem ("What could Speaker 2 say to support his point of view?") to guide the reader in interpreting the task, though the reference to the stone and the neighbour by the speakers should point the reader to the end of the fable.

To gain full credit, students could express, in a variety of ways, the key idea that wealth has no value unless it is used (see examples of answers in Figure I.4.17). Vague gestures at meaning, such as "the stone had a symbolic value", are not given credit.

Across OECD countries, 59% of students are proficient at Level 3 or higher (that is, proficient at Level 3, 4, 5 or 6). In Shanghai-China (86.1%), Hong Kong-China (78.9%) and Korea (76.0%) more than three out of four 15-year-olds are proficient at Level 3 or higher, and at least two out of three students attain this level in Japan, Singapore, Ireland, Chinese Taipei, Canada, Finland, Estonia, Poland and Viet Nam. In contrast, in 13 countries and economies (Kazakhstan, Indonesia, Peru, Malaysia, Colombia, Jordan, Argentina, Tunisia, Brazil, Qatar, Albania, Uruguay and Mexico) three out of four students do not attain this level (Figure I.4.10 and Table I.4.1a).

Proficiency at Level 2 (score higher than 407 but lower than or equal to 480 points)

Level 2 can be considered a baseline level of proficiency at which students begin to demonstrate the reading literacy competencies that will enable them to participate effectively and productively in life. The 2009 Canadian Youth in Transition Survey, which followed up students who were assessed by PISA in 2000, shows that students scoring below Level 2 face a disproportionately higher risk of poor post-secondary participation or low labour-market outcomes at age 19, and even more so at age 21, the latest age for which data from this longitudinal study are available (OECD, 2010a).

Some tasks at Level 2 require the student to *retrieve* one or more pieces of information that may have to be inferred and may have to meet several conditions. Others require recognising the main idea in a text, understanding relationships, or



interpreting meaning within a limited part of the text when the information is not prominent and the student must make low-level inferences. Tasks at this level may involve *integrating* parts of the text through comparisons or contrasts based on a single feature in the text. Typical *reflective* tasks at this level require the student to make a comparison or several connections between the text and outside knowledge by drawing on personal experience and attitudes.

Question 6 in BALLOON (Figure I.4.16), a task that corresponds to the bottom of Level 2 in difficulty, uses a multiple-choice format. This task is classified under *reflect and evaluate* because it asks about authorial intent. It focuses on a graphic element – the illustration of two balloons – and asks students to consider the purpose of this inclusion. In the context of the over-arching idea of the text, to describe (and celebrate) Singhania's flight, the balloon illustration sends the message, "This is a really big balloon!", just as the jumbo jet illustration sends the message, "This is a really high flight!".

Across OECD countries, an average of 82% of students is proficient at Level 2 or higher. In Shanghai-China, Hong Kong-China, Korea, Estonia, Viet Nam, Ireland, Japan and Singapore more than 90% of students perform at or above this threshold. In Shanghai-China, fewer than 3% of students do not attain this level. In 34 participating countries and economies between 75% and 90% of students achieve the baseline level of reading proficiency, and in 14 countries and economies between 50% and 75% do so. Only in Peru, Qatar, Kazakhstan, Indonesia, Argentina, Malaysia, Albania, Colombia and Jordan, does fewer than one in two students perform at this level. In every OECD country except Mexico (58.9%), Chile (67.0%) and the Slovak Republic (71.8%), at least three out of four students perform at Level 2 or above (Figure I.4.10 and Table I.4.1a).

Proficiency at Level 1a (score higher than 335 but lower than or equal to 407 points)

Tasks at Level 1a require the student to *retrieve* one or more independent pieces of explicitly stated information, *interpret* the main theme or author's intent in a text about a familiar topic, or make a simple connection by *reflecting* on the relationship between information in the text and common, everyday knowledge. The required information in the text is usually prominent and there is little, if any, competing information. The student is explicitly directed to consider relevant factors in the task and in the text.

Question 8 in the unit BALLOON (Figure I.4.16) is typical of Level 1a tasks. The main idea of this non-continuous text is stated explicitly and prominently several times, including in the title, "Height record for hot air balloon". Although the main idea is explicitly stated, the question is classified as *integrate and interpret*, with the sub-classification *forming a broad understanding*, because it involves distinguishing the most significant and general information from subordinate information in the text.

Across OECD countries, an average of 18% of students is proficient only at or below Level 1a, and nearly 6% of students do not even attain Level 1a. Fewer than 10% of students perform at Level 1a or below in Shanghai-China, Hong Kong-China, Korea, Estonia, Viet Nam, Ireland, Japan and Singapore. In Shanghai-China, fewer than 1% of students (0.4%) do not reach Level 1a. In Estonia, Hong Kong-China, Viet Nam and Liechtenstein fewer than 2% of students do not reach Level 1a, and in Ireland, Korea, Singapore, Macao-China, Poland and Canada fewer than 3% of students do not reach this level. By contrast, in 20 participating countries and economies more then one in three students performs at Level 1a or below. In Peru, Qatar, Kazakhstan, Indonesia, Argentina, Malaysia, Albania, Colombia and Jordan more than half of all students are proficient only at or below Level 1a (Figure I.4.10 and Table I.4.1a).

Proficiency at Level 1b (score higher than 262 but lower than or equal to 335 points)

Tasks at Level 1b require the student to *retrieve* a single piece of explicitly stated information in a prominent position in a short, syntactically simple text with a familiar context and text type, such as a narrative or a simple list. The text typically provides support to the student, such as repetition of information, pictures or familiar symbols. There is minimal competing information. In tasks requiring interpretation, the student may need to make simple connections between adjacent pieces of information.

Question 7 in MISER (Figure I.4.17), a task at Level 1b, requires a short response. This is one of the easiest tasks in the PISA reading assessment. The student is required to access and retrieve a piece of explicitly stated information in the opening sentence of a very short text. To gain full credit, the response can either quote directly from the text or provide a paraphrase. The formal language of the text, which is likely to have added difficulty in other tasks in the unit, is unlikely to have much impact here because the required information is located at the very beginning of the text. Although this is a very easy question, it still requires a small degree of inference: the reader must infer that there is a causal connection between the first proposition (that the miser sold all he had) and the second (that he bought gold).



Across OECD countries, 1.3% of students are not proficient at Level 1b, but there are wide differences between countries. In Liechtenstein, Shanghai-China, Viet Nam, Estonia, Hong Kong-China, Ireland, Poland, Macao-China and Korea fewer than 0.5% of students perform at this level. Across all participating countries and economies, except Malaysia, Tunisia, Uruguay, Jordan, Bulgaria, Argentina, Peru, Albania and Qatar, fewer than 5% of students are not proficient at Level 1b (Figure I.4.10 and Table I.4.1a).

Students with scores below 262 points – that is, below Level 1b – usually do not succeed at the most basic reading tasks that PISA measures. This does not necessarily mean that they are illiterate, but that there is insufficient information on which to base a description of their reading proficiency. Such students are likely to have serious difficulties in benefitting from further education and learning opportunities throughout life (OECD, 2010a).

Trends in the percentage of low- and top-performers in reading

PISA assesses the reading competencies required for students to participate fully in a knowledge-based society. These range from very complex skills that only a few students have mastered up to the baseline skills that are considered the minimum required for functioning in society. The proportion of students who do not meet this baseline proficiency (Level 2; low-performing students) and the proportion of students who are able to understand and communicate complex tasks (Levels 5 and 6; top-performing students) are important indicators of the needs and challenges faced by each country or economy and benchmarks of the level of skills development.

Changes in a country's or economy's average performance can result from improvements or deterioration of performance at different points in the performance distribution. For example, in some countries and economies the average improvement is observed among all students, resulting in fewer students who perform below Level 2 and more students who are top performers. In other contexts, the average improvement can mostly be attributed to large improvements among low-achieving students with little or no change among high-achieving students; this may results in a smaller proportion of low-performing students, but no increase among top performers. Trends in the proportion of low- and top-performing students indicate where the changes in performance have occurred and the extent to which school systems are advancing towards providing all students with the minimum literacy skills and towards producing a larger proportion of students with the highest-level skills in reading.

Countries and economies can be grouped into categories according to whether they have: simultaneously reduced the share of low performers and increased the share of top performers between any previous PISA assessment and PISA 2012; reduced the share of low performers but not increased the share of top performers between any previous PISA assessment and PISA 2012; increased the share of top performers but not reduced the share of low performers; and reduced the share of top performers or increased the share of low performers between PISA 2012 and any previous PISA assessment. The following section categorises countries and economies into these groups.

Moving everyone up: Reduction in the share of low performers and increase in that of top performers

Between the PISA 2000 and PISA 2012 assessments, Albania, Israel and Poland saw an increase in the share of students who meet the highest proficiency levels in PISA and a simultaneous decrease in the share of students who do not meet the baseline proficiency level. In Israel, for example, the share of students performing below Level 2 shrank by almost ten percentage points (from 33% to 24%) between 2000 and 2012, while the share of students performing at or above proficiency Level 5 grew by more than five percentage points (from 4% to 10%) (Figure I.4.11 and Table I.4.1b). The system-level improvements observed in these countries and economies have lifted students out of low performance and others into top performance. The same trend was observed in Hong Kong-China, Japan and the Russian Federation since PISA 2003; in Bulgaria, Chinese Taipei, Qatar, Serbia and Spain since PISA 2006; and in Ireland, Luxembourg, Macao-China and Singapore since PISA 2009. In Turkey, the share of low performers shrank when comparing PISA 2003 or PISA 2006 with PISA 2012, and the share of top performers increased when comparing PISA 2009 with PISA 2012 (Table I.4.1b).

For many of these countries and economies, these trends in the share of low and top performers mirror how students at different levels of the performance distribution have changed their performance. Annex B4 shows how, for each country and economy, the 10th, 25th, 75th and 90th percentiles of performance have evolved across different PISA cycles. It shows, consistent with trends in the share of low- and top-performing students, that in Poland, the low-achieving students (those in the bottom 25th percentile) improved their reading performance by 61 score points and the highest-achieving students (those in the 90th percentile) also improved by more than 20 score points. Other countries that saw annualised improvements on average and among both the lowest- and highest-achieving students are Albania, Brazil, Chile, Estonia, Hong Kong-China, Hungary, Indonesia, Italy, Japan, Montenegro, Mexico, Peru, Qatar, the Russian Federation, Serbia, Portugal, Spain, Switzerland, Thailand and Tunisia (Table I.4.3d). The average annual improvement observed in these



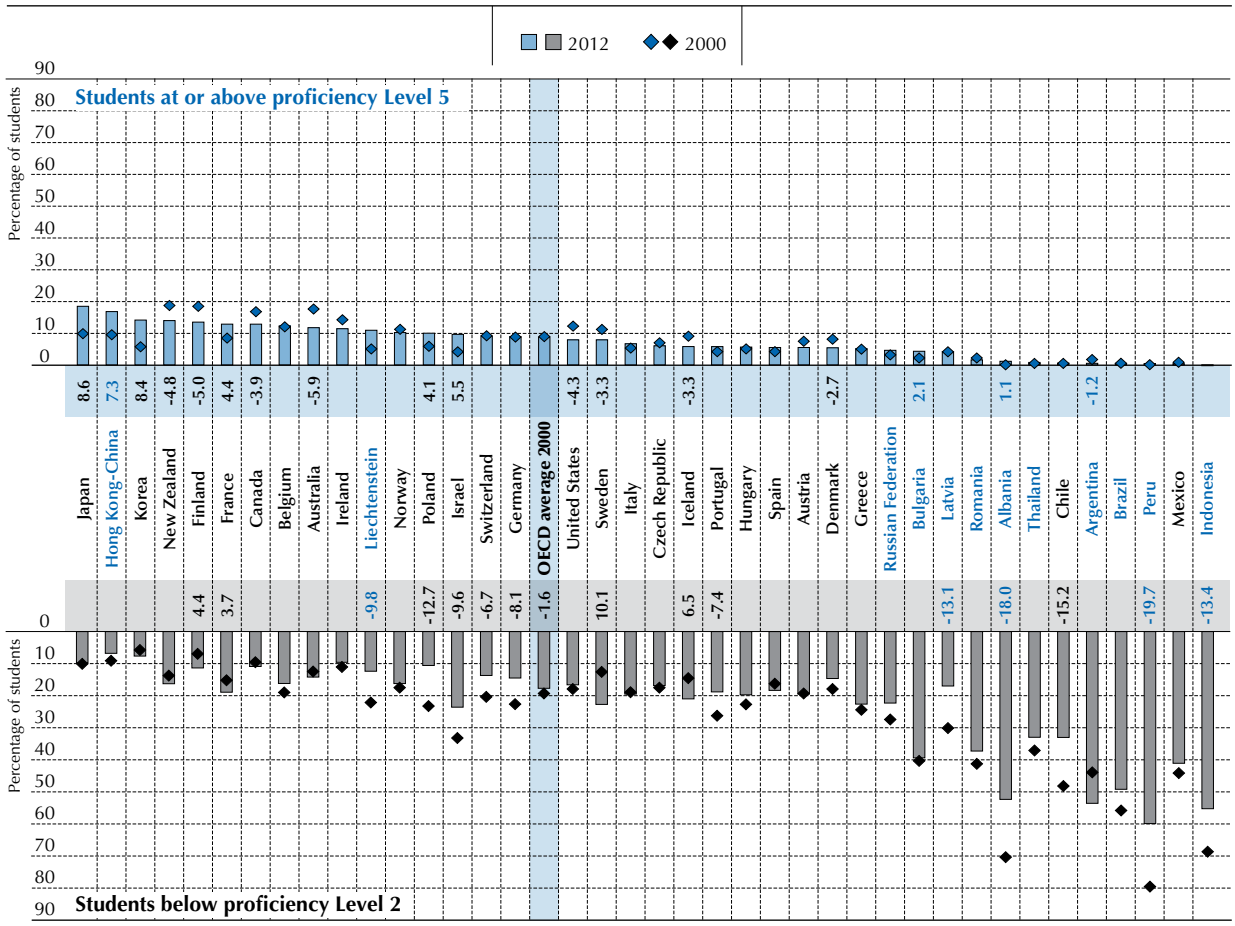
countries is shared by high- and low-achieving students, but not all these countries were able to both increase the share of students performing at or above Level 5 and reduce the share of students performing below Level 2.

Reducing underperformance: Reductions in the share of low performers but no change in that of top performers

Other countries and economies have seen improvements in the performance of their low-performing students. For example, since PISA 2000, Peru, Indonesia, Chile and Latvia have reduced the share of students performing below Level 2 in reading by more than 10 percentage points with no concurrent change in the share of students who perform at or above proficiency Level 5. Liechtenstein, Germany, Portugal and Switzerland show a reduction of more than five percentage points in the share of students performing below Level 2 between 2000 and 2012. Significant reductions in the proportion of low-performing students are also observed in Italy, Mexico, Thailand and Tunisia since 2003, in Brazil, the Czech Republic, Greece, Montenegro and Norway since PISA 2006 and in Dubai (United Arab Emirates) since PISA 2009 (Figure I.4.11 and Table I.4.1b). In these countries and economies, improvements in performance have reached those students that needed it the most. Annex B4 shows the performance trajectories of these countries and economies, highlighting how the performance of their lowest achievers (those students in the 10th percentile of performance) shows greater improvements than the performance of their highest-achieving students (those in the 90th percentile).

■ Figure I.4.11 ■

Percentage of low-performing students and top performers in reading in 2000 and 2012



Notes: The chart shows only countries/economies that participated in both PISA 2000 and PISA 2012 assessments.
The change between PISA 2000 and PISA 2012 in the share of students performing below Level 2 in reading is shown below the country/economy name.
The change between PISA 2000 and PISA 2012 in the share of students performing at or above Level 5 in reading is shown above the country/economy name. Only statistically significant changes are shown (see Annex A3).
OECD average 2000 compares only OECD countries with comparable reading scores since 2000.
Countries and economies are ranked in descending order of the percentage of students at or above proficiency Level 5 in reading in 2012.
Source: OECD, PISA 2012 Database, Table I.4.1b.
StatLink http://dx.doi.org/10.1787/888932935610



Nurturing top performance: Increase in the share of top performers but no change in that of low performers

France and Korea saw growth in the share of top-performing students in reading since PISA 2000 with no concurrent reduction in the share of low-performing students. Korea, for example, saw an increase of eight percentage points in the share of students performing at or above Level 5 (from 6% in 2000 to 14% in 2012). This trend is also observed in in Shanghai-China since PISA 2009 (Figure I.4.11 and Table I.4.1b). These countries and economies have been able to increase the share of the students who meet the highest-level skills in PISA. France saw an increase of four percentage points in the share of top performers between PISA 2000 and PISA 2012, but also an increase in the share of low performers during the same period. Annex B4 shows how, in these countries and economies, the performance of the highest-achieving students improved to a greater extent than that of the lowest-achieving students.

Increase in the share of low performers or decrease in that of top performers

By contrast, in some countries and economies the percentage of students who do not meet the PISA baseline proficiency level in reading increased since 2000 – or since later PISA assessments – or the share of students attaining the highest levels of proficiency shrank. This trend is observed on average across OECD countries since 2000, and in 15 countries and economies when comparing results from PISA 2012 and those from previous assessments (Figure I.4.11 and Table I.4.1b).

Variation in student performance in reading

The range in performance between the highest- (90th percentile) and lowest-achieving students (10th percentile) is shown in Table I.4.3a. Among the ten participating countries and economies that show the narrowest difference between the highest and lowest achievers in reading, this gap ranges between 189 and 211 points. One of the three lowest-performing PISA participants, the partner country Kazakhstan, and the highest-performing PISA participant in reading in PISA 2012, the partner economy Shanghai-China, are in this group of countries. At the other end of the spectrum, among the ten participating countries and economies that show the largest difference between the highest and lowest achievers in reading, this gap ranges from 270 to 310 points. As is true of those countries with a comparatively narrow distribution of scores among students, the group of countries with a wide range in performance is heterogeneous in mean reading proficiency. One of the lowest-performing countries, Qatar, has nearly the same gap between the highest and lowest achievers as the high-performing country, New Zealand, and both countries are included in this group. If this group is expanded to include the country with the 11th largest difference, it will include one of the five best-performing countries in reading in PISA 2012. Thus, the spread of the performance distribution does not appear to be associated with the overall level of performance. Some countries and economies perform above the OECD average and show only a narrow difference between the highest and lowest achievers in reading.

Gender differences in reading performance

On average across OECD countries, girls outperform boys in reading by 38 score points. While girls outperform boys in reading in every participating country and economy, the gap is much wider in some countries than in others (Figure I.4.12). As shown in PISA 2009 (OECD, 2010b), these differences are associated with differences in student attitudes and behaviours that are related to gender.

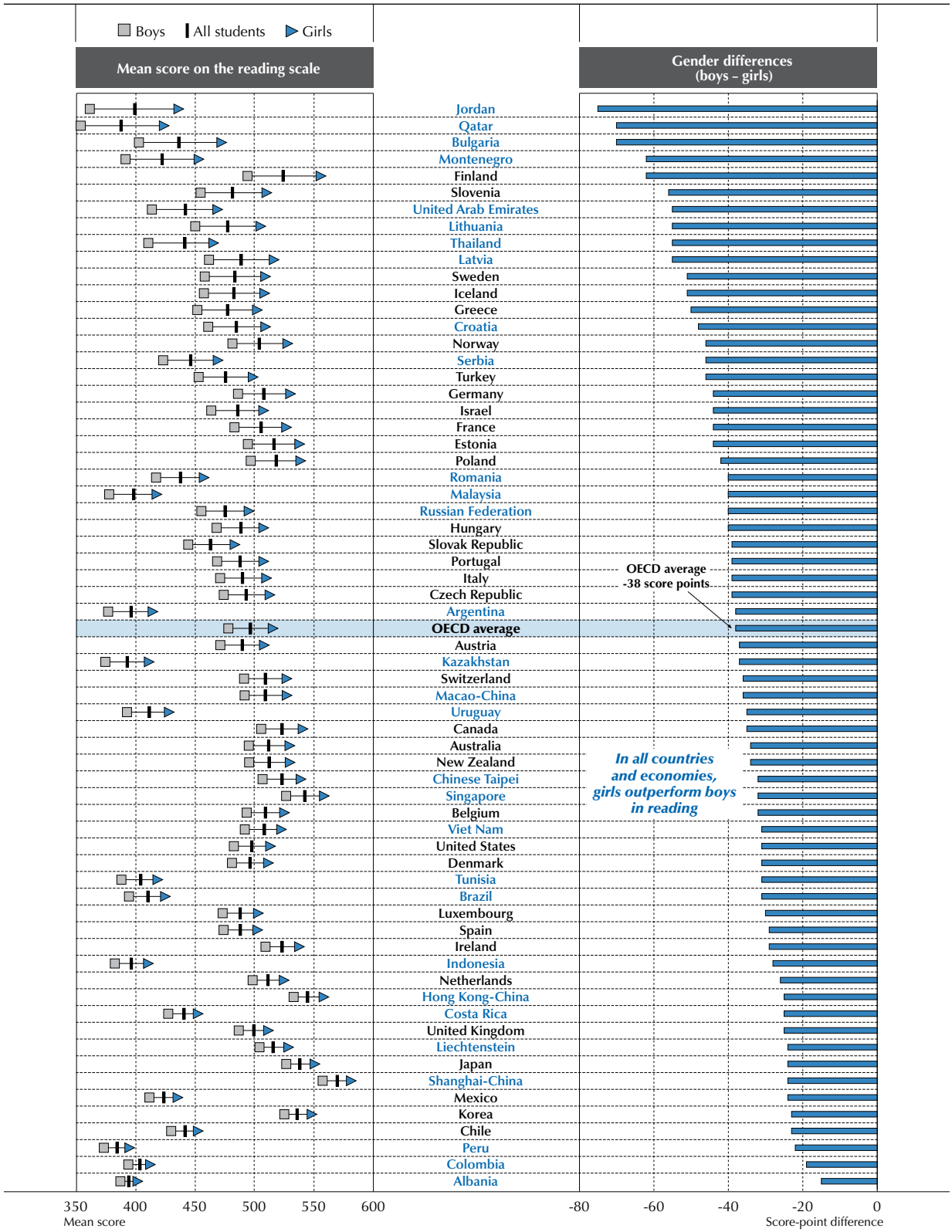
Among the five highest-performing countries and economies, the gender gap in reading performance ranges from 23 to 32 score points – below the OECD average (a difference of 38 score points). Among all participating countries and economies, the narrowest gender gap – 15 score points in favour of girls – is observed in Albania. The gender gap is 25 score points or less in 11 other countries, including both low-performing countries, like Chile, Mexico, the partner countries Colombia, Peru and Costa Rica; and very high-performing countries like Korea, Japan, and the partner countries and economies Shanghai-China, Liechtenstein and Hong Kong-China. The United Kingdom, with a score around the OECD average, is also included in this group. In 14 countries, girls outperform boys by at least 50 score points. All of these countries score below the OECD average, except Finland, which performs above the OECD average in reading. In the partner country Jordan, 75 score points – the equivalent of an entire proficiency level – separate girls' performance from boys'.

With the exception of Denmark, countries in Northern Europe have wider-than-average gender gaps in performance. The most pronounced is found in Finland, where the score difference is 62 points – the largest difference observed in any OECD country. The gender-related differences in performance in East Asian countries and economies tend to cluster just below the average, with Korea, Japan, and the partner countries and economies Shanghai-China, Hong Kong-China, Viet Nam, Chinese Taipei and Macao-China all showing gender gaps of between 23 and 36 points.



■ Figure I.4.12 ■

Gender differences in reading performance



Note: All gender differences are significant (see Annex A3).
Countries and economies are ranked in ascending order of the gender score-point difference (boys – girls).
Source: OECD, PISA 2012 Database, Table I.4.3a.
StatLink http://dx.doi.org/10.1787/888932935610



Yet there is no obvious pattern in gender-related differences in performance among groups of countries with lower overall performance. For example, among Latin American countries, the highest-performing country (Chile) and the lowest-performing (Peru) have nearly the same, relatively small, gender gap (23 and 22 points, respectively). One of the middle-ranking countries within this group, the partner country Colombia, has the second-smallest gender gap of any country and economy, with a difference of only 19 score points between the mean scores for girls and boys.

How do boys and girls differ in levels of proficiency attained? One way to determine this is to observe the highest level of proficiency attained by the largest group of girls and boys in each country and economy. As can be seen in Table I.4.2a, among all the participating countries and economies, the highest proficiency level attained by the largest group of boys (in 31 countries and economies) and girls (in 37 countries and economies) is Level 3 followed by Level 2 (the highest level attained by most boys in 17 countries and economies, and by most girls in 19 countries and economies). But while in 13 countries and economies the highest proficiency level attained by the largest group of boys is Level 1a – and in one country, Level 1b – in only one country is Level 1a the highest proficiency level attained by the largest group of girls. Level 4 is the highest proficiency level attained by the largest group of boys in only three countries, while in eight countries is the highest proficiency level attained by the largest group of girls.

Around the middle of the reading scale, nearly one in two boys (49%) but only one in three girls (34%) fails to reach Level 3, which is associated with being able to perform the kinds of tasks that are commonly demanded of adults in their everyday lives. This represents a major difference in the capabilities of boys and girls at age 15.

This pattern is also seen among students with particularly low levels of reading proficiency. Across OECD countries, 24% of boys do not attain Level 2, considered as the baseline level of proficiency, while only about half as many girls (12%) perform at that level. In 14 countries, more than half of all 15-year-old boys perform below Level 2 on the reading scale, but in only one country does the same proportion of girls perform at that level.

Among the ten highest-performing countries in reading, the proportion of girls who perform below Level 2 is only one-quarter (in Finland) to one-half that of boys (e.g. Japan, Ireland and Singapore), while in some of the low-performing countries, such as Albania, Peru and Colombia, the proportions of girls and boys performing below Level 2 tend to be similar. Some of the differences in reading performance between boys and girls are closely related to gender differences in attitudes and behaviour, which are discussed in PISA 2009, Volume III (OECD, 2010b).

Trends in gender differences in reading performance

Girls have traditionally outperformed boys in reading (Buchmann et al., 2008). In PISA 2000 and on average across OECD countries, girls outperformed boys by 32 score points. That year, girls' advantage in reading was significant in the 39 participating countries and economies, except Israel and Peru. It was largest in Albania, Finland and Latvia, at more than 50 score points and exceeded 40 points – more than the equivalent to a year of schooling – in Argentina, Bulgaria, Iceland, New Zealand, Norway and Thailand (Table I.4.3c and OECD, 2001).

By 2012, the relative standing of boys had further deteriorated. In 2012 and on average across OECD countries that have comparable data in PISA 2000, girls outperformed boys by 38 PISA score points, roughly the equivalent of an academic school year. Between 2000 and 2012 the gender gap in reading performance widened in 11 countries and economies. In Bulgaria, France and Romania the gap widened by more than 15 score points. Only in Albania did the gender gap in reading performance narrow, as a result of a greater improvement in reading performance among boys (68 score points) than girls (24 score points) between PISA 2000 and PISA 2012 (Figure I.4.13).[5]

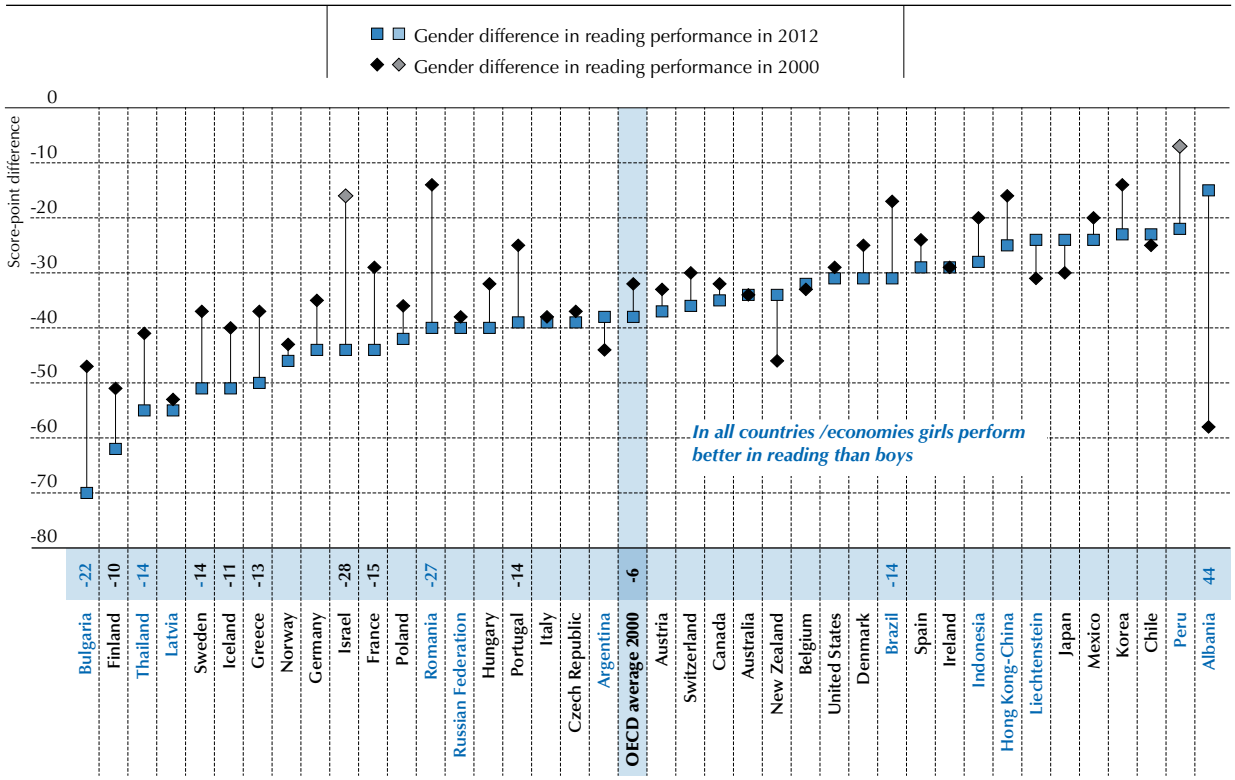
Consistent with this trend, the proportion of low-performing girls shrank significantly in 16 countries and economies between PISA 2000 and PISA 2012, while the share of low-performing boys decreased in only 11 countries and economies. However, the share of low-performing boys increased in seven countries and economies, while the share of low-performing girls increased in only three countries during the period (Table I.4.2b).

At the other end of the performance spectrum, the share of top-performing girls – those who perform at or above proficiency Level 5 – increased significantly between PISA 2000 and PISA 2012 in 11 countries and economies, while the share of top-performing boys increased in only seven of these countries and economies. This increase in top-performing girls was greatest in Hong Kong-China, Japan and Korea where the share of top-performing boys also grew (Table I.4.2b).



■ Figure I.4.13 ■

Change between 2000 and 2012 in gender differences in reading performance



Notes: All gender differences in PISA 2012 are statistically significant. Gender differences in PISA 2000 that are statistically significant are marked in a darker tone (see Annex A3).
Statistically significant changes in the score-point difference between boys and girls in reading performance between PISA 2000 and PISA 2012 are shown next to the country/economy name.
OECD average 2000 compares only OECD countries with comparable reading scores since 2000.
Countries and economies are ranked in ascending order of gender differences (boys-girls) in 2012.
Source: OECD, PISA 2012 Database, Table I.4.3c.
StatLink http://dx.doi.org/10.1787/888932935610



EXAMPLES OF PISA READING UNITS

The questions are presented in the order in which they appeared within the unit in the main survey.

■ Figure I.4.14 ■

THE PLAY'S THE THING

Takes place in a castle by the beach in Italy.

FIRST ACT

Ornate guest room in a very nice beachside castle. Doors on the right and left. Sitting room set in the middle of the stage: couch, table, and two armchairs. Large windows at the back. Starry night. It is dark on the stage. When the curtain goes up we hear men conversing loudly behind the door on the left. The door opens and three tuxedoed gentlemen enter. One turns the light on immediately. They walk to the centre in silence and stand around the table. They sit down together, Gál in the armchair to the left, Turai in the one on the right, Ádám on the couch in the middle. Very long, almost awkward silence. Comfortable stretches. Silence. Then:

GÁL
Why are you so deep in thought?

TURAI
I'm thinking about how difficult it is to begin a play. To introduce all the principal characters in the beginning, when it all starts.

ÁDÁM
I suppose it must be hard.

TURAI
It is – devilishly hard. The play starts. The audience goes quiet. The actors enter the stage and the torment begins. It's an eternity, sometimes as much as a quarter of an hour before the audience finds out who's who and what they are all up to.

GÁL
Quite a peculiar brain you've got. Can't you forget your profession for a single minute?

TURAI
That cannot be done.

GÁL
Not half an hour passes without you discussing theatre, actors, plays. There are other things in this world.

TURAI
There aren't. I am a dramatist. That is my curse.

GÁL
You shouldn't become such a slave to your profession.

TURAI
If you do not master it, you are its slave. There is no middle ground. Trust me, it's no joke starting a play well. It is one of the toughest problems of stage mechanics. Introducing your characters promptly. Let's look at this scene here, the three of us. Three gentlemen in tuxedoes. Say they enter not this room in this lordly castle, but rather a stage, just when a play begins. They would have to chat about a whole lot of uninteresting topics until it came out who we are. Wouldn't it be much easier to start all this by standing up and introducing ourselves? Stands up. Good evening. The three of us are guests in this castle. We have just arrived from the dining room where we had an excellent dinner and drank two bottles of champagne. My name is Sándor TURAI, I'm a playwright, I've been writing plays for thirty years, that's my profession. Full stop. Your turn.

GÁL
Stands up. My name is GÁL, I'm also a playwright. I write plays as well, all of them in the company of this gentleman here. We are a famous playwright duo. All playbills of good comedies and operettas read: written by GÁL and TURAI. Naturally, this is my profession as well.

GÁL and **TURAI**
Together. And this young man …

ÁDÁM
Stands up. This young man is, if you allow me, Albert ÁDÁM, twenty-five years old, composer. I wrote the music for these kind gentlemen for their latest operetta. This is my first work for the stage. These two elderly angels have discovered me and now, with their help, I'd like to become famous. They got me invited to this castle. They got my dress-coat and tuxedo made. In other words, I am poor and unknown, for now. Other than that I'm an orphan and my grandmother raised me. My grandmother has passed away. I am all alone in this world. I have no name, I have no money.

TURAI
But you are young.

GÁL
And gifted.

ÁDÁM
And I am in love with the soloist.

TURAI
You shouldn't have added that. Everyone in the audience would figure that out anyway.

They all sit down.

TURAI
Now wouldn't this be the easiest way to start a play?

GÁL
If we were allowed to do this, it would be easy to write plays.

TURAI
Trust me, it's not that hard. Just think of this whole thing as …

GÁL
All right, all right, all right, just don't start talking about the theatre again. I'm fed up with it. We'll talk tomorrow, if you wish.

"The Play's the Thing" is the beginning of a play by the Hungarian dramatist Ferenc Molnár.

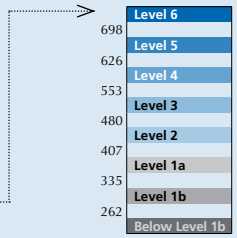
Use "The Play's the Thing" on the previous two pages to answer the questions that follow. (Note that line numbers are given in the margin of the script to help you find parts that are referred to in the questions.)

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THE PLAY'S THE THING – *QUESTION 3*

Situation: *Personal*
Text format: *Continuous*
Text type: *Narration*
Aspect: *Integrate and interpret – Develop an interpretation*
Question format: *Short response*
Difficulty: *730 (Level 6)*



What were the characters in the play doing **just before** the curtain went up?

Scoring

Full Credit: Refers to dinner or drinking champagne. May paraphrase or quote the text directly.

- They have just had dinner and champagne.
- "We have just arrived from the dining room where we had an excellent dinner."*[direct quotation]*
- "An excellent dinner and drank two bottles of champagne." *[direct quotation]*
- Dinner and drinks.
- Dinner.
- Drank champagne.
- Had dinner and drank.
- They were in the dining room.

Comment

This task illustrates several features of the most difficult tasks in PISA reading. The text is long by PISA standards, and it may be supposed that the fictional world depicted is remote from the experience of most 15-year-olds. The introduction to the unit tells students that the stimulus of THE PLAY'S THE THING *is the beginning of a play by the Hungarian dramatist Ferenc Molnár, but there is no other external orientation. The setting ("a castle by the beach in Italy") is likely to be exotic to many, and the situation is only revealed gradually through the dialogue itself. While individual pieces of vocabulary are not particularly difficult, and the tone is often chatty, the register of the language is a little mannered. Perhaps most importantly a level of unfamiliarity is introduced by the abstract theme of the discussion: a sophisticated conversation between characters about the relationship between life and art, and the challenges of writing for the theatre. The text is classified as narration because this theme is dealt with as part of the play's narrative.*

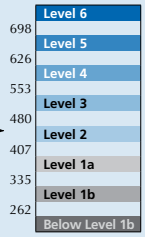
While all the tasks in this unit acquire a layer of difficulty associated with the challenges of the text, the cognitive demand of this task in particular is also attributable to the high level of interpretation required to define the meaning of the question's terms, in relation to the text. The reader needs to be alert to the distinction between characters and actors. The question refers to what the characters (not the actors) were doing "just before the curtain went up". This is potentially confusing since it requires recognition of a shift between the real world of a stage in a theatre, which has a curtain, and the imaginary world of Gal, Turai and Adam, who were in the dining room having dinner just before they entered the guest room (the stage setting). A question that assesses students' capacity to distinguish between real and fictional worlds seems particularly appropriate in relation to a text whose theme is about just that, so that the complexity of the question is aligned with the content of the text.

A further level of the task's difficulty is introduced by the fact that the required information is in an unexpected location. The question refers to the action "before the curtain went up", which would typically lead one to search at the opening of the scene, the beginning of the extract. On the contrary, the information is actually found about half-way through the extract, when Turai reveals that he and his friends "have just arrived from the dining room". While the scoring for the question shows that several kinds of response are acceptable, to be given full credit readers must demonstrate that they have found this inconspicuous piece of information. The need to assimilate information that is contrary to expectations – where the reader needs to give full attention to the text in defiance of preconceptions – is highly characteristic of the most demanding reading tasks in PISA.



THE PLAY'S THE THING – *QUESTION 4*

Situation: *Personal*
Text format: *Continuous*
Text type: *Narration*
Aspect: *Integrate and interpret – Develop an interpretation*
Question format: *Multiple choice*
Difficulty: *474 (Level 2)*



"It's an eternity, sometimes as much as a quarter of an hour … " (lines 29-30)
According to Turai, why is a quarter of an hour "an eternity"?
A. It is a long time to expect an audience to sit still in a crowded theatre.
B. It seems to take forever for the situation to be clarified at the beginning of a play.
C. It always seems to take a long time for a dramatist to write the beginning of a play.
D. It seems that time moves slowly when a significant event is happening in a play.

Scoring

Full Credit: B. It seems to take forever for the situation to be clarified at the beginning of a play.

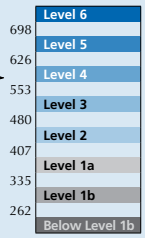
Comment

Near the borderline between Level 2 and Level 3, this question together with the previous one illustrates the fact that questions covering a wide range of difficulties can be based on a single text.

Unlike in the previous task, the stem of this task directs the reader to the relevant section in the play, even quoting the lines, thus relieving the reader of any challenge in figuring out where the necessary information is to be found. Nevertheless, the reader needs to understand the context in which the line is uttered in order to respond successfully. In fact, the implication of "It seems to take forever for the situation to be clarified at the beginning of a play" underpins much of the rest of this extract, which enacts the solution of characters explicitly introducing themselves at the beginning of a play instead of waiting for the action to reveal who they are. Insofar as the utterance that is quoted in the stem prompts most of the rest of this extract, repetition and emphasis support the reader in integrating and interpreting the quotation. In that respect too, this task clearly differs from Question 3, in which the required information is only provided once, and is buried in an unexpected part of the text.

THE PLAY'S THE THING – *QUESTION 7*

Situation: *Personal*
Text format: *Continuous*
Text type: *Narration*
Aspect: *Integrate and interpret – Form a broad understanding*
Question format: *Multiple choice*
Difficulty: *556 (Level 4)*



Overall, what is the dramatist Molnár doing in this extract?
A. He is showing the way that each character will solve his own problems.
B. He is making his characters demonstrate what an eternity in a play is like.
C. He is giving an example of a typical and traditional opening scene for a play.
D. He is using the characters to act out one of his own creative problems.

Scoring

Full Credit: D. He is using the characters to act out one of his own creative problems.

Comment

In this task the reader is asked to take a global perspective, form a broad understanding *by integrating and interpreting the implications of the dialogue across the text. The task involves recognising the conceptual theme of a section of a play, where the theme is literary and abstract. This relatively unfamiliar territory for most 15-year-olds is likely to constitute the difficulty of the task, which is located at Level 4. A little under half of the students in OECD countries gained full credit for this task, with the others divided fairly evenly across the three distractors.*

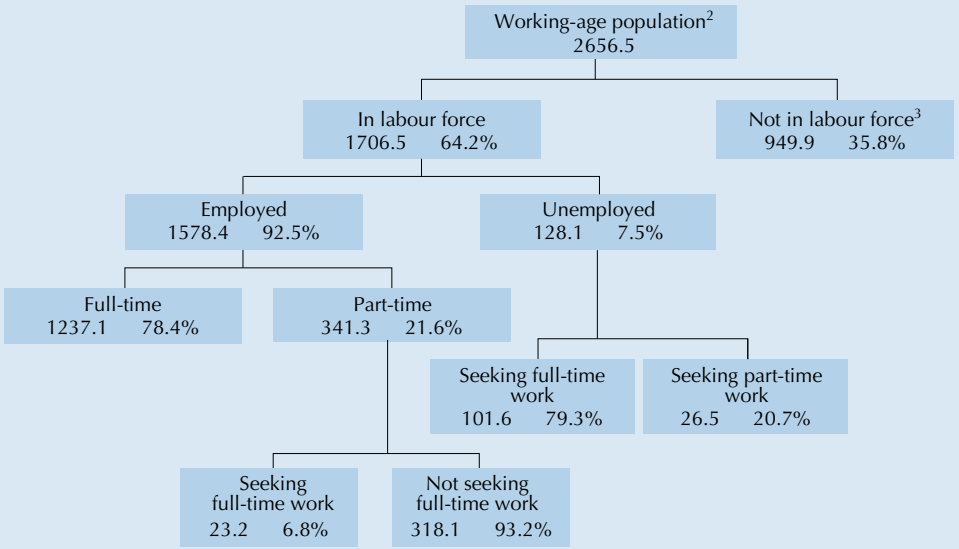


■ Figure I.4.15 ■

LABOUR

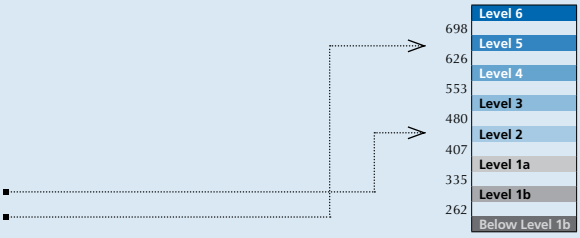
The tree diagram below shows the structure of a country's labour force or "working-age population". The total population of the country in 1995 was about 3.4 million.

The labour force structure, year ended 31 March 1995 (000s)[1]



1. Numbers of people are given in thousands (000s).
2. The working-age population is defined as people between the ages of 15 and 65.
3. People "Not in labour force" are those not actively seeking work and/or not available for work.

Source: D. Miller, *Form 6 Economics*, ESA Publications, Box 9453, Newmarker, Auckland, NZ, p. 64.



LABOUR – *QUESTION 16*

Situation: *Reading for education*
Text format: *Non-continuous*
Aspect: *Retrieving information*
Difficulty: *485* – ***Percentage of correct answers (OECD countries): 64.9%***
631 – ***Percentage of correct answers (OECD countries): 27.9%***

How many people of working age were not in the labour force? (Write the **number** of people, not the percentage.)

Comment

The question presented here yields responses at two levels of difficulty, with the partial-credit response category falling within Level 3 with a score of 485 and the full-credit category within Level 5 with a score of 631.

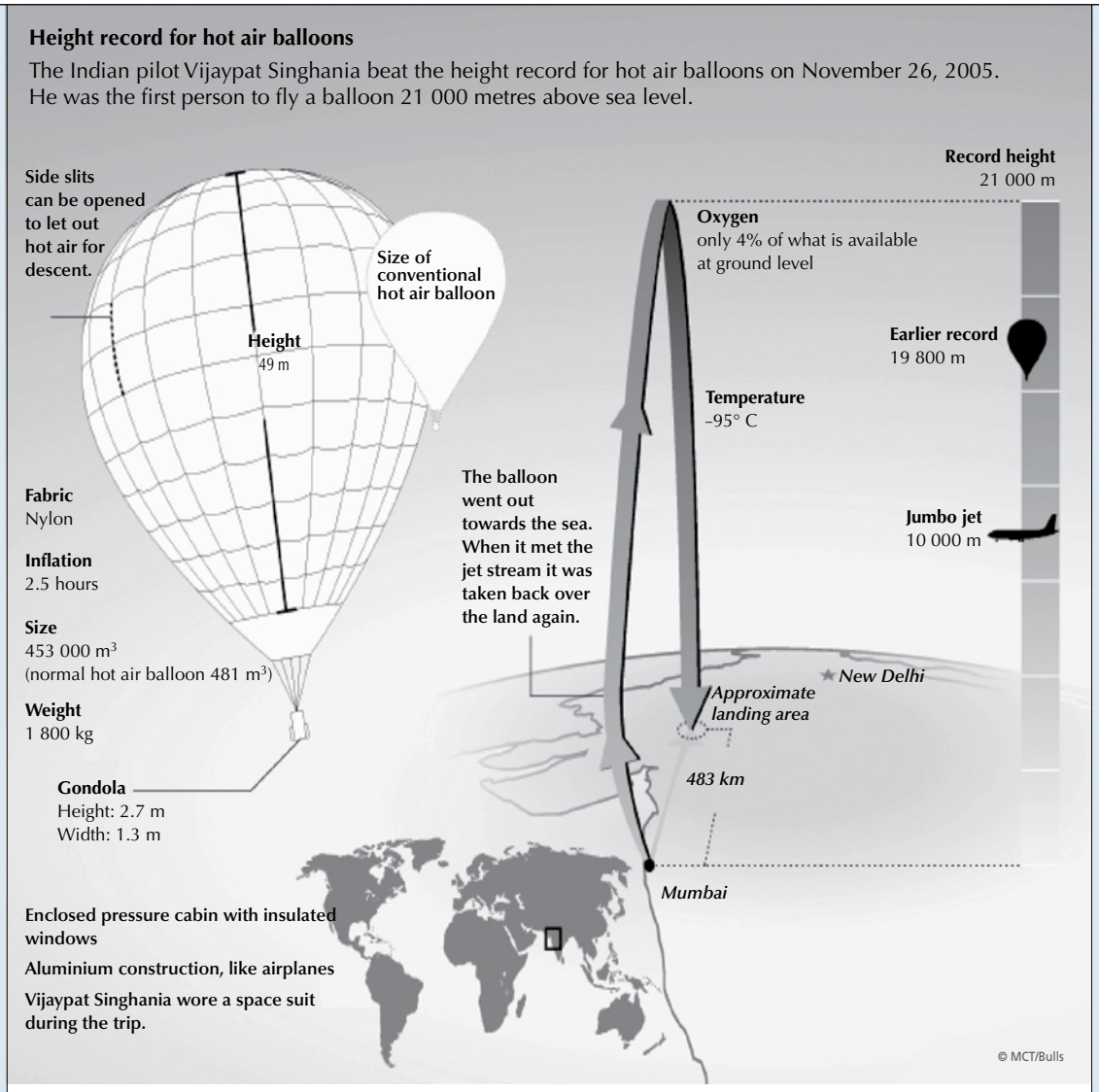
For full credit (Level 5) students are required to locate and combine a piece of numerical information in the main body of the text (the tree diagram) with information in a footnote – that is, outside the main body of the text. In addition, students have to apply this footnoted information in determining the correct number of people fitting into this category. Both of these features contribute to the difficulty of this task, which is one of the most difficult retrieving information tasks in the PISA reading assessment.

For partial credit (Level 3) this task merely requires students to locate the number given in the appropriate category of the tree diagram. They are not required to use the conditional information provided in the footnote to receive partial credit. Even without this important information the task is still moderately difficult.



■ Figure I.4.16 ■

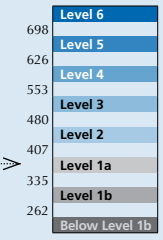
BALLOON



Use "Balloon" on the previous page to answer the questions that follow.

BALLOON – *QUESTION 8*

Situation: *Educational*
Text format: *Non-continuous*
Text type: *Description*
Aspect: *Integrate and interpret – Form a broad understanding*
Question format: *Multiple choice*
Difficulty: *370 (Level 1a)*



What is the main idea of this text?

A. Singhania was in danger during his balloon trip.
B. Singhania set a new world record.
C. Singhania travelled over both sea and land.
D. Singhania's balloon was enormous.



Scoring

Full Credit: B. Singhania set a new world record.

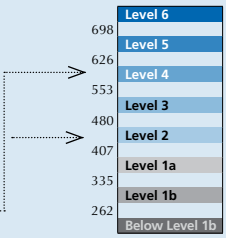
Comment

The main idea of this non-continuous text is stated explicitly and prominently several times, including in the title, "Height record for hot air balloon". The prominence and repetition of the required information helps to explains its easiness: it is located in the lower half of Level 1a.

Although the main idea is explicitly stated, the question is classified as integrate and interpret, with the sub-classification forming a broad understanding, *because it involves distinguishing the most significant and general from subordinate information in the text. The first option – "Singhania was in danger during his balloon trip" – is a plausible speculation, but it is not supported by anything in the text, and so cannot qualify as a main idea. The third option – "Singhania travelled over both sea and land" – accurately paraphrases information from the text, but it is a detail rather than the main idea. The fourth option – "Singhania's balloon was enormous" – refers to a conspicuous graphic feature in the text but, again, it is subordinate to the main idea.*

BALLOON – *QUESTION 3*

Situation: *Educational*
Text format: *Non-continuous*
Text type: *Description*
Aspect: *Access and retrieve – Retrieve information*
Question format: *Short response*
Difficulty: *Full credit 595 (Level 4); Partial credit 449 (Level 2)*



Vijaypat Singhania used technologies found in two other types of transport. Which types of transport?

1. .....

2. .....

Scoring

Full Credit: Refers to BOTH airplanes AND spacecraft (in either order, can include both answers on one line). For example:

- 1. Aircraft
  2. Spacecraft
- 1. Airplanes
  2. Space ships
- 1. Air travel
  2. Space travel
- 1. Planes
  2. Space rockets
- 1. Jets
  2. Rockets

Partial Credit: Refers to EITHER airplanes OR spacecraft. For example:

- Spacecraft
- Space travel
- Space rockets
- Rockets
- Aircraft
- Airplanes
- Air travel
- Jets



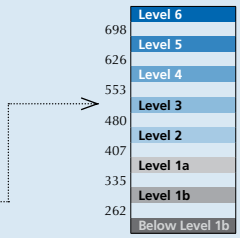
Comment

In this task full credit is given for responses that lists the two required types of transport, and partial credit is given to responses that listed one type. The scoring rules reproduced above demonstrate that credit is available for several different paraphrases of the terms "airplanes" and "spacecraft".

The partial credit score is located in the upper half of Level 2 while the full credit score is located at Level 4, illustrating the fact that access and retrieve *questions can create a significant challenge. The difficulty of the task is particularly influenced by a number of features of the text. The layout, with several different kinds of graphs and multiple captions, is quite a common type of non-continuous presentation often seen in magazines and modern textbooks, but because it does not have a conventional ordered structure (unlike, for example, a table or graph), finding specific pieces of discrete information is relatively inefficient. Captions ("Fabric", "Record height", and so on) give some support to the reader in navigating the text, but the information specific required for this task does not have a caption, so that readers have to generate their own categorisation of the relevant information as they search. Having once found the required information, inconspicuously located at the bottom left-hand corner of the diagram, the reader needs to recognise that the "aluminium construction, like airplanes" and the "space suit" are associated with categories of transport. In order to obtain credit for this question, the response needs to refer to a form or forms of transport, rather than simply transcribing an approximate section of text. Thus "space travel" is credited, but "space suit" is not. A significant piece of competing information in the text constitutes a further difficulty: many students referred to a "jumbo jet" in their answer. Although "air travel" or "airplane" or "jet" is given credit, "jumbo jet" is deemed to refer specifically to the image and caption on the right of the diagram. This answer is not given credit as the jumbo jet in the illustration is not included in the material with reference to technology used for Singhania's balloon.*

BALLOON – *QUESTION 4*

Situation: *Educational*
Text format: *Non-continuous*
Text type: *Description*
Aspect: *Reflect and evaluate – Reflect on and evaluate the content of a text*
Question format: *Open Constructed Response*
Difficulty: *510 (Level 3)*



What is the purpose of including a drawing of a jumbo jet in this text?

.....

.....

Scoring

Full Credit: Refers explicitly or implicitly to the height of the balloon OR to the record. May refer to comparison between the jumbo jet and the balloon.

- To show how high the balloon went.
- To emphasise the fact that the balloon went really, really high.
- To show how impressive his record really was – he went higher than jumbo jets!
- As a point of reference regarding height.
- To show how impressive his record really was. [minimal]

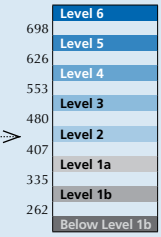
Comment

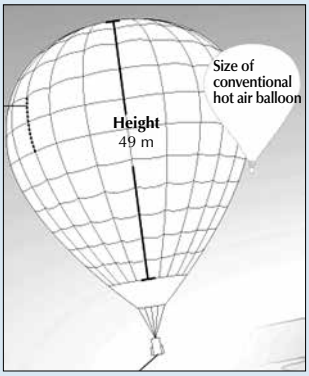
The main idea of the text is to describe the height record set by Vijaypat Singhania in his extraordinary balloon. The diagram on the right-hand side of the graphic, which includes the jumbo jet, implicitly contributes to the "wow!" factor of the text, showing just how impressive the height achieved by Singhania was by comparing it with what we usually associate with grand height: a jumbo jet's flight. In order to gain credit for this task, students must recognise the persuasive intent of including the illustration of the jumbo jet. For this reason the task is classified as **reflect and evaluate,** *with the sub-category* **reflect on and evaluate the content of a text**. *At the upper end of Level 3, this question is moderately difficult.*



BALLOON – *QUESTION 6*

Situation: *Educational*
Text format: *Non-continuous*
Text type: *Description*
Aspect: *Reflect and evaluate – Reflect on and evaluate the content of a text*
Question format: *Multiple choice*
Difficulty: *411 (Level 2)*





Why does the drawing show two balloons?

A. To compare the size of Singhania's balloon before and after it was inflated.
B. To compare the size of Singhania's balloon with that of other hot air balloons.
C. To show that Singhania's balloon looks small from the ground.
D. To show that Singhania's balloon almost collided with another balloon.

Scoring

Full Credit: B. To compare the size of Singhania's balloon with that of other hot air balloons.

Comment

It is important for readers to be aware that texts are not randomly occurring artefacts, but are constructed deliberately and with intent, and that part of the meaning of a text is found in the elements that authors choose to include. Like the previous task, this task is classified under reflect and evaluate *because it asks about authorial intent. It focuses on a graphic element – here the illustration of two balloons – and asks students to consider the purpose of this inclusion. In the context of the over-arching idea of the text, to describe (and celebrate) Singhania's flight, the balloon illustration sends the message, "This is a really big balloon!", just as the jumbo jet illustration sends the message, "This is a really high flight!" The caption on the smaller balloon ("Size of a conventional hot air balloon") makes it obvious that this is a different balloon to Singhania's, and therefore, for attentive readers, renders options A and C implausible. Option D has no support in the text. With a difficulty near the bottom of Level 2, this is a rather easy task.*



■ Figure I.4.17 ■

MISER

THE MISER AND HIS GOLD

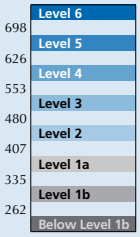
A fable by Aesop

A miser sold all that he had and bought a lump of gold, which he buried in a hole in the ground by the side of an old wall. He went to look at it daily. One of his workmen observed the miser's frequent visits to the spot and decided to watch his movements. The workman soon discovered the secret of the hidden treasure, and digging down, came to the lump of gold, and stole it. The miser, on his next visit, found the hole empty and began to tear his hair and to make loud lamentations. A neighbour, seeing him overcome with grief and learning the cause, said, "Pray do not grieve so; but go and take a stone, and place it in the hole, and fancy that the gold is still lying there. It will do you quite the same service; for when the gold was there, you had it not, as you did not make the slightest use of it."

Use the fable "The Miser and his Gold" on the previous page to answer the questions that follow.

MISER – *QUESTION 1*

Situation: *Personal*
Text format: *Continuous*
Text type: *Narration*
Aspect: *Integrate and interpret – Develop an interpretation*
Question format: *Closed constructed response*
Difficulty: *373 (Level 1a)*



Read the sentences below and number them according to the sequence of events in the text.

- ☐ The miser decided to turn all his money into a lump of gold.
- ☐ A man stole the miser's gold.
- ☐ The miser dug a hole and hid his treasure in it.
- ☐ The miser's neighbour told him to replace the gold with a stone.

Scoring

Full Credit: All four correct: 1, 3, 2, 4 in that order.

Comment

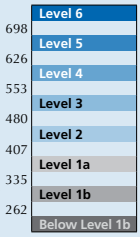
Fables are a popular and respected text type in many cultures and they are a favourite text type in reading assessments for similar reasons: they are short, self-contained, morally instructive and have stood the test of time. While perhaps not the most common reading material for young adults in OECD countries they are nevertheless likely to be familiar from childhood, and the pithy, often acerbic observations of a fable can pleasantly surprise even a blasé 15-year-old. MISER is typical of its genre: it captures and satirises a particular human weakness in a neat economical story, executed in a single paragraph.

Since narrations *are defined as referring to properties of objects in time, typically answering "when" questions, it is appropriate to include a task based on a narrative text that asks for a series of statements about the story to be put into the correct sequence. With such a short text, and with statements in the task that are closely matched with the terms of the story, this is an easy task, around the middle of Level 1a. On the other hand, the language of the text is rather formal and has some old-fashioned locutions. (Translators were asked to reproduce the fable-like style of the source versions.) This characteristic of the text is likely to have added to the difficulty of the question.*



MISER – *QUESTION 7*

Situation: *Personal*
Text format: *Continuous*
Text type: *Narration*
Aspect: *Access and retrieve – Retrieve information*
Question format: *Short response*
Difficulty: *310 (Level 1b)*



How did the miser get a lump of gold?

.....

Scoring

Full Credit: States that he sold everything he had. May paraphrase or quote directly from the text.

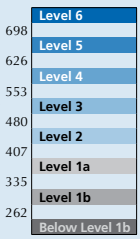
- He sold all he had.
- He sold all his stuff.
- He bought it. *[implicit connection to selling everything he had]*

Comment

This is one of the easiest tasks in PISA reading, with a difficulty in the middle of Level 1b. The reader is required to access and retrieve *a piece of explicitly stated information in the opening sentence of a very short text. To gain full credit, the response can either quote directly from the text – "He sold all that he had" – or provide a paraphrase such as "He sold all his stuff". The formal language of the text, which is likely to have added difficulty in other tasks in the unit, is unlikely to have much impact here because the required information is located at the very beginning of the text. Although this is an extremely easy question in PISA's frame of reference, it still requires a small degree of inference, beyond the absolutely literal: the reader must infer that there is a causal connection between the first proposition (that the miser sold all he had) and the second (that he bought gold).*

MISER – *QUESTION 5*

Situation: *Personal*
Text format: *Continuous*
Text type: *Narration*
Aspect: *Integrate and interpret – Develop an interpretation*
Question format: *Open constructed response*
Difficulty: *548 (Level 3)*



Here is part of a conversation between two people who read "The Miser and his Gold".





What could Speaker 2 say to support his point of view?

.....

.....



Scoring

Full Credit

Recognises that the message of the story depends on the gold being replaced by something useless or worthless.

- It needed to be replaced by something worthless to make the point.
- The stone is important in the story, because the whole point is he might as well have buried a stone for all the good the gold did him.
- If you replaced it with something better than a stone, it would miss the point because the thing buried needs to be something really useless.
- A stone is useless, but for the miser, so was the gold!
- Something better would be something he could use – he didn't use the gold, that's what the guy was pointing out.
- Because stones can be found anywhere. The gold and the stone are the same to the miser. *["can be found anywhere" implies that the stone is of no special value]*

Comment

This task takes the form of setting up a dialogue between two imaginary readers, to represent two conflicting interpretations of the story. In fact only the second speaker's position is consistent with the overall implication of the text, so that in providing a supporting explanation readers demonstrate that they have understood the "punch line" – the moral import – of the fable. The relative difficulty of the task, near the top of Level 3, is likely to be influenced by the fact that readers needs to do a good deal of work to generate a full credit response. First they must make sense of the neighbour's speech in the story, which is expressed in a formal register. (As noted, translators were asked to reproduce the fable-like style.) Secondly, the relationship between the question stem and the required information is not obvious: there is little or no support in the stem ("What could Speaker 2 say to support his point of view?") to guide the reader in interpreting the task, though the reference to the stone and the neighbour by the speakers should point the reader to the end of the fable.

As shown in examples of responses, to gain full credit, students could express,in a variety of ways, the key idea that wealth has no value unless it is used. Vague gestures at meaning, such as "the stone had a symbolic value", are not given credit.



Notes

1. Of the 64 countries and economies that have trend data up to 2012, 30 participated in PISA 2012 and have comparable results for every assessment since PISA 2000; 14 countries and economies have comparable data for 2012 and three other PISA assessments; 13 have comparable data for 2012 and two other PISA assessments; and 7 have comparable data for 2012 and one additional PISA assessment.

2. As described in more detail in Annex A5, the annualised change takes into account the specific year in which the assessment took place. In the case of reading, this is especially relevant for the 2009 assessment as Costa Rica, Malaysia and the United Arab Emirates (excl. Dubai) implemented the assessment in 2010 as part of PISA+ and the 2000 assessment as Chile and the partner countries and economies Albania, Argentina, Bulgaria, Hong Kong-China, Indonesia, Peru and Thailand implemented the assessment in 2001, Israel and Romania in 2002 as part of PISA+.

3. As described in Annex A5, the annualised change considers the case of countries and economies that implemented PISA 2000 in 2001 or 2002 and those that implemented PISA 2009 in 2010 as part of PISA+.

4. By accounting for students' gender, age, socio-economic status, migration background and language spoken at home, the adjusted trends allow for a comparison of changes in performance assuming no alteration in the underlying population or the effective samples' average socio-economic status, age and percentage of girls, students with an immigrant background or students that speak a language at home that is different from the language of assessment.

5. Israel shows a seven percentage-point decline in the weighted percentage of girls assessed by PISA. The sampling design for Israel in the PISA 2000 assessment did not account for the gender composition of schools, despite the different participation rates between boys and girls in Israel due to the fact that some boys' schools refused to take part in the assessment. The gender distribution in the PISA 2000 data for Israel was subject to a relatively large sampling variance due to an inefficient sampling design. The section on adjusted trends takes this into account by adjusting results for 2000 so that the gender distribution is comparable to that observed in 2012. Nevertheless, trends in the socio-economic status of students and in the percentage of students with an immigrant background – which are also taken into account in the adjusted trends – also played an important role in the observed performance changes in Israel.

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5

A Profile of Student Performance in Science

This chapter examines student performance in science in PISA 2012. It provides examples of assessment questions, relating them to each PISA proficiency level, discusses gender differences in student performance, compares countries' and economies' performance in science, and highlights trends in science performance up to 2012.



What can 15-year-old students do in science? This chapter describes how PISA 2012 measures student achievement in science around the world, at the country and regional levels, among boys and girls, and also compares outcomes of PISA 2012 with those of the previous PISA cycles. It provides a few examples of the questions asked in the science assessment.

An understanding of science and technology is central to a young person's preparedness for life in modern society, not least because it empowers individuals to participate in determining public policy where issues of science and technology affect their lives. PISA defines scientific literacy as an individual's scientific knowledge, and use of that knowledge, to identify questions, acquire new knowledge, explain scientific phenomena and draw evidence-based conclusions about science-related issues; understanding of the characteristic features of science as a form of human knowledge and enquiry; awareness of how science and technology shape our material, intellectual and cultural environments; and willingness to engage in science-related issues, and with the ideas of science, as a reflective citizen (OECD, 2007).

Science was the focus of the PISA 2006 survey and a minor domain in PISA 2009 and 2012. Less time was allocated during these latter two assessments than in PISA 2006. Ninety minutes of the assessment time were devoted to science in the last two cycles, allowing for only an update on overall performance rather than the kind of in-depth analysis of knowledge and skills shown in the PISA 2006 report (OECD, 2007).

What the data tell us

- Nineteen of 64 countries and economies with comparable data show an average annual improvement, 37 show no change, and 8 show a deterioration in their science performance throughout their participation in PISA.
- Hong Kong-China, Ireland, Japan, Korea and Poland performed at or above the OECD average in science in 2006 and by 2012 showed an improvement in science performance of more than two score points per year. Estonia also performed above the OECD average in science in 2006, and between 2009 and 2012 improved its score by 14 points.
- Estonia, Israel, Italy, Poland, Qatar and Singapore reduced the share of students who do not attain the baseline level of proficiency and simultaneously increased the share of top-performing students in science.
- Boys and girls perform similarly in science and, on average, that remained true in 2012. But in Colombia, Japan and Spain, while there was no gender gap in science performance in 2006, a gender gap in favour of boys was observed in 2012.

STUDENT PERFORMANCE IN SCIENCE

In PISA 2006 the mean science score for OECD countries was initially set at 500 points (for 30 OECD countries), then was re-set at 498 points after taking into account the four newest OECD countries. To help interpret what students' scores mean in substantive terms, the scale is divided into levels of proficiency that indicate the kinds of tasks that students at those levels are capable of completing successfully (OECD, 2006).

Average performance in science

One way to summarise student performance and to compare the relative standing of countries in science is through countries' mean performance, both relative to each other and to the OECD mean. For PISA 2012, the mean in science for OECD countries increased to 501 points. This establishes the benchmark against which each country's and economy's science performance in PISA 2012 is compared.

When interpreting mean performance, only those differences among countries and economies that are statistically significant should be taken into account. Figure I.5.1 shows each country's/economy's mean score and also for which pairs of countries/economies the differences between the means are statistically significant. For each country/economy shown in the middle column, the countries/economies whose mean scores are not statistically significantly different are listed in the right column. In all other cases, country/economy A scores higher than country/economy B if country/economy A is situated above country/economy B in the middle column, and scores lower if country/economy A is situated below country/economy B. For example: Shanghai-China ranks first on the PISA science scale, but Hong Kong-China, which appears second on the list, cannot be distinguished with confidence from Singapore and Japan, which appear third and fourth, respectively.



■ Figure I.5.1 ■

Comparing countries' and economies' performance in science

Statistically significantly **above** the OECD average
Not statistically significantly different from the OECD average
Statistically significantly **below** the OECD average

Mean score	Comparison country/ economy	Countries/economies whose mean score is NOT statistically significantly different from that comparison country's/economy's score
580	Shanghai-China	
555	Hong Kong-China	Singapore, Japan
551	Singapore	Hong Kong-China, Japan
547	Japan	Hong Kong-China, Singapore, Finland, Estonia, Korea
545	Finland	Japan, Estonia, Korea
541	Estonia	Japan, Finland, Korea
538	Korea	Japan, Finland, Estonia, Viet Nam
528	Viet Nam	Korea, Poland, Canada, Liechtenstein, Germany, Chinese Taipei, Netherlands, Ireland, Australia, Macao-China
526	Poland	Viet Nam, Canada, Liechtenstein, Germany, Chinese Taipei, Netherlands, Ireland, Australia, Macao-China
525	Canada	Viet Nam, Poland, Liechtenstein, Germany, Chinese Taipei, Netherlands, Ireland, Australia
525	Liechtenstein	Viet Nam, Poland, Canada, Germany, Chinese Taipei, Netherlands, Ireland, Australia, Macao-China
524	Germany	Viet Nam, Poland, Canada, Liechtenstein, Chinese Taipei, Netherlands, Ireland, Australia, Macao-China
523	Chinese Taipei	Viet Nam, Poland, Canada, Liechtenstein, Germany, Netherlands, Ireland, Australia, Macao-China
522	Netherlands	Viet Nam, Poland, Canada, Liechtenstein, Germany, Chinese Taipei, Ireland, Australia, Macao-China, New Zealand, Switzerland, United Kingdom
522	Ireland	Viet Nam, Poland, Canada, Liechtenstein, Germany, Chinese Taipei, Netherlands, Australia, Macao-China, New Zealand, Switzerland, United Kingdom
521	Australia	Viet Nam, Poland, Canada, Liechtenstein, Germany, Chinese Taipei, Netherlands, Ireland, Macao-China, Switzerland, United Kingdom
521	Macao-China	Viet Nam, Poland, Liechtenstein, Germany, Chinese Taipei, Netherlands, Ireland, Australia, Switzerland, United Kingdom
516	New Zealand	Netherlands, Ireland, Switzerland, Slovenia, United Kingdom
515	Switzerland	Netherlands, Ireland, Australia, Macao-China, New Zealand, Slovenia, United Kingdom, Czech Republic
514	Slovenia	New Zealand, Switzerland, United Kingdom, Czech Republic
514	United Kingdom	Netherlands, Ireland, Australia, Macao-China, New Zealand, Switzerland, Slovenia, Czech Republic, Austria
508	Czech Republic	Switzerland, Slovenia, United Kingdom, Austria, Belgium, Latvia
506	Austria	United Kingdom, Czech Republic, Belgium, Latvia, France, Denmark, United States
505	Belgium	Czech Republic, Austria, Latvia, France, United States
502	Latvia	Czech Republic, Austria, Belgium, France, Denmark, United States, Spain, Lithuania, Norway, Hungary
499	France	Austria, Belgium, Latvia, Denmark, United States, Spain, Lithuania, Norway, Hungary, Italy, Croatia
498	Denmark	Austria, Latvia, France, United States, Spain, Lithuania, Norway, Hungary, Italy, Croatia
497	United States	Austria, Belgium, Latvia, France, Denmark, Spain, Lithuania, Norway, Hungary, Italy, Croatia, Luxembourg, Portugal
496	Spain	Latvia, France, Denmark, United States, Lithuania, Norway, Hungary, Italy, Croatia, Portugal
496	Lithuania	Latvia, France, Denmark, United States, Spain, Norway, Hungary, Italy, Croatia, Luxembourg, Portugal
495	Norway	Latvia, France, Denmark, United States, Spain, Lithuania, Hungary, Italy, Croatia, Luxembourg, Portugal, Russian Federation
494	Hungary	Latvia, France, Denmark, United States, Spain, Lithuania, Norway, Italy, Croatia, Luxembourg, Portugal, Russian Federation
494	Italy	France, Denmark, United States, Spain, Lithuania, Norway, Hungary, Croatia, Luxembourg, Portugal
491	Croatia	France, Denmark, United States, Spain, Lithuania, Norway, Hungary, Italy, Luxembourg, Portugal, Russian Federation, Sweden
491	Luxembourg	United States, Lithuania, Norway, Hungary, Italy, Croatia, Portugal, Russian Federation
489	Portugal	United States, Spain, Lithuania, Norway, Hungary, Italy, Croatia, Luxembourg, Russian Federation, Sweden
486	Russian Federation	Norway, Hungary, Croatia, Luxembourg, Portugal, Sweden
485	Sweden	Croatia, Portugal, Russian Federation Iceland
478	Iceland	Sweden, Slovak Republic, Israel
471	Slovak Republic	Iceland, Israel, Greece, Turkey
470	Israel	Iceland, Slovak Republic, Greece, Turkey
467	Greece	Slovak Republic, Israel, Turkey
463	Turkey	Slovak Republic, Israel, Greece
448	United Arab Emirates	Bulgaria, Chile, Serbia, Thailand
446	Bulgaria	United Arab Emirates, Chile, Serbia, Thailand, Romania, Cyprus[1, 2]
445	Chile	United Arab Emirates, Bulgaria, Serbia, Thailand, Romania
445	Serbia	United Arab Emirates, Bulgaria, Chile, Thailand, Romania
444	Thailand	United Arab Emirates, Bulgaria, Chile, Serbia, Romania
439	Romania	Bulgaria, Chile, Serbia, Thailand, Cyprus[1, 2]
438	Cyprus[1, 2]	Bulgaria, Romania
429	Costa Rica	Kazakhstan
425	Kazakhstan	Costa Rica, Malaysia
420	Malaysia	Kazakhstan, Uruguay, Mexico
416	Uruguay	Malaysia, Mexico, Montenegro, Jordan
415	Mexico	Malaysia, Uruguay, Jordan
410	Montenegro	Uruguay, Jordan, Argentina
409	Jordan	Uruguay, Mexico, Montenegro, Argentina, Brazil
406	Argentina	Montenegro, Jordan, Brazil, Colombia, Tunisia, Albania
405	Brazil	Jordan, Argentina, Colombia, Tunisia
399	Colombia	Argentina, Brazil, Tunisia, Albania
398	Tunisia	Argentina, Brazil, Colombia, Albania
397	Albania	Argentina, Colombia, Tunisia
384	Qatar	Indonesia
382	Indonesia	Qatar, Peru
373	Peru	Indonesia

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Source: OECD, PISA 2012 Database.
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Moreover, countries and economies are divided into three broad groups: those whose mean scores are statistically around the OECD mean (highlighted in dark blue), those whose mean scores are above the OECD mean (highlighted in pale blue), and those whose mean scores are below the OECD mean (highlighted in medium blue).

As shown in Figure I.5.1, five countries and economies outperform all other countries and economies in science in PISA 2012 by about half a standard deviation above the average or more: Shanghai-China (580 points), Hong Kong-China (555 points), Singapore (551 points), Japan (547 points) and Finland (545 points). Shanghai-China has a mean score of 580, which is more than three-quarters of a proficiency level above the average of 501 score points in PISA 2012. Other countries with mean performances above the average include Estonia, Korea, Viet Nam, Poland, Canada, Liechtenstein, Germany, Chinese Taipei, the Netherlands, Ireland, Australia, Macao-China, New Zealand, Switzerland, Slovenia, the United Kingdom and the Czech Republic. Countries that performed around the average include Austria, Belgium, Latvia, France, Denmark and the United States. Thirty-seven participating countries and economies have a mean score that is below the OECD average.

The gap in performance between the highest- and the lowest-performing OECD countries is 132 score points. That is, while the average score of the highest-performing OECD country, Japan (547), is slightly more than half a standard deviation above the OECD average, the average score of the lowest-performing OECD country, Mexico (415 points) is more than three-quarters of one standard deviation below the OECD average. But the performance difference observed among partner countries and economies is even larger, with a 207 score-point difference between Shanghai-China (580 points) and Peru (373 points).

Because the figures are derived from samples, it is not possible to determine a country's/economy's precise ranking among all participating countries and economies. However, it is possible to determine with confidence a range of rankings in which the country's/economy's performance level lies (Figure I.5.2). For entities other than those for which full samples were drawn (i.e. Shanghai-China, Hong Kong-China, Chinese Taipei and Macao-China) is not possible to calculate a rank order but the mean score provides a possibility to position subnational entities against the performance of the countries and economies. For example Western Australia shows a score just below the performance of top-performer Korea.

Trends in average science performance

The change in a school system's average performance over time indicates how and to what extent the system is progressing towards achieving the goal of providing all students with the knowledge and skills needed to become full participants in a knowledge-based society. PISA 2012 science results can be compared with those from PISA 2009 and PISA 2006, when science was first a major domain. PISA 2012 results for 54 countries and economies can be compared with data from both PISA 2009 and PISA 2006; trends for nine countries and economies can be observed using data from PISA 2009 and PISA 2012; and trends for one country can be observed using data from PISA 2006 and PISA 2012. The following trends in average performance are presented as the annualised change for these 64 countries and economies – the average yearly change in science performance observed in a country or economy throughout its participation in PISA. (For further details on the estimation of the annualised change, see Annex A5).[1]

On average across OECD countries, science performance has remained broadly stable since 2006. Among the 64 countries and economies with annualised change, 19 countries and economies saw improvements in their science performance. Figure I.5.3 shows that the annualised change was largest in Kazakhstan (at an annual increase of eight score points per year), Turkey (six score points per year), Qatar and Poland (five and four points per year, respectively), Thailand, Romania, Singapore and Italy (three points per year). For example, the average 15-year-old student in Turkey scored 424 points in the PISA 2006 science assessment; three years later, the average student scored 454 points and, in 2012, he or she scored 463 points. Similarly, in Poland in 2006, the average student scored at the OECD average of 498 points in science, improved to 508 points in 2009, then improved again to score 526 points in 2012 (Table I.5.3b).

Improvements of more than two score points per year were observed in Israel, Korea, Japan, Dubai (United Arab Emirates), Portugal, Brazil, Ireland, Tunisia, Hong Kong-China and Latvia. Annualised improvement in science was also seen in Macao-China.

The average change observed over successive PISA cycles does not capture the extent to which this change is steady, or whether it is decelerating or accelerating. The rate of acceleration of improvement may be steady, in which case the science skills of a country's/economy's students improved at a steady pace between 2006 and 2012. The rate may also be accelerating, in which case the improvement between 2009 and 2012 is greater than that between 2006 and 2009; or the rate could be decelerating, in which case there was less of an improvement observed between 2009 and 2012 than between 2006 and 2009.



■ Figure I.5.2 [Part 1/3] ■

Science performance among PISA 2012 participants, at national and regional levels

	Science scale				
		Range of ranks			
		OECD countries		All countries/economies	
	Mean score	Upper rank	Lower rank	Upper rank	Lower rank
Shanghai-China	580			1	1
Hong Kong-China	555			2	3
Singapore	551			2	4
Japan	547	1	3	3	6
Finland	545	1	3	4	6
Estonia	541	2	4	5	7
Korea	538	2	4	5	8
Western Australia (Australia)	535				
Australian Capital Territory (Australia)	534				
Trento (Italy)	533				
Friuli Venezia Giulia (Italy)	531				
Veneto (Italy)	531				
Lombardia (Italy)	529				
Viet Nam	528			7	15
Massachusetts (United States)	527				
Poland	526	5	9	8	16
New South Wales (Australia)	526				
Canada	525	5	8	8	14
Liechtenstein	525			8	17
Germany	524	5	10	8	17
Chinese Taipei	523			9	17
Netherlands	522	5	11	8	18
Ireland	522	6	11	10	18
Australia	521	7	11	11	18
Connecticut (United States)	521				
Macao-China	521			13	17
Castile and Leon (Spain)	519				
Bolzano (Italy)	519				
Queensland (Australia)	519				
Flemish community (Belgium)	518				
Victoria (Australia)	518				
Madrid (Spain)	517				
Asturias (Spain)	517				
England (United Kingdom)	516				
New Zealand	516	10	14	17	21
Switzerland	515	10	15	17	22
Slovenia	514	11	14	18	21
Navarre (Spain)	514				
United Kingdom	514	10	15	16	22
Scotland (United Kingdom)	513				
South Australia (Australia)	513				
Emilia Romagna (Italy)	512				
Galicia (Spain)	512				
La Rioja (Spain)	510				
Piemonte (Italy)	509				
Czech Republic	508	14	17	21	25
Valle d'Aosta (Italy)	508				
German-speaking community (Belgium)	508				
Northern Ireland (United Kingdom)	507				
Marche (Italy)	507				
Austria	506	15	18	22	26
Basque Country (Spain)	506				
Belgium	505	15	18	22	25
Aragon (Spain)	504				
Latvia	502			23	29
Umbria (Italy)	501				
Liguria (Italy)	501				
Toscana (Italy)	501				
Cantabria (Spain)	501				
Tasmania (Australia)	500				
France	499	17	22	24	31
Denmark	498	17	23	24	32
United States	497	17	25	24	35

Notes: OECD countries are shown in bold black. Partner countries are shown in bold blue. Participating economies and subnational entities that are not included in national results are shown in bold blue italics. Regions are shown in black italics (OECD countries) or blue italics (partner countries).
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Countries, economies and subnational entities are ranked in descending order of mean science performance.
Source: OECD, PISA 2012 Database.
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■ Figure I.5.2 [Part 2/3] ■

Science performance among PISA 2012 participants, at national and regional levels

	Science scale				
		Range of ranks			
		OECD countries		All countries/economies	
	Mean score	Upper rank	Lower rank	Upper rank	Lower rank
Spain	496	18	23	26	33
Lithuania	496			26	34
Norway	495	19	26	26	36
Hungary	494	19	26	27	36
Alentejo (Portugal)	494				
Italy	494	20	26	28	35
Catalonia (Spain)	492				
Croatia	491			29	38
Luxembourg	491	23	26	32	36
Wales (United Kingdom)	491				
Portugal	489	22	27	30	38
French community (Belgium)	487				
Russian Federation	486			34	38
Andalusia (Spain)	486				
Florida (United States)	485				
Sweden	485	26	28	36	39
Lazio (Italy)	484				
Puglia (Italy)	483				
Northern Territory (Australia)	483				
Balearic Islands (Spain)	483				
Extremadura (Spain)	483				
Abruzzo (Italy)	482				
Perm Territory region (Russian Federation)	480				
Murcia (Spain)	479				
Iceland	478	28	29	38	40
Dubai (United Arab Emirates)	474				
Sardegna (Italy)	473				
Slovak Republic	471	28	31	39	42
Israel	470	28	32	39	43
Molise (Italy)	468				
Greece	467	29	32	40	43
Basilicata (Italy)	465				
Turkey	463	30	32	41	43
Campania (Italy)	457				
Sicilia (Italy)	454				
Sharjah (United Arab Emirates)	450				
United Arab Emirates	448			44	47
Bulgaria	446			44	49
Chile	445	33	33	44	48
Serbia	445			44	49
Thailand	444			44	49
Abu Dhabi (United Arab Emirates)	440				
Romania	439			47	50
Cyprus[1, 2]	438			48	50
Jalisco (Mexico)	436				
Nuevo León (Mexico)	435				
Aguascalientes (Mexico)	435				
Querétaro (Mexico)	432				
Ras Al Khaimah (United Arab Emirates)	431				
Calabria (Italy)	431				
Colima (Mexico)	429				
Costa Rica	429			51	52
Chihuahua (Mexico)	429				
Manizales (Colombia)	429				
Espírito Santo (Brazil)	428				
Distrito Federal (Mexico)	427				
Fujairah (United Arab Emirates)	425				
Morelos (Mexico)	425				
Kazakhstan	425			51	53
Ciudad Autónoma de Buenos Aires (Argentina)	425				
Puebla (Mexico)	423				
Durango (Mexico)	423				
Federal District (Brazil)	423				

Notes: OECD countries are shown in bold black. Partner countries are shown in bold blue. Participating economies and subnational entities that are not included in national results are shown in bold blue italics. Regions are shown in black italics (OECD countries) or blue italics (partner countries).
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Countries, economies and subnational entities are ranked in descending order of mean science performance.
Source: OECD, PISA 2012 Database.
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■ Figure I.5.2 [Part 3/3] ■

Science performance among PISA 2012 participants, at national and regional levels

	Science scale				
		Range of ranks			
		OECD countries		All countries/economies	
	Mean score	Upper rank	Lower rank	Upper rank	Lower rank
Coahuila (Mexico)	421				
Mexico (Mexico)	421				
Ajman (United Arab Emirates)	420				
Minas Gerais (Brazil)	420				
Malaysia	420			52	55
Rio Grande do Sul (Brazil)	419				
Baja California Sur (Mexico)	418				
Santa Catarina (Brazil)	418				
Medellin (Colombia)	418				
Baja California (Mexico)	417				
São Paulo (Brazil)	417				
Quintana Roo (Mexico)	416				
San Luis Potosí (Mexico)	416				
Uruguay	416			53	56
Paraná (Brazil)	416				
Umm Al Quwain (United Arab Emirates)	415				
Yucatán (Mexico)	415				
Mexico	415	34	34	54	56
Mato Grosso do Sul (Brazil)	415				
Tamaulipas (Mexico)	414				
Tlaxcala (Mexico)	412				
Paraíba (Brazil)	412				
Bogota (Colombia)	411				
Hidalgo (Mexico)	411				
Montenegro	410			56	58
Jordan	409			55	59
Sinaloa (Mexico)	408				
Nayarit (Mexico)	407				
Argentina	406			56	61
Campeche (Mexico)	405				
Brazil	405			57	60
Guanajuato (Mexico)	404				
Piauí (Colombia)	403				
Zacatecas (Mexico)	402				
Cali (Brazil)	402				
Veracruz (Mexico)	401				
Rio de Janeiro (Brazil)	401				
Colombia	399			59	62
Tunisia	398			59	62
Albania	397			60	62
Goiás (Brazil)	396				
Sergipe (Brazil)	394				
Tabasco (Mexico)	391				
Bahia (Brazil)	390				
Rondônia (Brazil)	389				
Rio Grande do Norte (Brazil)	387				
Ceará (Brazil)	386				
Qatar	384			63	64
Amapá (Brazil)	382				
Indonesia	382			63	64
Mato Grosso (Brazil)	381				
Acre (Brazil)	380				
Tocantins (Brazil)	378				
Chiapas (Mexico)	377				
Pará (Brazil)	377				
Amazonas (Brazil)	376				
Roraima (Brazil)	375				
Pernambuco (Brazil)	374				
Peru	373			65	65
Guerrero (Mexico)	372				
Maranhão (Brazil)	359				
Alagoas (Brazil)	346				

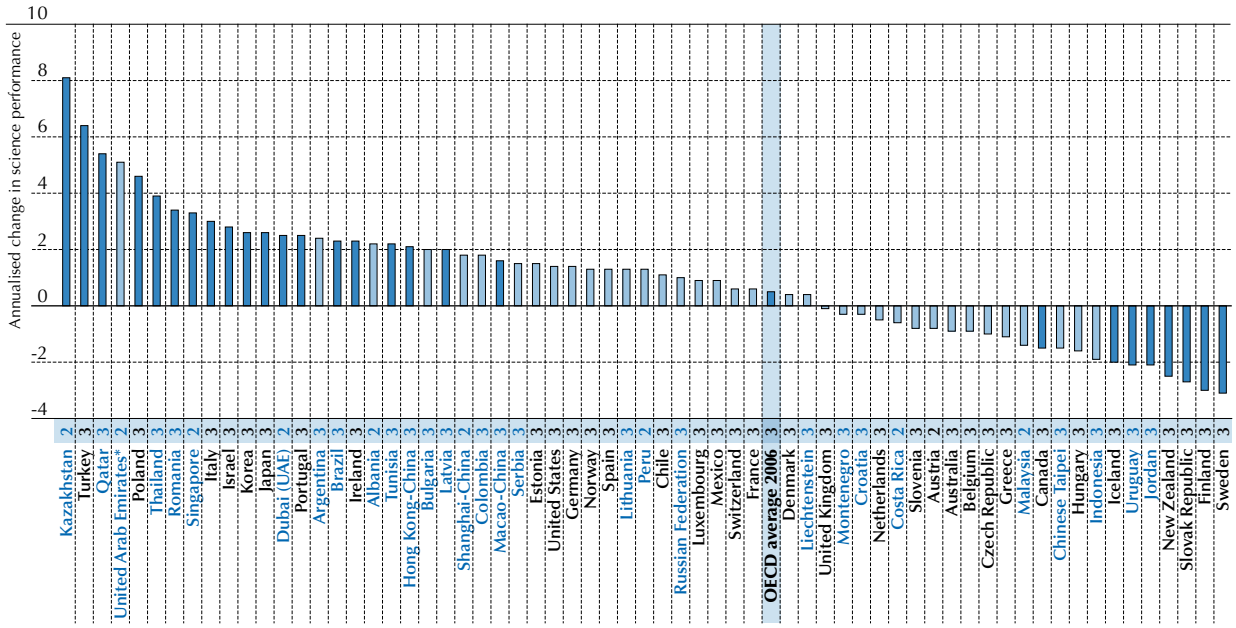
Notes: OECD countries are shown in bold black. Partner countries are shown in bold blue. Participating economies and subnational entities that are not included in national results are shown in bold blue italics. Regions are shown in black italics (OECD countries) or blue italics (partner countries).
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Source: OECD, PISA 2012 Database.
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■ Figure I.5.3 ■

Annualised change in science performance throughout participation in PISA

Science score-point difference associated with one calendar year



* United Arab Emirates excluding Dubai.

Notes: Statistically significant score point changes are marked in a darker tone (see Annex A3).

The number of comparable science scores used to calculate the annualised change is shown in next to the country/economy name.

The annualised change is the average annual change in PISA score points from a country's/economy's earliest participation in PISA to PISA 2012. It is calculated taking into account all of a country's/economy's participation in PISA. For more details on the calculation of the annualised change, see Annex A5.

OECD average 2006 compares only OECD countries with comparable science scores since 2006.

Countries and economies are ranked in descending order of the annualised change in science performance.

Source: OECD, PISA 2012 Database, Table I.5.3b.

StatLink http://dx.doi.org/10.1787/888932935629

Results on the rate of acceleration of a country's/economy's improvement can be calculated only for the 54 countries and economies that participated in PISA 2006, PISA 2009 and PISA 2012, 16 of which saw an annualised improvement in science performance during the period. Of these 16 countries, Macao-China shows greater improvement between 2009 and 2012 than between 2006 and 2009. Improvements in science performance decelerated in Brazil, Portugal, Qatar, Tunisia and Turkey, where the observed improvement between 2009 and 2012 was smaller than that observed between 2006 and 2009. For the remaining countries, the annualised improvement is relatively similar between the 2006-09 and 2009-12 periods. Other countries and economies show no overall average annual improvement in performance, but do show notable improvements in science performance between PISA 2009 and PISA 2012. Such is the case of Estonia, where science performance improved by 14 score points as well as Luxembourg and Montenegro (Figure I.5.4).

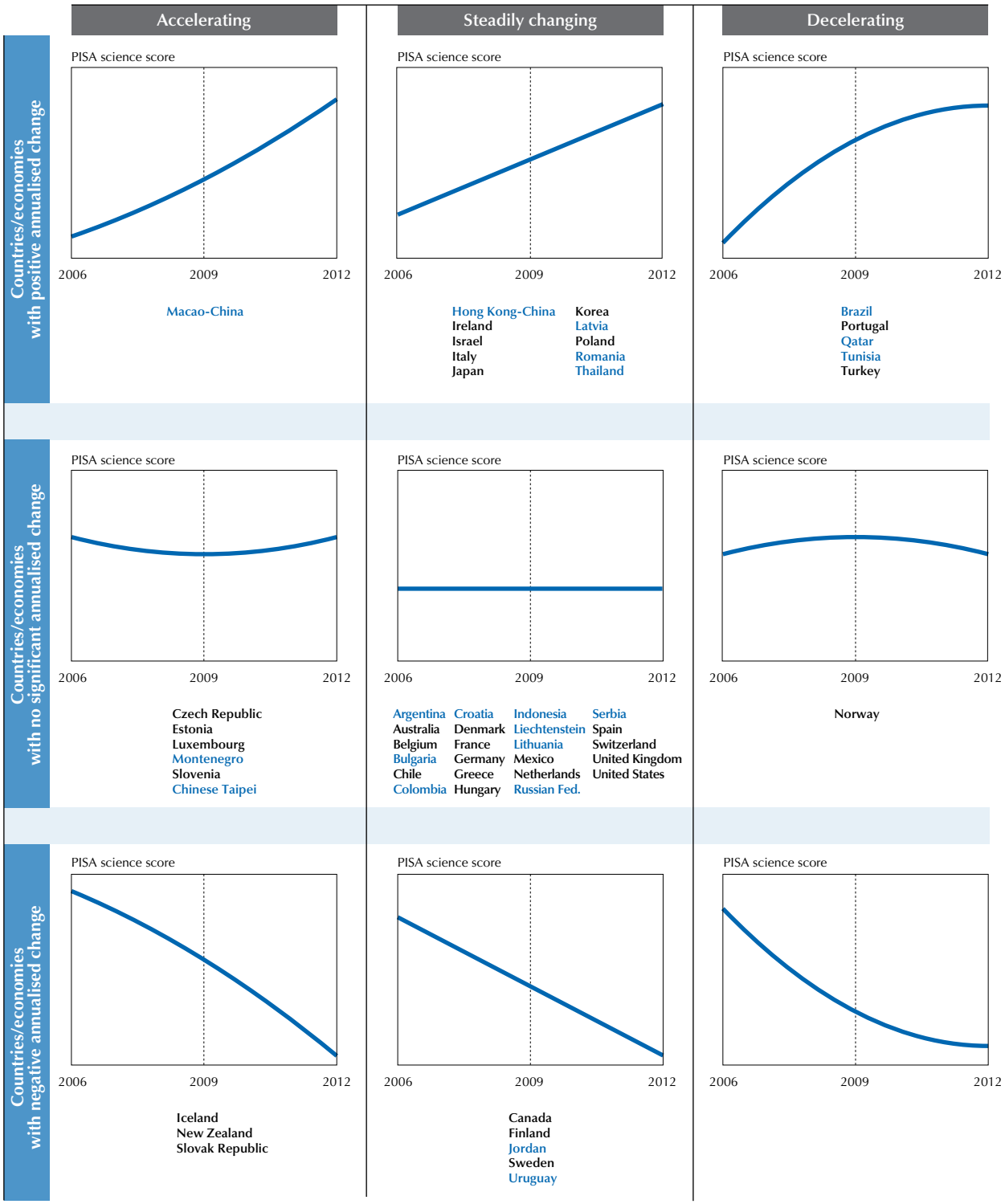
At any point in time, countries and economies share similar levels of performance in science with other countries and economies. But as time passes and school systems evolve, some countries and economies may improve their performance while others may not. Figure I.5.5 shows, for each country and economy with comparable results in 2006 and 2012, those other countries and economies that had similar performance in 2006 but whose performance improved or deteriorated by 2012. For example, in 2006, Japan was similar in science performance to New Zealand, Chinese Taipei, Australia, Canada, the Netherlands, Liechtenstein, Hong Kong-China, Estonia and Korea; but after its annualised improvement of 2.6 score points per year, it scored higher in science than New Zealand, Chinese Taipei, Australia, Canada, the Netherlands and Liechtenstein in 2012. In 2006, Germany had lower scores in science than New Zealand, Chinese Taipei and Canada; but by 2012, its performance was similar to those countries' performance. Along the same lines, Romania had similar levels of performance as Uruguay, Jordan, Montenegro, Mexico, Thailand and Bulgaria in 2006. By 2012, Romania showed better performance than Uruguay, Jordan, Montenegro and Mexico, and had attained similar levels of performance as Chile and Serbia, both of which had higher scores in science than Romania did in 2006. Estonia's improvement in PISA and recent educational policies and programmes is outlined in Box I.5.1.



■ Figure I.5.4 ■

Curvilinear trajectories of average science performance across PISA assessments

Rate of acceleration or deceleration in performance (quadratic term)



Notes: Figures are for illustrative purposes only. Countries and economies are grouped according to the direction and significance of their annualised change and their rate of acceleration.
Countries and economies with data from only one PISA assessments other than 2012 are excluded.
Source: OECD, PISA 2012 Database, Table I.5.3b.
StatLink http://dx.doi.org/10.1787/888932935629



■ Figure I.5.5 [Part 1/4] ■

Multiple comparisons of science performance between 2006 and 2012

	Science performance in 2006	Science performance in 2012	Countries/economies with similar performance in 2006 but lower performance in 2012	Countries/economies with similar performance in 2006 and similar performance in 2012	Countries/economies with similar performance in 2006 but higher performance in 2012
Hong Kong-China	542	555	Chinese Taipei, Canada	Japan	
Japan	531	547	New Zealand, Chinese Taipei, Australia, Canada, Netherlands, Liechtenstein	Hong Kong-China, Estonia, Korea	
Finland	563	545			
Estonia	531	541	New Zealand, Chinese Taipei, Australia, Canada, Netherlands, Liechtenstein	Japan, Korea	
Korea	522	538	New Zealand, United Kingdom, Germany, Austria, Czech Republic, Chinese Taipei, Australia, Netherlands, Switzerland, Slovenia	Estonia, Japan, Liechtenstein	
Poland	498	526	United States, Croatia, Latvia, Slovak Republic, Lithuania, France, Sweden, Hungary, Spain, Denmark, Iceland	Ireland	
Canada	534	525	New Zealand	Chinese Taipei, Australia	Hong Kong-China, Estonia, Japan
Liechtenstein	522	525	Austria, Czech Republic, Belgium, Slovenia	New Zealand, United Kingdom, Germany, Chinese Taipei, Australia, Ireland, Netherlands, Switzerland, Korea	Estonia, Japan
Germany	516	524	Austria, Czech Republic, Hungary, Belgium, Slovenia	United Kingdom, Australia, Ireland, Macao-China, Netherlands, Switzerland, Liechtenstein	Korea
Chinese Taipei	532	523		New Zealand, Australia, Canada, Netherlands, Liechtenstein	Hong Kong-China, Estonia, Japan, Korea
Netherlands	525	522	Czech Republic	New Zealand, Germany, Chinese Taipei, Australia, Slovenia, Liechtenstein	Estonia, Japan, Korea
Ireland	508	522	Austria, Czech Republic, Sweden, Hungary, Belgium	Poland, United Kingdom, Germany, Macao-China, Switzerland, Liechtenstein	
Australia	527	521		New Zealand, Germany, Chinese Taipei, Canada, Netherlands, Liechtenstein	Estonia, Japan, Korea
Macao-China	511	521	Austria, Czech Republic, Hungary, Belgium	United Kingdom, Germany, Ireland, Switzerland	
New Zealand	530	516		Chinese Taipei, Australia, Netherlands, Liechtenstein	Estonia, Japan, Canada, Korea
Switzerland	512	515	Sweden, Hungary, Belgium	United Kingdom, Germany, Austria, Czech Republic, Ireland, Macao-China, Slovenia, Liechtenstein	Korea
Slovenia	519	514	Austria	United Kingdom, Czech Republic, Netherlands, Switzerland	Germany, Liechtenstein, Korea
United Kingdom	515	514		Germany, Austria, Czech Republic, Ireland, Macao-China, Belgium, Switzerland, Slovenia, Liechtenstein	Korea
Czech Republic	513	508	Sweden, Hungary	United Kingdom, Austria, Belgium, Switzerland, Slovenia	Germany, Ireland, Macao-China, Netherlands, Liechtenstein, Korea
Austria	511	506	Sweden, Hungary	United Kingdom, Czech Republic, Belgium, Switzerland	Germany, Ireland, Macao-China, Slovenia, Liechtenstein, Korea
Belgium	510	505	Sweden, Hungary	United Kingdom, Austria, Czech Republic	Germany, Ireland, Macao-China, Switzerland, Liechtenstein
Latvia	490	502	Slovak Republic, Luxembourg, Iceland, Russian Federation	United States, Croatia, Lithuania, France, Spain, Denmark, Norway	Poland
France	495	499	Slovak Republic, Sweden, Iceland	United States, Croatia, Latvia, Lithuania, Hungary, Spain, Denmark, Norway	Poland
Denmark	496	498	Slovak Republic, Sweden, Iceland	United States, Croatia, Latvia, Lithuania, France, Hungary, Spain, Norway	Poland
United States	489	497	Slovak Republic, Iceland	Croatia, Latvia, Luxembourg, Lithuania, France, Spain, Denmark, Norway, Russian Federation	Poland

Note: Only countries and economies that participated in the PISA 2006 and PISA 2012 assessments are shown.
Countries and economies are ranked in descending order of their mean science performance in PISA 2012.
Source: OECD, PISA 2012 Database, Table I.5.3b.
StatLink http://dx.doi.org/10.1787/888932935629



■ Figure I.5.5 [Part 2/4] ■

Multiple comparisons of science performance between 2006 and 2012

Countries/economies with lower performance in 2006 but similar performance in 2012	Countries/economies with lower performance in 2006 but higher performance in 2012	Countries/economies with higher performance in 2006 but with similar performance in 2012	Countries/economies with higher performance in 2006 but lower performance in 2012	Science performance in 2012	Science performance in 2006	
			Finland	555	542	Hong Kong-China
		Finland		547	531	**Japan**
Estonia, Japan, Korea	Hong Kong-China			545	563	**Finland**
		Finland		541	531	**Estonia**
Poland		Finland	Canada	538	522	**Korea**
		New Zealand, United Kingdom, Germany, Chinese Taipei, Australia, Canada, Macao-China, Netherlands, Switzerland, Liechtenstein, Korea	Austria, Czech Republic, Belgium, Slovenia	526	498	**Poland**
Poland, Germany, Ireland, Macao-China, Netherlands, Liechtenstein	Korea			525	534	**Canada**
Poland, Macao-China		Canada		525	522	Liechtenstein
Poland		New Zealand, Chinese Taipei, Canada		524	516	**Germany**
Poland, United Kingdom, Germany, Ireland, Macao-China, Switzerland				523	532	Chinese Taipei
Poland, United Kingdom, Ireland, Macao-China, Switzerland		Canada		522	525	**Netherlands**
		New Zealand, Chinese Taipei, Australia, Canada, Netherlands	Slovenia	522	508	**Ireland**
Poland, United Kingdom, Ireland, Macao-China, Switzerland				521	527	**Australia**
Poland		New Zealand, Chinese Taipei, Australia, Canada, Netherlands, Liechtenstein	Slovenia	521	511	Macao-China
Poland, United Kingdom, Germany, Czech Republic, Ireland, Macao-China, Switzerland, Slovenia				516	530	**New Zealand**
Poland		New Zealand, Chinese Taipei, Australia, Netherlands		515	512	**Switzerland**
	Poland, Ireland, Macao-China	New Zealand		514	519	**Slovenia**
Poland, Latvia		New Zealand, Chinese Taipei, Australia, Netherlands		514	515	**United Kingdom**
United States, Latvia, France, Denmark	Poland	New Zealand		508	513	**Czech Republic**
United States, Latvia, Lithuania, France, Denmark, Norway	Poland			506	511	**Austria**
United States, Latvia, France, Denmark	Poland			505	510	**Belgium**
Italy		United Kingdom, Austria, Czech Republic, Hungary, Belgium	Sweden	502	490	Latvia
Portugal, Italy		Austria, Czech Republic, Belgium		499	495	**France**
Luxembourg, Portugal, Italy		Austria, Czech Republic, Belgium		498	496	**Denmark**
Portugal, Italy		Austria, Czech Republic, Sweden, Hungary, Belgium		497	489	**United States**

Note: Only countries and economies that participated in the PISA 2006 and PISA 2012 assessments are shown.
Countries and economies are ranked in descending order of their mean science performance in PISA 2012.
Source: OECD, PISA 2012 Database, Table I.5.3b.
StatLink http://dx.doi.org/10.1787/888932935629



■ Figure I.5.5 [Part 3/4] ■

Multiple comparisons of science performance between 2006 and 2012

	Science performance in 2006	Science performance in 2012	Countries/economies with similar performance in 2006 but lower performance in 2012	Countries/economies with similar performance in 2006 and similar performance in 2012	Countries/economies with similar performance in 2006 but higher performance in 2012
Spain	488	496	Slovak Republic, Iceland, Russian Federation	United States, Croatia, Latvia, Luxembourg, Lithuania, France, Denmark, Norway	Poland
Lithuania	488	496	Slovak Republic, Iceland	United States, Croatia, Latvia, Luxembourg, France, Spain, Denmark, Norway, Russian Federation	Poland
Norway	487	495	Slovak Republic, Iceland	United States, Croatia, Latvia, Luxembourg, Lithuania, France, Spain, Denmark, Russian Federation	
Hungary	504	494		France, Sweden, Denmark	Poland, Germany, Austria, Czech Republic, Ireland, Macao-China, Belgium, Switzerland
Italy	475	494	Greece	Portugal, Russian Federation	
Croatia	493	491	Slovak Republic, Iceland	United States, Latvia, Lithuania, France, Spain, Denmark, Norway	Poland
Luxembourg	486	491	Slovak Republic, Iceland	United States, Lithuania, Spain, Norway, Russian Federation	Latvia
Portugal	474	489	Greece	Russian Federation, Italy	
Russian Federation	479	486	Greece, Slovak Republic	United States, Luxembourg, Lithuania, Portugal, Norway, Italy	Latvia, Spain
Sweden	503	485		Hungary	Poland, Austria, Czech Republic, France, Ireland, Belgium, Denmark, Switzerland
Iceland	491	478		Slovak Republic	United States, Poland, Croatia, Latvia, Luxembourg, Lithuania, France, Spain, Denmark, Norway
Slovak Republic	488	471		Iceland	United States, Poland, Croatia, Latvia, Luxembourg, Lithuania, France, Spain, Denmark, Norway, Russian Federation
Israel	454	470	Chile		
Greece	473	467			Portugal, Russian Federation, Italy
Turkey	424	463	Uruguay, Thailand, Jordan, Chile, Serbia, Romania	Bulgaria	
Bulgaria	434	446	Uruguay, Jordan	Thailand, Turkey, Chile, Serbia, Romania	
Chile	438	445	Uruguay	Bulgaria, Serbia	Turkey, Israel
Serbia	436	445	Uruguay	Bulgaria, Chile	Turkey
Thailand	421	444	Uruguay, Jordan	Bulgaria, Romania	Turkey
Romania	418	439	Uruguay, Jordan, Montenegro, Mexico	Thailand, Bulgaria	Turkey
Uruguay	428	416		Jordan	Thailand, Turkey, Bulgaria, Chile, Serbia, Romania
Mexico	410	415	Indonesia, Montenegro		Romania
Montenegro	412	410			Mexico, Romania
Jordan	422	409		Uruguay	Thailand, Turkey, Bulgaria, Romania
Argentina	391	406	Indonesia	Brazil, Tunisia, Colombia	
Brazil	390	405	Indonesia	Argentina, Tunisia, Colombia	
Colombia	388	399	Indonesia	Brazil, Argentina, Tunisia	
Tunisia	386	398	Indonesia	Brazil, Argentina, Colombia	
Qatar	349	384			
Indonesia	393	382			Brazil, Argentina, Tunisia, Colombia, Mexico

Note: Only countries and economies that participated in the PISA 2006 and PISA 2012 assessments are shown.
Countries and economies are ranked in descending order of their mean science performance in PISA 2012.
Source: OECD, PISA 2012 Database, Table I.5.3b.
StatLink http://dx.doi.org/10.1787/888932935629



■ Figure I.5.5 [Part 4/4] ■

Multiple comparisons of science performance between 2006 and 2012

Countries/economies with lower performance in 2006 but similar performance in 2012	Countries/economies with lower performance in 2006 but higher performance in 2012	Countries/economies with higher performance in 2006 but with similar performance in 2012	Countries/economies with higher performance in 2006 but lower performance in 2012	Science performance in 2012	Science performance in 2006	
Portugal, Italy		Hungary	Sweden	496	488	**Spain**
Portugal, Italy		Austria, Hungary	Sweden	496	488	**Lithuania**
Portugal, Italy		Austria, Sweden, Hungary		495	487	**Norway**
United States, Croatia, Latvia, Luxembourg, Lithuania, Spain, Portugal, Norway, Russian Federation, Italy				494	504	**Hungary**
		United States, Croatia, Latvia, Luxembourg, Lithuania, France, Sweden, Hungary, Spain, Denmark, Norway	Slovak Republic, Iceland	494	475	**Italy**
Luxembourg, Portugal, Russian Federation, Italy		Sweden, Hungary		491	493	**Croatia**
Portugal, Italy		Croatia, Sweden, Hungary, Denmark		491	486	**Luxembourg**
		United States, Croatia, Luxembourg, Lithuania, France, Sweden, Hungary, Spain, Denmark, Iceland, Norway	Slovak Republic	489	474	**Portugal**
		Croatia, Sweden, Hungary, Iceland		486	479	**Russian Federation**
United States, Croatia, Luxembourg, Israel, Iceland, Portugal, Norway, Russian Federation, Italy	Latvia, Lithuania, Spain			485	503	**Sweden**
Israel, Portugal, Russian Federation	Italy	Sweden		478	491	**Iceland**
Greece, Turkey, Israel	Portugal, Italy			471	488	**Slovak Republic**
Turkey		Greece, Slovak Republic, Sweden, Iceland		470	454	**Israel**
Turkey, Israel		Slovak Republic		467	473	**Greece**
		Greece, Slovak Republic, Israel		463	424	**Turkey**
				446	434	**Bulgaria**
Thailand, Romania				445	438	**Chile**
Thailand, Romania				445	436	**Serbia**
		Chile, Serbia		444	421	**Thailand**
		Chile, Serbia		439	418	**Romania**
Argentina, Montenegro, Mexico				416	428	**Uruguay**
Argentina		Uruguay, Jordan		415	410	**Mexico**
Brazil, Argentina		Uruguay, Jordan		410	412	**Montenegro**
Brazil, Argentina, Montenegro, Tunisia, Colombia, Mexico				409	422	**Jordan**
		Uruguay, Jordan, Montenegro, Mexico		406	391	**Argentina**
		Jordan, Montenegro		405	390	**Brazil**
		Jordan		399	388	**Colombia**
		Jordan		398	386	**Tunisia**
		Indonesia		384	349	**Qatar**
Qatar				382	393	**Indonesia**

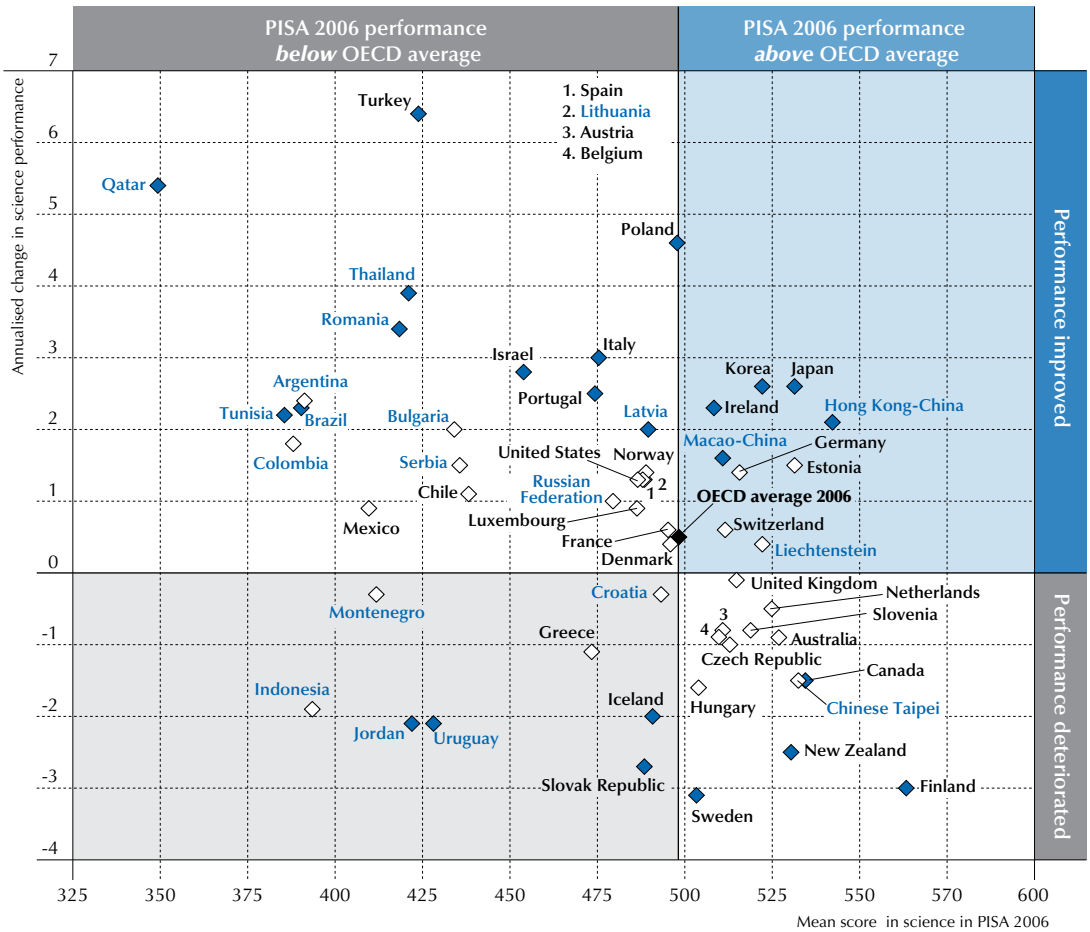
Note: Only countries and economies that participated in the PISA 2006 and PISA 2012 assessments are shown.
Countries and economies are ranked in descending order of their mean science performance in PISA 2012.
Source: OECD, PISA 2012 Database, Table I.5.3b.
StatLink http://dx.doi.org/10.1787/888932935629



Figure I.5.6 shows the relationship between each country's/economy's average science performance in 2006 and their annualised change between 2006 and 2012.[2] The correlation between performance in PISA 2006 and the annualised change is -0.39, signalling that countries and economies that had lower performance in their first PISA science assessment are more likely to be those that improve the fastest. To put it another way, 15% of the variation in countries'/economies' annualised change in science performance can be explained by its initial performance in PISA (Table I.5.3b). Of the 19 countries and economies that saw an improvement in science performance since PISA 2006, nine had an average initial score of 470 score points, well below the OECD average.

■ Figure I.5.6 ■

Relationship between annualised change in science performance and average PISA 2006 science scores



Notes: Annualised score point change in science that are statistically significant are indicated in a darker tone (see Annex A3).
The annualised change is the average annual change in PISA score points from a country/economy's earliest participation in PISA to PISA 2012. It is calculated taking into account all of a country's/economy's participation in PISA. For more details on the calculation of the annualised change, see Annex A5.
OECD average 2006 considers only those countries with comparable data since PISA 2006.
The correlation between a country's/economy's mean score in 2006 and its annualised performance is -0.39.
Source: OECD, PISA 2012 Database, Tables I.5.3b.
StatLink http://dx.doi.org/10.1787/888932935629

Yet it is not inevitable that only countries and economies that perform below the OECD average show improvements over time. Japan, for example, performed significantly above the OECD average in science in 2006 (at 531 points) and by 2012, shows an annualised improvement in science performance of around two score points per year. Estonia had similar levels of performance to Japan in PISA 2006 and improved, in the three years between PISA 2009 and PISA 2012 by 14 score points. Similarly, among the countries and economies that scored around the OECD average in science in 2006,



Poland and Ireland saw improvements by 2012 but Sweden and Hungary did not. The Russian Federation, Italy, Portugal and Greece, for example, all showed similar levels of performance in science in 2006 (around 475 points), but while Italy and Portugal improved their performance by 2012, the Russian Federation and Greece did not. Also telling is that among countries that performed below the OECD average in 2006, eight countries saw no improvement up until 2012. This underscores the fact that all countries and economies can improve their science performance, irrespective of how well they perform in science (Figure I.5.6).

Trends in science performance adjusted for sampling and demographic changes

There are many reasons why a country's or economy's science performance may change over time. Improvements may be the result of specific education policies or changes in the demographic characteristics of the population. For example, because of trends in migration, the characteristics of the PISA reference population – 15-year-olds enrolled in school – may have shifted; or, as a result of economic, cultural and social development, the environments in which students live can better promote student learning. By asking students about their after-school experiences and backgrounds, PISA can identify whether the socio-economic conditions of students have changed and whether more students had an immigrant background in 2012 than did in previous years. These differences in the characteristics of the reference population may be driving the observed trends in some countries but not in others.[3]

Adjusted trends shed light on those trends in science performance that are not due to changes in the demographic and socio-economic characteristics of the student population. Figure I.5.7 presents the adjusted annualised change after assuming that the average age and socio-economic status of students in 2006 and 2009 is the same as that of students who took part in PISA 2012. This adjusted trend also assumes that the proportion of girls, students with an immigrant background and students who speak a language at home that is different from that of the assessment is identical in previous cycles to those observed in PISA 2012. In short, it assumes that the population and sample characteristics observed in 2012 have not changed since 2006. Countries and economies that see a difference between the adjusted trends and the observed trends, particularly when the observed trend is more negative than the adjusted trend (non-negative), can consider these changes in the student population as a challenge that needs to be addressed by the school system, as it is the observed trends, not the adjusted trends, that measure the quality and the real-life outcome of school systems.

After accounting for differences in the sampling and population characteristics, 11 countries and economies show an improvement in science performance. For these countries and economies, the annualised change in performance observed throughout their participation in PISA is not completely attributable to changes in the background characteristics of the students who take part in PISA. This means that, in these countries and economies, either the background characteristic of students haven't changed during the period, that any changes that may have taken place have not brought about differences in average performance, or that improved education services have offset any negative effect on average science performance related to changes in the population.

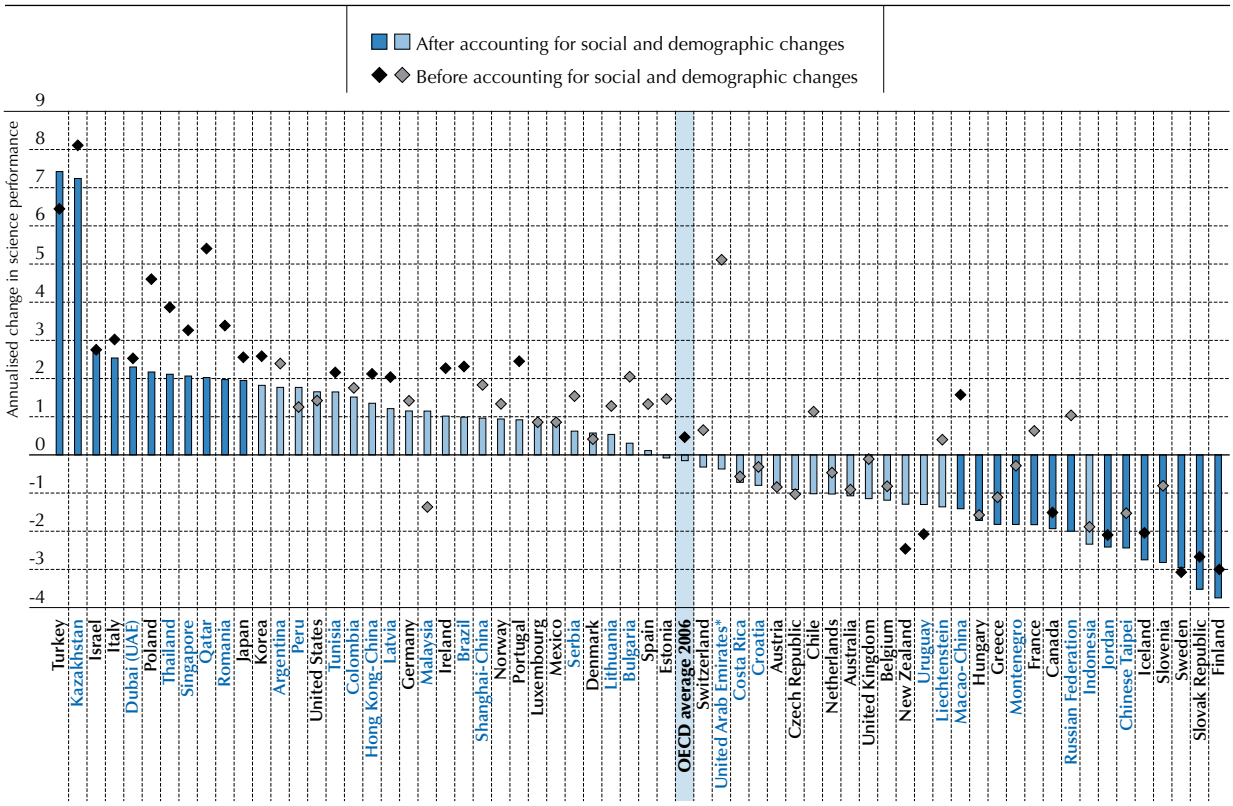
On average across OECD countries, for example, the observed overall annualised improvement in science performance is no longer observed after changes in students' demographic characteristics are taken into account. This means that, on average across OECD countries, improvements in science performance can be explained by changes in the background characteristics of the student population. Similarly, the annualised improvement observed in Brazil, Hong Kong-China, Ireland, Korea, Latvia, Portugal and Tunisia is no longer apparent when comparing students with similar characteristics across the different PISA assessments.

By contrast, less than 20% of the improvement observed in Dubai (United Arab Emirates), Israel, Italy, Kazakhstan and Turkey can be attributed to changes in the demographic profile of the student population. In these countries and economies, improvements in science performance remain after accounting for students' background characteristics. Although an important part of the annualised improvement observed in Japan, Poland, Qatar, Romania, Singapore and Thailand is explained by changes in the demographic characteristics of the student population, improvements are still observed when comparing students with similar characteristics in 2012 and previous PISA assessments. In these countries and economies, only part of the observed annualised trend can be attributed to changing country demographics. In Japan, for example, there was an average annual improvement in science performance of 2.6 points; but after accounting for changes in students' background characteristics, this annualised improvement remains but decreases to 2.0 science score points per year. In Macao-China, the observed annualised improvement between PISA 2006 and PISA 2012 becomes negative after accounting for demographic changes in the population.



■ Figure I.5.7 ■

Adjusted and observed annualised performance change in average PISA science scores



* United Arab Emirates excluding Dubai.

Notes: Statistically significant values are marked in a darker tone (see Annex A3).

The annualised change is the average annual change in PISA score points. It is calculated taking into account all of a country's/economy's participation in PISA. For more details on the calculation of the annualised change, see Annex A5.

The annualised change adjusted for demographic changes assumes that the average age and *PISA index of social, cultural and economic status*, as well as the percentage of female students, those with an immigrant background and those who speak a language other than the assessment at home is the same in previous assessments as those observed in 2012. For more details on the calculation of the adjusted annualised change, see Annex A5.

OECD average 2006 considers only those countries with comparable science scores since PISA 2006.

Countries and economies are ranked in descending order of the annualised change after accounting for demographic changes.

Source: OECD, PISA 2012 Database, Tables I.5.3b and I.5.4.

StatLink http://dx.doi.org/10.1787/888932935629

Informative as they may be, adjusted trends are merely hypothetical scenarios that help to understand the source of changes in students' performance over time. Observed trends depicted in Figure I.5.7 and throughout this chapter summarise the overall evolution of a school system, highlighting the challenges that countries and economies face in improving students' and schools' science performance.

Students at the different levels of proficiency in science

When science was the major domain in PISA 2006, six proficiency levels were defined on the science scale. These same proficiency levels are used for reporting science results in PISA 2012. The process used to produce proficiency levels in science is similar to that used to produce proficiency levels in mathematics, as described in Chapter 2. Figure I.5.8 presents a description of the scientific knowledge and skills that students possess at the various proficiency levels.

Figure I.5.9 shows a map of some questions in relation to their position on the science proficiency scale. The first column shows the proficiency level within which the task is located. The second column indicates the lowest score on the task that would still be described as achieving the given proficiency level. The last column shows the name of the unit and the task number. The score given for the correct response to these questions is shown between parentheses. The selected questions have been ordered according to their difficulty, with the most difficult at the top, and the least difficult at the bottom.



■ Figure I.5.8 ■

Summary description for the six levels of proficiency in science in PISA 2012

Level	Lower score limit	Percentage of students able to perform tasks at each level or above (OECD average)	What students can typically do
6	708	1.2%	At Level 6, students can consistently identify, explain and apply scientific knowledge and knowledge about science in a variety of complex life situations. They can link different information sources and explanations and use evidence from those sources to justify decisions. They clearly and consistently demonstrate advanced scientific thinking and reasoning, and they use their scientific understanding in support of solutions to unfamiliar scientific and technological situations. Students at this level can use scientific knowledge and develop arguments in support of recommendations and decisions that centre on personal, social or global situations.
5	633	8.4%	At Level 5, students can identify the scientific components of many complex life situations, apply both scientific concepts and knowledge about science to these situations, and can compare, select and evaluate appropriate scientific evidence for responding to life situations. Students at this level can use well-developed inquiry abilities, link knowledge appropriately, and bring critical insights to situations. They can construct explanations based on evidence and arguments based on their critical analysis.
4	559	28.9%	At Level 4, students can work effectively with situations and issues that may involve explicit phenomena requiring them to make inferences about the role of science or technology. They can select and integrate explanations from different disciplines of science or technology and link those explanations directly to aspects of life situations. Students at this level can reflect on their actions and they can communicate decisions using scientific knowledge and evidence.
3	484	57.7%	At Level 3, students can identify clearly described scientific issues in a range of contexts. They can select facts and knowledge to explain phenomena and apply simple models or inquiry strategies. Students at this level can interpret and use scientific concepts from different disciplines and can apply them directly. They can develop short statements using facts and make decisions based on scientific knowledge.
2	409	82.2%	At Level 2, students have adequate scientific knowledge to provide possible explanations in familiar contexts or draw conclusions based on simple investigations. They are capable of direct reasoning and making literal interpretations of the results of scientific inquiry or technological problem solving.
1	335	95.2%	At Level 1, students have such limited scientific knowledge that it can only be applied to a few, familiar situations. They can present scientific explanations that are obvious and follow explicitly from given evidence.

■ Figure I.5.9 ■

Map of selected science questions, by proficiency level

Level	Lower score limit	UNITS – Questions (position on PISA scale)
6	708	**GREENHOUSE** – Question 5 (709)
5	633	**GREENHOUSE** – Question 4.2 (659) (full credit)
4	559	**GREENHOUSE** – Question 4.1 (568) (partial credit) **CLOTHES** – Question 1 (567)
3	484	**MARY MONTAGU** – Question 4 (507)
2	409	**MARY MONTAGU** – Question 2 (436) **MARY MONTAGU** – Question 3 (431) **GENETICALLY MODIFIED CROPS** – Question 3 (421)
1	335	**PHYSICAL EXERCISE** – Question 3 (386)

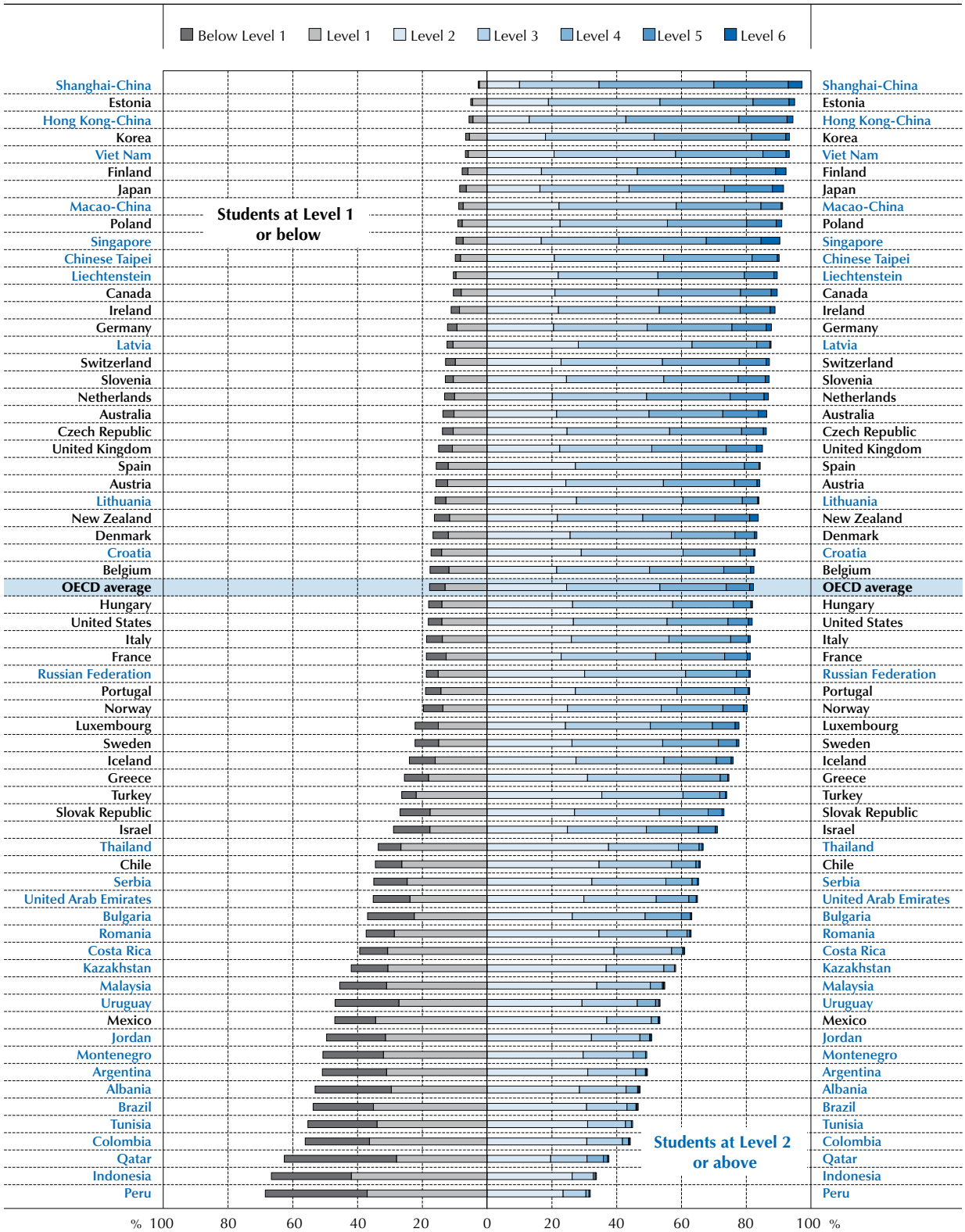
Figure I.5.10 shows the distribution of students among these different proficiency levels in each participating country or economy. Table I.5.1a provides figures for the percentage of students at each proficiency level on the science scale with standard errors.



■ Figure I.5.10 ■

Proficiency in science

Percentage of students at each level of science proficiency



Countries and economies are ranked in descending order of the percentage of students at Levels 2, 3, 4, 5 and 6.
Source: OECD, PISA 2012 Database, Table I.5.1a.
StatLink http://dx.doi.org/10.1787/888932935629



Proficiency at Level 6 (scores higher than 708 points)

At Level 6, students can consistently identify, explain and apply scientific knowledge and knowledge about science in a variety of complex life situations. They can link different information sources and explanations and use evidence from those sources to justify decisions. They clearly and consistently demonstrate advanced scientific thinking and reasoning, and they use their scientific understanding in support of solutions to unfamiliar scientific and technological situations. Students at this level can use scientific knowledge and develop arguments in support of recommendations and decisions that centre on personal, social or global situations.

Question 5 of GREENHOUSE (Figure I.5.14) is an example of task at Level 6 and of the competency explaining phenomena scientifically. In this question, students must analyse a conclusion to account for other factors that could influence the greenhouse effect. This question combines aspects of the two skills: identifying scientific issues and explaining phenomena scientifically. The student needs to understand the necessity of controlling factors outside the change and measured variables and to recognise those variables. The student must have sufficient knowledge of "Earth systems" to be able to identify at least one of the factors that should be controlled. The latter criterion is considered the critical scientific skill involved, so this question is categorised as *explaining phenomena scientifically*. The effects of this environmental issue are global, which defines the setting.

As a first step in gaining credit for this question the student must be able to identify the change and measured variables and have sufficient understanding of methods of investigation to recognise the influence of other factors. However, the student also needs to recognise the scenario in context and identify its major components. This involves a number of abstract concepts and their relationships in determining what "other" factors might affect the relationship between the Earth's temperature and the amount of carbon dioxide emissions into the atmosphere. This locates the question near the boundary between Levels 5 and 6 in the *explaining phenomena scientifically* category. This question requires a short open-constructed response.

Across OECD countries, an average of 1.1% of students perform at Level 6. Between 3% and 6% of the students are at this level in Singapore (5.8%), Shanghai-China (4.2%), Japan (3.4%) and Finland (3.2%). In New Zealand, Australia, Canada, the United Kingdom, Hong Kong-China, Estonia, Poland, Germany and Ireland between 1.5% and 2.7% of students perform at the highest proficiency level. By contrast, in the majority of participating countries the share of students at proficiency Level 6 is below 1%. Around zero percent of students on average reach this level in Albania, Argentina, Brazil, Chile, Colombia, Costa Rica, Indonesia, Jordan, Kazakhstan, Malaysia, Mexico, Montenegro, Peru, Romania, Tunisia, Turkey and Uruguay (Figure I.5.10 and Table I.5.1a).

Proficiency at Level 5 (scores higher than 633 but lower than or equal to 708 points)

At Level 5, students can identify the scientific components of many complex life situations, apply both scientific concepts and knowledge about science to these situations, and can compare, select and evaluate appropriate scientific evidence for responding to life situations. Students at this level can use well-developed inquiry abilities, link knowledge appropriately, and bring critical insights to situations. They can construct explanations based on evidence and arguments based on their critical analysis.

Question 4 of GREENHOUSE (Figure I.5.14), an example of task at Level 5, requires an open-constructed response. This task centres on the skill *using scientific evidence* and asks students to identify a portion of a graph that does not provide evidence supporting a conclusion. This question requires the student to look for specific differences that vary from positively correlated general trends in these two graphical datasets. Students must locate a portion where both curves are not ascending or descending and provide this finding as part of a justification for a conclusion. As a result, the task involves a greater amount of insight and analytical skill than is required for Question 3. Rather than provide a generalisation about the relation between the graphs, the student is asked to explain the difference in the nominated period in order to gain full credit.

The question is located at Level 5 because it requires the ability to compare the details of two datasets and to criticise a given conclusion. If the student understands what the question requires of them and correctly identifies a difference in the two graphs, but is unable to explain this difference, the student gains partial credit for the question and is identified at Level 4 of the scientific proficiency scale. The skill required is to interpret data graphically presented, so the question belongs in the *scientific explanations* category.

Across OECD countries, 8.4% of students are proficient at Level 5 or 6. Students scoring at Level 5 or 6 are considered as top performers. More than 15% of students attain one of these levels in Shanghai-China (27.2%), Singapore (22.7%),



Japan (18.2%), Finland (17.1%) and Hong Kong-China (16.7%). In 11 countries and economies between 10% and 15% of students are top performers in science. Some countries have virtually no top performers in science: in two partner countries, Indonesia and Peru, fewer than 0.1% of students reaches Level 5 or 6, and in Tunisia, Colombia, Mexico, Kazakhstan, Costa Rica, Argentina, Jordan, Brazil, Malaysia, Montenegro and Albania, fewer than 0.5% of students attains Level 5 or 6 (Figure I.5.10 and Table I.5.1a).

Proficiency at Level 4 (scores higher than 559 but lower than or equal to 633 points)

At Level 4, students can work effectively with situations and issues that may involve explicit phenomena requiring them to make inferences about the role of science or technology. They can select and integrate explanations from different disciplines of science or technology and link those explanations directly to aspects of life situations. Students at this level can reflect on their actions and they can communicate decisions using scientific knowledge and evidence.

Question 1 in the unit CLOTHES (Figure I.5.15), which typifies a Level 4 question, requires the student to identify the change and measured variables associated with testing a claim about clothing. It also involves an assessment of whether there are techniques to quantify the measured variable and whether other variables can be controlled. This process then needs to be accurately applied for all four claims. The issue of "intelligent" clothes is in the category *frontiers of science and technology* and is a community issue addressing a need for disabled children; therefore, the setting is social. The scientific skills applied involve the nature of investigation, which places the question in the *scientific enquiry* category. The need to identify change and measured variables, together with an appreciation of what would be involved in carrying out measurement and controlling variables, locates the question at Level 4. Students are required to answer in a complex multiple-choice format.

Across OECD countries, an average of 29% of students is proficient at Level 4 or higher (Level 4, 5 or 6). In seven countries and economies, at least 40% of students attain this level, including between 40% and 50% of students in Japan, Finland, Korea, Estonia and in the partner country Singapore, slightly more than 50% in Hong Kong-China, and more than 60% of students in Shanghai-China. In contrast, fewer than 5% of students reach Level 4, 5 or 6 in Indonesia, Peru, Tunisia, Colombia, Mexico, Brazil, Argentina, Jordan, Kazakhstan, Costa Rica, Albania, Malaysia and Montenegro (Figure I.5.10 and Table I.5.1a).

Proficiency at Level 3 (scores higher than 484 but lower than or equal to 559 points)

At Level 3, students can identify clearly described scientific issues in a range of contexts. They can select facts and knowledge to explain phenomena and apply simple models or inquiry strategies. Students at this level can interpret and use scientific concepts from different disciplines and can apply them directly. They can develop short statements using facts and make decisions based on scientific knowledge.

An example of a question at Level 3 is Question 4 from MARY MONTAGU (Figure I.5.16). This question requires the student to identify why young children and old people are more at risk of the effects of influenza than others in the population. Directly, or by inference, the reason is attributed to the weaker immune systems among young children and old people. The issue is community control of disease, so the setting is social. A correct explanation involves applying several pieces of knowledge that are well established in the community. The question stem also provides a clue to the groups' different levels of resistance to disease. Students have to answer with an open-constructed response.

Across OECD countries, 58% of students are proficient at Level 3 or higher (Level 3, 4, 5 or 6) on the science scale. In the partner economies Shanghai-China and Hong Kong-China, more than 80% of students perform at least at this level. In the OECD countries Estonia, Finland, Korea and Japan, more than three out of four 15-year-olds are proficient at Level 3 or higher, and at least two out of three students in Singapore, Viet Nam, Chinese Taipei, Macao-China, Canada, Poland, Liechtenstein, Germany, Ireland and the Netherlands perform at least at this level (Figure I.5.10 and Table I.5.1a).

Proficiency at Level 2 (scores higher than 409 but lower than or equal to 484 points)

In 2007, following a detailed analysis of the questions from the main study, the international PISA Science Expert Group, which guided the development of the science framework and questions, identified Level 2 as the baseline proficiency level. This level does not establish a threshold for scientific illiteracy. Rather, the baseline level of proficiency defines the level of achievement on the PISA scale at which students begin to demonstrate the science competencies that will enable them to participate effectively and productively in life situations related to science and technology. At Level 2, students have adequate scientific knowledge to provide possible explanations in familiar contexts or draw conclusions based on simple investigations. They are capable of direct reasoning and making literal interpretations of the results of scientific inquiry or technological problem solving.



Question 3 from the unit GENETICALLY MODIFIED CROPS (Figure I.5.17) is typical of Level 2 tasks. It asks a simple question about varying conditions in a scientific investigation and students are required to demonstrate knowledge about the design of science experiments. To answer this question correctly in the absence of cues, the student needs to be aware that the effect of the treatment (different herbicides) on the outcome (insect numbers) could depend on environmental factors. Thus, by repeating the test in 200 locations, the chance of a specific set of environmental factors giving rise to a spurious outcome can be accounted for. Since the question focuses on the methodology of the investigation it is categorised as *scientific enquiry*. The application area of genetic modification places this at the *frontiers of science and technology* and given its restriction to one country, it can be said to have a social setting. In the absence of cues, this question has the characteristics of Level 4, i.e. the student shows an awareness of the need to account for varying environmental factors and is able to recognise an appropriate way of dealing with that issue. However, because of the cues given in three distracters, and the fact that most students will easily eliminate these as options, the question actually sits at Level 2 of the *identifying scientific issues* scale.

Across OECD countries, 82% of students, on average, are proficient at Level 2 or higher In Estonia, Hong Kong-China, Korea, Viet Nam, Finland, Japan, Macao-China, Poland, Singapore and Chinese Taipei between 90% and 95% of students perform at or above this threshold. In the partner economy Shanghai-China, only 3% of students are below this level. In every country except the three partner countries Peru, Indonesia and Qatar, at least 40% of students are at Level 2 or above (Figure I.5.10 and Table I.5.1a).

Proficiency at Level 1 (scores higher than 335 but lower than or equal to 409 points) or below

At Level 1, students have such limited scientific knowledge that it can only be applied to a few, familiar situations. They can present scientific explanations that are obvious and follow explicitly from given evidence.

Question 3 in the unit PHYSICAL EXERCISE (Figure I.5.18) is an example of task at Level 1. To gain credit for this question, the student has to correctly recall knowledge about the operation of muscles and about the formation of fat in the body, i.e. students must have knowledge of the scientific fact that more blood flows through active muscles and that fats are not formed when muscles are exercised. This enables the student to accept the first explanation of this complex multiple-choice question and reject the second explanation. The two simple factual explanations contained in the question are not related to each other. Each is accepted or rejected as an effect of the exercise of muscles. Since this is common knowledge, the question is located at the very bottom of the *explaining phenomena scientifically* scale.

Students who score below 335 points – that is, below Level 1 – usually do not succeed at the most basic levels of science that PISA measures. Such students are more likely to have serious difficulties in using science to benefit from further education and learning opportunities and in participating in life situations related to science and technology (OECD, 2010).

Across OECD countries, 18% of students perform at or below Level 1– more precisely, 13% perform at Level 1 and 5% perform below Level 1. In Shanghai-China, Estonia, Hong Kong-China, Korea, Viet Nam, Finland, Japan, Macao-China, Poland, Singapore and Chinese Taipei, fewer than 10% of students perform at Level 1 or below. In all of these countries and economies, except in Singapore (2.2%), 2% of students or fewer score below Level 1. In OECD countries, the proportion of students performing below Level 1 ranges from 2% in Japan to less than 13% in Mexico. In some countries, the share of students at proficiency Level 1 or below Level 1 is substantial, notably in Peru, Indonesia, Qatar, Colombia, Tunisia, Brazil, Albania, Argentina and Montenegro where more than half of all 15-year-olds perform at proficiency Level 1 or below. In the partner countries Qatar, Peru, Indonesia, Albania and Tunisia, more than 20% of students perform below Level 1 (Figure I.5.10 and Table I.5.1a).

Trends in the percentage of low- and top-performers in science

PISA's science assessments gauge the extent to which a country's or economy's students have acquired the knowledge and skills in science that will allow them to participate fully in a knowledge-based society. These skills range from basic notions of science (related to proficiency Level 2) to understanding of more complex scientific concepts and processes (related to proficiency Levels 5 and 6).

Changes in a country's or economy's average performance can result from improvements or deterioration at different points in the performance distribution. For example, in some countries and economies the average improvement may be observed among all students, resulting in fewer students performing below Level 2 and more students becoming



top performers. In other contexts, the average improvement can be attributed to large improvements among low-achieving students with little or no change among high-achieving students; this may result in a smaller share of low-performing students, but no increase in the share of top performers. From a trends perspective, countries and economies succeed when they reduce the share of students who perform below proficiency Level 2 (low performers) or when they increase the share of students who perform at or above proficiency Level 5 (top performers) as they provide more opportunities for students to begin to show scientific literacy or to have the highest level competencies in science.

Countries and economies can be grouped into categories according to whether they have: simultaneously reduced the share of low performers and increased the share of top performers between any previous PISA assessment and PISA 2012; reduced the share of low performers but not increased the share of top performers between any previous PISA assessment and PISA 2012; increased the share of top performers but not reduced the share of low performers; and reduced the share of top performers or increased the share of low performers between PISA 2012 and any previous PISA assessment. The following section categorises countries and economies into these groups.

Moving everyone up: Reduction in the share of low performers and increase in that of top performers

Between PISA 2006 and PISA 2012, Poland, Qatar and Italy saw a reduction in the share of students who perform below proficiency Level 2 in science and an increase in the share of students who perform at or above proficiency Level 5. In Poland, for example, the share of students who perform below Level 2 in science dropped from 17% in 2006 to 9% in 2012, while the share of students who perform at or above Level 5 in science increased from 7% to 11%. In Italy, 25% of students were considered low performers in 2006; by 2012, that percentage had decreased to 19%. During the same period, the proportion of top performers in Italy increased from 5% to 6% (Figure I.5.11). As shown in Table I.5.1b, the same was observed in Singapore, Estonia and Israel between the PISA 2009 and PISA 2012 assessments.

The reduction in the share of low performers and increase in the share of top performers in these countries and economies mirrors the changes in how students at different points of the distribution have improved since 2006. Annex B4 shows, for each country and economy, the trajectories of the 10th, 25th, 75th and 90th percentiles of science performance. These are the lowest-, low-, high- and highest-achieving students. Consistent with the changes in the shares of low and top performers, it shows how overall average improvements in Poland and Italy are also seen among their low- and high-achieving students. In Poland, for example, the lowest-achieving students improved their science performance by 5.6 score points per year (from 381 points in 2006 to 415 points in 2012), and the highest-achieving students also improved their performance by an average of 3.7 points per year (from 615 points in 2006 to 637 points in 2012), resulting in a decrease in the share of students performing below Level 2 and an increase in the share of students performing at Level 5. Similar improvements in science performance among low- and high-achieving students are observed in Italy and Portugal.

Reducing underperformance: Reduction in the share of low performers but no change in the share of top performers

While relatively few countries and economies succeeded in increasing the share of top performers while simultaneously reducing the share of students who do not meet the baseline proficiency in science, many reduced the share of low performers between PISA 2006 and PISA 2012. Turkey, Thailand, Romania, Tunisia, Brazil, the United States, Portugal, Latvia, Korea, Ireland, Lithuania, Spain, Japan, Switzerland and Hong Kong-China saw a reduction in the share of students performing below proficiency Level 2 between 2006 and 2012, thus raising the number of students who demonstrate science literacy. Similarly, the Czech Republic, Slovenia, Dubai (United Arab Emirates) and Kazakhstan reduced the share of low performers between PISA 2009 and PISA 2012. Latvia, Portugal, the United States, Brazil, Tunisia, Romania, Thailand and Turkey, for example, reduced the share of students performing below proficiency Level 2 by more than five percentage points between 2006 and 2012 (Figure I.5.11).

Many of the countries and economies that reduced the share of low-performing students are those that show average improvements in science, and concentrate this improvement among their low-achieving students). Annex B4 shows the trajectories of low- and high-achieving students for all countries and economies, highlighting how, in Turkey, Korea, Romania, Brazil, Chile, Estonia, Switzerland, Spain, Tunisia and Lithuania, for example, while the lowest-achieving students improved their science performance by at least two score points per year between PISA 2006 and PISA 2012, the highest-achieving students saw no change in science performance.



Nurturing top performance: Increase in the share of high-performers but no change in that of low performers

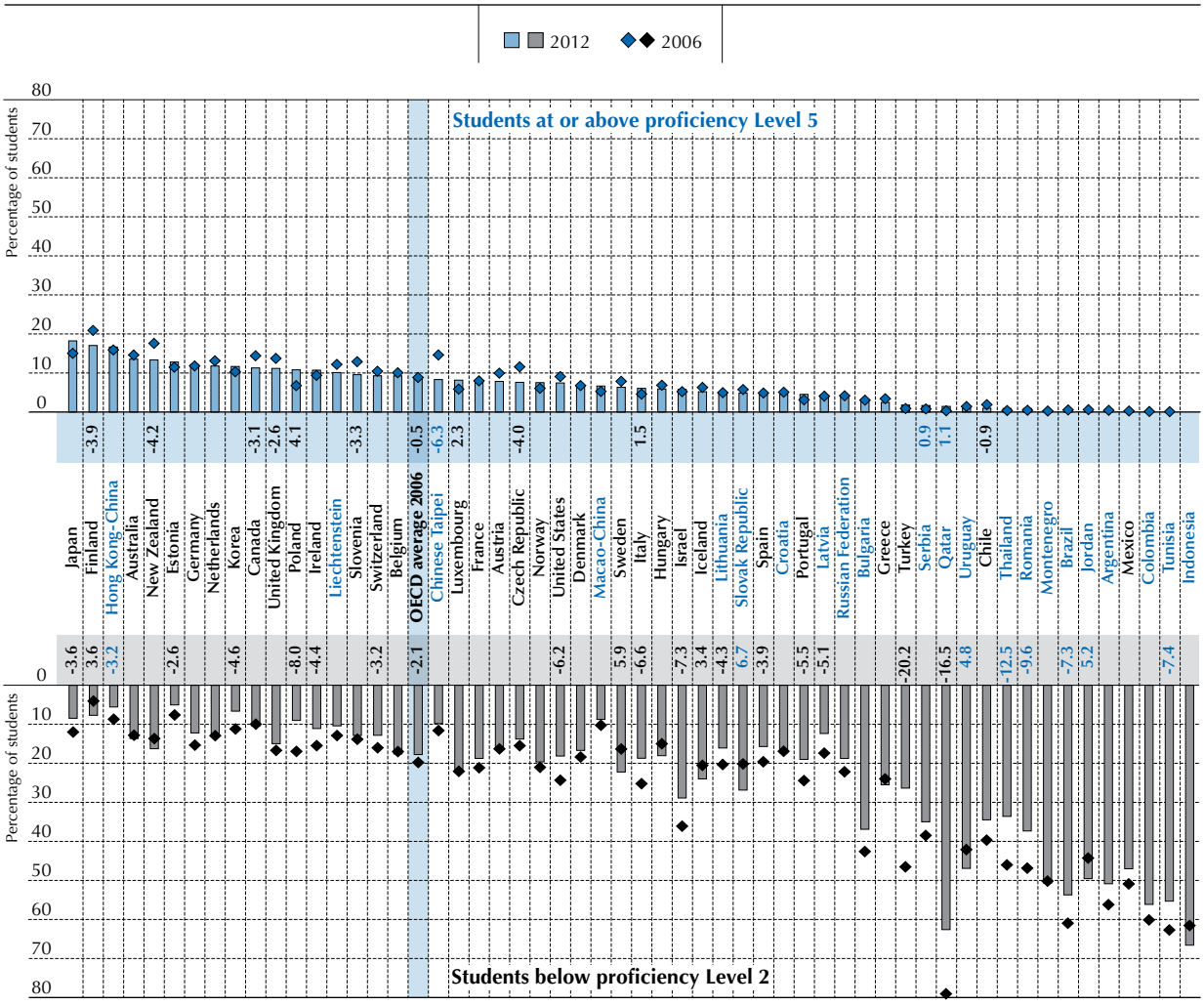
Top-performing students in science are those who perform at or above proficiency Level 5. Luxembourg and Serbia saw an increase in the share of top-performing students while the share of low-performing students remained unchanged between 2006 and 2012. Similar improvements were observed in Albania and Macao-China. Between PISA 2009 and PISA 2012. In Luxembourg, for example, the share of top performers increased from 6% in 2006 to 8% in 2012 (Figure I.5.11 and Table I.5.1b).

Increase in the share of low performers or decrease in that of high performers

By contrast, in 13 countries and economies the percentage of students who do not meet the baseline proficiency in science in PISA increased since 2006 – or since more recent PISA cycles – or the share of students who perform at the highest levels of proficiency decreased (Figure I.5.11 and Table I.5.1b).

■ Figure I.5.11 ■

Percentage of low-performing students and top performers in science in 2006 and 2012



Notes: The chart shows only countries/economies that participated in both PISA 2006 and PISA 2012 assessments.
The change between PISA 2006 and PISA 2012 in the share of students performing below Level 2 in science is shown below the country/economy name.
The change between PISA 2006 and PISA 2012 in the share of students performing at or above Level 5 in science is shown above the country/economy name. Only statistically significant changes are shown (see Annex A3).
OECD average 2006 compares only OECD countries with comparable science scores since 2006.
Countries and economies are ranked in descending order of the percentage of students at or above proficiency Level 5 in science in 2012.
Source: OECD, PISA 2012 Database, Table I.5.1b.
StatLink http://dx.doi.org/10.1787/888932935629



Box I.5.1. **Improving in PISA: Estonia**

Estonia's performance in PISA improved significantly since it first participated in PISA in 2006: by an average of 2.4 score points per year in reading and and science scores improved 14 points between PISA 2009 and PISA 2012. Its performance in reading improved from 501 points in PISA 2006 to 516 points in PISA 2012, and science performance improved from 531 points in PISA 2006 to 541 points in PISA 2012.

This improvement came in a challenging educational context. A significant demographic shift in Estonia's population of 1.3 million resulted in a 25% reduction in the number of students in general education between 2004 and 2012. Municipal schools in peripheral areas closed and repercussions are still being felt in teacher-training and retention systems, in higher education and in the labour market. High dropout rates further reduce the number of upper secondary and tertiary-level graduates. In addition, Estonia – as other OECD countries – faces the challenge of encouraging the best teachers to teach in remote and disadvantaged schools.

In response to the changing student population, the government changed its school funding model from a per capita to a per class criteria in 2008, allowing for a more equitable distribution of funds to rural schools, and, to reduce dropout rates, also began to promote vocational training. The change in financing recognises that not all of a schools' operational costs are variable, thus allowing many rural schools to keep functioning because in a per capita financing scheme they would have closed on budgetary reasons (Estonian Ministry of Education and Research, 2008).

To encourage newly qualified teachers to teach in small towns and rural areas, and for teachers with command of the Estonian language to teach in schools where Russian is the language of instruction, new teachers are offered an allowance of more than 12 750 EUR during the first three years of teaching. Higher education institutions providing pre-service teacher training have formulated common competency standards for teachers and articulated a development plan for the teacher-training system (European Commission, 2010).

Other policy initiatives have promoted the use of assessments for self-monitoring purposes. In 2006, the Ministry of Education and Research introduced compulsory internal assessments for all pre-primary child-care institutions, general education schools and vocational training institutions, shifting supervisory functions from the state to the individual school level. Schools are offered support from the state to conduct their internal assessment (Estonian Ministry of Education and Research, 2008).

Since 2009, Estonia, through the Tiger Leap Foundation, has been promoting ICT use at all levels of education and in a wide range of study programmes, including science, mathematics, embroidery and robotics. The introduction of ICT equipment is combined with teacher training and new learning materials. For example, for mathematics projects, teachers are taught to use mathematics-learning software and funding is provided to schools to acquire computer-based algebra software (European Commission, 2010).

Based on the "Development Plan for the General Education System for 2007–2013", the national curriculum for basic and upper secondary schools was updated in January 2010 and the Basic Schools and Upper Secondary Schools Act was amended. As a result of these specifications, the volume of compulsory subjects in upper secondary schools was reduced from 72 to 63 courses and more elective courses are offered (Government of the Republic of Estonia, 2011a, 2011b).

The new national curriculum aims to offer more opportunities for a diverse student population in order to reduce grade repetition and dropout (Government of the Republic of Estonia, 2011a, 2011b). It is oriented towards learning, rather than teaching, and recognises the greater role students – and student engagement – take in the learning process. For example, in language-of-instruction classes, composition is emphasised; in natural science classes, research-based learning is promoted; in foreign-language classes, real-life situations are used to prompt responses in the language concerned. Certain topics in science and mathematics have been shifted from primary to secondary schools to ensure that they are taught in appropriate depth (Government of the Republic of Estonia, 2011a, 2011b).

Sources:

Estonian Ministry of Education and Research (2008), *The Development of Education,* Estonian Ministry of Education and Research, Tallinn.

European Commission (2010), *National Systems Overviews on Education Systems in Europe and Ongoing Reforms: Estonia 2010 Edition*, Eurydice, Brussels.

Government of the Republic of Estonia (2011a), *National Curriculum for Basic Schools,* Tallinn.

Government of the Republic of Estonia (2011b), *National Curriculum for Upper Secondary Schools,* Tallinn.



Variation in student performance in science

The difference in performance between students within countries and economies is shown in Table I.5.3a. Within countries, the difference in scores between the highest- (90th percentile) and lowest-achieving students (10th percentile) ranges from 174 to 281 points, with an OECD average of 239 points. Some of the lower-performing countries have among the narrowest gaps between the highest- and lowest-achieving students: Indonesia (with a gap of 174 points), Mexico (with a gap of 180 points), Colombia (with a gap of 196 points), Peru (with a gap of 200 points) and Tunisia (with a gap of 201 points). However, Viet Nam performs well above the OECD average and shows one of the ten narrowest gaps (197 points). Shanghai-China shows the best performance in science and a difference of only 209 points between the highest- and lowest-achieving students. At the other end of the spectrum, among the ten participating countries and economies that show the largest difference between the highest and lowest achievers in science, this gap ranges from between 257 to 281 points. One of the lowest-performing countries, Qatar (with a gap of 275 points), has nearly the same gap between the highest- and lowest-achieving students as one of the highest-performing countries, New Zealand (272 points). As in mathematics and reading, some countries perform well without having large differences between their highest- and lowest-achieving students. Among the eight best-performing countries in science, this is the case in Estonia, Korea, and in the partner countries and economies Viet Nam, Shanghai-China and Hong Kong-China, where the differences are around 30 points smaller than the OECD average.

Gender differences in science performance

Across OECD countries, differences in science performance related to gender tend to be small compared with the large gender gap in reading performance and the more moderate gender differences in mathematics performance. As shown in Figure I.5.12, in more than half of the countries assessed, differences in the average score for boys and girls are not statistically significant. This indicates that gender equality is more prevalent in science performance than in mathematics or reading performance. In 2006, when science was the main focus of the PISA assessment, gender differences were observed in two of the science processes being assessed. Across OECD countries, girls scored higher in the area of identifying scientific issues, while boys outscored girls in explaining phenomena scientifically. The shorter assessment time for science in 2012 did not allow for an update of this finding.

The largest gender differences in favour of boys are observed in Colombia (18 score points) and in Luxembourg, the United Kingdom, Costa Rica, Japan and Denmark, where there is a 10-to-15 score-point difference between boys and girls. In Spain, Chile, Mexico and Switzerland, boys outperform girls in science by six to seven score points.

By contrast, in Jordan, Qatar, United Arab Emirates, girls outperform boys in science by 43, 35 and 28 score points, respectively. In Bulgaria, Thailand, Montenegro, Finland, Latvia, Lithuania, Greece, Malaysia and Turkey, girls outperform boys in science by from 20 to 10 score points (Figure I.5.12 and Table I.5.3a).

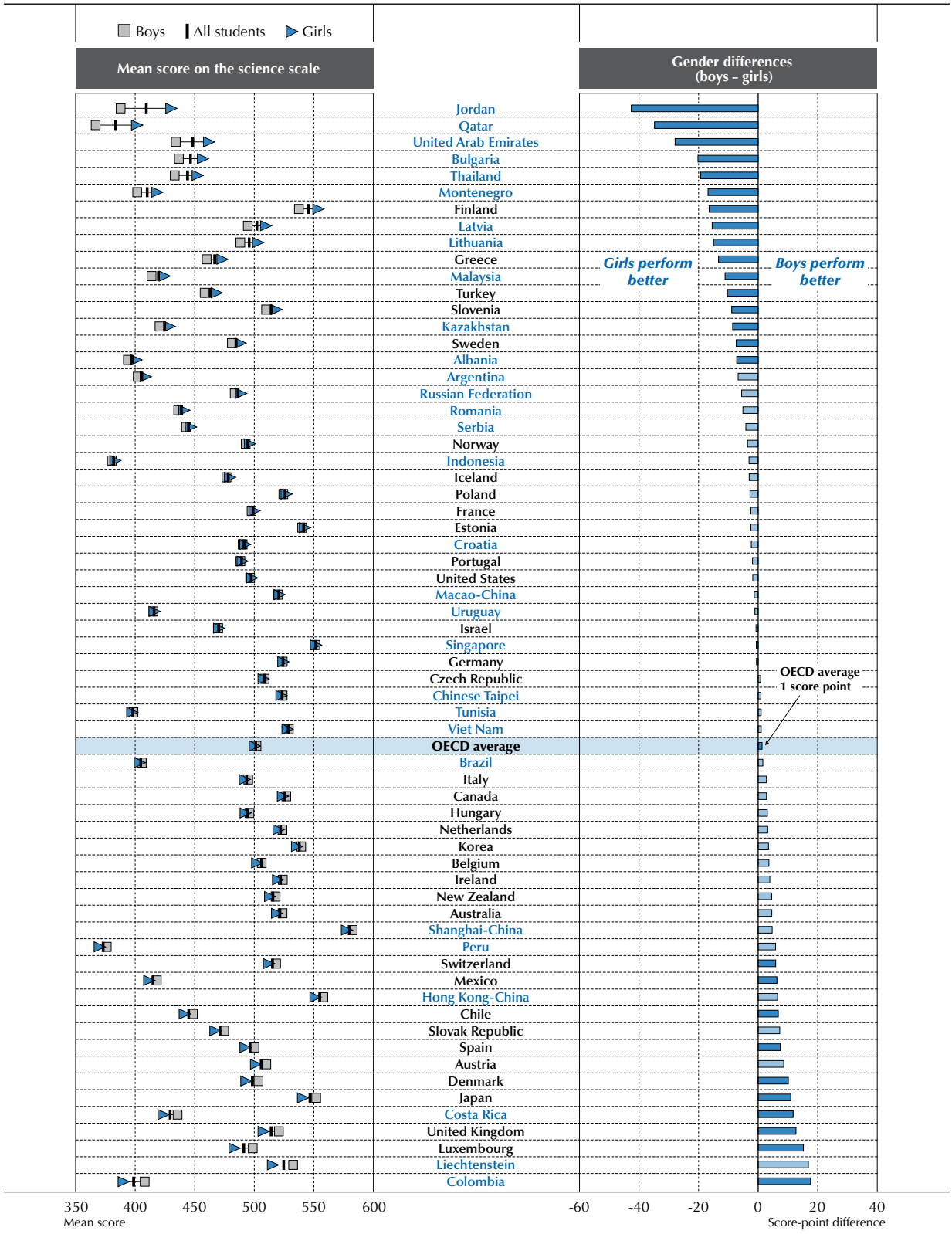
How do boys and girls differ in levels of proficiency? One way to determine this is to observe the highest level of proficiency attained by the largest group of girls and boys in each country and economy. As can be seen in Table I.5.2a, among all the participating countries and economies, the highest proficiency level attained by the largest group of boys (in 36 countries and economies) and girls (in 33 countries and economies) is Level 3 followed by Level 2 (the highest level attained by the largest group of boys in 15 countries and economies and by most girls in 21 countries and economies). But while in nine countries the highest proficiency level attained by the largest group of boys is Level 1 – and in one country, below Level 1 – in six countries, Level 1 is the highest proficiency level attained by the largest group of girls. In only four countries is Level 4 the highest proficiency level attained by the largest group of boys and in five countries, the highest proficiency level attained by the largest group of girls.

On average across OECD countries, 18.6% of boys do not attain the baseline level of proficiency in science, Level 2, and 16.9% of girls do not attain this level – 5.3% of boys and 4.2% of girls do not even attain Level 1. The gender gap in the proportion of boys and girls performing below Level 2 is particularly pronounced in Jordan, the United Arab Emirates, Thailand, Qatar and Bulgaria. The share of girls performing below Level 2 is at least 10 percentage points smaller than that of boys. The largest difference is found in Jordan where more than 60% of boys perform at or below Level 1 compared to 39% of girls. The opposite pattern can be observed in several countries and economies. The five countries and economies with the largest gender gap, in favour of boys, among students performing below proficiency Level 2 are Colombia, Costa Rica, Liechtenstein, Luxembourg and Mexico. There appears to be no relation between overall science performance and this gender gap as these countries and economies vary considerably in overall science performance.



■ Figure I.5.12 ■

Gender differences in science performance



Note: Statistically significant gender differences are marked in a darker tone (see Annex A3).
Countries and economies are ranked in ascending order of the score-point difference (boys – girls).
Source: OECD, PISA 2012 Database, Table I.5.3a.
StatLink http://dx.doi.org/10.1787/888932935629



Not only do fewer girls than boys perform at the lowest proficiency levels, but fewer girls than boys perform at the highest proficiency levels on the science scale as well. Across OECD countries, 9.3% of boys are top performers in science (performing at Level 5 or 6), but only 7.4% of girls are.

In Japan, Liechtenstein, Hong Kong-China and Shanghai-China, all of which are among the highest-performing countries and economies in science and have relatively large shares of students performing at the highest proficiency levels, the share of top performers among boys is at least four percentage points larger than that among girls.

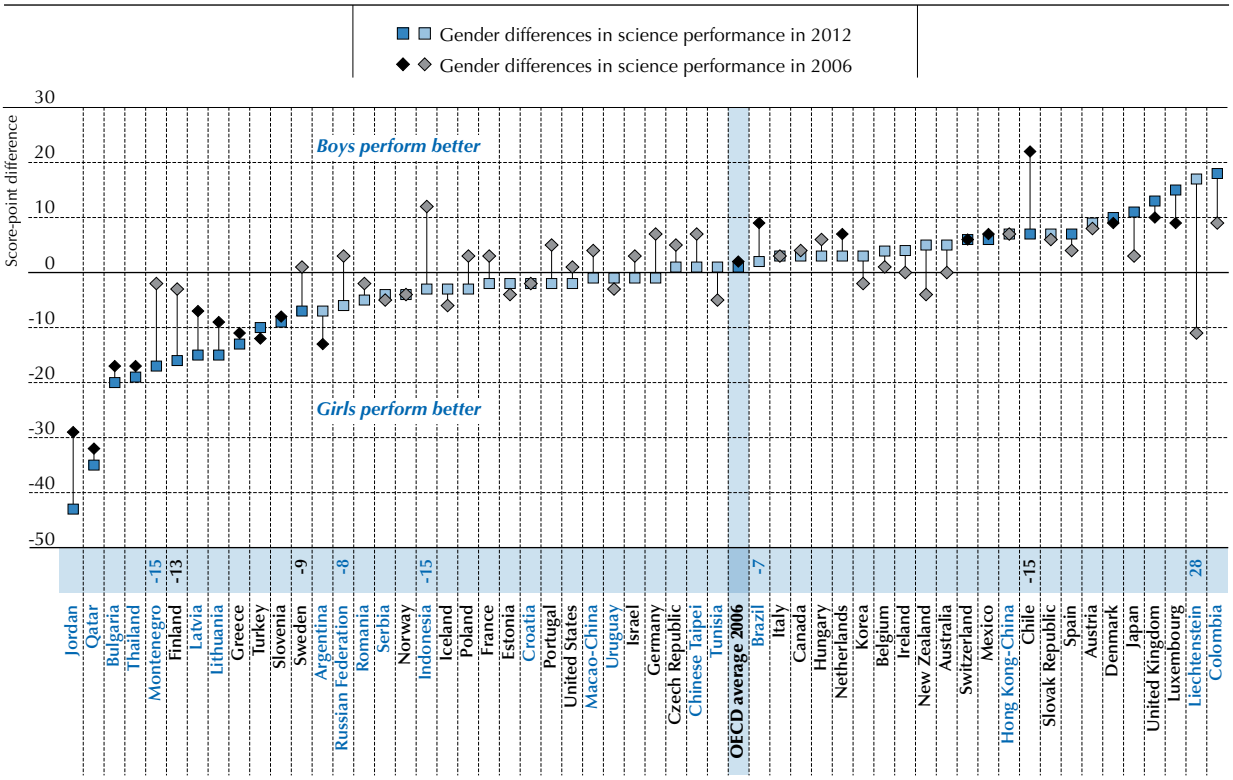
Trends in gender differences in science performance

In 37 of the 54 countries and economies that participated in PISA 2006 (and also took part in PISA 2012) there was no gender gap in science. A gender gap favouring boys was observed in eight countries (and largest in Chile, at 22 score points), and in ten countries, girls outperformed boys (Table I.5.3c and OECD, 2007).

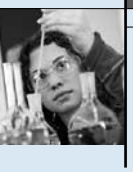
Between PISA 2006 and PISA 2012, and on average across OECD countries, the gender gap in science performance remained unchanged. However, in those countries and economies where the magnitude of the gender gap in science did change, the change always favoured girls. This was the case in Finland, Montenegro, Sweden and the Russian Federation where, while there was no gender gap in science in PISA 2006, a gender gap in favour of girls was observed in PISA 2012. In the Russian Federation this is the result of an improvement in science performance among girls between PISA 2006 and PISA 2012 that was not observed among boys. In Finland, Montenegro and Sweden, the observed gender gap in science in favour of girls is the result of a greater deterioration in science performance among boys than among girls. In Chile the gender gap that favoured boys in PISA 2006 was weaker in 2012, and was no longer present in Brazil as girls' science performance has improved more rapidly than boys' (Figure I.5.13).

■ Figure I.5.13 ■

Change between 2006 and 2012 in gender differences in science performance



Notes: Gender differences in PISA 2006 and PISA 2012 that are statistically significant are marked in a darker tone (see Annex A3).
Statistically significant changes in the score-point difference between boys and girls in science performance between PISA 2006 and PISA 2012 are shown next to the country/economy name.
OECD average 2006 compares only OECD countries with comparable science scores since 2006.
Countries and economies are ranked in ascending order of gender differences (boys-girls) in 2012.
Source: OECD, PISA 2012 Database, Table I.5.3c.
StatLink http://dx.doi.org/10.1787/888932935629



EXAMPLES OF PISA SCIENCE UNITS

The questions are presented in the order in which they appeared within the unit in the main survey.

■ Figure I.5.14 ■

GREENHOUSE

Read the texts and answer the questions that follow.

THE GREENHOUSE EFFECT: FACT OR FICTION?

Living things need energy to survive. The energy that sustains life on the Earth comes from the Sun, which radiates energy into space because it is so hot. A tiny proportion of this energy reaches the Earth.

The Earth's atmosphere acts like a protective blanket over the surface of our planet, preventing the variations in temperature that would exist in an airless world.

Most of the radiated energy coming from the Sun passes through the Earth's atmosphere. The Earth absorbs some of this energy, and some is reflected back from the Earth's surface. Part of this reflected energy is absorbed by the atmosphere.

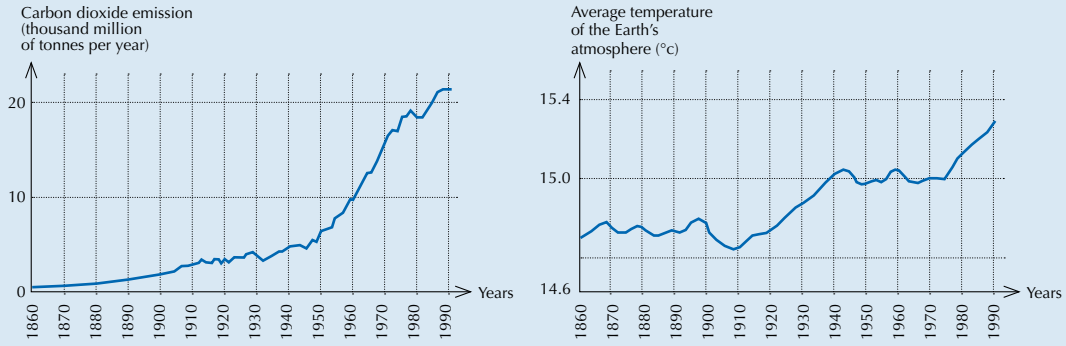
As a result of this the average temperature above the Earth's surface is higher than it would be if there were no atmosphere. The Earth's atmosphere has the same effect as a greenhouse, hence the term greenhouse effect.

The greenhouse effect is said to have become more pronounced during the twentieth century.

It is a fact that the average temperature of the Earth's atmosphere has increased. In newspapers and periodicals the increased carbon dioxide emission is often stated as the main source of the temperature rise in the twentieth century.

A student named André becomes interested in the possible relationship between the average temperature of the Earth's atmosphere and the carbon dioxide emission on the Earth.

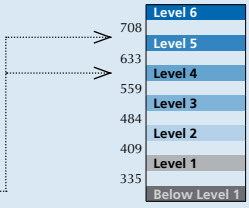
In a library he comes across the following two graphs.



André concludes from these two graphs that it is certain that the increase in the average temperature of the Earth's atmosphere is due to the increase in the carbon dioxide emission.

GREENHOUSE – *QUESTION 4*

Question type: *Open-constructed response*
Competency: *Using scientific evidence*
Knowledge category: *"Scientific explanations" (knowledge about science)*
Application area: *"Environment"*
Setting: *Global*
Difficulty: *Full credit 659; Partial credit 568*
Percentage of correct answers (OECD countries): *34.5%*



Another student, Jeanne, disagrees with André's conclusion. She compares the two graphs and says that some parts of the graphs do not support his conclusion.

Give an example of a part of the graphs that does not support André's conclusion. Explain your answer.

.....

.....

.....



Scoring

Full Credit:

Refers to one particular part of the graphs in which the curves are not both descending or both climbing and gives the corresponding explanation. For example:

- In 1900–1910 (about) CO_2 was increasing, whilst the temperature was going down.
- In 1980–1983 carbon dioxide went down and the temperature rose.
- The temperature in the 1800s is much the same but the first graph keeps climbing.
- Between 1950 and 1980 the temperature didn't increase but the CO_2 did.
- From 1940 until 1975 the temperature stays about the same but the carbon dioxide emission shows a sharp rise.
- In 1940 the temperature is a lot higher than in 1920 and they have similar carbon dioxide emissions.

Partial Credit:

Mentions a correct period, without any explanation. For example:

- 1930–1933.
- before 1910.

Mentions only one particular year (not a period of time), with an acceptable explanation. For example:

- In 1980 the emissions were down but the temperature still rose.

Gives an example that doesn't support André's conclusion but makes a mistake in mentioning the period. *[Note: There should be evidence of this mistake – e.g. an area clearly illustrating a correct answer is marked on the graph and then a mistake made in transferring this information to the text.]* For example:

- Between 1950 and 1960 the temperature decreased and the carbon dioxide emission increased.

Refers to differences between the two curves, without mentioning a specific period. For example:

- At some places the temperature rises even if the emission decreases.
- Earlier there was little emission but nevertheless high temperature.
- When there is a steady increase in graph 1, there isn't an increase in graph 2, it stays constant. *[Note: It stays constant "overall".]*
- Because at the start the temperature is still high where the carbon dioxide was very low.

Refers to an irregularity in one of the graphs. For example:

- It is about 1910 when the temperature had dropped and went on for a certain period of time.
- In the second graph there is a decrease in temperature of the Earth's atmosphere just before 1910.

Indicates difference in the graphs, but explanation is poor. For example:

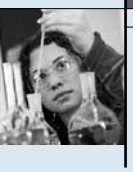
- In the 1940s the heat was very high but the carbon dioxide very low. *[Note: The explanation is very poor, but the difference that is indicated is clear.]*

Comment

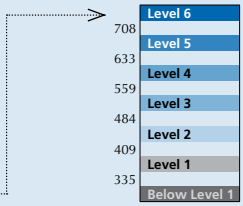
Another example from GREENHOUSE centres on the competency using scientific evidence *and asks students to identify a portion of a graph that does not provide evidence supporting a conclusion. This question requires the student to look for specific differences that vary from positively correlated general trends in these two graphical datasets. Students must locate a portion where curves are not both ascending or descending and provide this finding as part of a justification for a conclusion. As a consequence it involves a greater amount of insight and analytical skill than is required for Question 3. Rather than a generalisation about the relation between the graphs, the student is asked to accompany the nominated period of difference with an explanation of that difference in order to gain full credit.*

The ability to effectively compare the detail of two datasets and give a critique of a given conclusion locates the full credit question at Level 5 of the scientific literacy *scale. If the student understands what the question requires of them and correctly identifies a difference in the two graphs, but is unable to explain this difference, the student gains partial credit for the question and is identified at Level 4 of the* scientific literacy *scale.*

This environmental issue is global *which defines the setting. The skill required by students is to interpret data graphically presented so the question belongs in the "Scientific explanations" category.*



GREENHOUSE – *QUESTION 5*



Question type: *Open-constructed response*
Competency: *Explaining phenomena scientifically*
Knowledge category: *"Earth and space systems" (knowledge of science)*
Application area: *"Environment"*
Setting: *Global*
Difficulty: *709*
Percentage of correct answers (OECD countries): *18.9%*

André persists in his conclusion that the average temperature rise of the Earth's atmosphere is caused by the increase in the carbon dioxide emission. But Jeanne thinks that his conclusion is premature. She says: "Before accepting this conclusion you must be sure that other factors that could influence the greenhouse effect are constant".
Name one of the factors that Jeanne means.

.....

.....

Scoring

Full Credit:

Gives a factor referring to the energy/radiation coming from the Sun. For example:

- The sun heating and maybe the earth changing position.
- Energy reflected back from Earth. *[Assuming that by "Earth" the student means "the ground".]*

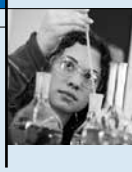
Gives a factor referring to a natural component or a potential pollutant. For example:

- Water vapour in the air.
- Clouds.
- The things such as volcanic eruptions.
- Atmospheric pollution (gas, fuel).
- The amount of exhaust gas.
- CFCs.
- The number of cars.
- Ozone (as a component of air).

Comment

Question 5 of GREENHOUSE is an example of Level 6 and of the competency explaining phenomena scientifically. *In this question, students must analyse a conclusion to account for other factors that could influence the greenhouse effect. This question combines aspects of the two competencies* identifying scientific issues and explaining phenomena scientifically. *The student needs to understand the necessity of controlling factors outside the change and measured variables and to recognise those variables. The student must possess sufficient knowledge of "Earth systems" to be able to identify at least one of the factors that should be controlled. The latter criterion is considered the critical scientific skill involved so this question is categorised as explaining phenomena scientifically. The effects of this environmental issue are* global, *which defines the setting.*

As a first step in gaining credit for this question the student must be able to identify the change and measured variables and have sufficient understanding of methods of investigation to recognise the influence of other factors. However, the student also needs to recognise the scenario in context and identify its major components. This involves a number of abstract concepts and their relationships in determining what "other" factors might affect the relationship between the Earth's temperature and the amount of carbon dioxide emissions into the atmosphere. This locates the question near the boundary between Level 5 and 6 in the explaining phenomena scientifically *category.*



■ Figure I.5.15 ■

CLOTHES

Read the text and answer the questions that follow.

CLOTHES TEXT

A team of British scientists is developing "intelligent" clothes that will give disabled children the power of "speech". Children wearing waistcoats made of a unique electrotextile, linked to a speech synthesiser, will be able to make themselves understood simply by tapping on the touch-sensitive material.

The material is made up of normal cloth and an ingenious mesh of carbon-impregnated fibres that can conduct electricity. When pressure is applied to the fabric, the pattern of signals that passes through the conducting fibres is altered and a computer chip can work out where the cloth has been touched. It then can trigger whatever electronic device is attached to it, which could be no bigger than two boxes of matches.

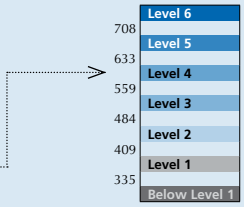
"The smart bit is in how we weave the fabric and how we send signals through it – and we can weave it into existing fabric designs so you cannot see it's in there," says one of the scientists.

Without being damaged, the material can be washed, wrapped around objects or scrunched up. The scientist also claims it can be mass-produced cheaply.

Source: Farrer, S., "Interactive fabric promises a material gift of the garb", *The Australian*, 10 August 1998.

CLOTHES – *QUESTION 1*

***Question type**: Complex multiple choice*
***Competency:** Identifying scientific issues*
***Knowledge category**: "Scientific enquiry" (knowledge about science)*
***Application area:** "Frontiers of science and technology"*
***Setting:** Social*
***Difficulty:** 567*
***Percentage of correct answers (OECD countries):** 47.9%*



Can these claims made in the article be tested through scientific investigation in the laboratory? Circle either "Yes" or "No" for each.

The material can be	Can the claim be tested through scientific investigation in the laboratory?
washed without being damaged.	Yes / No
wrapped around objects without being damaged.	Yes / No
scrunched up without being damaged.	Yes / No
mass-produced cheaply.	Yes / No

Scoring

Full Credit: Yes, Yes, Yes, No, in that order.

Comment

The question requires the student to identify the change and measured variables associated with testing a claim about the clothing. It also involves an assessment of whether there are techniques to quantify the measured variable and whether other variables can be controlled. This process then needs to be accurately applied for all four claims. The issue of "intelligent" clothes is in the category "Frontiers of science and technology" and is a community issue addressing a need for disabled children so the setting is social. *The scientific skills applied are concerned with the nature of investigation which places the question in the "Scientific enquiry" category.*

The need to identify change and measured variables, together with an appreciation of what would be involved in carrying out measurement and controlling variables, locates the question at Level 4.



■ Figure I.5.16 ■

MARY MONTAGU

Read the following newspaper article and answer the questions that follow.

THE HISTORY OF VACCINATION

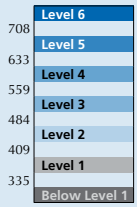
Mary Montagu was a beautiful woman. She survived an attack of smallpox in 1715 but she was left covered with scars. While living in Turkey in 1717, she observed a method called inoculation that was commonly used there. This treatment involved scratching a weak type of smallpox virus into the skin of healthy young people who then became sick, but in most cases only with a mild form of the disease.

Mary Montagu was so convinced of the safety of these inoculations that she allowed her son and daughter to be inoculated.

In 1796, Edward Jenner used inoculations of a related disease, cowpox, to produce antibodies against smallpox. Compared with the inoculation of smallpox, this treatment had less side effects and the treated person could not infect others. The treatment became known as vaccination.

MARY MONTAGU – *QUESTION 2*

Question type: *Multiple choice*
Competency: *Explaining phenomena scientifically*
Knowledge category: *"Living systems" (knowledge of science)*
Application area: *"Health"*
Setting: *Social*
Difficulty: *436*
Percentage of correct answers (OECD countries): *74.9%*



What kinds of diseases can people be vaccinated against?

A. Inherited diseases like haemophilia.

B. Diseases that are caused by viruses, like polio.

C. Diseases from the malfunctioning of the body, like diabetes.

D. Any sort of disease that has no cure.

Scoring

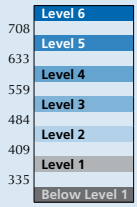
Full Credit: B. Diseases that are caused by viruses, like polio.

Comment

To gain credit the student must recall a specific piece of knowledge that vaccination helps prevent diseases, the cause for which is external to normal body components. This fact is then applied in the selection of the correct explanation and the rejection of other explanations. The term "virus" appears in the stimulus text and provides a hint for students. This lowered the difficulty of the question. Recalling an appropriate, tangible scientific fact and its application in a relatively simple context locates the question at Level 2.

MARY MONTAGU – *QUESTION 3*

Question type: *Multiple choice*
Competency: *Explaining phenomena scientifically*
Knowledge category: *"Living systems" (knowledge of science)*
Application area: *"Health"*
Setting: *Social*
Difficulty: *431*
Percentage of correct answers (OECD countries): *75.1%*





If animals or humans become sick with an infectious bacterial disease and then recover, the type of bacteria that caused the disease does not usually make them sick again.

What is the reason for this?

A. The body has killed all bacteria that may cause the same kind of disease.

B. The body has made antibodies that kill this type of bacteria before they multiply.

C. The red blood cells kill all bacteria that may cause the same kind of disease.

D. The red blood cells capture and get rid of this type of bacteria from the body.

Scoring

Full Credit: B. The body has made antibodies that kill this type of bacteria before they multiply.

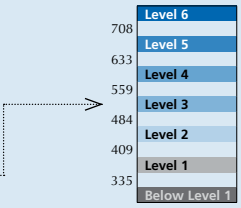
Comment

To correctly answer this question the student must recall that the body produces antibodies that attack foreign bacteria, the cause of bacterial disease. Its application involves the further knowledge that these antibodies provide resistance to subsequent infections of the same bacteria. The issue is community control of disease, so the setting is social.

In selecting the appropriate explanation the student is recalling a tangible scientific fact and applying it in a relatively simple context. Consequently, the question is located at Level 2.

MARY MONTAGU – *QUESTION 4*

Question type: *Open-constructed response*
Competency: *Explaining phenomena scientifically*
Knowledge category: *"Living systems" (knowledge of science)*
Application area: *"Health"*
Setting: *Social*
Difficulty: *507*
Percentage of correct answers (OECD countries): *61.7%*



Give one reason why it is recommended that young children and old people, in particular, should be vaccinated against influenza (flu).

.....

.....

.....

Scoring

Full Credit: Responses referring to young and/or old people having weaker immune systems than other people, or similar. For example:

These people have less resistance to getting sick.
The young and old can't fight off disease as easily as others.
They are more likely to catch the flu.
If they get the flu the effects are worse in these people.
Because organisms of young children and older people are weaker.
Old people get sick more easily.

Comment

This question requires the student to identify why young children and old people are more at risk of the effects of influenza than others in the population. Directly, or by inference, the reason is attributed to young children and old people having weaker immune systems. The issue is community control of disease, so the setting is social.

A correct explanation involves applying several pieces of knowledge that are well established in the community. The question stem also provides a cue to the groups having different resistance to disease. This puts the question at Level 3.



■ Figure I.5.17 ■

GENETICALLY MODIFIED CROPS

GM CORN SHOULD BE BANNED

Wildlife conservation groups are demanding that a new genetically modified (GM) corn be banned.

This GM corn is designed to be unaffected by a powerful new herbicide that kills conventional corn plants. This new herbicide will kill most of the weeds that grow in cornfields.

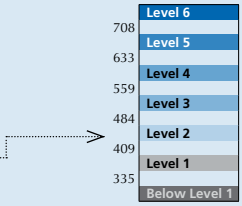
The conservationists say that because these weeds are feed for small animals, especially insects, the use of the new herbicide with the GM corn will be bad for the environment. Supporters of the use of the GM corn say that a scientific study has shown that this will not happen.

Here are details of the scientific study mentioned in the above article:

- Corn was planted in 200 fields across the country.
- Each field was divided into two. The genetically modified (GM) corn treated with the powerful new herbicide was grown in one half, and the conventional corn treated with a conventional herbicide was grown in the other half.
- The number of insects found in the GM corn, treated with the new herbicide, was about the same as the number of insects in the conventional corn, treated with the conventional herbicide.

GENETICALLY MODIFIED CROPS – *QUESTION 3*

Question type: *Multiple choice*
Competency: *Identifying scientific issues*
Knowledge category: *"Scientific enquiry" (knowledge about science)*
Application area: *"Frontiers of science and technology"*
Setting: *Social*
Difficulty: *421*
Percentage of correct answers (OECD countries): *73.6%*



Corn was planted in 200 fields across the country. Why did the scientists use more than one site?

A. So that many farmers could try the new GM corn.
B. To see how much GM corn they could grow.
C. To cover as much land as possible with the GM crop.
D. To include various growth conditions for corn.

Scoring

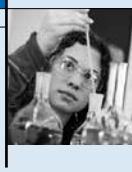
Full Credit: D. To include various growth conditions for corn.

Comment

Towards the bottom of the scale, typical questions for Level 2 are exemplified by Question 3 from the unit GENETICALLY MODIFIED CROPS, which is for the competency identifying scientific issues. *Question 3 asks a simple question about varying conditions in a scientific investigation and students are required to demonstrate knowledge about the design of science experiments.*

To answer this question correctly in the absence of cues, the student needs to be aware that the effect of the treatment (different herbicides) on the outcome (insect numbers) could depend on environmental factors. Thus, by repeating the test in 200 locations the chance of a specific set of environmental factors giving rise to a spurious outcome can be accounted for. Since the question focuses on the methodology of the investigation it is categorised as "Scientific enquiry". The application area of genetic modification places this at the "Frontiers of science and technology" and given its restriction to one country it can be said to have a social *setting.*

In the absence of cues this question has the characteristics of Level 4, i.e. *the student shows an awareness of the need to account for varying environmental factors and is able to recognise an appropriate way of dealing with that issue. However, the question actually performed at Level 2. This can be accounted for by the cues given in the three distractors. Students likely are able to easily eliminate these as options thus leaving the correct explanation as the answer. The effect is to reduce the difficulty of the question.*



■ Figure I.5.18 ■

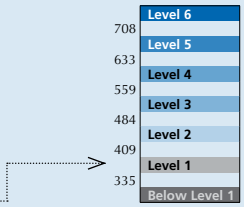
PHYSICAL EXERCISE

Regular but moderate physical exercise is good for our health.



PHYSICAL EXERCISE – *QUESTION 3*

Question type: *Complex multiple choice*
Competency: *Explaining phenomena scientifically*
Knowledge category: *"Living systems" (knowledge of science)*
Application area: *"Health"*
Setting: *Personal*
Difficulty: *386*
Percentage of correct answers (OECD countries): *82.4%*



What happens when muscles are exercised? Circle "Yes" or "No" for each statement.

Does this happen when muscles are exercised?	Yes or No?
Muscles get an increased flow of blood.	Yes / No
Fats are formed in the muscles.	Yes / No

Scoring

Full Credit: Both correct: Yes, No, in that order.

Comment

For this question, to gain credit a student has to correctly recall knowledge about the operation of muscles and about the formation of fat in the body, i.e. *students must have knowledge of the science fact that active muscles get an increased flow of blood and that fats are not formed when muscles are exercised. This enables the student to accept the first explanation of this complex multiple-choice question and reject the second explanation.*

The two simple factual explanations contained in the question are not related to each other. Each is accepted or rejected as an effect of the exercise of muscles and the knowledge has widespread currency. This question is located at Level 1, at the very bottom of the scale for the competency explaining phenomena scientifically.



Notes

1. As described in more detail in Annex A5, the annualised change takes into account the specific year in which the assessment took place. In the case of science, this is especially relevant for the 2009 assessment as Costa Rica, Malaysia and the United Arab Emirates (excluding Dubai) implemented the assessment in 2010 as part of PISA+.

2. As described in Annex A5, the annualised change considers the case of countries and economies that implemented PISA 2009 in 2010 as part of PISA 2009+.

3. By accounting for students' gender, age, socio-economic status, migration background and language spoken at home, the adjusted trends allow for a comparison of trends in performance assuming no change in the underlying population or the effective samples' average socio-economic status, age and percentage of girls, students with an immigrant background or students that speak a language at home that is different than the language of assessment. See Annex A5 for more details on the calculation of adjusted trends.

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6

Policy Implications of Student Performance in PISA 2012

The PISA 2012 assessment dispels the notion that achievement in mathematics is mainly a product of innate ability rather than hard work. Results also suggest that improvement is possible among high performers as well as among low performers. This chapter considers how education policies of school systems and individual schools are associated with student performance and with gender differences in performance.



OECD countries invest over USD 230 billion each year in mathematics education in schools. While this is a major investment, the returns are many times larger. Countries that have conducted longitudinal studies of student performance, including performance in PISA, have shown that proficiency in mathematics is a strong predictor of positive outcomes for young adults, influencing their ability to participate in post-secondary education and their expected future earnings. The new Survey of Adult Skills (OECD, 2013) also found that foundation skills in mathematics have a major impact on individuals' life chances. The survey shows that poor mathematics skills severely limit people's access to better-paying and more-rewarding jobs; at the aggregate level, inequality in the distribution of mathematics skills across populations is closely related to how wealth is shared within nations. Beyond that, the survey shows that people with strong skills in mathematics are also more likely to volunteer, see themselves as actors rather than as objects of political processes, and are even more likely to trust others. Fairness, integrity and inclusiveness in public policy thus also hinge on the skills of citizens.

PISA 2012 provides the most comprehensive picture of the mathematics skills developed in schools that has ever been available, looking not just at what students know in the different domains of mathematics, but also at what they can do with what they know. The results show wide differences between countries in the mathematics knowledge and skills of 15-year-olds. The equivalent of almost six years of schooling, 245 score points on the PISA mathematics scale, separates the highest and lowest average performances of the countries that took part in the PISA 2012 mathematics assessment. However, differences between countries represent only a fraction of the overall variation in student performance. The difference in mathematics performances *within* countries is generally even greater, with over 300 points – the equivalent of more than seven years of schooling – often separating the highest and the lowest performers in a country. Addressing the education needs of such diverse populations and narrowing the observed gaps in student performance remains a formidable challenge for all countries.

The results show that a surprisingly small proportion of the performance variation among countries is explained by the wealth of nations (21% among all countries and economies, 12% among OECD countries) or expenditure per student (30% among all countries and economies, 17% among OECD countries), suggesting that the world is no longer divided into rich and well-educated nations, and poor and badly educated ones.

Even more important, the PISA 2012 assessment dispels the widespread notion that mathematics achievement is mainly a product of innate ability rather than hard work. On average across all countries, 32% of 15-year-olds do not reach the baseline Level 2 on the PISA mathematics scale (24% across OECD countries), meaning that those students can perform – at best – routine mathematical procedures following direct instructions. But in Japan and Korea, fewer than 10% of students – and in Shanghai-China, fewer than 4% of students – do not reach this level of proficiency. In these education systems, high expectations for all students are not a mantra but a reality; students who start to fall behind are identified quickly, their problems are promptly and accurately diagnosed, and the appropriate course of action for improvement is quickly taken. Everyone knows what is required to earn a given qualification, in terms of both the content studied and the level of performance to be demonstrated. As discussed in Volume III, the observed variation in mathematics performance is closely related to students' beliefs about the importance of self-concept, effort and persistence for their performance in mathematics. The fact that those beliefs vary significantly across schools and countries suggests that they can be shaped by education policy and practice. These findings should inspire education policy makers to move away from the notion that only a few students can achieve in mathematics towards one that embraces the proposition that all students can.

IMPROVING AVERAGE PERFORMANCE

It is possible to evaluate trends in performance for countries that participated in PISA 2012 and at least one previous assessment. Trends are analysed for 64 countries and economies, 40 of which improved their average performance in at least one of the three subjects. Countries and economies that improve in PISA are diverse: they are countries and economies from all parts of the world, with education systems that organise their schooling in different ways, and that, when they began their participation in PISA, performed below, at or above the OECD average. The diversity of improving countries and economies shows that improvement in performance in all subjects – or in one particular subject – is possible for all school systems.

Some contend that the observed performance differences among countries are mainly the product of culture or socio-economic status. However, PISA 2012 results show that many countries and economies have improved their performance, whatever their culture or socio-economic status. For some of the countries that improved their performance in one or more of the domains assessed, improvements are observed among all students: everyone "moved up". Other countries concentrated their improvements among their low-achieving students, increasing the share of students who begin to



show literacy in mathematics, reading or science. Improvement in other countries, by contrast, is concentrated among high-achieving students, so the share of top-performing students grew.

Some of the highest-performing education systems were able to extend their lead, while others with very low performance have been catching up. This suggests that improvement is possible, whatever the starting point for students, schools and education systems.

Brazil, Dubai (United Arab Emirates), Hong Kong-China, Israel, Macao-China, Poland, Portugal, Qatar, Singapore, Tunisia and Turkey improved their average performance in mathematics, reading *and* science during their participation in PISA, showing that broad improvement in performance is possible, even in a short time span. Improvements in mathematics and reading were observed in Albania, Chile, Germany, Mexico, Montenegro, Serbia and Shanghai-China. Improvements in mathematics and science were observed in Italy, Kazakhstan and Romania, while improvements in reading and science were observed in Japan, Korea, Latvia and Thailand. Improvements in mathematics (but not in reading or science) were observed in Bulgaria, Greece, Malaysia and the United Arab Emirates (ex. Dubai) while improvements in science (but not in mathematics or reading) were observed only in Ireland. Improvements in reading (but not in mathematics or science) were observed in Chinese Taipei, Colombia, Estonia, Hungary, Indonesia, Liechtenstein, Luxembourg, Peru, the Russian Federation and Switzerland.

Even though different countries and economies face significantly different challenges in education and operate in different contexts that privilege certain policies and practices over others, the reform trajectories of improving countries are remarkably consistent with those attributes and policies that, throughout the analyses in Volumes II, III and IV of the PISA results, are related to higher mathematics performance.[1] Throughout these volumes, case studies examine in greater detail the policy reforms adopted by some countries that have improved in PISA. Poland (see Box IV.2.1 in Volume IV), for example, reformed its education system by delaying the age of selection into different programmes, and schools in Germany (see Box II.3.2 in Volume II) are also moving towards reducing the levels of stratification across education programmes. Estonia (see Box I.5.1), Poland (see Box IV.2.1 in Volume IV), Brazil (see Box I.2.4), Colombia (see Box IV.4.3 in Volume IV), Japan (see Box III.3.1 in Volume III), Mexico (see Box II.2.4 in Volume II) and Israel (see Box IV.1.4 in Volume IV) for example, have focused certain policies on improving the quality of their teaching staff by increasing the requirements to earn a teaching license, providing incentives for high-achieving students to enter the profession, raising salaries to make the profession more attractive and to retain more teachers, by offering incentives for teachers to engage in in-service teacher-training programmes or by changing the criteria and benefits associated with teachers' career advancement. Israel (see Box IV.1.4 in Volume IV), Germany (see Box II.3.2 in Volume II), Mexico (see Box II.2.4 in Volume II), Turkey (see Box I.2.5) and Brazil (see Box I.2.4) have implemented targeted policies to improve the performance of low-performing schools or students, or implemented systems to distribute more resources to those regions and schools that need them the most. Some countries, like Colombia (see Box IV.4.3 in Volume IV), Poland (see Box IV.2.1 in Volume IV) and Korea (see Box I.4.1), have given schools and local authorities more autonomy but have recognised that autonomy works only in the context of collaboration and accountability. Others, like Portugal (see Box III.4.1 in Volume III), have reshaped the organisation of schools to facilitate collaboration and economies of scale between individual schools by creating school clusters. Many low-performing countries that have improved their performance (e.g. Brazil, Box I.2.4, Turkey, Box I.2.5, Colombia, Box IV.4.3 in Volume IV, Tunisia, Box III.3.2 in Volume III and Mexico, Box II.2.4 in Volume II) have focused on ensuring that all 15-year-olds are enrolled and attend school, and have increased the amount of financial resources devoted to the school system. Poland (see Box IV.2.1 in Volume IV), Mexico (see Box II.2.4 in Volume II) and Colombia (see Box IV.4.3 in Volume IV) have expanded the information infrastructure of the education system in support of schools' and local authorities' accountability arrangements. Recognising that a positive learning environment is key to promoting positive attitudes among students which, in turn, promote learning, Japan (see Box III.3.1 in Volume III) and Portugal (see Box III.4.1 in Volume III) have improved their students' attitudes, dispositions and self-beliefs towards school in general, and towards mathematics in particular, by, for example, reforming their curricula so that they are better aligned with students' interests and 21st century skills.

As described further in Volume II of this series, of the countries that improved, and among those that also participated in PISA 2003, Germany, Mexico, Poland and Turkey also reduced the relationship between students' performance and their socio-economic status, showing that simultaneous improvement in performance and equity is possible.

PURSUING EXCELLENCE

In most countries and economies, only a small proportion of students attains the highest levels and can be called top performers in reading, mathematics or science. Even fewer are the academic all-rounders, those students who achieve



proficiency Level 5 or higher in all three subjects. Nurturing excellence in mathematics, reading or science, or in all three domains, is crucial for a country's development as these students will be the vanguard of a competitive, knowledge-based global economy.

Results from the PISA 2012 assessment show that nurturing top performance and tackling low performance need not be mutually exclusive. Some high-performing countries in PISA 2012, like Estonia and Finland, also show small variations in student scores, proving that high performance is possible for all students. Equally important, since their first participations in PISA, France, Hong Kong-China, Italy, Japan, Korea, Luxembourg, Macao-China, Poland, Portugal and the Russian Federation have been able to increase the share of top performers in mathematics, reading or science, indicating that education systems can pursue and promote academic excellence whether they perform at or above the OECD average (e.g. Japan, Korea) or below the OECD average (e.g. Italy, Portugal, the Russian Federation).

Only a handful of countries and economies can promote performance at the highest levels and can claim that more than one in ten students are all-rounders. The fact that some countries and economies have a large proportion of all-rounders, that others attain top performance in one subject, and that yet others achieve excellence among all students, suggests that there is untapped potential – and a need for policies and practices to develop this potential – in all countries and economies.

TACKLING LOW PERFORMANCE

Countries with large numbers of students who struggle to master basic reading skills at age 15 are likely to be held back in the future, when those students become adults who lack the skills needed to function effectively in the workplace and in society. Among students who fail to reach the baseline level of performance (Level 2) in mathematics, reading or science, most can be expected not to continue with education beyond compulsory schooling, and therefore risk facing difficulties using mathematics, reading and using science concepts throughout their lives. Students who do not reach Level 2 in mathematics, for example, have difficulties with questions involving unfamiliar contexts or requiring information from different sources. The proportion of 15-year-old students at this level varies widely across countries, from fewer than one student in ten in four countries and economies, to the majority of students in 15 countries. Even in the average OECD country, where more than one in five students does not reach Level 2, tackling such low performance is a major challenge.

Reducing the proportion of students who perform below Level 2 also has an important economic dimension. According to one estimate, if all students attained Level 2 proficiency in mathematics the combined economic output of OECD countries would be boosted by around USD 200 trillion (OECD, 2010). While such estimates are never wholly certain, they do suggest that the cost of improving education outcomes is just a fraction of the high cost of low student performance.

To tackle poor performance and also to increase the share of top-performing students, countries need to look at the barriers posed by social background (examined in Volume II of this series), the relationship between performance and students' attitudes towards learning (examined in Volume III), and schools' organisation, resources and learning environment (examined in Volume IV).

ASSESSING STRENGTHS AND WEAKNESSES IN DIFFERENT KINDS OF MATHEMATICS

Mathematics performance does not only vary widely among students, but in many countries it also varies between different areas of mathematical processes and content. Now that computer technology is accessible to virtually all and is increasingly capable of carrying out routine processes, jobs that do not require mathematical skills are becoming scarcer. It is now clear that students' mastery of mathematics must include the capacity to *formulate* problems mathematically and *interpret* results, as students – and adults – are required to "translate" a real-life situation into mathematical terms and interpret the results as they apply to this real-life situation. For students to succeed in mathematics and use mathematics during their lives, their daily encounters with the subject at school need to involve more than solving of already-formulated mathematical tasks; they must learn how to formulate and interpret these concepts and tasks.

Of course, all countries and economies need to make curricular choices based on their national contexts and priorities; but they can use the results of their students' performance in PISA's mathematics subscales to see where their strengths and weaknesses lie to inform policy development in pedagogical orientations and curricular content. Success in mathematics in PISA does not necessarily result in the same level of success in all process and content subscales. For example, within countries and economies there is wide variation in student performance in the *space and shape* and



the *uncertainty and data* subscales: countries that succeed in developing students' ability in *space and shape* do not necessarily develop their students' ability in *uncertainty and data*.

These differences in performance are likely a reflection of the different emphases countries and economies give to the mathematics topics related to these scales (such as geometry for *space and shape* and probability and statistics for *uncertainty and data*). They also offer an opportunity for countries and economies to reflect on whether their weaknesses result from a lack of exposure to content or the way this content is taught in the classroom.

What content is covered and how it is covered has implications for students', and also for country's/economy's performance in PISA. PISA 2012 measures, for the first time, the relationship between students' opportunities to learn mathematics and students' mathematics literacy. Students who are exposed to formal and applied mathematics perform better in mathematics. PISA finds that exposure only or mostly to applied mathematics is not associated with higher levels of performance. Higher levels of performance are found among those students who are exposed to formal mathematics combined with some exposure to applied mathematics problems. These relationships are strong, which underscores the importance of school in the development of mathematics literacy, and the need for balance in the way mathematics is taught, so that students can master both mathematics concepts and content and how these are applied to real-life problems and situations.

PROVIDING EQUAL OPPORTUNITIES FOR BOYS AND GIRLS

Boys and girls show different levels of performance in mathematics, reading and science, but performance differences within the genders are significantly larger than those between them. This suggests that the gender gap can be narrowed considerably as both boys and girls in all countries and economies show that they can succeed in all three subjects.

Marked gender differences in mathematics performance – in favour of boys – are observed in many countries and economies, but with a number of exceptions and to varying degrees. Among girls, the greatest hurdle is in reaching the top: girls are under-represented among the highest achievers in most countries and economies, which poses a serious challenge to achieving gender parity in science, technology, engineering and mathematics occupations in the future. Some countries succeeded in narrowing the gender gap in mathematics, but strategies for improving the level of engagement, dispositions, self-beliefs and performance among girls need to be continually reviewed and strengthened, particularly those that promote top performance. At the same time, there is evidence that in many countries and economies more boys than girls are among the lowest-performing students, and in some of these more should be done to engage boys in mathematics.

In addition, the size of the gender gap in mathematics varies, depending on the particular processes and content of mathematics. In general, boys' advantage is most marked in the process subscale *formulating* and in the content subscale *space and shape*. Girls' disadvantage in mathematics seems to be narrowest in the process subscale *employing and interpreting* and in the content subscale *uncertainty and data*. These gender differences in performance across subscales indicate potential areas for policy development to close the gender gap in mathematics. They also show that overall gender gaps in mathematics can be narrowed, since these are related to particular content and processes. As Volume III in this series highlights, gender differences are also observed in boys' and girls' drive towards mathematics and self-beliefs in mathematics: even when boys and girls have the same level of performance, girls are more likely to show signs of anxiety towards mathematics and lower levels of mathematics self-efficacy and self-beliefs. Evidence suggest that actions to close the gender gap in mathematics performance should be targeted at youth and, indeed, children, and should include activities to improve students' attitudes and self-beliefs towards mathematics.

By contrast, in almost all countries and economies, girls outperform boys in reading. This gender gap is particularly large in some high-performing countries, where almost all underperformance in reading is seen only among boys. Low-performing boys face a particularly large disadvantage as they are heavily over-represented among those who fail to show basic levels of reading literacy. These low levels of performance tend to be coupled with low levels of engagement with school and – as observed in PISA 2009 – with low levels of engagement and commitment to reading. To close the gender gap in reading performance policy makers need to promote boys' engagement with reading and ensure that more boys begin to show the basic level of proficiency that will allow them to participate fully and productively in life.



Note

1. As PISA is a series of cross-sectional studies, it is impossible to infer which, if any, of these policy initiatives are at the centre of these countries' improvement in PISA. The examples described in the country-specific boxes throughout the volumes of the PISA 2009 report provide a description of the challenges and the policy trajectories of the countries that have improved their PISA performance; they do not provide causal evidence that the performance improvement is the result of any particular policy.

Reference

OECD (2013), *OECD Skills Outlook: First Results from the Survey of Adult Skills,* OECD Publishing.
http://dx.doi.org/10.1787/9789264204256-en

OECD (2010), *The High Cost of Low Educational Performance: The Long-Run Economic Impact of Improving PISA Outcomes,* PISA, OECD Publishing.
http://dx.doi.org/10.1787/9789264077485-en



Annex A

PISA 2012 TECHNICAL BACKGROUND

All figures and tables in Annex A are available on line

Annex A1: Indices from the student, school and parent context questionnaires
http://dx.doi.org/10.1787/888932937073

Annex A2: The PISA target population, the PISA samples and the definition of schools
http://dx.doi.org/10.1787/888932937092

Annex A3: Technical notes on analyses in this volume

Annex A4: Quality assurance

Annex A5: Technical details of trends analyses
http://dx.doi.org/10.1787/888932937054

Annex A6: Development of the PISA assessment instruments

Annex A7: Technical note on Brazil
http://dx.doi.org/10.1787/888932935743

Notes regarding Cyprus

Note by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

Note by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

A note regarding Israel

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.



ANNEX A1
INDICES FROM THE STUDENT, SCHOOL AND PARENT CONTEXT QUESTIONNAIRES

Explanation of the indices

This section explains the indices derived from the student and school context questionnaires used in PISA 2012.

Several PISA measures reflect indices that summarise responses from students, their parents or school representatives (typically principals) to a series of related questions. The questions were selected from a larger pool of questions on the basis of theoretical considerations and previous research. The *PISA 2012 Assessment and Analytical Framework* (OECD, 2013) provides an in-depth description of this conceptual framework. Structural equation modelling was used to confirm the theoretically expected behaviour of the indices and to validate their comparability across countries. For this purpose, a model was estimated separately for each country and collectively for all OECD countries. For a detailed description of other PISA indices and details on the methods, see the *PISA 2012 Technical Report* (OECD, forthcoming).

There are two types of indices: simple indices and scale indices.

Simple indices are the variables that are constructed through the arithmetic transformation or recoding of one or more items, in exactly the same way across assessments. Here, item responses are used to calculate meaningful variables, such as the recoding of the four-digit ISCO-08 codes into "Highest parents' socio-economic index (HISEI)" or, teacher-student ratio based on information from the school questionnaire.

Scale indices are the variables constructed through the scaling of multiple items. Unless otherwise indicated, the index was scaled using a weighted likelihood estimate (WLE) (Warm, 1989), using a one-parameter item response model (a partial credit model was used in the case of items with more than two categories). For details on how each scale index was constructed see the *PISA 2012 Technical Report* (OECD, forthcoming). In general, the scaling was done in three stages:

- The item parameters were estimated from equal-sized subsamples of students from all participating countries and economies.
- The estimates were computed for all students and all schools by anchoring the item parameters obtained in the preceding step.
- The indices were then standardised so that the mean of the index value for the OECD student population was zero and the standard deviation was one (countries being given equal weight in the standardisation process).

Sequential codes were assigned to the different response categories of the questions in the sequence in which the latter appeared in the student, school or parent questionnaires. Where indicated in this section, these codes were inverted for the purpose of constructing indices or scales. Negative values for an index do not necessarily imply that students responded negatively to the underlying questions. A negative value merely indicates that the respondents answered less positively than all respondents did on average across OECD countries. Likewise, a positive value on an index indicates that the respondents answered more favourably, or more positively, than respondents did, on average, across OECD countries. Terms enclosed in brackets < > in the following descriptions were replaced in the national versions of the student, school and parent questionnaires by the appropriate national equivalent. For example, the term <qualification at ISCED level 5A> was translated in the United States into "Bachelor's degree, post-graduate certificate program, Master's degree program or first professional degree program". Similarly the term <classes in the language of assessment> in Luxembourg was translated into "German classes" or "French classes" depending on whether students received the German or French version of the assessment instruments.

In addition to simple and scaled indices described in this annex, there are a number of variables from the questionnaires that correspond to single items not used to construct indices. These non-recoded variables have prefix of "ST" for the questionnaire items in the student questionnaire, "SC" for the items in the school questionnaire, and "PA" for the items in the parent questionnaire. All the context questionnaires as well as the PISA international database, including all variables, are available through *www.pisa.oecd.org*.

Scaling of questionnaire indices for trend analyses

In PISA, to gather information about students' and schools' characteristics, both students and schools complete a background questionnaire. In PISA 2003 and PISA 2012 several questions were kept untouched, enabling the comparison of responses to these questions over time. In this report, only questions that maintained an exact wording are used for trends analyses. Questions with subtle word changes or questions with major word changes were not compared across time because it is impossible to discern whether observed changes in the response are due to changes in the construct they are measuring or to changes in the way the construct is being measured.

Also, in PISA, as described in Annex A1, questionnaire items are used to construct indices. Whenever the questions used in the construction of indices remains intact in PISA 2003 and PISA 2012, the corresponding indices are compared. Two types of indices are used in PISA: simple indices and scale indices.

Simple indices recode a set of responses to questionnaire items. For trends analyses, the values observed in PISA 2003 are compared directly to PISA 2012, just as simple responses to questionnaire items are. This is the case of indices like student-teacher ratio and ability grouping in mathematics.



Scale indices, on the other hand, imply WLE estimates which require rescaling in order to be comparable across PISA cycles. Scale indices, like the *PISA index of economic, social and cultural status*, the *index of sense of belonging*, the *index of attitudes towards school*, the *index of intrinsic motivation to learn mathematics*, the *index of instrumental motivation to learn mathematics*, the *index of mathematics self-efficacy*, the *index of mathematics self-concept*, the *index of mathematics anxiety*, the *index of teacher shortage*, the *index of quality of physical infrastructure*, the *index of quality of schools' educational resources*, the *index of disciplinary climate*, the *index of teacher-student relations*, the *index of teacher morale*, the *index of student-related factors affecting school climate and* the *index of teacher-related factors affecting school climate*, were scaled, in PISA 2012 to have an OECD average of 0 and a standard deviation of 1, on average, across OECD countries. These same scales were scaled, in PISA 2003, to have an OECD average of 0 and a standard deviation of 1. Because they are on different scales, values reported in *Learning for Tomorrow's World: First Results from PISA 2003* (OECD, 2004) cannot be compared with those reported in this volume. To make these scale indices comparable, values for 2003 have been rescaled to the 2012 scale, using the PISA 2012 parameter estimates.

These re-scaled indices are available at *www.pisa.oecd.org*. They can be merged to the corresponding PISA 2003 dataset using the country names, school and student-level identifiers. The rescaled *PISA index of economic, social and cultural status* is also available to be merged with the PISA 2000, PISA 2006 and PISA 2009 dataset.

Student-level simple indices

Age

The variable AGE is calculated as the difference between the middle month and the year in which students were assessed and their month and year of birth, expressed in years and months.

Study programme

In PISA 2012, study programmes available to 15-year-old students in each country were collected both through the student tracking form and the student questionnaire. All study programmes were classified using ISCED (OECD, 1999). In the PISA international database, all national programmes are indicated in a variable (PROGN) where the first six digits refer to the national centre code and the last two digits to the national study programme code.

The following internationally comparable indices were derived from the data on study programmes:

- Programme level (ISCEDL) indicates whether students are (1) primary education level (ISCED 1); (2) lower-secondary education level (ISCED 2); or (3) upper secondary education level (ISCED 3).
- Programme designation (ISCEDD) indicates the designation of the study programme: (1) = "A" (general programmes designed to give access to the next programme level); (2) = "B" (programmes designed to give access to vocational studies at the next programme level); (3) = "C" (programmes designed to give direct access to the labour market); or (4) = "M" (modular programmes that combine any or all of these characteristics).
- Programme orientation (ISCEDO) indicates whether the programme's curricular content is (1) general; (2) pre-vocational; (3) vocational; or (4) modular programmes that combine any or all of these characteristics.

Occupational status of parents

Occupational data for both a student's father and a student's mother were obtained by asking open-ended questions in the student questionnaire. The responses were coded to four-digit ISCO codes (ILO, 1990) and then mapped to the SEI index of Ganzeboom et al. (1992). Higher scores of SEI indicate higher levels of occupational status. The following three indices are obtained:

- Mother's occupational status (OCOD1).
- Father's occupational status (OCOD2).
- The highest occupational level of parents (HISEI) corresponds to the higher SEI score of either parent or to the only available parent's SEI score.

Education level of parents

The education level of parents is classified using ISCED (OECD, 1999) based on students' responses in the student questionnaire.

As in PISA 2000, 2003, 2006 and 2009, indices were constructed by selecting the highest level for each parent and then assigning them to the following categories: (0) None, (1) ISCED 1 (primary education), (2) ISCED 2 (lower secondary), (3) ISCED 3B or 3C (vocational/pre-vocational upper secondary), (4) ISCED 3A (upper secondary) and/or ISCED 4 (non-tertiary post-secondary), (5) ISCED 5B (vocational tertiary), (6) ISCED 5A, 6 (theoretically oriented tertiary and post-graduate). The following three indices with these categories are developed:

- Mother's education level (MISCED).
- Father's education level (FISCED).
- Highest education level of parents (HISCED) corresponds to the higher ISCED level of either parent.

Highest education level of parents was also converted into the number of years of schooling (PARED). For the conversion of level of education into years of schooling, see Table A1.1.



[Part 1/1]

Table A1.1 Levels of parental education converted into years of schooling

		Completed ISCED level 1 (primary education)	Completed ISCED level 2 (lower secondary education)	Completed ISCED levels 3B or 3C (upper secondary education providing direct access to the labour market or to ISCED 5B programmes)	Completed ISCED level 3A (upper secondary education providing access to ISCED 5A and 5B programmes) and/ or ISCED level 4 (non-tertiary post-secondary)	Completed ISCED level 5A (university level tertiary education) or ISCED level 6 (advanced research programmes)	Completed ISCED level 5B (non-university tertiary education)
OECD	Australia	6.0	10.0	11.0	12.0	15.0	14.0
	Austria	4.0	9.0	12.0	12.5	17.0	15.0
	Belgium[1]	6.0	9.0	12.0	12.0	17.0	15.0
	Canada	6.0	9.0	12.0	12.0	17.0	15.0
	Chile	6.0	8.0	12.0	12.0	17.0	16.0
	Czech Republic	5.0	9.0	11.0	13.0	16.0	16.0
	Denmark	7.0	10.0	13.0	13.0	18.0	16.0
	Estonia	6.0	9.0	12.0	12.0	16.0	15.0
	Finland	6.0	9.0	12.0	12.0	16.5	14.5
	France	5.0	9.0	12.0	12.0	15.0	14.0
	Germany	4.0	10.0	13.0	13.0	18.0	15.0
	Greece	6.0	9.0	11.5	12.0	17.0	15.0
	Hungary	4.0	8.0	10.5	12.0	16.5	13.5
	Iceland	7.0	10.0	13.0	14.0	18.0	16.0
	Ireland	6.0	9.0	12.0	12.0	16.0	14.0
	Israel	6.0	9.0	12.0	12.0	15.0	15.0
	Italy	5.0	8.0	12.0	13.0	17.0	16.0
	Japan	6.0	9.0	12.0	12.0	16.0	14.0
	Korea	6.0	9.0	12.0	12.0	16.0	14.0
	Luxembourg	6.0	9.0	12.0	13.0	17.0	16.0
	Mexico	6.0	9.0	12.0	12.0	16.0	14.0
	Netherlands	6.0	10.0	13.0	12.0	16.0	15.0
	New Zealand	5.5	10.0	11.0	12.0	15.0	14.0
	Norway	6.0	9.0	12.0	12.0	16.0	14.0
	Poland	a	8.0	11.0	12.0	16.0	15.0
	Portugal	6.0	9.0	12.0	12.0	17.0	15.0
	Slovak Republic[2]	4.0	9.0	12.0	13.0	18.0	16.0
	Slovenia	4.0	8.0	11.0	12.0	16.0	15.0
	Spain	5.0	8.0	10.0	12.0	16.5	13.0
	Sweden	6.0	9.0	11.5	12.0	16.0	14.0
	Switzerland	6.0	9.0	12.5	12.5	17.5	14.5
	Turkey	5.0	8.0	11.0	11.0	15.0	13.0
	United Kingdom (exclud. Scotland)	6.0	9.0	12.0	13.0	16.0	15.0
	United Kingdom (Scotland)	7.0	9.0	11.0	13.0	17.0	15.0
	United States	6.0	9.0	a	12.0	16.0	14.0
Partners	Albania	6.0	9.0	12.0	12.0	16.0	16.0
	Argentina	6.0	10.0	12.0	12.0	17.0	14.5
	Azerbaijan	4.0	9.0	11.0	11.0	17.0	14.0
	Brazil	4.0	8.0	11.0	11.0	16.0	14.5
	Bulgaria	4.0	8.0	10.0	12.0	17.5	15.0
	Colombia	5.0	9.0	11.0	11.0	15.5	14.0
	Costa Rica	6.0	9.0	11.0	12.0	14.0	16.0
	Croatia	4.0	8.0	11.0	12.0	17.0	15.0
	Hong Kong-China	6.0	9.0	11.0	13.0	16.0	14.0
	Indonesia	6.0	9.0	12.0	12.0	15.0	14.0
	Jordan	6.0	10.0	12.0	12.0	16.0	14.5
	Kazakhstan	4.0	9.0	11.5	12.5	15.0	14.0
	Latvia	4.0	8.0	11.0	11.0	16.0	14.0
	Liechtenstein	5.0	9.0	11.0	13.0	17.0	14.0
	Lithuania	3.0	8.0	11.0	11.0	16.0	15.0
	Macao-China	6.0	9.0	11.0	12.0	16.0	15.0
	Malaysia	6.0	9.0	11.0	13.0	15.0	16.0
	Montenegro	4.0	8.0	11.0	12.0	16.0	15.0
	Peru	6.0	9.0	11.0	11.0	17.0	14.0
	Qatar	6.0	9.0	12.0	12.0	16.0	15.0
	Romania	4.0	8.0	11.5	12.5	16.0	14.0
	Russian Federation	4.0	9.0	11.5	12.0	15.0	a
	Serbia	4.0	8.0	11.0	12.0	17.0	14.5
	Shanghai-China	6.0	9.0	12.0	12.0	16.0	15.0
	Singapore	6.0	8.0	10.0	11.0	16.0	13.0
	Chinese Taipei	6.0	9.0	12.0	12.0	16.0	14.0
	Thailand	6.0	9.0	12.0	12.0	16.0	14.0
	Tunisia	6.0	9.0	12.0	13.0	17.0	16.0
	United Arab Emirates	5.0	9.0	12.0	12.0	16.0	15.0
	Uruguay	6.0	9.0	12.0	12.0	17.0	15.0
	Viet Nam	5.0	9.0	12.0	12.0	17.0	a

1. In Belgium the distinction between universities and other tertiary schools doesn't match the distinction between ISCED 5A and ISCED 5B.

2. In the Slovak Republic, university education (ISCED 5A) usually lasts five years and doctoral studies (ISCED 6) lasts three more years. Therefore, university graduates will have completed 18 years of study and graduates of doctoral programmes will have completed 21 years of study.

StatLink http://dx.doi.org/10.1787/888932937073



Immigration and language background

Information on the country of birth of students and their parents is collected in a similar manner as in PISA 2000, PISA 2003 and PISA 2006 by using nationally specific ISO coded variables. The ISO codes of the country of birth for students and their parents are available in the PISA international database (COBN_S, COBN_M, and COBN_F).

The index on immigrant background (IMMIG) has the following categories: (1) native students (those students born in the country of assessment, or those with at least one parent born in that country; students who were born abroad with at least one parent born in the country of assessment are also classified as 'native' students), (2) second-generation students (those born in the country of assessment but whose parents were born in another country) and (3) first-generation students (those born outside the country of assessment and whose parents were also born in another country). Students with missing responses for either the student or for both parents, or for all three questions have been given missing values for this variable.

Students indicate the language they usually speak at home. The data are captured in nationally-specific language codes, which were recoded into variable LANGN with the following two values: (1) language at home is the same as the language of assessment, and (2) language at home is a different language than the language of assessment.

Relative grade

Data on the student's grade are obtained both from the student questionnaire and from the student tracking form. As with all variables that are on both the tracking form and the questionnaire, inconsistencies between the two sources are reviewed and resolved during data-cleaning. In order to capture between-country variation, the relative grade index (GRADE) indicates whether students are at the modal grade in a country (value of 0), or whether they are below or above the modal grade level (+ x grades, - x grades).

The relationship between the grade and student performance was estimated through a multilevel model accounting for the following background variables: *i)* the *PISA index of economic, social and cultural status*; *ii)* the *PISA index of economic, social and cultural status* squared; *iii)* the school mean of the *PISA index of economic, social and cultural status; iv)* an indicator as to whether students were foreign-born first-generation students; *v)* the percentage of first-generation students in the school; and *vi)* students' gender.

Table A1.2 presents the results of the multilevel model. Column 1 in Table A1.2 estimates the score-point difference that is associated with one grade level (or school year). This difference can be estimated for the 32 OECD countries in which a sizeable number of 15-year-olds in the PISA samples were enrolled in at least two different grades. Since 15-year-olds cannot be assumed to be distributed at random across the grade levels, adjustments had to be made for the above-mentioned contextual factors that may relate to the assignment of students to the different grade levels. These adjustments are documented in columns 2 to 7 of the table. While it is possible to estimate the typical performance difference among students in two adjacent grades net of the effects of selection and contextual factors, this difference cannot automatically be equated with the progress that students have made over the last school year but should be interpreted as a lower boundary of the progress achieved. This is not only because different students were assessed but also because the content of the PISA assessment was not expressly designed to match what students had learned in the preceding school year but more broadly to assess the cumulative outcome of learning in school up to age 15. For example, if the curriculum of the grades in which 15-year-olds are enrolled mainly includes material other than that assessed by PISA (which, in turn, may have been included in earlier school years) then the observed performance difference will underestimate student progress.

Student-level scale indices

For this cycle, in order to obtain trends for all cycles from 2000 to 2012, the computation of the indices WEALTH, HEDRES, CULTPOSS and HOMEPOS was based on data from all cycles from 2000 to 2012. HOMEPOS is of particular importance as it is used in the computation of ESCS. These were then standardised on 2012 so that the OECD mean is 0 and the standard deviation is 1. This means that the indices calculated on the previous cycle will be on the 2012 scale and thus not directly comparable to the indices in the database for the previously released cycles. To estimate item parameters for scaling, a calibration sample from all cycles was used, consisting of 500 students from all countries in the previous cycles, and 750 from 2012.

The items used in the computation of the indices have changed to some extent from cycle to cycle, thought they have remained much the same from 2006 to 2012. The earlier cycle are in general missing a few items that are present in the later cycles, but it was felt leaving out items only present in the later cycles would give too much weight to the earlier cycles. So a superset of all items (except country specific items) in the five cycles was used, and international item parameters derived from this set.

The second step was to estimate WLEs for the indices, anchoring on the international item set while estimating the country specific items. This is the same procedure used in previous cycles.

A description of the 2012 items used for these indices is given below.

Family wealth

The *index of family wealth* (WEALTH) is based on students' responses on whether they had the following at home: a room of their own, a link to the Internet, a dishwasher (treated as a country-specific item), a DVD player, and three other country-specific items; and their responses on the number of cellular phones, televisions, computers, cars and the number of rooms with a bath or shower.



[Part 1/1]

Table A1.2 A multilevel model to estimate grade effects in mathematics accounting for some background variables

		Multilevel model to estimate grade effects in mathematics performance[1], accounting for:															
		grade		PISA index of economic, social and cultural status		PISA index of economic, social and cultural status squared		school mean of the PISA index of economic, social and cultural status		first-generation students		percentage of first-generation students at the school level		student is a female		intercept	
		Coeff	S.E.	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.
OECD	Australia	**35**	(2.3)	**20**	(1.4)	1	(1.1)	**68**	(7.1)	6	(3.9)	0	(0.2)	**-12**	(2.9)	481	(4.1)
	Austria	**36**	(2.7)	**11**	(1.8)	-2	(1.6)	**62**	(8.2)	-9	(6.5)	0	(0.3)	**-28**	(3.3)	526	(5.8)
	Belgium	**52**	(2.3)	**9**	(1.4)	**2**	(0.9)	**86**	(9.3)	**-16**	(4.4)	0	(0.4)	**-21**	(2.0)	529	(5.4)
	Canada	**44**	(2.5)	**19**	(1.5)	**3**	(1.1)	**29**	(6.8)	6	(3.7)	0	(0.1)	**-13**	(1.9)	506	(4.0)
	Chile	**33**	(1.8)	**9**	(1.5)	1	(0.7)	**37**	(3.6)	-2	(10.2)	-1	(1.1)	**-29**	(2.1)	469	(4.7)
	Czech Republic	**47**	(3.5)	**13**	(2.0)	-3	(2.0)	**111**	(9.3)	1	(9.1)	-2	(0.9)	**-24**	(2.9)	502	(4.2)
	Denmark	**34**	(3.9)	**26**	(2.2)	2	(1.6)	**44**	(8.0)	**-34**	(5.3)	0	(0.5)	**-18**	(2.2)	483	(5.4)
	Estonia	**41**	(2.7)	**16**	(2.0)	2	(2.3)	**25**	(6.7)	-20	(17.0)	**-4**	(0.6)	**-7**	(2.5)	530	(3.3)
	Finland	**52**	(4.4)	**22**	(2.1)	**6**	(1.9)	**38**	(13.2)	**-38**	(8.7)	-1	(0.8)	1	(3.1)	501	(7.7)
	France	**49**	(4.8)	**16**	(2.3)	2	(1.7)	**60**	(9.5)	-6	(5.8)	0	(0.4)	**-18**	(2.7)	509	(6.3)
	Germany	**41**	(2.1)	**5**	(1.5)	1	(1.4)	**108**	(8.3)	**-20**	(7.9)	**-2**	(0.7)	**-28**	(2.6)	487	(5.6)
	Greece	**41**	(6.3)	**17**	(1.7)	1	(1.2)	**29**	(6.8)	8	(6.3)	0	(0.2)	**-15**	(2.6)	458	(4.5)
	Hungary	**32**	(3.0)	**7**	(1.8)	**3**	(1.2)	**64**	(8.6)	42	(23.9)	**-1**	(0.5)	**-27**	(2.5)	494	(5.6)
	Iceland	c	c	**19**	(3.2)	3	(1.9)	**24**	(9.4)	**-31**	(11.0)	-1	(0.5)	**7**	(3.5)	454	(8.4)
	Ireland	**18**	(1.8)	**24**	(1.7)	1	(1.8)	**60**	(6.1)	**10**	(4.8)	0	(0.3)	**-15**	(3.0)	491	(4.4)
	Israel	**35**	(4.2)	**21**	(2.6)	**3**	(1.5)	**91**	(14.8)	-12	(7.7)	1	(0.8)	**-11**	(4.2)	446	(9.7)
	Italy	**35**	(1.9)	**3**	(0.9)	-1	(0.7)	**54**	(5.5)	**-13**	(3.4)	0	(0.1)	**-23**	(1.7)	495	(3.1)
	Japan	c	c	3	(2.1)	1	(2.2)	**156**	(13.3)	c	c	c	c	**-14**	(3.2)	548	(5.5)
	Korea	**40**	(14.6)	**25**	(4.7)	5	(3.0)	**75**	(20.8)	c	c	c	c	-10	(5.8)	555	(6.2)
	Luxembourg	**50**	(2.3)	**12**	(1.8)	0	(0.8)	**55**	(5.4)	-7	(4.3)	0	(0.1)	**-23**	(2.7)	481	(4.7)
	Mexico	**26**	(1.8)	**8**	(1.1)	**2**	(0.4)	**17**	(2.0)	**-44**	(6.0)	-1	(0.5)	**-14**	(1.5)	451	(3.1)
	Netherlands	**35**	(2.6)	**6**	(1.6)	0	(1.1)	**108**	(22.6)	-14	(9.4)	-1	(1.1)	**-19**	(2.1)	480	(8.1)
	New Zealand	**35**	(5.6)	**31**	(2.5)	-1	(1.8)	**60**	(8.4)	-1	(4.4)	0	(0.4)	**-10**	(3.2)	502	(9.6)
	Norway	**36**	(17.8)	**24**	(2.5)	-2	(1.7)	29	(29.3)	**-21**	(7.8)	-1	(0.8)	3	(4.0)	474	(18.0)
	Poland	**80**	(7.0)	**26**	(2.1)	-2	(1.8)	**37**	(6.9)	c	c	c	c	-5	(3.7)	539	(4.5)
	Portugal	**51**	(2.9)	**17**	(1.5)	2	(0.9)	**27**	(4.0)	10	(7.1)	0	(0.5)	**-17**	(2.2)	540	(4.3)
	Slovak Republic	**42**	(3.8)	**21**	(2.2)	-1	(1.4)	**39**	(7.5)	c	c	c	c	**-20**	(3.0)	530	(4.4)
	Slovenia	**24**	(6.2)	1	(1.7)	**4**	(1.5)	**72**	(12.9)	**-34**	(6.7)	0	(0.8)	**-25**	(2.9)	484	(5.2)
	Spain	**64**	(1.5)	**14**	(0.9)	**2**	(0.7)	**21**	(3.0)	**-16**	(3.0)	0	(0.2)	**-24**	(1.5)	531	(2.4)
	Sweden	**67**	(6.7)	**27**	(2.1)	2	(1.4)	**29**	(7.8)	**-21**	(8.0)	0	(0.2)	3	(3.0)	461	(4.6)
	Switzerland	**52**	(3.0)	**20**	(1.8)	-2	(1.2)	**20**	(7.9)	**-29**	(4.5)	-1	(0.3)	**-20**	(2.4)	528	(4.3)
	Turkey	**29**	(2.9)	1	(2.4)	-1	(1.0)	**47**	(9.1)	c	c	c	c	**-22**	(2.7)	553	(17.0)
	United Kingdom	**23**	(5.4)	**20**	(2.3)	**3**	(1.8)	**88**	(8.2)	4	(6.2)	0	(0.3)	**-9**	(3.2)	465	(4.9)
	United States	**41**	(3.3)	**21**	(1.8)	**7**	(1.5)	**51**	(9.4)	9	(8.0)	**1**	(0.4)	**-12**	(3.5)	457	(6.5)
	OECD average	**41**	(1.0)	**16**	(0.4)	**1**	(0.3)	**56**	(1.9)	**-10**	(1.6)	**0**	(0.1)	**-15**	(0.5)	498	(1.2)
Partners	Albania	6	(3.9)	m	m	m	m	m	m	c	c	c	c	0	(4.1)	395	(4.0)
	Argentina	**31**	(1.7)	**9**	(1.7)	**2**	(0.9)	**38**	(7.1)	1	(12.1)	-2	(1.0)	**-18**	(2.3)	446	(5.3)
	Brazil	**31**	(1.2)	**5**	(2.1)	0	(0.7)	**26**	(4.3)	**-49**	(19.1)	0	(1.4)	**-25**	(1.8)	432	(7.3)
	Bulgaria	**30**	(4.2)	**12**	(1.6)	1	(1.1)	25	(12.6)	c	c	c	c	**-10**	(2.6)	429	(8.0)
	Colombia	**25**	(1.3)	**7**	(2.4)	1	(0.7)	**26**	(4.1)	c	c	c	c	**-30**	(2.0)	444	(5.7)
	Costa Rica	**26**	(1.3)	**8**	(1.6)	1	(0.6)	**25**	(4.2)	-7	(8.0)	0	(0.8)	**-29**	(2.3)	447	(7.5)
	Croatia	**21**	(2.8)	**9**	(1.9)	-1	(1.3)	**71**	(13.7)	-10	(7.6)	-1	(0.9)	**-24**	(2.9)	504	(8.1)
	Cyprus*	**39**	(6.0)	**18**	(1.8)	2	(1.1)	**61**	(8.7)	-5	(5.5)	0	(0.2)	**-14**	(2.4)	439	(5.3)
	Hong Kong-China	**36**	(2.2)	4	(2.6)	1	(1.2)	**48**	(14.5)	**26**	(4.3)	0	(1.0)	**-22**	(3.3)	613	(18.1)
	Indonesia	**17**	(2.7)	**6**	(2.3)	1	(0.6)	**27**	(5.6)	c	c	c	c	**-6**	(1.9)	438	(10.9)
	Jordan	**37**	(5.3)	**12**	(2.1)	**2**	(0.8)	22	(14.9)	6	(6.6)	2	(1.0)	9	(11.7)	393	(11.4)
	Kazakhstan	**16**	(2.5)	**14**	(2.4)	0	(1.5)	**36**	(10.3)	-5	(5.0)	0	(0.3)	-4	(2.2)	459	(5.2)
	Latvia	**53**	(4.0)	**18**	(1.9)	2	(1.8)	**25**	(5.9)	c	c	c	c	**-7**	(3.0)	510	(3.8)
	Liechtenstein	**40**	(8.9)	**8**	(4.1)	-5	(2.7)	**107**	(25.4)	-10	(9.3)	**-2**	(1.0)	**-27**	(5.2)	543	(20.9)
	Lithuania	**32**	(3.4)	**17**	(1.8)	-2	(1.5)	**47**	(6.9)	c	c	c	c	**-7**	(2.6)	483	(4.1)
	Macao-China	**50**	(1.7)	**7**	(2.9)	2	(1.4)	8	(12.2)	**24**	(3.0)	-1	(0.5)	**-26**	(2.3)	544	(14.2)
	Malaysia	**79**	(7.0)	**15**	(2.3)	**2**	(0.9)	**53**	(7.2)	c	c	c	c	2	(2.1)	466	(6.5)
	Montenegro	**9**	(3.1)	**13**	(1.9)	1	(1.0)	**76**	(15.6)	**16**	(7.0)	-2	(1.1)	**-11**	(3.2)	437	(8.6)
	Peru	**25**	(1.3)	**8**	(2.1)	1	(0.6)	**36**	(3.8)	c	c	c	c	**-28**	(2.5)	434	(6.4)
	Qatar	**28**	(2.2)	**6**	(1.4)	1	(0.7)	**26**	(7.9)	**32**	(3.3)	**1**	(0.1)	2	(4.1)	310	(5.4)
	Romania	-5	(5.6)	**20**	(2.3)	**5**	(1.0)	**51**	(9.6)	c	c	c	c	**-7**	(2.8)	475	(7.4)
	Russian Federation	**34**	(2.5)	**22**	(2.2)	-1	(1.5)	**21**	(9.6)	**-16**	(6.4)	**-1**	(0.5)	-2	(2.6)	487	(4.7)
	Serbia	**33**	(10.4)	**8**	(2.1)	-1	(1.7)	**81**	(11.8)	-11	(11.5)	0	(0.9)	**-26**	(3.9)	480	(8.0)
	Shanghai-China	**43**	(5.5)	**6**	(2.4)	**-3**	(1.4)	**52**	(6.5)	-27	(16.1)	-1	(1.0)	**-14**	(2.6)	674	(7.6)
	Singapore	**44**	(3.3)	**21**	(2.2)	0	(1.2)	**81**	(12.6)	**29**	(4.8)	**-1**	(0.3)	-1	(2.7)	608	(9.4)
	Chinese Taipei	**47**	(13.2)	**21**	(3.8)	**-6**	(2.1)	**114**	(9.6)	c	c	c	c	3	(4.1)	638	(9.8)
	Thailand	**16**	(3.9)	**13**	(3.0)	**3**	(1.1)	**-22**	(10.8)	c	c	c	c	2	(3.5)	418	(17.5)
	Tunisia	**36**	(1.7)	**7**	(2.0)	**2**	(0.7)	12	(7.0)	c	c	c	c	**-26**	(1.7)	429	(11.5)
	United Arab Emirates	**33**	(1.5)	**9**	(1.3)	**3**	(0.8)	**23**	(7.4)	**31**	(2.1)	**1**	(0.1)	-2	(4.7)	387	(4.1)
	Uruguay	**39**	(2.1)	**15**	(2.0)	**3**	(0.9)	**35**	(4.3)	c	c	c	c	**-19**	(2.3)	480	(4.7)
	Viet Nam	**36**	(4.8)	**12**	(4.1)	**3**	(1.1)	26	(15.1)	c	c	c	c	**-22**	(4.4)	550	(32.4)

Note: Values that are statistically significant are indicated in bold (see Annex A3).
1. Multilevel regression model (student and school levels): Mathematics performance is regressed on the variables of school policies and practices presented in this table.
* See note at the beginning of this Annex.
StatLink http://dx.doi.org/10.1787/888932937073



Home educational resources

The *index of home educational resources* (HEDRES) is based on the items measuring the existence of educational resources at home including a desk and a quiet place to study, a computer that students can use for schoolwork, educational software, books to help with students' school work, technical reference books and a dictionary.

Cultural possessions

The *index of cultural possessions* (CULTPOSS) is based on the students' responses to whether they had the following at home: classic literature, books of poetry and works of art.

Economic, social and cultural status

The *PISA index of economic, social and cultural status* (ESCS) was derived from the following three indices: *highest occupational status of parents* (HISEI), *highest education level of parents* in years of education according to ISCED (PARED), and *home possessions* (HOMEPOS). The *index of home possessions* (HOMEPOS) comprises all items on the indices of WEALTH, CULTPOSS and HEDRES, as well as books in the home recoded into a four-level categorical variable (0-10 books, 11-25 or 26-100 books, 101-200 or 201-500 books, more than 500 books).

The *PISA index of economic, social and cultural status* (ESCS) was derived from a principal component analysis of standardised variables (each variable has an OECD mean of zero and a standard deviation of one), taking the factor scores for the first principal component as measures of the *PISA index of economic, social and cultural status*.

Principal component analysis was also performed for each participating country to determine to what extent the components of the index operate in similar ways across countries. The analysis revealed that patterns of factor loading were very similar across countries, with all three components contributing to a similar extent to the index (for details on reliability and factor loadings, see the *PISA 2012 Technical Report* (OECD, forthcoming).

The imputation of components for students missing data on one component was done on the basis of a regression on the other two variables, with an additional random error component. The final values on the *PISA index of economic, social and cultural status* (ESCS) for PISA 2012 have an OECD mean of 0 and a standard deviation of one.

ESCS was computed for all students in the five cycles, and ESCS indices for trends analyses were obtained by applying the parameters used to derive standardised values in 2012 to the ESCS components for previous cycles. These values will therefore not be directly comparable to ESCS in the databases for previous cycles, though the differences are not large for the 2006 and 2009 cycles. ESCS in earlier cycles were computed using different algorithms, so for 2000 and 2003 the differences are larger.

Changes to the computation of socio-economic status for PISA 2012

While the computation of socio-economic status followed what had been done in previous cycles, PISA 2012 undertook an important upgrade with respect to the coding of parental occupation. Prior to PISA 2012, the 1988 International Standard Classification of Occupations (ISCO-88) was used for the coding of parental occupation. By 2012, however, ISCO-88 was almost 25 years old and it was no longer tenable to maintain its use as an occupational coding scheme.[1] It was therefore decided to use its replacement, ISCO-08, for occupational coding in PISA 2012.

The change from ISCO-88 to ISCO-08 required an update of the International Socio-Economic Index (ISEI) of occupation codes. PISA 2012 therefore used a modified quantification scheme for ISCO-08 (referred to as ISEI-08), as developed by Harry Ganzeboom (2010). ISEI-08 was constructed using a database of 198 500 men and women with valid education, occupation and (personal) incomes derived from the combined 2002-07 datasets of the International Social Survey Programme (ISSP) (Ganzeboom, 2010). The methodology used for this purpose was similar to the one employed in the construction of ISEI for ISCO-68 and ISCO-88 described in different publications (Ganzeboom et al., 1992; Ganzeboom and Treiman, 1996; Ganzeboom and Treiman, 2003).[2]

The main differences with regard to the previous ISEI construction are the following:

- A new database was used which is more recent, larger and cross-nationally more diverse than the one used earlier.
- The new ISEI was constructed using data for women and men, while previously only men were used to estimate the scale. The data on income were corrected for hours worked to adjust the different prevalence of part-time work between men and women in many countries.

A range of validation activities accompanied the transition from ISCO-88/ISEI-88 to ISCO-08/ISEI-08, including a comparison of (a) the distributions of ISEI-88 with ISEI-08 in terms of range, mean and standard deviations for both mothers' and fathers' occupations and (b) correlations between the two ISEI indicators and performance, again separately undertaken for mothers' and fathers' occupation.

1. The update from ISCO-88 to ISCO-08 mainly involved (a) more adequate categories for IT-related occupations, (b) distinction of military ranks and (c) a revision of the categories classifying different managers.

2. Information on ISCO08 and ISEI08 is included from *http://www.ilo.org/public/english/bureau/stat/isco/index.htm* and *http://home.fsw.vu.nl/hbg.ganzeboom/isco08*



The rotated design of the student questionnaire

A major innovation in PISA 2012 is the rotated design of the student questionnaire. One of the main reasons for a rotated design, which has previously been implemented for the cognitive assessment, was to extend the content coverage of the student questionnaire. Table A1.3 provides an overview of the rotation design and content of questionnaire forms for the main survey.

Table A1.3 Student questionnaire rotation design

Form A	Common Question Set (all forms)	Question Set 1 – Mathematics Attitudes / Problem Solving	Question Set 3 – Opportunity to Learn / Learning Strategies
Form B	Common Question Set (all forms)	Question Set 2 – School Climate / Attitudes towards School / Anxiety	Question Set 1 – Mathematics Attitudes / Problem Solving
Form C	Common Question Set (all forms)	Question Set 3 – Opportunity to Learn / Learning Strategies	Question Set 2 – School Climate / Attitudes towards School / Anxiety

Note: For details regarding the questions in each question set, please refer to *PISA 2012 Technical Report* (OECD, forthcoming).

The *PISA 2012 Technical Report* (OECD, forthcoming) provides all details regarding the rotated design of the student questionnaire in PISA 2012, including its implications in terms of (a) proficiency estimates, (b) international reports and trends, (c) further analyses, (d) structure and documentation of the international database, and (e) logistics have been discussed elsewhere. The rotated design has negligible implications for proficiency estimates and correlations of proficiency estimates with context constructs. The international database (available at *www.pisa.oecd.org*) contains all background variables included for each student whereby ones that s/he has answered reflecting his or her responses and the ones that s/he was not administered showing a distinctive missing code by design. Rotation allows the estimation of a full co-variance matrix which means that all variables can be correlated with all other variables. It does not affect conclusions in terms of whether or not an effect would be considered significant in multilevel models.

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ANNEX A2
THE PISA TARGET POPULATION, THE PISA SAMPLES AND THE DEFINITION OF SCHOOLS

Definition of the PISA target population

PISA 2012 provides an assessment of the cumulative yield of education and learning at a point at which most young adults are still enrolled in initial education.

A major challenge for an international survey is to ensure that international comparability of national target populations is guaranteed in such a venture.

Differences between countries in the nature and extent of pre-primary education and care, the age of entry into formal schooling and the institutional structure of education systems do not allow the definition of internationally comparable grade levels of schooling. Consequently, international comparisons of education performance typically define their populations with reference to a target age group. Some previous international assessments have defined their target population on the basis of the grade level that provides maximum coverage of a particular age cohort. A disadvantage of this approach is that slight variations in the age distribution of students across grade levels often lead to the selection of different target grades in different countries, or between education systems within countries, raising serious questions about the comparability of results across, and at times within, countries. In addition, because not all students of the desired age are usually represented in grade-based samples, there may be a more serious potential bias in the results if the unrepresented students are typically enrolled in the next higher grade in some countries and the next lower grade in others. This would exclude students with potentially higher levels of performance in the former countries and students with potentially lower levels of performance in the latter.

In order to address this problem, PISA uses an age-based definition for its target population, i.e. a definition that is not tied to the institutional structures of national education systems. PISA assesses students who were aged between 15 years and 3 (complete) months and 16 years and 2 (complete) months at the beginning of the assessment period, plus or minus a 1 month allowable variation, and who were enrolled in an educational institution with Grade 7 or higher, regardless of the grade levels or type of institution in which they were enrolled, and regardless of whether they were in full-time or part-time education. Educational institutions are generally referred to as schools in this publication, although some educational institutions (in particular, some types of vocational education establishments) may not be termed schools in certain countries. As expected from this definition, the average age of students across OECD countries was 15 years and 9 months. The range in country means was 2 months and 5 days (0.18 years), from the minimum country mean of 15 years and 8 months to the maximum country mean of 15 years and 10 months.

Given this definition of population, PISA makes statements about the knowledge and skills of a group of individuals who were born within a comparable reference period, but who may have undergone different educational experiences both in and outside of schools. In PISA, these knowledge and skills are referred to as the yield of education at an age that is common across countries. Depending on countries' policies on school entry, selection and promotion, these students may be distributed over a narrower or a wider range of grades across different education systems, tracks or streams. It is important to consider these differences when comparing PISA results across countries, as observed differences between students at age 15 may no longer appear as students' educational experiences converge later on.

If a country's scale scores in reading, scientific or mathematical literacy are significantly higher than those in another country, it cannot automatically be inferred that the schools or particular parts of the education system in the first country are more effective than those in the second. However, one can legitimately conclude that the cumulative impact of learning experiences in the first country, starting in early childhood and up to the age of 15, and embracing experiences both in school, home and beyond, have resulted in higher outcomes in the literacy domains that PISA measures.

The PISA target population did not include residents attending schools in a foreign country. It does, however, include foreign nationals attending schools in the country of assessment.

To accommodate countries that desired grade-based results for the purpose of national analyses, PISA 2012 provided a sampling option to supplement age-based sampling with grade-based sampling.

Population coverage

All countries attempted to maximise the coverage of 15-year-olds enrolled in education in their national samples, including students enrolled in special educational institutions. As a result, PISA 2012 reached standards of population coverage that are unprecedented in international surveys of this kind.

The sampling standards used in PISA permitted countries to exclude up to a total of 5% of the relevant population either by excluding schools or by excluding students within schools. All but eight countries, Luxembourg (8.40%), Canada (6.38%), Denmark (6.18%), Norway (6.11%), Estonia (5.80%), Sweden (5.44%), the United Kingdom (5.43%) and the United States (5.35%), achieved this standard, and in 30 countries and economies, the overall exclusion rate was less than 2%. When language exclusions were accounted for (i.e. removed from the overall exclusion rate), Norway , Sweden, the United Kingdom and the United States no longer had an exclusion rate greater than 5%. For details, see *www.pisa.oecd.org*.



Exclusions within the above limits include:

- At the school level: *i)* schools that were geographically inaccessible or where the administration of the PISA assessment was not considered feasible; and *ii)* schools that provided teaching only for students in the categories defined under "within-school exclusions", such as schools for the blind. The percentage of 15-year-olds enrolled in such schools had to be less than 2.5% of the nationally desired target population [0.5% maximum for *i)* and 2% maximum for *ii)*]. The magnitude, nature and justification of school-level exclusions are documented in the *PISA 2012 Technical Report* (OECD, forthcoming).
- At the student level: *i)* students with an intellectual disability; *ii)* students with a functional disability; *iii)* students with limited assessment language proficiency; *iv)* other – a category defined by the national centres and approved by the international centre; and *v)* students taught in a language of instruction for the main domain for which no materials were available. Students could not be excluded solely because of low proficiency or common discipline problems. The percentage of 15-year-olds excluded within schools had to be less than 2.5% of the nationally desired target population.

Table A2.1 describes the target population of the countries participating in PISA 2012. Further information on the target population and the implementation of PISA sampling standards can be found in the *PISA 2012 Technical Report* (OECD, forthcoming).

- ***Column 1*** shows the *total number of 15-year-olds* according to the most recent available information, which in most countries meant the year 2011 as the year before the assessment.
- ***Column 2*** shows the number of 15-year-olds enrolled in schools in Grade 7 or above (as defined above), which is referred to as the *eligible population*.
- ***Column 3*** shows the *national desired target population*. Countries were allowed to exclude up to 0.5% of students a priori from the eligible population, essentially for practical reasons. The following a priori exclusions exceed this limit but were agreed with the PISA Consortium: Belgium excluded 0.23% of its population for a particular type of student educated while working; Canada excluded 1.14% of its population from Territories and Aboriginal reserves; Chile excluded 0.04% of its students who live in Easter Island, Juan Fernandez Archipelago and Antarctica; Indonesia excluded 1.55% of its students from two provinces because of operational reasons; Ireland excluded 0.05% of its students in three island schools off the west coast; Latvia excluded 0.08% of its students in distance learning schools; and Serbia excluded 2.11% of its students taught in Serbian in Kosovo.
- ***Column 4*** shows the n*umber of students enrolled in schools that were excluded from the national desired target population* either from the sampling frame or later in the field during data collection.
- ***Column 5*** shows the *size of the national desired target population after subtracting the students enrolled in excluded schools*. This is obtained by subtracting Column 4 from Column 3.
- ***Column 6*** shows the *percentage of students enrolled in excluded schools*. This is obtained by dividing Column 4 by Column 3 and multiplying by 100.
- ***Column 7*** shows the *number of students participating in PISA 2012*. Note that in some cases this number does not account for 15-year-olds assessed as part of additional national options.
- ***Column 8*** shows the *weighted number of participating students*, i.e. the number of students in the nationally defined target population that the PISA sample represents.
- Each country attempted to maximise the coverage of the PISA target population within the sampled schools. In the case of each sampled school, all eligible students, namely those 15 years of age, regardless of grade, were first listed. Sampled students who were to be excluded had still to be included in the sampling documentation, and a list drawn up stating the reason for their exclusion. ***Column 9*** indicates the *total number of excluded students*, which is further described and classified into specific categories in Table A2.2.
- ***Column 10*** indicates the *weighted number of excluded students*, i.e. the overall number of students in the nationally defined target population represented by the number of students excluded from the sample, which is also described and classified by exclusion categories in Table A2.2. Excluded students were excluded based on five categories: *i)* students with an intellectual disability – the student has a mental or emotional disability and is cognitively delayed such that he/she cannot perform in the PISA testing situation; *ii)* students with a functional disability – the student has a moderate to severe permanent physical disability such that he/she cannot perform in the PISA testing situation; *iii)* students with a limited assessment language proficiency – the student is unable to read or speak any of the languages of the assessment in the country and would be unable to overcome the language barrier in the testing situation (typically a student who has received less than one year of instruction in the languages of the assessment may be excluded); *iv)* other – a category defined by the national centres and approved by the international centre; and *v)* students taught in a language of instruction for the main domain for which no materials were available.
- ***Column 11*** shows the *percentage of students excluded within schools*. This is calculated as the weighted number of excluded students (Column 10), divided by the weighted number of excluded and participating students (Column 8 plus Column 10), then multiplied by 100.
- ***Column 12*** shows the *overall exclusion rate*, which represents the weighted percentage of the national desired target population excluded from PISA either through school-level exclusions or through the exclusion of students within schools. It is calculated as the school-level exclusion rate (Column 6 divided by 100) plus within-school exclusion rate (Column 11 divided by 100) multiplied by 1 minus the school-level exclusion rate (Column 6 divided by 100). This result is then multiplied by 100. Eight countries, Canada, Denmark, Estonia, Luxembourg, Norway, Sweden, the United Kingdom and the United States, had exclusion rates higher than 5%. When language exclusions were accounted for (i.e. removed from the overall exclusion rate), Norway, Sweden, the United Kingdom and the United States no longer had an exclusion rate greater than 5%".



[Part 1/2]

Table A2.1 PISA target populations and samples

		Population and sample information							
		Total population of 15-year-olds	Total enrolled population of 15-year-olds at Grade 7 or above	Total in national desired target population	Total school-level exclusions	Total in national desired target population after all school exclusions and before within-school exclusions	School-level exclusion rate (%)	Number of participating students	Weighted number of participating students
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OECD	Australia	291 967	288 159	288 159	5 702	282 457	1.98	17 774	250 779
	Austria	93 537	89 073	89 073	106	88 967	0.12	4 756	82 242
	Belgium	123 469	121 493	121 209	1 324	119 885	1.09	9 690	117 912
	Canada	417 873	409 453	404 767	2 936	401 831	0.73	21 548	348 070
	Chile	274 803	252 733	252 625	2 687	249 938	1.06	6 857	229 199
	Czech Republic	96 946	93 214	93 214	1 577	91 637	1.69	6 535	82 101
	Denmark	72 310	70 854	70 854	1 965	68 889	2.77	7 481	65 642
	Estonia	12 649	12 438	12 438	442	11 996	3.55	5 867	11 634
	Finland	62 523	62 195	62 195	523	61 672	0.84	8 829	60 047
	France	792 983	755 447	755 447	27 403	728 044	3.63	5 682	701 399
	Germany	798 136	798 136	798 136	10 914	787 222	1.37	5 001	756 907
	Greece	110 521	105 096	105 096	1 364	103 732	1.30	5 125	96 640
	Hungary	111 761	108 816	108 816	1 725	107 091	1.59	4 810	91 179
	Iceland	4 505	4 491	4 491	10	4 481	0.22	3 508	4 169
	Ireland	59 296	57 979	57 952	0	57 952	0.00	5 016	54 010
	Israel	118 953	113 278	113 278	2 784	110 494	2.46	6 061	107 745
	Italy	605 490	566 973	566 973	8 498	558 475	1.50	38 142	521 288
	Japan	1 241 786	1 214 756	1 214 756	26 099	1 188 657	2.15	6 351	1 128 179
	Korea	687 104	672 101	672 101	3 053	669 048	0.45	5 033	603 632
	Luxembourg	6 187	6 082	6 082	151	5 931	2.48	5 260	5 523
	Mexico	2 114 745	1 472 875	1 472 875	7 307	1 465 568	0.50	33 806	1 326 025
	Netherlands	194 000	193 190	193 190	7 546	185 644	3.91	4 460	196 262
	New Zealand	60 940	59 118	59 118	579	58 539	0.98	5 248	53 414
	Norway	64 917	64 777	64 777	750	64 027	1.16	4 686	59 432
	Poland	425 597	410 700	410 700	6 900	403 800	1.68	5 662	379 275
	Portugal	108 728	127 537	127 537	0	127 537	0.00	5 722	96 034
	Slovak Republic	59 723	59 367	59 367	1 480	57 887	2.49	5 737	54 486
	Slovenia	19 471	18 935	18 935	115	18 820	0.61	7 229	18 303
	Spain	423 444	404 374	404 374	2 031	402 343	0.50	25 335	374 266
	Sweden	102 087	102 027	102 027	1 705	100 322	1.67	4 739	94 988
	Switzerland	87 200	85 239	85 239	2 479	82 760	2.91	11 234	79 679
	Turkey	1 266 638	965 736	965 736	10 387	955 349	1.08	4 848	866 681
	United Kingdom	738 066	745 581	745 581	19 820	725 761	2.66	12 659	688 236
	United States	3 985 714	4 074 457	4 074 457	41 142	4 033 315	1.01	6 111	3 536 153
Partners	Albania	76 910	50 157	50 157	56	50 101	0.11	4 743	42 466
	Argentina	684 879	637 603	637 603	3 995	633 608	0.63	5 908	545 942
	Brazil	3 574 928	2 786 064	2 786 064	34 932	2 751 132	1.25	20 091	2 470 804
	Bulgaria	70 188	59 684	59 684	1 437	58 247	2.41	5 282	54 255
	Colombia	889 729	620 422	620 422	4	620 418	0.00	11 173	560 805
	Costa Rica	81 489	64 326	64 326	0	64 326	0.00	4 602	40 384
	Croatia	48 155	46 550	46 550	417	46 133	0.90	6 153	45 502
	Cyprus*	9 956	9 956	9 955	128	9 827	1.29	5 078	9 650
	Hong Kong-China	84 200	77 864	77 864	813	77 051	1.04	4 670	70 636
	Indonesia	4 174 217	3 599 844	3 544 028	8 039	3 535 989	0.23	5 622	2 645 155
	Jordan	129 492	125 333	125 333	141	125 192	0.11	7 038	111 098
	Kazakhstan	258 716	247 048	247 048	7 374	239 674	2.98	5 808	208 411
	Latvia	18 789	18 389	18 375	655	17 720	3.56	5 276	16 054
	Liechtenstein	417	383	383	1	382	0.26	293	314
	Lithuania	38 524	35 567	35 567	526	35 041	1.48	4 618	33 042
	Macao-China	6 600	5 416	5 416	6	5 410	0.11	5 335	5 366
	Malaysia	544 302	457 999	457 999	225	457 774	0.05	5 197	432 080
	Montenegro	8 600	8 600	8 600	18	8 582	0.21	4 744	7 714
	Peru	584 294	508 969	508 969	263	508 706	0.05	6 035	419 945
	Qatar	11 667	11 532	11 532	202	11 330	1.75	10 966	11 003
	Romania	146 243	146 243	146 243	5 091	141 152	3.48	5 074	140 915
	Russian Federation	1 272 632	1 268 814	1 268 814	17 800	1 251 014	1.40	6 418	1 172 539
	Serbia	80 089	75 870	74 272	1 987	72 285	2.67	4 684	67 934
	Shanghai-China	108 056	90 796	90 796	1 252	89 544	1.38	6 374	85 127
	Singapore	53 637	52 163	52 163	293	51 870	0.56	5 546	51 088
	Chinese Taipei	328 356	328 336	328 336	1 747	326 589	0.53	6 046	292 542
	Thailand	982 080	784 897	784 897	9 123	775 774	1.16	6 606	703 012
	Tunisia	132 313	132 313	132 313	169	132 144	0.13	4 407	120 784
	United Arab Emirates	48 824	48 446	48 446	971	47 475	2.00	11 500	40 612
	Uruguay	54 638	46 442	46 442	14	46 428	0.03	5 315	39 771
	Viet Nam	1 717 996	1 091 462	1 091 462	7 729	1 083 733	0.71	4 959	956 517

Notes: For a full explanation of the details in this table please refer to the *PISA 2012 Technical Report* (OECD, forthcoming). The figure for total national population of 15-year-olds enrolled in Column 2 may occasionally be larger than the total number of 15-year-olds in Column 1 due to differing data sources.
Information for the adjudicated regions is available on line.
* See note at the beginning of this Annex.
StatLink http://dx.doi.org/10.1787/888932937092



[Part 2/2]

Table A2.1 **PISA target populations and samples**

		Population and sample information				Coverage indices		
		Number of excluded students	Weighted number of excluded students	Within-school exclusion rate (%)	Overall exclusion rate (%)	Coverage index 1: Coverage of national desired population	Coverage index 2: Coverage of national enrolled population	Coverage index 3: Coverage of 15-year-old population
		(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD	Australia	505	5 282	2.06	4.00	0.960	0.960	0.859
	Austria	46	1 011	1.21	1.33	0.987	0.987	0.879
	Belgium	39	367	0.31	1.40	0.986	0.984	0.955
	Canada	1 796	21 013	5.69	6.38	0.936	0.926	0.833
	Chile	18	548	0.24	1.30	0.987	0.987	0.834
	Czech Republic	15	118	0.14	1.83	0.982	0.982	0.847
	Denmark	368	2 381	3.50	6.18	0.938	0.938	0.908
	Estonia	143	277	2.33	5.80	0.942	0.942	0.920
	Finland	225	653	1.08	1.91	0.981	0.981	0.960
	France	52	5 828	0.82	4.42	0.956	0.956	0.885
	Germany	8	1 302	0.17	1.54	0.985	0.985	0.948
	Greece	136	2 304	2.33	3.60	0.964	0.964	0.874
	Hungary	27	928	1.01	2.58	0.974	0.974	0.816
	Iceland	155	156	3.60	3.81	0.962	0.962	0.925
	Ireland	271	2 524	4.47	4.47	0.955	0.955	0.911
	Israel	114	1 884	1.72	4.13	0.959	0.959	0.906
	Italy	741	9 855	1.86	3.33	0.967	0.967	0.861
	Japan	0	0	0.00	2.15	0.979	0.979	0.909
	Korea	17	2 238	0.37	0.82	0.992	0.992	0.879
	Luxembourg	357	357	6.07	8.40	0.872	0.916	0.893
	Mexico	58	3 247	0.24	0.74	0.993	0.993	0.627
	Netherlands	27	1 056	0.54	4.42	0.956	0.956	1.012
	New Zealand	255	2 030	3.66	4.61	0.954	0.954	0.876
	Norway	278	3 133	5.01	6.11	0.939	0.939	0.916
	Poland	212	11 566	2.96	4.59	0.954	0.954	0.891
	Portugal	124	1 560	1.60	1.60	0.984	0.984	0.883
	Slovak Republic	29	246	0.45	2.93	0.971	0.971	0.912
	Slovenia	84	181	0.98	1.58	0.984	0.984	0.940
	Spain	959	14 931	3.84	4.32	0.957	0.957	0.884
	Sweden	201	3 789	3.84	5.44	0.946	0.946	0.930
	Switzerland	256	1 093	1.35	4.22	0.958	0.958	0.914
	Turkey	21	3 684	0.42	1.49	0.985	0.985	0.684
	United Kingdom	486	20 173	2.85	5.43	0.946	0.946	0.932
	United States	319	162 194	4.39	5.35	0.946	0.946	0.887
Partners	Albania	1	10	0.02	0.14	0.999	0.999	0.552
	Argentina	12	641	0.12	0.74	0.993	0.993	0.797
	Brazil	44	4 900	0.20	1.45	0.986	0.986	0.691
	Bulgaria	6	80	0.15	2.55	0.974	0.974	0.773
	Colombia	23	789	0.14	0.14	0.999	0.999	0.630
	Costa Rica	2	12	0.03	0.03	1.000	1.000	0.496
	Croatia	91	627	1.36	2.24	0.978	0.978	0.945
	Cyprus*	157	200	2.03	3.29	0.967	0.967	0.969
	Hong Kong-China	38	518	0.73	1.76	0.982	0.982	0.839
	Indonesia	2	860	0.03	0.26	0.997	0.982	0.634
	Jordan	19	304	0.27	0.39	0.996	0.996	0.858
	Kazakhstan	25	951	0.45	3.43	0.966	0.966	0.806
	Latvia	14	76	0.47	4.02	0.960	0.959	0.854
	Liechtenstein	13	13	3.97	4.22	0.958	0.958	0.753
	Lithuania	130	867	2.56	4.00	0.960	0.960	0.858
	Macao-China	3	3	0.06	0.17	0.998	0.998	0.813
	Malaysia	7	554	0.13	0.18	0.998	0.998	0.794
	Montenegro	4	8	0.10	0.31	0.997	0.997	0.897
	Peru	8	549	0.13	0.18	0.998	0.998	0.719
	Qatar	85	85	0.77	2.51	0.975	0.975	0.943
	Romania	0	0	0.00	3.48	0.965	0.965	0.964
	Russian Federation	69	11 940	1.01	2.40	0.976	0.976	0.921
	Serbia	10	136	0.20	2.87	0.971	0.951	0.848
	Shanghai-China	8	107	0.13	1.50	0.985	0.985	0.788
	Singapore	33	315	0.61	1.17	0.988	0.988	0.952
	Chinese Taipei	44	2 029	0.69	1.22	0.988	0.988	0.891
	Thailand	12	1 144	0.16	1.32	0.987	0.987	0.716
	Tunisia	5	130	0.11	0.24	0.998	0.998	0.913
	United Arab Emirates	11	37	0.09	2.09	0.979	0.979	0.832
	Uruguay	15	99	0.25	0.28	0.997	0.997	0.728
	Viet Nam	1	198	0.02	0.73	0.993	0.993	0.557

Notes: For a full explanation of the details in this table please refer to the *PISA 2012 Technical Report* (OECD, forthcoming). The figure for total national population of 15-year-olds enrolled in Column 2 may occasionally be larger than the total number of 15-year-olds in Column 1 due to differing data sources.
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[Part 1/1]

Table A2.2 Exclusions

		Student exclusions (unweighted)						Student exclusions (weighted)					
		Number of excluded students with functional disability (Code 1)	Number of excluded students with intellectual disability (Code 2)	Number of excluded students because of language (Code 3)	Number of excluded students for other reasons (Code 4)	Number of excluded students because of no materials available in the language of instruction (Code 5)	Total number of excluded students	Weighted number of excluded students with functional disability (Code 1)	Weighted number of excluded students with intellectual disability (Code 2)	Weighted number of excluded students because of language (Code 3)	Weighted number of excluded students for other reasons (Code 4)	Weighted number of excluded students because of no materials available in the language of instruction (Code 5)	Total weighted number of excluded students
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD	Australia	39	395	71	0	0	505	471	3 925	886	0	0	5 282
	Austria	11	24	11	0	0	46	332	438	241	0	0	1 011
	Belgium	5	22	12	0	0	39	24	154	189	0	0	367
	Canada	82	1 593	121	0	0	1 796	981	18 682	1 350	0	0	21 013
	Chile	3	15	0	0	0	18	74	474	0	0	0	548
	Czech Republic	1	8	6	0	0	15	1	84	34	0	0	118
	Denmark	10	204	112	42	0	368	44	1 469	559	310	0	2 381
	Estonia	7	134	2	0	0	143	14	260	3	0	0	277
	Finland	5	80	101	15	24	225	43	363	166	47	35	653
	France	52	0	0	0	0	52	5 828	0	0	0	0	5 828
	Germany	0	4	4	0	0	8	0	705	597	0	0	1 302
	Greece	3	18	4	111	0	136	49	348	91	1 816	0	2 304
	Hungary	1	15	2	9	0	27	36	568	27	296	0	928
	Iceland	5	105	27	18	0	155	5	105	27	18	0	156
	Ireland	13	159	33	66	0	271	121	1 521	283	599	0	2 524
	Israel	9	91	14	0	0	114	133	1 492	260	0	0	1 884
	Italy	64	566	111	0	0	741	596	7 899	1 361	0	0	9 855
	Japan	0	0	0	0	0	0	0	0	0	0	0	0
	Luxembourg	6	261	90	0	0	357	6	261	90	0	0	357
	Mexico	21	36	1	0	0	58	812	2 390	45	0	0	3 247
	Netherlands	5	21	1	0	0	27	188	819	50	0	0	1 056
	New Zealand	27	118	99	0	11	255	235	926	813	0	57	2 030
	Norway	11	192	75	0	0	278	120	2 180	832	0	0	3 133
	Poland	23	89	6	88	6	212	1 470	5 187	177	4 644	89	11 566
	Portugal	69	48	7	0	0	124	860	605	94	0	0	1 560
	Korea	2	15	0	0	0	17	223	2 015	0	0	0	2 238
	Slovak Republic	2	14	0	13	0	29	22	135	0	89	0	246
	Slovenia	13	27	44	0	0	84	23	76	81	0	0	181
	Spain	56	679	224	0	0	959	618	11 330	2 984	0	0	14 931
	Sweden	120	0	81	0	0	201	2 218	0	1 571	0	0	3 789
	Switzerland	7	99	150	0	0	256	41	346	706	0	0	1 093
	Turkey	5	14	2	0	0	21	757	2 556	371	0	0	3 684
	United Kingdom	40	405	41	0	0	486	1 468	15 514	3 191	0	0	20 173
	United States	37	219	63	0	0	319	18 399	113 965	29 830	0	0	162 194
Partners	Albania	0	0	1	0	0	1	0	0	10	0	0	10
	Argentina	1	11	0	0	0	12	84	557	0	0	0	641
	Brazil	17	27	0	0	0	44	1 792	3 108	0	0	0	4 900
	Bulgaria	6	0	0	0	0	6	80	0	0	0	0	80
	Colombia	12	10	1	0	0	23	397	378	14	0	0	789
	Costa Rica	0	2	0	0	0	2	0	12	0	0	0	12
	Croatia	10	78	3	0	0	91	69	539	19	0	0	627
	Cyprus*	8	54	60	35	0	157	9	64	72	55	0	200
	Hong Kong-China	4	33	1	0	0	38	57	446	15	0	0	518
	Indonesia	1	0	1	0	0	2	426	0	434	0	0	860
	Jordan	8	6	5	0	0	19	109	72	122	0	0	304
	Kazakhstan	9	16	0	0	0	25	317	634	0	0	0	951
	Latvia	3	7	4	0	0	14	8	45	24	0	0	76
	Liechtenstein	1	7	5	0	0	13	1	7	5	0	0	13
	Lithuania	10	120	0	0	0	130	66	801	0	0	0	867
	Macao-China	0	1	2	0	0	3	0	1	2	0	0	3
	Malaysia	3	4	0	0	0	7	274	279	0	0	0	554
	Montenegro	3	1	0	0	0	4	7	1	0	0	0	8
	Peru	3	5	0	0	0	8	269	280	0	0	0	549
	Qatar	23	43	19	0	0	85	23	43	19	0	0	85
	Romania	0	0	0	0	0	0	0	0	0	0	0	0
	Russian Federation	25	40	4	0	0	69	4 345	6 934	660	0	0	11 940
	Serbia	4	4	2	0	0	10	53	55	28	0	0	136
	Shanghai-China	1	6	1	0	0	8	14	80	14	0	0	107
	Singapore	5	17	11	0	0	33	50	157	109	0	0	315
	Chinese Taipei	6	36	2	0	0	44	296	1 664	70	0	0	2 029
	Thailand	2	10	0	0	0	12	13	1 131	0	0	0	1 144
	Tunisia	4	1	0	0	0	5	104	26	0	0	0	130
	United Arab Emirates	3	7	1	0	0	11	26	9	2	0	0	37
	Uruguay	9	6	0	0	0	15	66	33	0	0	0	99
	Viet Nam	0	1	0	0	0	1	0	198	0	0	0	198

Exclusion codes:
Code 1 Functional disability – student has a moderate to severe permanent physical disability.
Code 2 Intellectual disability – student has a mental or emotional disability and has either been tested as cognitively delayed or is considered in the professional opinion of qualified staff to be cognitively delayed.
Code 3 Limited assessment language proficiency – student is not a native speaker of any of the languages of the assessment in the country and has been resident in the country for less than one year.
Code 4 Other reasons defined by the national centres and approved by the international centre.
Code 5 No materials available in the language of instruction.
Note: For a full explanation of the details in this table please refer to the *PISA 2012 Technical Report* (OECD, forthcoming).
Information for the adjudicated regions is available on line.
* See note at the beginning of this Annex.
StatLink http://dx.doi.org/10.1787/888932937092



- ***Column 13*** presents an *index of the extent to which the national desired target population is covered by the PISA sample*. Canada, Denmark, Estonia, Luxembourg, Norway, Sweden, the United Kingdom and the United States were the only countries where the coverage is below 95%.
- ***Column 14*** presents an *index of the extent to which 15-year-olds enrolled in schools are covered by the PISA sample*. The index measures the overall proportion of the national enrolled population that is covered by the non-excluded portion of the student sample. The index takes into account both school-level and student-level exclusions. Values close to 100 indicate that the PISA sample represents the entire education system as defined for PISA 2012. The index is the weighted number of participating students (Column 8) divided by the weighted number of participating and excluded students (Column 8 plus Column 10), times the nationally defined target population (Column 5) divided by the eligible population (Column 2).
- ***Column 15*** presents an *index of the coverage of the 15-year-old population*. This index is the weighted number of participating students (Column 8) divided by the total population of 15-year-old students (Column 1).

This high level of coverage contributes to the comparability of the assessment results. For example, even assuming that the excluded students would have systematically scored worse than those who participated, and that this relationship is moderately strong, an exclusion rate in the order of 5% would likely lead to an overestimation of national mean scores of less than 5 score points (on a scale with an international mean of 500 score points and a standard deviation of 100 score points). This assessment is based on the following calculations: if the correlation between the propensity of exclusions and student performance is 0.3, resulting mean scores would likely be overestimated by 1 score point if the exclusion rate is 1%, by 3 score points if the exclusion rate is 5%, and by 6 score points if the exclusion rate is 10%. If the correlation between the propensity of exclusions and student performance is 0.5, resulting mean scores would be overestimated by 1 score point if the exclusion rate is 1%, by 5 score points if the exclusion rate is 5%, and by 10 score points if the exclusion rate is 10%. For this calculation, a model was employed that assumes a bivariate normal distribution for performance and the propensity to participate. For details, see the *PISA 2012 Technical Report* (OECD, forthcoming).

Sampling procedures and response rates

The accuracy of any survey results depends on the quality of the information on which national samples are based as well as on the sampling procedures. Quality standards, procedures, instruments and verification mechanisms were developed for PISA that ensured that national samples yielded comparable data and that the results could be compared with confidence.

Most PISA samples were designed as two-stage stratified samples (where countries applied different sampling designs, these are documented in the *PISA 2012 Technical Report* [OECD, forthcoming]). The first stage consisted of sampling individual schools in which 15-year-old students could be enrolled. Schools were sampled systematically with probabilities proportional to size, the measure of size being a function of the estimated number of eligible (15-year-old) students enrolled. A minimum of 150 schools were selected in each country (where this number existed), although the requirements for national analyses often required a somewhat larger sample. As the schools were sampled, replacement schools were simultaneously identified, in case a sampled school chose not to participate in PISA 2012.

In the case of Iceland, Liechtenstein, Luxembourg, Macao-China and Qatar, all schools and all eligible students within schools were included in the sample.

Experts from the PISA Consortium performed the sample selection process for most participating countries and monitored it closely in those countries that selected their own samples. The second stage of the selection process sampled students within sampled schools. Once schools were selected, a list of each sampled school's 15-year-old students was prepared. From this list, 35 students were then selected with equal probability (all 15-year-old students were selected if fewer than 35 were enrolled). The number of students to be sampled per school could deviate from 35, but could not be less than 20.

Data-quality standards in PISA required minimum participation rates for schools as well as for students. These standards were established to minimise the potential for response biases. In the case of countries meeting these standards, it was likely that any bias resulting from non-response would be negligible, i.e. typically smaller than the sampling error.

A minimum response rate of 85% was required for the schools initially selected. Where the initial response rate of schools was between 65% and 85%, however, an acceptable school response rate could still be achieved through the use of replacement schools. This procedure brought with it a risk of increased response bias. Participating countries were, therefore, encouraged to persuade as many of the schools in the original sample as possible to participate. Schools with a student participation rate between 25% and 50% were not regarded as participating schools, but data from these schools were included in the database and contributed to the various estimations. Data from schools with a student participation rate of less than 25% were excluded from the database.

PISA 2012 also required a minimum participation rate of 80% of students within participating schools. This minimum participation rate had to be met at the national level, not necessarily by each participating school. Follow-up sessions were required in schools in which too few students had participated in the original assessment sessions. Student participation rates were calculated over all original schools, and also over all schools, whether original sample or replacement schools, and from the participation of students in both the original assessment and any follow-up sessions. A student who participated in the original or follow-up cognitive sessions was regarded as a participant. Those who attended only the questionnaire session were included in the international database and contributed to the statistics presented in this publication if they provided at least a description of their father's or mother's occupation.



[Part 1/2]

Table A2.3 **Response rates**

		Initial sample – before school replacement					Final sample – after school replacement		
		Weighted school participation rate before replacement (%)	Weighted number of responding schools (weighted also by enrolment)	Weighted number of schools sampled (responding and non-responding) (weighted also by enrolment)	Number of responding schools (unweighted)	Number of responding and non-responding schools (unweighted)	Weighted school participation rate after replacement (%)	Weighted number of responding schools (weighted also by enrolment)	Weighted number of schools sampled (responding and non-responding) (weighted also by enrolment)
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OECD	Australia	98	268 631	274 432	757	790	98	268 631	274 432
	Austria	100	88 967	88 967	191	191	100	88 967	88 967
	Belgium	84	100 482	119 019	246	294	97	115 004	119 006
	Canada	91	362 178	396 757	828	907	93	368 600	396 757
	Chile	92	220 009	239 429	200	224	99	236 576	239 370
	Czech Republic	98	87 238	88 884	292	297	100	88 447	88 797
	Denmark	87	61 749	71 015	311	366	96	67 709	70 892
	Estonia	100	12 046	12 046	206	206	100	12 046	12 046
	Finland	99	59 740	60 323	310	313	99	59 912	60 323
	France	97	703 458	728 401	223	231	97	703 458	728 401
	Germany	98	735 944	753 179	227	233	98	737 778	753 179
	Greece	93	95 107	102 087	176	192	99	100 892	102 053
	Hungary	98	99 317	101 751	198	208	99	101 187	101 751
	Iceland	99	4 395	4 424	133	140	99	4 395	4 424
	Ireland	99	56 962	57 711	182	185	99	57 316	57 711
	Israel	91	99 543	109 326	166	186	94	103 075	109 895
	Italy	89	478 317	536 921	1 104	1 232	97	522 686	536 821
	Japan	86	1 015 198	1 175 794	173	200	96	1 123 211	1 175 794
	Korea	100	661 575	662 510	156	157	100	661 575	662 510
	Luxembourg	100	5 931	5 931	42	42	100	5 931	5 931
	Mexico	92	1 323 816	1 442 242	1 431	1 562	95	1 374 615	1 442 234
	Netherlands	75	139 709	185 468	148	199	89	165 635	185 320
	New Zealand	81	47 441	58 676	156	197	89	52 360	58 616
	Norway	85	54 201	63 653	177	208	95	60 270	63 642
	Poland	85	343 344	402 116	159	188	98	393 872	402 116
	Portugal	95	122 238	128 129	186	195	96	122 713	128 050
	Slovak Republic	87	50 182	57 353	202	236	99	57 599	58 201
	Slovenia	98	18 329	18 680	335	353	98	18 329	18 680
	Spain	100	402 604	403 999	902	904	100	402 604	403 999
	Sweden	99	98 645	99 726	207	211	100	99 536	99 767
	Switzerland	94	78 825	83 450	397	422	98	82 032	83 424
	Turkey	97	921 643	945 357	165	170	100	944 807	945 357
	United Kingdom	80	564 438	705 011	477	550	89	624 499	699 839
	United States	67	2 647 253	3 945 575	139	207	77	3 040 661	3 938 077
Partners	Albania	100	49 632	49 632	204	204	100	49 632	49 632
	Argentina	95	578 723	606 069	218	229	96	580 989	606 069
	Brazil	93	2 545 863	2 745 045	803	886	95	2 622 293	2 747 688
	Bulgaria	99	57 101	57 574	186	188	100	57 464	57 574
	Colombia	87	530 553	612 605	323	363	97	596 557	612 261
	Costa Rica	99	64 235	64 920	191	193	99	64 235	64 920
	Croatia	99	45 037	45 636	161	164	100	45 608	45 636
	Cyprus*	97	9 485	9 821	117	131	97	9 485	9 821
	Hong Kong-China	79	60 277	76 589	123	156	94	72 064	76 567
	Indonesia	95	2 799 943	2 950 696	199	210	98	2 892 365	2 951 028
	Jordan	100	119 147	119 147	233	233	100	119 147	119 147
	Kazakhstan	100	239 767	239 767	218	218	100	239 767	239 767
	Latvia	88	15 371	17 488	186	213	100	17 428	17 448
	Liechtenstein	100	382	382	12	12	100	382	382
	Lithuania	98	33 989	34 614	211	216	100	34 604	34 604
	Macao-China	100	5 410	5 410	45	45	100	5 410	5 410
	Malaysia	100	455 543	455 543	164	164	100	455 543	455 543
	Montenegro	100	8 540	8 540	51	51	100	8 540	8 540
	Peru	98	503 915	514 574	238	243	99	507 602	514 574
	Qatar	100	11 333	11 340	157	164	100	11 333	11 340
	Romania	100	139 597	139 597	178	178	100	139 597	139 597
	Russian Federation	100	1 243 564	1 243 564	227	227	100	1 243 564	1 243 564
	Serbia	90	65 537	72 819	143	160	95	69 433	72 752
	Shanghai-China	100	89 832	89 832	155	155	100	89 832	89 832
	Singapore	98	50 415	51 687	170	176	98	50 945	51 896
	Chinese Taipei	100	324 667	324 667	163	163	100	324 667	324 667
	Thailand	98	757 516	772 654	235	240	100	772 452	772 654
	Tunisia	99	129 229	130 141	152	153	99	129 229	130 141
	United Arab Emirates	99	46 469	46 748	453	460	99	46 469	46 748
	Uruguay	99	45 736	46 009	179	180	100	46 009	46 009
	Viet Nam	100	1 068 462	1 068 462	162	162	100	1 068 462	1 068 462

Information for the adjudicated regions is available on line.
* See note at the beginning of this Annex.
StatLink http://dx.doi.org/10.1787/888932937092



[Part 2/2]

Table A2.3 Response rates

		Final sample – after school replacement		Final sample – students within schools after school replacement				
		Number of responding schools (unweighted)	Number of responding and non-responding schools (unweighted)	Weighted student participation rate after replacement (%)	Number of students assessed (weighted)	Number of students sampled (assessed and absent) (weighted)	Number of students assessed (unweighted)	Number of students sampled (assessed and absent) (unweighted)
		(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD	Australia	757	790	87	213 495	246 012	17 491	20 799
	Austria	191	191	92	75 393	82 242	4 756	5 318
	Belgium	282	294	91	103 914	114 360	9 649	10 595
	Canada	840	907	81	261 928	324 328	20 994	25 835
	Chile	221	224	95	214 558	226 689	6 857	7 246
	Czech Republic	295	297	90	73 536	81 642	6 528	7 222
	Denmark	339	366	89	56 096	62 988	7 463	8 496
	Estonia	206	206	93	10 807	11 634	5 867	6 316
	Finland	311	313	91	54 126	59 653	8 829	9 789
	France	223	231	89	605 371	676 730	5 641	6 308
	Germany	228	233	93	692 226	742 416	4 990	5 355
	Greece	188	192	97	92 444	95 580	5 125	5 301
	Hungary	204	208	93	84 032	90 652	4 810	5 184
	Iceland	133	140	85	3 503	4 135	3 503	4 135
	Ireland	183	185	84	45 115	53 644	5 016	5 977
	Israel	172	186	90	91 181	101 288	6 061	6 727
	Italy	1 186	1 232	93	473 104	510 005	38 084	41 003
	Japan	191	200	96	1 034 803	1 076 786	6 351	6 609
	Korea	156	157	99	595 461	603 004	5 033	5 101
	Luxembourg	42	42	95	5 260	5 523	5 260	5 523
	Mexico	1 468	1 562	94	1 193 866	1 271 639	33 786	35 972
	Netherlands	177	199	85	148 432	174 697	4 434	5 215
	New Zealand	177	197	85	40 397	47 703	5 248	6 206
	Norway	197	208	91	51 155	56 286	4 686	5 156
	Poland	182	188	88	325 389	371 434	5 629	6 452
	Portugal	187	195	87	80 719	92 395	5 608	6 426
	Slovak Republic	231	236	94	50 544	53 912	5 737	6 106
	Slovenia	335	353	90	16 146	17 849	7 211	7 921
	Spain	902	904	90	334 382	372 042	26 443	29 027
	Sweden	209	211	92	87 359	94 784	4 739	5 141
	Switzerland	410	422	92	72 116	78 424	11 218	12 138
	Turkey	169	170	98	850 830	866 269	4 847	4 939
	United Kingdom	505	550	86	528 231	613 736	12 638	14 649
	United States	161	207	89	2 429 718	2 734 268	6 094	6 848
Partners	Albania	204	204	92	39 275	42 466	4 743	5 102
	Argentina	219	229	88	457 294	519 733	5 804	6 680
	Brazil	837	886	90	2 133 035	2 368 438	19 877	22 326
	Bulgaria	187	188	96	51 819	54 145	5 280	5 508
	Colombia	352	363	93	507 178	544 862	11 164	12 045
	Costa Rica	191	193	89	35 525	39 930	4 582	5 187
	Croatia	163	164	92	41 912	45 473	6 153	6 675
	Cyprus*	117	131	93	8 719	9 344	5 078	5 458
	Hong Kong-China	147	156	93	62 059	66 665	4 659	5 004
	Indonesia	206	210	95	2 478 961	2 605 254	5 579	5 885
	Jordan	233	233	95	105 493	111 098	7 038	7 402
	Kazakhstan	218	218	99	206 053	208 411	5 808	5 874
	Latvia	211	213	91	14 579	16 039	5 276	5 785
	Liechtenstein	12	12	93	293	314	293	314
	Lithuania	216	216	92	30 429	33 042	4 618	5 018
	Macao-China	45	45	99	5 335	5 366	5 335	5 366
	Malaysia	164	164	94	405 983	432 080	5 197	5 529
	Montenegro	51	51	94	7 233	7 714	4 799	5 117
	Peru	240	243	96	398 193	414 728	6 035	6 291
	Qatar	157	164	100	10 966	10 996	10 966	10 996
	Romania	178	178	98	137 860	140 915	5 074	5 188
	Russian Federation	227	227	97	1 141 317	1 172 539	6 418	6 602
	Serbia	152	160	93	60 366	64 658	4 681	5 017
	Shanghai-China	155	155	98	83 821	85 127	6 374	6 467
	Singapore	172	176	94	47 465	50 330	5 546	5 887
	Chinese Taipei	163	163	96	281 799	292 542	6 046	6 279
	Thailand	239	240	99	695 088	702 818	6 606	6 681
	Tunisia	152	153	90	108 342	119 917	4 391	4 857
	United Arab Emirates	453	460	95	38 228	40 384	11 460	12 148
	Uruguay	180	180	90	35 800	39 771	5 315	5 904
	Viet Nam	162	162	100	955 222	956 517	4 959	4 966

Information for the adjudicated regions is available on line.
* See note at the beginning of this Annex.
StatLink http://dx.doi.org/10.1787/888932937092



Table A2.3 shows the response rates for students and schools, before and after replacement.

- ***Column 1*** shows the *weighted participation rate of schools before replacement*. This is obtained by dividing Column 2 by Column 3, multiply by 100.
- ***Column 2*** shows the *weighted number of responding schools before school replacement* (weighted by student enrolment).
- ***Column 3*** shows the *weighted number of sampled schools before school replacement* (including both responding and non-responding schools, weighted by student enrolment).
- ***Column 4*** shows the *unweighted number of responding schools before school replacement*.
- ***Column 5*** shows the *unweighted number of responding and non-responding schools before school replacement.*
- ***Column 6*** shows the *weighted participation rate of schools after replacement*. This is obtained by dividing Column 7 by Column 8, multiply by 100.
- ***Column 7*** shows the *weighted number of responding schools after school replacement (weighted by student enrolment).*
- ***Column 8*** shows the *weighted number of schools sampled after school replacement* (including both responding and non-responding schools, weighted by student enrolment).
- ***Column 9*** shows the *unweighted number of responding schools after school replacement*.
- ***Column 10*** shows the *unweighted number of responding and non-responding schools after school replacement.*
- ***Column 11*** shows the *weighted student participation rate after replacement*. This is obtained by dividing Column 12 by Column 13, multiply by 100.
- ***Column 12*** shows the *weighted number of students assessed*.
- ***Column 13*** shows the *weighted number of students sampled* (including both students who were assessed and students who were absent on the day of the assessment).
- ***Column 14*** shows the *unweighted number of students assessed.* Note that any students in schools with student-response rates less than 50% were not included in these rates (both weighted and unweighted).
- ***Column 15*** shows the *unweighted number of students sampled* (including both students that were assessed and students who were absent on the day of the assessment). Note that any students in schools where fewer than half of the eligible students were assessed were not included in these rates (neither weighted nor unweighted).

Definition of schools

In some countries, sub-units within schools were sampled instead of schools and this may affect the estimation of the between-school variance components. In Austria, the Czech Republic, Germany, Hungary, Japan, Romania and Slovenia, schools with more than one study programme were split into the units delivering these programmes. In the Netherlands, for schools with both lower and upper secondary programmes, schools were split into units delivering each programme level. In the Flemish Community of Belgium, in the case of multi-campus schools, implantations (campuses) were sampled, whereas in the French Community, in the case of multi-campus schools, the larger administrative units were sampled. In Australia, for schools with more than one campus, the individual campuses were listed for sampling. In Argentina, Croatia and Dubai (United Arab Emirates), schools that had more than one campus had the locations listed for sampling. In Spain, the schools in the Basque region with multi-linguistic models were split into linguistic models for sampling.

Grade levels

Students assessed in PISA 2012 are at various grade levels. The percentage of students at each grade level is presented by country and economy in Table A2.4a and by gender within each country and economy in Table A2.4b.



[Part 1/1]

Table A2.4a Percentage of students at each grade level

		All students											
		7th grade		8th grade		9th grade		10th grade		11th grade		12th grade and above	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	0.0	(0.0)	0.1	(0.0)	10.8	(0.5)	70.0	(0.6)	19.1	(0.4)	0.0	(0.0)
	Austria	0.3	(0.1)	5.4	(0.7)	43.3	(0.9)	51.0	(1.0)	0.1	(0.0)	0.0	c
	Belgium	0.9	(0.1)	6.4	(0.5)	30.9	(0.6)	60.8	(0.6)	1.0	(0.1)	0.0	(0.0)
	Canada	0.1	(0.0)	1.1	(0.1)	13.2	(0.6)	84.6	(0.6)	1.0	(0.1)	0.1	(0.0)
	Chile	1.4	(0.3)	4.1	(0.6)	21.7	(0.8)	66.1	(1.2)	6.7	(0.3)	0.0	c
	Czech Republic	0.4	(0.1)	4.5	(0.4)	51.1	(1.2)	44.1	(1.3)	0.0	c	0.0	c
	Denmark	0.1	(0.0)	18.2	(0.8)	80.6	(0.8)	1.0	(0.2)	0.0	c	0.0	c
	Estonia	0.6	(0.2)	22.1	(0.7)	75.4	(0.7)	1.9	(0.3)	0.0	c	0.0	c
	Finland	0.7	(0.2)	14.2	(0.4)	85.0	(0.4)	0.0	c	0.1	(0.1)	0.0	c
	France	0.0	(0.0)	1.9	(0.3)	27.9	(0.7)	66.6	(0.7)	3.5	(0.3)	0.1	(0.1)
	Germany	0.6	(0.1)	10.0	(0.6)	51.9	(0.8)	36.7	(0.9)	0.8	(0.4)	0.0	c
	Greece	0.3	(0.1)	1.2	(0.3)	4.0	(0.7)	94.5	(1.0)	0.0	c	0.0	c
	Hungary	2.8	(0.5)	8.7	(0.9)	67.8	(0.9)	20.6	(0.6)	0.0	c	0.0	c
	Iceland	0.0	c	0.0	c	0.0	c	100.0	c	0.0	c	0.0	c
	Ireland	0.0	(0.0)	1.9	(0.2)	60.5	(0.8)	24.3	(1.2)	13.3	(1.0)	0.0	c
	Israel	0.0	(0.0)	0.3	(0.1)	17.1	(0.9)	81.7	(0.9)	0.8	(0.3)	0.0	c
	Italy	0.4	(0.1)	1.7	(0.2)	16.8	(0.6)	78.5	(0.7)	2.6	(0.2)	0.0	(0.0)
	Japan	0.0	c	0.0	c	0.0	c	100.0	c	0.0	c	0.0	c
	Korea	0.0	c	0.0	c	5.9	(0.8)	93.8	(0.8)	0.2	(0.1)	0.0	c
	Luxembourg	0.7	(0.1)	10.2	(0.2)	50.7	(0.1)	38.0	(0.1)	0.5	(0.1)	0.0	c
	Mexico	1.1	(0.1)	5.2	(0.3)	30.8	(1.0)	60.8	(1.1)	2.1	(0.3)	0.1	(0.0)
	Netherlands	0.0	c	3.6	(0.4)	46.7	(1.0)	49.2	(1.1)	0.5	(0.1)	0.0	c
	New Zealand	0.0	c	0.0	c	0.1	(0.1)	6.2	(0.4)	88.3	(0.5)	5.4	(0.4)
	Norway	0.0	c	0.0	c	0.4	(0.1)	99.4	(0.1)	0.2	(0.0)	0.0	c
	Poland	0.5	(0.1)	4.1	(0.4)	94.9	(0.4)	0.5	(0.2)	0.0	c	0.0	c
	Portugal	2.4	(0.3)	8.2	(0.7)	28.6	(1.6)	60.5	(2.1)	0.3	(0.1)	0.0	c
	Slovak Republic	1.7	(0.3)	4.5	(0.5)	39.5	(1.5)	52.7	(1.4)	1.6	(0.5)	0.0	c
	Slovenia	0.0	c	0.3	(0.2)	5.1	(0.8)	90.7	(0.8)	3.9	(0.2)	0.0	c
	Spain	0.1	(0.0)	9.8	(0.5)	24.1	(0.4)	66.0	(0.6)	0.0	(0.0)	0.0	c
	Sweden	0.0	(0.0)	3.7	(0.3)	94.0	(0.6)	2.2	(0.5)	0.0	c	0.0	c
	Switzerland	0.6	(0.1)	12.9	(0.8)	60.6	(1.0)	25.6	(1.0)	0.2	(0.1)	0.0	c
	Turkey	0.5	(0.2)	2.2	(0.3)	27.6	(1.2)	65.5	(1.2)	4.0	(0.3)	0.3	(0.1)
	United Kingdom	0.0	c	0.0	c	0.0	(0.0)	1.3	(0.3)	95.0	(0.3)	3.6	(0.1)
	United States	0.0	c	0.3	(0.1)	11.7	(1.1)	71.2	(1.1)	16.6	(0.8)	0.2	(0.1)
	OECD average	0.5	(0.0)	4.9	(0.1)	34.7	(0.1)	51.9	(0.2)	7.7	(0.1)	0.3	(0.0)
Partners	Albania	0.1	(0.1)	2.2	(0.3)	39.4	(2.4)	58.0	(2.5)	0.3	(0.1)	0.0	c
	Argentina	2.0	(0.5)	12.0	(1.2)	22.6	(1.4)	59.4	(2.1)	2.8	(0.6)	1.1	(0.7)
	Brazil	0.0	c	6.9	(0.5)	13.5	(0.7)	34.9	(1.0)	42.0	(1.0)	2.6	(0.2)
	Bulgaria	0.9	(0.2)	4.6	(0.5)	89.5	(0.7)	4.9	(0.4)	0.0	(0.0)	0.0	c
	Colombia	5.5	(0.6)	12.1	(0.7)	21.5	(0.8)	40.2	(0.9)	20.7	(1.0)	0.0	c
	Costa Rica	7.4	(0.9)	13.7	(0.9)	39.6	(1.3)	39.1	(1.8)	0.2	(0.1)	0.0	c
	Croatia	0.0	c	0.0	c	79.8	(0.4)	20.2	(0.4)	0.0	c	0.0	c
	Cyprus*	0.0	(0.0)	0.5	(0.1)	4.5	(0.1)	94.3	(0.1)	0.7	(0.0)	0.0	(0.0)
	Hong Kong-China	1.1	(0.1)	6.5	(0.4)	25.9	(0.7)	65.0	(0.9)	1.5	(1.4)	0.0	c
	Indonesia	1.9	(0.4)	8.3	(0.8)	37.7	(2.6)	47.7	(3.0)	3.9	(0.6)	0.6	(0.6)
	Jordan	0.1	(0.0)	1.1	(0.1)	6.0	(0.4)	92.9	(0.4)	0.0	c	0.0	c
	Kazakhstan	0.2	(0.1)	4.9	(0.5)	67.2	(1.9)	27.4	(2.0)	0.2	(0.1)	0.1	(0.1)
	Latvia	2.1	(0.4)	14.8	(0.7)	80.0	(0.8)	3.0	(0.4)	0.0	(0.0)	0.0	c
	Liechtenstein	4.9	(0.7)	14.2	(1.5)	66.3	(1.3)	14.6	(0.2)	0.0	c	0.0	c
	Lithuania	0.2	(0.1)	6.2	(0.6)	81.2	(0.7)	12.4	(0.7)	0.0	(0.0)	0.0	c
	Macao-China	5.4	(0.1)	16.4	(0.2)	33.2	(0.2)	44.6	(0.1)	0.4	(0.1)	0.0	(0.0)
	Malaysia	0.0	c	0.1	(0.0)	4.0	(0.5)	96.0	(0.5)	0.0	(0.0)	0.0	c
	Montenegro	0.0	c	0.1	(0.0)	79.5	(0.1)	20.4	(0.1)	0.0	c	0.0	c
	Peru	2.7	(0.4)	7.8	(0.5)	18.1	(0.7)	47.7	(0.9)	23.7	(0.8)	0.0	c
	Qatar	0.9	(0.0)	3.1	(0.1)	13.8	(0.1)	64.8	(0.1)	17.1	(0.1)	0.3	(0.0)
	Romania	0.2	(0.1)	7.4	(0.5)	87.2	(0.6)	5.1	(0.4)	0.0	c	0.0	c
	Russian Federation	0.6	(0.1)	8.1	(0.5)	73.8	(1.6)	17.4	(1.8)	0.1	(0.1)	0.0	c
	Serbia	0.1	(0.1)	1.5	(0.7)	96.7	(0.7)	1.7	(0.2)	0.0	c	0.0	c
	Shanghai-China	1.1	(0.2)	4.5	(0.6)	39.6	(1.5)	54.2	(1.3)	0.6	(0.1)	0.1	(0.1)
	Singapore	0.4	(0.1)	2.0	(0.2)	8.0	(0.3)	89.6	(0.3)	0.1	(0.1)	0.0	c
	Chinese Taipei	0.0	c	0.2	(0.1)	36.2	(0.7)	63.6	(0.7)	0.0	c	0.0	c
	Thailand	0.1	(0.0)	0.3	(0.1)	20.7	(1.0)	76.0	(1.1)	2.9	(0.5)	0.0	c
	Tunisia	5.0	(0.6)	11.8	(1.3)	20.6	(1.4)	56.7	(2.7)	5.9	(0.5)	0.0	c
	United Arab Emirates	0.9	(0.2)	2.8	(0.2)	11.3	(0.8)	61.9	(1.0)	22.2	(0.7)	0.9	(0.2)
	Uruguay	6.9	(0.8)	12.2	(0.6)	22.4	(1.0)	57.3	(1.5)	1.3	(0.2)	0.0	c
	Viet Nam	0.4	(0.2)	2.7	(0.7)	8.3	(1.7)	88.6	(2.3)	0.0	c	0.0	c

Information for the adjudicated regions is available on line.
* See note at the beginning of this Annex.
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[Part 1/2]

Table A2.4b Percentage of students at each grade level, by gender

		Boys											
		7th grade		8th grade		9th grade		10th grade		11th grade		12th grade and above	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	0.0	c	0.1	(0.0)	13.1	(0.9)	69.2	(0.9)	17.5	(0.6)	0.0	(0.0)
	Austria	0.3	(0.1)	6.0	(0.9)	44.8	(1.4)	48.9	(1.5)	0.0	c	0.0	c
	Belgium	1.0	(0.1)	7.1	(0.6)	33.8	(0.9)	57.1	(1.0)	1.0	(0.2)	0.0	(0.0)
	Canada	0.1	(0.1)	1.3	(0.2)	14.8	(0.8)	82.7	(0.8)	0.9	(0.1)	0.1	(0.1)
	Chile	1.4	(0.4)	5.0	(0.9)	24.2	(1.0)	63.1	(1.6)	6.4	(0.4)	0.0	c
	Czech Republic	0.7	(0.2)	5.5	(0.6)	54.9	(2.0)	39.0	(2.1)	0.0	c	0.0	c
	Denmark	0.1	(0.0)	23.4	(1.0)	75.7	(1.0)	0.8	(0.3)	0.0	c	0.0	c
	Estonia	0.8	(0.3)	25.7	(1.0)	71.7	(1.1)	1.7	(0.4)	0.0	c	0.0	c
	Finland	0.9	(0.4)	16.2	(0.6)	82.8	(0.7)	0.0	c	0.1	(0.1)	0.0	c
	France	0.1	(0.1)	2.3	(0.4)	30.8	(0.9)	63.5	(1.0)	3.2	(0.5)	0.1	(0.1)
	Germany	0.9	(0.2)	11.6	(0.7)	53.6	(1.1)	33.2	(1.2)	0.7	(0.3)	0.0	c
	Greece	0.4	(0.2)	1.8	(0.6)	4.8	(1.0)	93.0	(1.4)	0.0	c	0.0	c
	Hungary	3.9	(0.6)	12.1	(1.5)	67.1	(1.3)	17.0	(0.8)	0.0	c	0.0	c
	Iceland	0.0	c	0.0	c	0.0	c	100.0	c	0.0	c	0.0	c
	Ireland	0.0	c	2.4	(0.3)	63.6	(1.0)	21.1	(1.4)	13.0	(1.3)	0.0	c
	Israel	0.1	(0.1)	0.3	(0.1)	18.9	(1.3)	79.6	(1.3)	1.2	(0.5)	0.0	c
	Italy	0.5	(0.2)	2.1	(0.3)	19.3	(0.7)	75.8	(0.7)	2.3	(0.2)	0.0	c
	Japan	0.0	c	0.0	c	0.0	c	100.0	c	0.0	c	0.0	c
	Korea	0.0	c	0.0	c	6.4	(1.2)	93.4	(1.2)	0.2	(0.1)	0.0	c
	Luxembourg	0.7	(0.1)	10.7	(0.2)	51.1	(0.2)	37.0	(0.2)	0.6	(0.1)	0.0	c
	Mexico	1.3	(0.2)	6.3	(0.3)	33.0	(1.1)	57.2	(1.2)	2.1	(0.5)	0.0	(0.0)
	Netherlands	0.0	c	4.4	(0.6)	49.5	(1.1)	45.7	(1.2)	0.4	(0.1)	0.0	c
	New Zealand	0.0	c	0.0	c	0.2	(0.1)	7.0	(0.5)	88.0	(0.7)	4.8	(0.5)
	Norway	0.0	c	0.0	c	0.6	(0.1)	99.1	(0.1)	0.3	(0.0)	0.0	c
	Poland	0.9	(0.2)	5.7	(0.6)	93.0	(0.6)	0.4	(0.2)	0.0	c	0.0	c
	Portugal	2.6	(0.5)	9.9	(0.9)	30.1	(1.7)	57.0	(2.2)	0.4	(0.2)	0.0	c
	Slovak Republic	1.5	(0.3)	5.4	(0.8)	40.1	(2.0)	51.5	(2.1)	1.5	(0.5)	0.0	c
	Slovenia	0.0	c	0.4	(0.3)	6.3	(1.0)	90.2	(1.0)	3.1	(0.4)	0.0	c
	Spain	0.1	(0.1)	11.8	(0.6)	25.8	(0.6)	62.2	(0.7)	0.1	(0.1)	0.0	c
	Sweden	0.1	(0.1)	4.6	(0.5)	93.7	(0.8)	1.7	(0.6)	0.0	c	0.0	c
	Switzerland	0.5	(0.1)	13.9	(0.9)	60.6	(1.7)	24.7	(2.0)	0.2	(0.1)	0.0	c
	Turkey	0.3	(0.1)	2.6	(0.5)	33.2	(1.5)	60.3	(1.5)	3.2	(0.4)	0.3	(0.1)
	United Kingdom	0.0	c	0.0	c	0.0	(0.0)	1.7	(0.4)	94.7	(0.4)	3.7	(0.2)
	United States	0.0	c	0.4	(0.2)	14.6	(1.1)	69.8	(1.1)	14.9	(0.9)	0.3	(0.2)
	OECD average	0.6	(0.1)	5.9	(0.1)	35.6	(0.2)	50.1	(0.2)	7.5	(0.1)	0.3	(0.1)
Partners	Albania	0.1	(0.1)	2.9	(0.4)	42.9	(2.7)	53.8	(2.8)	0.2	(0.1)	0.0	c
	Argentina	2.8	(0.8)	15.0	(1.7)	25.8	(1.9)	52.6	(2.6)	3.0	(0.9)	0.8	(0.5)
	Brazil	0.0	c	9.0	(0.7)	15.8	(0.8)	36.1	(1.1)	37.2	(1.0)	1.9	(0.2)
	Bulgaria	1.3	(0.3)	5.8	(0.7)	88.2	(1.0)	4.6	(0.4)	0.0	c	0.0	c
	Colombia	7.4	(0.8)	13.5	(1.0)	22.1	(1.0)	38.8	(1.4)	18.2	(1.2)	0.0	c
	Costa Rica	9.3	(1.3)	16.4	(1.2)	38.5	(1.5)	35.7	(2.0)	0.0	(0.0)	0.0	c
	Croatia	0.0	c	0.0	c	82.0	(0.6)	18.0	(0.6)	0.0	c	0.0	c
	Cyprus*	0.0	(0.0)	0.5	(0.1)	4.7	(0.1)	94.0	(0.2)	0.7	(0.1)	0.0	c
	Hong Kong-China	1.2	(0.2)	6.9	(0.5)	27.5	(0.7)	63.0	(1.0)	1.4	(1.3)	0.0	c
	Indonesia	2.3	(0.4)	10.0	(1.1)	38.5	(3.0)	45.5	(3.7)	3.1	(0.6)	0.6	(0.6)
	Jordan	0.1	(0.1)	0.8	(0.2)	5.7	(0.6)	93.4	(0.6)	0.0	c	0.0	c
	Kazakhstan	0.3	(0.1)	5.5	(0.6)	68.4	(2.4)	25.4	(2.6)	0.2	(0.1)	0.2	(0.2)
	Latvia	3.6	(0.8)	18.0	(0.9)	76.4	(1.3)	2.0	(0.3)	0.0	(0.0)	0.0	c
	Liechtenstein	4.5	(1.2)	16.5	(2.1)	69.4	(2.2)	9.6	(0.6)	0.0	c	0.0	c
	Lithuania	0.2	(0.1)	7.3	(0.6)	82.2	(0.9)	10.4	(0.8)	0.0	(0.0)	0.0	c
	Macao-China	7.1	(0.2)	19.3	(0.2)	33.3	(0.2)	40.0	(0.2)	0.2	(0.1)	0.0	(0.0)
	Malaysia	0.0	c	0.1	(0.1)	5.1	(0.7)	94.7	(0.7)	0.0	c	0.0	c
	Montenegro	0.0	c	0.1	(0.1)	82.0	(0.3)	17.9	(0.3)	0.0	c	0.0	c
	Peru	3.1	(0.5)	9.1	(0.8)	19.5	(0.7)	46.2	(1.0)	22.1	(0.9)	0.0	c
	Qatar	1.2	(0.1)	3.6	(0.1)	14.0	(0.1)	64.6	(0.2)	16.1	(0.2)	0.4	(0.0)
	Romania	0.3	(0.2)	6.5	(0.6)	88.7	(0.7)	4.5	(0.4)	0.0	c	0.0	c
	Russian Federation	0.7	(0.2)	8.9	(0.7)	73.7	(1.5)	16.7	(1.8)	0.1	(0.1)	0.0	c
	Serbia	0.1	(0.1)	1.9	(0.9)	96.7	(1.0)	1.4	(0.2)	0.0	c	0.0	c
	Shanghai-China	1.3	(0.3)	5.3	(0.8)	41.6	(1.6)	51.2	(1.4)	0.6	(0.1)	0.0	(0.0)
	Singapore	0.4	(0.1)	2.0	(0.3)	8.3	(0.4)	89.3	(0.5)	0.0	(0.0)	0.0	c
	Chinese Taipei	0.0	c	0.2	(0.2)	37.4	(1.5)	62.4	(1.5)	0.0	c	0.0	c
	Thailand	0.1	(0.1)	0.4	(0.2)	22.9	(1.3)	74.1	(1.5)	2.5	(0.5)	0.0	c
	Tunisia	6.3	(0.8)	14.6	(1.6)	21.9	(1.6)	52.3	(3.0)	4.9	(0.5)	0.0	c
	United Arab Emirates	1.3	(0.3)	3.1	(0.3)	12.9	(0.9)	60.3	(1.2)	21.8	(1.0)	0.6	(0.1)
	Uruguay	9.4	(1.3)	13.1	(0.8)	24.0	(1.1)	52.4	(1.9)	1.2	(0.2)	0.0	c
	Viet Nam	0.7	(0.3)	3.5	(0.8)	10.5	(2.2)	85.3	(2.8)	0.0	c	0.0	c

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[Part 2/2]

Table A2.4b **Percentage of students at each grade level, by gender**

		Girls											
		7th grade		8th grade		9th grade		10th grade		11th grade		12th grade and above	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	0.0	(0.0)	0.2	(0.1)	8.3	(0.3)	70.8	(0.6)	20.7	(0.6)	0.0	(0.0)
	Austria	0.3	(0.1)	4.7	(0.7)	41.8	(1.3)	53.1	(1.4)	0.1	(0.1)	0.0	c
	Belgium	0.9	(0.1)	5.7	(0.5)	28.0	(0.7)	64.4	(0.8)	1.0	(0.2)	0.0	c
	Canada	0.1	(0.0)	0.9	(0.1)	11.5	(0.5)	86.4	(0.5)	1.2	(0.1)	0.0	(0.0)
	Chile	1.3	(0.3)	3.3	(0.6)	19.3	(1.0)	69.0	(1.2)	7.1	(0.4)	0.0	c
	Czech Republic	0.1	(0.1)	3.5	(0.5)	47.1	(2.0)	49.4	(2.1)	0.0	c	0.0	c
	Denmark	0.1	(0.0)	13.0	(0.9)	85.6	(0.9)	1.3	(0.3)	0.0	c	0.0	c
	Estonia	0.3	(0.1)	18.6	(0.8)	79.0	(0.9)	2.2	(0.4)	0.0	c	0.0	c
	Finland	0.5	(0.1)	12.0	(0.4)	87.3	(0.4)	0.0	c	0.2	(0.1)	0.0	c
	France	0.0	c	1.6	(0.3)	25.1	(1.1)	69.4	(1.1)	3.8	(0.4)	0.1	(0.1)
	Germany	0.3	(0.1)	8.2	(0.6)	50.2	(1.0)	40.4	(1.1)	0.8	(0.4)	0.0	c
	Greece	0.3	(0.1)	0.5	(0.1)	3.1	(0.7)	96.1	(0.8)	0.0	c	0.0	c
	Hungary	1.8	(0.7)	5.7	(0.8)	68.4	(1.1)	24.1	(0.8)	0.0	c	0.0	c
	Iceland	0.0	c	0.0	c	0.0	c	100.0	c	0.0	c	0.0	c
	Ireland	0.1	(0.1)	1.4	(0.2)	57.3	(1.0)	27.6	(1.4)	13.7	(1.2)	0.0	c
	Israel	0.0	(0.0)	0.2	(0.1)	15.5	(1.0)	83.8	(1.0)	0.4	(0.1)	0.0	c
	Italy	0.3	(0.1)	1.2	(0.2)	14.0	(0.6)	81.5	(0.8)	3.0	(0.3)	0.0	(0.0)
	Japan	0.0	c	0.0	c	0.0	c	100.0	c	0.0	c	0.0	c
	Korea	0.0	c	0.0	c	5.4	(1.1)	94.4	(1.1)	0.2	(0.1)	0.0	c
	Luxembourg	0.7	(0.1)	9.7	(0.2)	50.2	(0.2)	39.0	(0.2)	0.4	(0.1)	0.0	c
	Mexico	0.8	(0.1)	4.1	(0.3)	28.7	(1.0)	64.2	(1.1)	2.1	(0.3)	0.1	(0.1)
	Netherlands	0.0	c	2.7	(0.4)	43.8	(1.1)	53.0	(1.1)	0.5	(0.2)	0.0	c
	New Zealand	0.0	c	0.0	c	0.1	(0.1)	5.3	(0.4)	88.6	(0.6)	5.9	(0.6)
	Norway	0.0	c	0.0	c	0.2	(0.1)	99.8	(0.1)	0.0	c	0.0	c
	Poland	0.2	(0.1)	2.6	(0.3)	96.7	(0.4)	0.6	(0.2)	0.0	c	0.0	c
	Portugal	2.2	(0.3)	6.6	(0.7)	27.2	(1.6)	63.8	(2.2)	0.2	(0.1)	0.0	c
	Slovak Republic	1.9	(0.5)	3.5	(0.5)	38.8	(1.9)	54.0	(1.9)	1.8	(0.5)	0.0	c
	Slovenia	0.0	c	0.2	(0.2)	3.8	(0.9)	91.2	(1.0)	4.7	(0.5)	0.0	c
	Spain	0.1	(0.0)	7.8	(0.5)	22.3	(0.7)	69.9	(0.8)	0.0	(0.0)	0.0	c
	Sweden	0.0	c	2.8	(0.3)	94.4	(0.6)	2.8	(0.6)	0.0	c	0.0	c
	Switzerland	0.6	(0.2)	11.9	(1.0)	60.7	(1.7)	26.6	(1.8)	0.2	(0.1)	0.0	c
	Turkey	0.7	(0.3)	1.7	(0.3)	21.9	(1.2)	70.8	(1.1)	4.8	(0.4)	0.2	(0.1)
	United Kingdom	0.0	c	0.0	c	0.0	(0.0)	1.0	(0.3)	95.4	(0.3)	3.6	(0.2)
	United States	0.0	c	0.1	(0.1)	8.8	(1.2)	72.7	(1.3)	18.3	(0.9)	0.2	(0.1)
	OECD average	0.4	(0.0)	3.9	(0.1)	33.7	(0.2)	53.8	(0.2)	7.9	(0.1)	0.3	(0.1)
Partners	Albania	0.1	(0.1)	1.4	(0.4)	35.7	(2.6)	62.5	(2.6)	0.3	(0.1)	0.0	c
	Argentina	1.2	(0.3)	9.1	(0.9)	19.7	(1.3)	65.8	(1.9)	2.7	(0.4)	1.4	(0.8)
	Brazil	0.0	c	5.0	(0.4)	11.5	(0.7)	33.8	(1.0)	46.4	(1.1)	3.3	(0.2)
	Bulgaria	0.5	(0.2)	3.3	(0.5)	90.9	(0.7)	5.2	(0.5)	0.0	(0.0)	0.0	c
	Colombia	3.9	(0.6)	10.8	(0.7)	21.0	(0.9)	41.4	(1.1)	22.9	(1.1)	0.0	c
	Costa Rica	5.7	(0.8)	11.3	(0.8)	40.5	(1.3)	42.1	(1.7)	0.4	(0.2)	0.0	c
	Croatia	0.0	c	0.0	c	77.5	(0.6)	22.5	(0.6)	0.0	c	0.0	c
	Cyprus*	0.0	c	0.5	(0.1)	4.2	(0.2)	94.6	(0.2)	0.7	(0.1)	0.0	(0.0)
	Hong Kong-China	0.9	(0.2)	6.0	(0.6)	24.2	(0.8)	67.3	(1.0)	1.6	(1.5)	0.0	c
	Indonesia	1.5	(0.4)	6.4	(0.8)	36.8	(2.9)	50.0	(3.0)	4.7	(0.8)	0.5	(0.5)
	Jordan	0.0	(0.0)	1.3	(0.2)	6.3	(0.5)	92.4	(0.6)	0.0	c	0.0	c
	Kazakhstan	0.1	(0.1)	4.4	(0.5)	65.9	(1.9)	29.3	(2.1)	0.2	(0.1)	0.0	c
	Latvia	0.6	(0.2)	11.6	(0.8)	83.7	(1.1)	4.1	(0.7)	0.0	c	0.0	c
	Liechtenstein	5.3	(1.3)	11.5	(1.9)	62.8	(1.9)	20.4	(0.8)	0.0	c	0.0	c
	Lithuania	0.1	(0.1)	5.2	(0.6)	80.2	(0.9)	14.4	(0.8)	0.0	(0.0)	0.0	c
	Macao-China	3.5	(0.1)	13.3	(0.2)	33.1	(0.3)	49.5	(0.3)	0.7	(0.2)	0.0	c
	Malaysia	0.0	c	0.0	c	2.9	(0.4)	97.1	(0.4)	0.0	(0.1)	0.0	c
	Montenegro	0.0	c	0.0	c	77.1	(0.3)	22.9	(0.3)	0.0	c	0.0	c
	Peru	2.3	(0.5)	6.6	(0.6)	16.8	(1.0)	49.1	(1.2)	25.3	(1.0)	0.0	c
	Qatar	0.5	(0.1)	2.7	(0.1)	13.6	(0.1)	64.9	(0.2)	18.2	(0.1)	0.2	(0.0)
	Romania	0.1	(0.1)	8.3	(0.6)	85.9	(0.9)	5.7	(0.6)	0.0	c	0.0	c
	Russian Federation	0.6	(0.2)	7.3	(0.5)	73.9	(2.0)	18.1	(2.0)	0.1	(0.1)	0.0	c
	Serbia	0.1	(0.1)	1.0	(0.6)	96.8	(0.7)	2.0	(0.3)	0.0	c	0.0	c
	Shanghai-China	0.8	(0.2)	3.8	(0.5)	37.6	(1.8)	57.0	(1.8)	0.6	(0.1)	0.1	(0.1)
	Singapore	0.4	(0.1)	2.1	(0.2)	7.6	(0.4)	89.8	(0.4)	0.2	(0.1)	0.0	c
	Chinese Taipei	0.0	c	0.1	(0.1)	35.0	(1.5)	64.9	(1.4)	0.0	c	0.0	c
	Thailand	0.0	(0.0)	0.2	(0.1)	19.0	(1.2)	77.5	(1.2)	3.3	(0.5)	0.0	c
	Tunisia	3.9	(0.5)	9.3	(1.1)	19.4	(1.5)	60.6	(2.5)	6.7	(0.6)	0.0	c
	United Arab Emirates	0.6	(0.1)	2.6	(0.4)	9.7	(1.1)	63.4	(1.7)	22.6	(1.3)	1.2	(0.3)
	Uruguay	4.6	(0.6)	11.4	(0.8)	21.0	(1.1)	61.7	(1.5)	1.4	(0.2)	0.0	c
	Viet Nam	0.1	(0.1)	2.1	(0.6)	6.4	(1.5)	91.4	(1.9)	0.0	c	0.0	c

Information for the adjudicated regions is available on line.
* See note at the beginning of this Annex.
StatLink http://dx.doi.org/10.1787/888932937092



ANNEX A3
TECHNICAL NOTES ON ANALYSES IN THIS VOLUME

Standard errors and significance tests

The statistics in this report represent estimates of national performance based on samples of students, rather than values that could be calculated if every student in every country had answered every question. Consequently, it is important to measure the degree of uncertainty of the estimates. In PISA, each estimate has an associated degree of uncertainty, which is expressed through a standard error. The use of confidence intervals provides a way to make inferences about the population means and proportions in a manner that reflects the uncertainty associated with the sample estimates. From an observed sample statistic and assuming a normal distribution, it can be inferred that the corresponding population result would lie within the confidence interval in 95 out of 100 replications of the measurement on different samples drawn from the same population.

In many cases, readers are primarily interested in whether a given value in a particular country is different from a second value in the same or another country, e.g. whether girls in a country perform better than boys in the same country. In the tables and charts used in this report, differences are labelled as statistically significant when a difference of that size, smaller or larger, would be observed less than 5% of the time, if there were actually no difference in corresponding population values. Similarly, the risk of reporting a correlation as significant if there is, in fact, no correlation between two measures, is contained at 5%.

Throughout the report, significance tests were undertaken to assess the statistical significance of the comparisons made.

Gender differences and differences between subgroup means

Gender differences in student performance or other indices were tested for statistical significance. Positive differences indicate higher scores for boys while negative differences indicate higher scores for girls. Generally, differences marked in bold in the tables in this volume are statistically significant at the 95% confidence level.

Similarly, differences between other groups of students (e.g. native students and students with an immigrant background) were tested for statistical significance. The definitions of the subgroups can in general be found in the tables and the text accompanying the analysis. All differences marked in bold in the tables presented in Annex B of this report are statistically significant at the 95% level.

Range of ranks

To calculate the range of ranks for countries and economies (participants), data are simulated using the mean and standard error of the mean for each relevant participant to generate a distribution of possible values. Some 10 000 simulations are implemented and, based on these values, 10 000 possible rankings for each participant are produced. For each participant, the counts for each rank are aggregated from largest to smallest until they equal 9 500 or more. Then the range of ranks per participant is reported, including all the ranks that have been aggregated. This means that there is at least 95% confidence about the range of ranks, and it is safe to assume unimodality in this distribution of ranks. This method has been used in all cycles of PISA since 2003, including PISA 2012.

The main difference between the range of ranks (e.g. Figure I.2.14) and the comparison of participants' mean performance (e.g. Figure I.2.13) is that the former takes account of the asymmetry of the distribution of rank estimates, while the latter does not. Therefore, sometimes there is a slight difference between the range of ranks and counting the number of participants above a given participant, based on pairwise comparisons of the selected participants' performance. For instance, Canada and Poland have the same mean performance and the same set of participants whose mean score is not statistically different from theirs, based on Figure I.2.13; but the rank for Canada among OECD countries can be restricted to be, with 95% confidence, between 5th and 9th, while the range of ranks for Poland is between 4th and 10th (Figure I.2.14). Since it is safe to assume that the distribution of rank estimates for each country has a single mode (unimodality), the results of range of ranks for participants should be used when examining participants' rankings.

Standard errors in statistics estimated from multilevel models

For statistics based on multilevel models (such as the estimates of variance components and regression coefficients from two-level regression models) the standard errors are not estimated with the usual replication method which accounts for stratification and sampling rates from finite populations. Instead, standard errors are "model-based": their computation assumes that schools, and students within schools, are sampled at random (with sampling probabilities reflected in school and student weights) from a theoretical, infinite population of schools and students which complies with the model's parametric assumptions.

Standard errors in trend analyses of performance: Link error

Standard errors for performance trend estimates had to be adjusted because the equating procedure that allows scores in different PISA assessments to be compared introduces a form of random error that is related to performance changes on the link items. These more conservative standard errors (larger than standard errors that were estimated before the introduction of the link error) reflect not only the measurement precision and sampling variation as for the usual PISA results, but also the link error (see Annex A5 for a technical discussion of the link error).



Link items represent only a subset of all items used to derive PISA scores. If different items were chosen to equate PISA scores over time, the comparison of performance for a group of students across time could vary. As a result, standard errors for the estimates of the change over time in mathematics, reading or science performance of a particular group (e.g. a country or economy, a region, boys, girls, students with an immigrant background, students without an immigrant background, socio-economically advantaged students, students in public schools, etc.) include the link error in addition to the sampling and imputation error commonly added to estimates in performance for a particular year. Because the equating procedure adds uncertainty to the position in the distribution (a change in the intercept) but does not result in any change in the variance of a distribution, standard errors for location-invariant estimates do not include the link error. Location-invariant estimates include, for example, estimates for variances, regression coefficients for student- or school-level covariates, and correlation coefficients.

Figures in bold in the data tables for trends in performance presented in Annex B1 of this report indicate that the the change in performance for that particular group is statistically significantly different from 0 at the 95% confidence level. The standard errors used to calculate the statistical significance of the reported trend include the link error.



ANNEX A4
QUALITY ASSURANCE

Quality assurance procedures were implemented in all parts of PISA 2012, as was done for all previous PISA surveys.

The consistent quality and linguistic equivalence of the PISA 2012 assessment instruments were facilitated by providing countries with equivalent source versions of the assessment instruments in English and French and requiring countries (other than those assessing students in English and French) to prepare and consolidate two independent translations using both source versions. Precise translation and adaptation guidelines were supplied, also including instructions for selecting and training the translators. For each country, the translation and format of the assessment instruments (including test materials, marking guides, questionnaires and manuals) were verified by expert translators appointed by the PISA Consortium before they were used in the PISA 2012 Field Trial and Main Study. These translators' mother tongue was the language of instruction in the country concerned and they were knowledgeable about education systems. For further information on the PISA translation procedures, see the *PISA 2012 Technical Report* (OECD, forthcoming).

The survey was implemented through standardised procedures. The PISA Consortium provided comprehensive manuals that explained the implementation of the survey, including precise instructions for the work of School Co-ordinators and scripts for Test Administrators to use during the assessment sessions. Proposed adaptations to survey procedures, or proposed modifications to the assessment session script, were submitted to the PISA Consortium for approval prior to verification. The PISA Consortium then verified the national translation and adaptation of these manuals.

To establish the credibility of PISA as valid and unbiased and to encourage uniformity in administering the assessment sessions, Test Administrators in participating countries were selected using the following criteria: it was required that the Test Administrator not be the reading, mathematics or science instructor of any students in the sessions he or she would administer for PISA; it was recommended that the Test Administrator not be a member of the staff of any school where he or she would administer for PISA; and it was considered preferable that the Test Administrator not be a member of the staff of any school in the PISA sample. Participating countries organised an in-person training session for Test Administrators.

Participating countries and economies were required to ensure that: Test Administrators worked with the School Co-ordinator to prepare the assessment session, including updating student tracking forms and identifying excluded students; no extra time was given for the cognitive items (while it was permissible to give extra time for the student questionnaire); no instrument was administered before the two one-hour parts of the cognitive session; Test Administrators recorded the student participation status on the student tracking forms and filled in a Session Report Form; no cognitive instrument was permitted to be photocopied; no cognitive instrument could be viewed by school staff before the assessment session; and Test Administrators returned the material to the national centre immediately after the assessment sessions.

National Project Managers were encouraged to organise a follow-up session when more than 15% of the PISA sample was not able to attend the original assessment session.

National Quality Monitors from the PISA Consortium visited all national centres to review data-collection procedures. Finally, School Quality Monitors from the PISA Consortium visited a sample of seven schools during the assessment. For further information on the field operations, see the *PISA 2012 Technical Report* (OECD, forthcoming).

Marking procedures were designed to ensure consistent and accurate application of the marking guides outlined in the PISA Operations Manuals. National Project Managers were required to submit proposed modifications to these procedures to the Consortium for approval. Reliability studies to analyse the consistency of marking were implemented.

Software specially designed for PISA facilitated data entry, detected common errors during data entry, and facilitated the process of data cleaning. Training sessions familiarised National Project Managers with these procedures.

For a description of the quality assurance procedures applied in PISA and in the results, see the *PISA 2012 Technical Report* (OECD, forthcoming).

The results of adjudication showed that the PISA Technical Standards were fully met in all countries and economies that participated in PISA 2012, with the exception of Albania. Albania submitted parental occupation data that was incomplete and appeared inaccurate, since there was over-use of a narrow range of occupations. It was not possible to resolve these issues during the course of data cleaning, and as a result neither parental occupation data nor any indices which depend on this data are included in the international dataset. Results for Albania are omitted from any analyses which depend on these indices.



ANNEX A5
TECHNICAL DETAILS OF TRENDS ANALYSES

Comparing mathematics, reading and science performance across PISA cycles

The PISA 2003, 2006, 2009 and 2012 assessments use the same mathematics performance scale, which means that score points on this scale are directly comparable over time. The same is true for the reading performance scale used since PISA 2000 and the science performance scale used since PISA 2006. The comparability of scores across time is possible because of the use of link items that are common across assessments and can be used in the equating procedure to align performance scales. The items that are common across assessments are a subset of the total items that make up the assessment because PISA progressively renews its pool of items. As a result, out of a total of 110 items in the PISA 2012 mathematics assessment, 84 are linked to 2003 items, 48 to 2006 items and 35 to 2009 items. The number of PISA 2012 items linked to the PISA 2003 assessment is larger than the number linked to the PISA 2006 or the PISA 2009 assessments because mathematics was a major domain in PISA 2003 and PISA 2012. In PISA 2006 and PISA 2009, mathematics was a minor domain and all the mathematics items included in these assessments were link items. The 44 items in the PISA 2012 reading assessment are link items (44 are linked to 2009 items and 3 to 2000, 2006 and 2003). Only three items are needed to link PISA 2012 to PISA 2006 because equating is done in two-steps: PISA 2012 reading scores are equated to PISA 2009, which in turn is equated to PISA 2006 through 26 link items. The 53 items in the PISA 2012 science assessment are link items to PISA 2009 and PISA 2006. The *PISA 2012 Technical Report* (OECD, forthcoming) provides the technical details on equating the PISA 2012 mathematics, reading and science scales for trends purposes.

Link error

Standard errors for performance trend estimates had to be adjusted because the equating procedure that allows scores in different PISA assessments to be compared introduces a form of random error that is related to performance changes on the link items. These more conservative standard errors (larger than standard errors that were estimated before the introduction of the link error) reflect not only the measurement precision and sampling variation as for the usual PISA results, but also the link error provided in Table A5.1.

Link items represent only a subset of all items used to derive PISA scores. If different items were chosen to equate PISA scores over time, the comparison of performance for a group of students across time could vary. As a result, standard errors for the estimates of the change over time in mathematics, reading or science performance of a particular group (e.g. a country or economy, a region, boys, girls, students with an immigrant background, students without an immigrant background, socio-economically advantaged students, students in public schools, etc.) include the link error in addition to the sampling and imputation error commonly added to estimates in performance for a particular year. Because the equating procedure adds uncertainty to the position in the distribution (a change in the intercept) but does not result in any change in the variance of a distribution, standard errors for location-invariant estimates do not include the link error. Location-invariant estimates include, for example, estimates for variances, regression coefficients for student- or school-level covariates, and correlation coefficients.

Link error for scores between two PISA assessments

The following equations describe how link errors between two PISA assessments are calculated. Suppose we have L score points in K units. Use i to index items in a unit and j to index units so that $\hat{\mu}_{ij}^{y}$ is the estimated difficulty of item i in unit j for year y, and let for example to compare PISA 2006 and PISA 2003:

$$c_{ij} = \hat{\mu}_{ij}^{2006} - \hat{\mu}_{ij}^{2003}$$

The size (total number of score points) of unit j is m_j so that:

$$\sum_{j=1}^{K} m_j = L$$

and $$\bar{m} = \frac{1}{K}\sum_{j=1}^{K} m_j$$

Further let:

$$c_{.j} = \frac{1}{m_j}\sum_{j=1}^{m_j} c_{ij}$$

and

$$\bar{c} = \frac{1}{N}\sum_{j=1}^{K}\sum_{i=1}^{m_j} c_{ij}$$

then the link error, taking clustering into account, is as follows:

$$error_{2006,2003} = \sqrt{\frac{\sum_{j=1}^{K} m_j^2 (c_{.j} - \bar{c})^2}{K(K-1)\bar{m}^2}}$$



This approach for estimating the link errors was used in PISA 2006, PISA 2009 and PISA 2012. The link errors for comparisons of PISA 2012 results with previous assessments are shown in Table A5.1.

[Part 1/1]

Table A5.1 Link error for comparisons of performance between PISA 2012 and previous assessments

Comparison	Mathematics	Reading	Science
PISA 2000 to PISA 2012		5.923	
PISA 2003 to PISA 2012	1.931	5.604	
PISA 2006 to PISA 2012	2.084	5.580	3.512
PISA 2009 to PISA 2012	2.294	2.602	2.006

Note: Comparisons between PISA 2012 scores and previous assessments can only be made to when the subject first became a major domain. As a result, comparisons in mathematics performance between PISA 2012 and PISA 2000 are not possible, nor are comparisons in science performance between PISA 2012 and PISA 2000 or PISA 2003.
StatLink http://dx.doi.org/10.1787/888932937054

Link error for other types of comparisons of student performance

The link error for other comparisons of performance does not have a straightforward theoretical solution as does the link error for comparison between two PISA assessments. The link error between two PISA assessments, described above, can be used, however, to empirically estimate the magnitude of the link error for the comparison of the percentage of students in a particular proficiency level or the magnitude of the link error associated with the estimation of the annualised and curvilinear change.

The empirical estimation of these link errors uses the assumption that the magnitude of the link error follows a normal distribution with mean 0 and a standard deviation equal to the link error shown in Table A5.1. From this distribution, 500 errors are drawn and added to the first plausible value for each assessment prior to 2012. The estimate of interest (change in the percentage of students in a particular proficiency level or the annualised change) is calculated for each of the 500 replicates. The standard deviation of these 500 estimates is then used as the link error for the annualised change, the quadratic change, and the change in the percentage of students scoring in a particular proficiency level. The values used to adjust standard errors in the calculation of the change in the percentage of students in each proficiency Level group are shown in Table A5.2 and those used for the adjustment of the linear and quadratic terms in the regressions models used to estimate the annualised change and the curvilinear change are shown in Table A5.3.

Comparisons of performance: Difference between two assessments and annualised change

To evaluate the evolution of performance, analyses report the change in performance between two cycles and the annualised change in performance. Comparisons between two assessments (e.g. a country's/economy's change in performance between PISA 2003 and PISA 2012 or the change in performance of a subgroup) are calculated as:

$$\Delta_{2012-t} = PISA_{2012} - PISA_t$$

where $\Delta_{2012\text{-}t}$ is the difference in performance between PISA 2012 and a previous PISA assessment, where t can take any of the following values: 2000, 2003, 2006 or 2009. $PISA_{2012}$ is the mathematics, reading or science score observed in PISA 2012, and $PISA_t$ is the mathematics, reading or science score observed in a previous assessment (2000, 2003, 2006 or 2009). The standard error of the change in performance $\boldsymbol{\sigma}(\Delta_{2012\text{-}t})$ is:

$$\sigma(\Delta_{2012-t}) = \sqrt{\sigma_{2012}^2 + \sigma_t^2 + error_{2012,t}^2}$$

where $\boldsymbol{\sigma}_{2012}$ is the standard error observed for $PISA_{2012}$, $\boldsymbol{\sigma}_t$ is the standard error observed for $PISA_t$ and $error_{2012,t}$ is the link error for comparisons of mathematics, reading or science performance between the PISA 2012 assessment and a previous (t) assessment. The value for $error_{2012,t}$ is shown in Table A5.1.

A second set of analyses reported in PISA relate to annualised changes in performance. The annualised change is the average annual rate of change observed through a country's/economy's participation in PISA. The annualised change is the average rate of change for a country's/economy's average mathematics, reading and science scores throughout their participation in PISA assessments. Thus, a positive annualised change of x points indicates that the country/economy has improved in performance by x points per year since its earliest comparable PISA results participated in PISA. For countries and economies that have participated in only two assessments, the annualised change is equal to the difference between the two assessments, divided by the number of years that passed between the assessments.



[Part 1/3]

Table A5.2 Link error for comparisons of proficiency levels between PISA 2012 and previous assessments

		Mathematics comparison between PISA 2012 and…									
		PISA 2003						PISA 2006		PISA 2009	
		Below Level 2			Level 5 or above			Below Level 2	Level 5 or above	Below Level 2	Level 5 or above
		All	Boys	Girls	All	Boys	Girls	All	All	All	All
OECD	Australia	0.534	0.462	0.612	0.435	0.477	0.393	0.588	0.464	0.634	0.498
	Austria	0.566	0.567	0.579	0.501	0.537	0.470	0.610	0.530	m	m
	Belgium	0.484	0.476	0.495	0.556	0.572	0.543	0.521	0.596	0.556	0.637
	Canada	0.457	0.385	0.530	0.539	0.583	0.498	0.484	0.577	0.518	0.615
	Chile	m	m	m	m	m	m	0.934	0.094	0.995	0.099
	Czech Republic	0.532	0.410	0.670	0.437	0.429	0.456	0.582	0.455	0.630	0.486
	Denmark	0.601	0.554	0.657	0.379	0.400	0.359	0.653	0.402	0.703	0.430
	Estonia	m	m	m	m	m	m	0.457	0.538	0.490	0.577
	Finland	0.400	0.452	0.348	0.445	0.435	0.465	0.429	0.485	0.462	0.520
	France	0.541	0.568	0.519	0.471	0.487	0.462	0.587	0.497	0.631	0.528
	Germany	0.445	0.404	0.494	0.518	0.554	0.482	0.482	0.543	0.517	0.586
	Greece	1.029	0.927	1.133	0.192	0.240	0.149	1.099	0.206	1.163	0.221
	Hungary	0.640	0.586	0.699	0.374	0.387	0.370	0.680	0.397	0.723	0.428
	Iceland	0.560	0.567	0.555	0.419	0.370	0.477	0.594	0.447	0.640	0.481
	Ireland	0.542	0.440	0.655	0.426	0.509	0.353	0.584	0.459	0.627	0.491
	Israel	m	m	m	m	m	m	0.785	0.376	0.836	0.399
	Italy	0.635	0.562	0.714	0.350	0.427	0.270	0.683	0.375	0.735	0.402
	Japan	0.421	0.365	0.487	0.740	0.787	0.694	0.448	0.788	0.479	0.843
	Korea	0.326	0.300	0.365	0.660	0.618	0.714	0.355	0.727	0.383	0.774
	Luxembourg	0.555	0.607	0.509	0.377	0.445	0.312	0.603	0.397	0.652	0.426
	Mexico	0.998	0.998	0.999	0.062	0.088	0.038	1.079	0.064	1.154	0.067
	Netherlands	0.473	0.446	0.504	0.622	0.720	0.522	0.507	0.659	0.541	0.698
	New Zealand	0.657	0.691	0.632	0.420	0.497	0.344	0.706	0.451	0.759	0.478
	Norway	0.600	0.524	0.683	0.329	0.283	0.385	0.642	0.347	0.683	0.374
	Poland	0.537	0.602	0.486	0.574	0.639	0.515	0.572	0.624	0.615	0.669
	Portugal	0.516	0.483	0.556	0.458	0.531	0.387	0.566	0.482	0.608	0.508
	Slovak Republic	0.691	0.698	0.694	0.286	0.331	0.243	0.721	0.319	0.771	0.343
	Slovenia	m	m	m	m	m	m	0.711	0.491	0.767	0.520
	Spain	0.619	0.543	0.699	0.377	0.464	0.290	0.671	0.402	0.714	0.431
	Sweden	0.696	0.661	0.735	0.296	0.297	0.302	0.757	0.324	0.814	0.346
	Switzerland	0.414	0.278	0.555	0.636	0.672	0.606	0.446	0.682	0.478	0.730
	Turkey	1.008	0.911	1.111	0.220	0.289	0.154	1.085	0.235	1.158	0.253
	United Kingdom	m	m	m	m	m	m	0.575	0.317	0.628	0.348
	United States	0.735	0.697	0.777	0.382	0.409	0.358	0.787	0.404	0.836	0.430
Partners	Albania	m	m	m	m	m	m	m	m	0.810	0.033
	Argentina	m	m	m	m	m	m	0.906	0.019	0.970	0.021
	Brazil	0.900	1.042	0.773	0.068	0.081	0.059	0.968	0.072	1.031	0.075
	Bulgaria	m	m	m	m	m	m	0.777	0.230	0.830	0.245
	Colombia	m	m	m	m	m	m	0.778	0.022	0.829	0.024
	Costa Rica	m	m	m	m	m	m	m	m	1.179	0.043
	Croatia	m	m	m	m	m	m	0.804	0.248	0.859	0.263
	Dubai (UAE)	m	m	m	m	m	m	m	m	0.731	0.390
	Hong Kong-China	0.250	0.224	0.287	0.805	0.695	0.940	0.277	0.864	0.295	0.917
	Indonesia	0.715	0.662	0.776	0.025	0.021	0.036	0.758	0.025	0.812	0.026
	Jordan	m	m	m	m	m	m	1.017	0.052	1.081	0.053
	Kazakhstan	m	m	m	m	m	m	m	m	1.216	0.060
	Latvia	0.638	0.725	0.557	0.439	0.412	0.469	0.677	0.455	0.725	0.484
	Liechtenstein	0.552	0.680	0.479	1.055	1.440	0.697	0.579	1.065	0.610	1.147
	Lithuania	m	m	m	m	m	m	0.863	0.337	0.927	0.364
	Macao-China	0.343	0.309	0.383	0.697	0.754	0.643	0.369	0.755	0.395	0.806
	Malaysia	m	m	m	m	m	m	m	m	0.984	0.091
	Montenegro	m	m	m	m	m	m	0.840	0.064	0.891	0.069
	Peru	m	m	m	m	m	m	m	m	0.760	0.055
	Qatar	m	m	m	m	m	m	0.577	0.082	0.616	0.089
	Romania	m	m	m	m	m	m	1.101	0.164	1.169	0.176
	Russian Federation	0.804	0.890	0.723	0.344	0.321	0.375	0.871	0.363	0.933	0.392
	Serbia	m	m	m	m	m	m	0.939	0.157	1.011	0.168
	Shanghai-China	m	m	m	m	m	m	m	m	0.194	0.776
	Singapore	m	m	m	m	m	m	m	m	0.293	0.894
	Chinese Taipei	m	m	m	m	m	m	0.327	0.625	0.354	0.673
	Thailand	0.911	1.048	0.810	0.085	0.063	0.108	0.974	0.093	1.039	0.104
	Tunisia	0.804	0.643	0.955	0.056	0.040	0.074	0.857	0.059	0.911	0.062
	United Arab Emirates*	m	m	m	m	m	m	m	m	0.942	0.112
	Uruguay	0.817	0.793	0.846	0.065	0.105	0.035	0.881	0.069	0.944	0.075

Note: The link error is calculated empirically by adding a random error component from a normal distribution with mean equal to zero and standard deviation equal to those shown in Table A5.1 to each student's scores in PISA 2000, PISA 2003, PISA 2006 or PISA 2009. Each country's percentage of students in each proficiency level band are then calculated for each of 500 replications. The standard deviation in the observed coefficients is the result of the added error and is the reported link error.

* United Arab Emirates excluding Dubai.

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[Part 2/3]

Table A5.2 Link error for comparisons of proficiency levels between PISA 2012 and previous assessments

		Reading comparison between PISA 2012 and…											
		PISA 2000						PISA 2003		PISA 2006		PISA 2009	
		Below Level 2			Level 5 or above			Below Level 2	Level 5 or above	Below Level 2	Level 5 or above	Below Level 2	Level 5 or above
		All	Boys	Girls	All	Boys	Girls	All	All	All	All	All	All
OECD	Australia	1.294	1.569	1.008	1.293	1.033	1.570	1.289	1.282	1.246	1.254	0.601	0.599
	Austria	1.488	1.772	1.216	0.968	0.691	1.248	1.482	0.959	1.431	0.943	m	m
	Belgium	1.177	1.243	1.114	1.392	1.162	1.627	1.182	1.380	1.143	1.350	0.551	0.656
	Canada	1.057	1.269	0.847	1.457	1.175	1.741	1.058	1.449	1.016	1.410	0.525	0.676
	Chile	2.510	2.601	2.427	0.121	0.067	0.174	m	m	2.423	0.118	1.200	0.051
	Czech Republic	1.615	1.871	1.355	0.919	0.591	1.269	1.609	0.914	1.568	0.901	0.737	0.429
	Denmark	1.375	1.721	1.031	0.854	0.584	1.131	1.372	0.846	1.320	0.827	0.603	0.419
	Estonia	m	m	m	m	m	m	m	m	1.011	1.194	0.391	0.602
	Finland	1.197	1.858	0.502	1.601	1.038	2.199	1.200	1.588	1.161	1.551	0.510	0.730
	France	1.119	1.282	0.968	1.326	1.121	1.526	1.115	1.321	1.077	1.288	0.485	0.603
	Germany	1.269	1.487	1.046	1.375	1.026	1.741	1.271	1.353	1.232	1.334	0.594	0.648
	Greece	1.527	1.937	1.130	0.784	0.603	0.964	1.524	0.776	1.478	0.765	0.729	0.375
	Hungary	1.353	1.619	1.109	0.955	0.774	1.136	1.352	0.947	1.314	0.933	0.574	0.439
	Iceland	1.588	1.826	1.348	0.889	0.603	1.210	1.576	0.882	1.537	0.865	0.755	0.466
	Ireland	1.213	1.474	0.947	1.510	1.184	1.851	1.220	1.511	1.177	1.466	0.569	0.766
	Israel	1.355	1.274	1.447	1.145	0.950	1.338	m	m	1.316	1.111	0.619	0.568
	Italy	1.468	1.630	1.295	1.040	0.816	1.281	1.463	1.032	1.418	1.011	0.678	0.482
	Japan	0.831	0.876	0.794	1.743	1.572	1.937	0.834	1.734	0.799	1.692	0.391	0.828
	Korea	0.845	1.006	0.668	1.832	1.657	2.037	0.838	1.822	0.812	1.785	0.414	0.904
	Luxembourg	m	m	m	m	m	m	1.460	1.130	1.415	1.112	0.663	0.543
	Mexico	2.844	2.892	2.802	0.097	0.076	0.117	2.836	0.036	2.751	0.093	1.308	0.052
	Netherlands	m	m	m	m	m	m	1.350	1.404	1.312	1.370	0.661	0.661
	New Zealand	1.323	1.581	1.061	1.367	1.300	1.443	1.322	1.360	1.280	1.328	0.654	0.618
	Norway	1.259	1.569	0.945	1.236	0.840	1.658	1.254	1.231	1.210	1.204	0.514	0.526
	Poland	1.040	1.370	0.729	1.223	0.902	1.532	1.038	1.212	0.996	1.187	0.488	0.544
	Portugal	1.410	1.671	1.147	1.064	0.746	1.391	1.408	1.059	1.353	1.036	0.666	0.506
	Slovak Republic	m	m	m	m	m	m	1.775	0.717	1.714	0.706	0.804	0.343
	Slovenia	m	m	m	m	m	m	m	m	1.790	0.647	0.858	0.259
	Spain	1.539	1.682	1.400	0.824	0.641	1.016	1.532	0.815	1.483	0.803	0.669	0.380
	Sweden	1.509	1.831	1.186	1.023	0.719	1.339	1.502	1.018	1.455	0.995	0.729	0.510
	Switzerland	1.401	1.744	1.062	1.265	0.835	1.702	1.406	1.255	1.359	1.222	0.661	0.548
	Turkey	m	m	m	m	m	m	2.157	0.589	2.082	0.581	1.036	0.248
	United Kingdom	m	m	m	m	m	m	m	m	1.251	1.008	0.578	0.463
	United States	1.448	1.836	1.053	1.017	0.804	1.241	1.441	1.008	m	m	0.622	0.455
Partners	Albania	2.316	2.059	2.609	0.197	0.191	0.211	m	m	m	m	1.104	0.080
	Argentina	2.544	2.469	2.624	0.139	0.113	0.175	m	m	2.471	0.136	1.228	0.062
	Brazil	2.716	2.627	2.800	0.124	0.068	0.178	2.707	0.123	2.633	0.121	1.285	0.063
	Bulgaria	1.542	1.600	1.486	0.556	0.250	0.891	m	m	1.505	0.539	0.682	0.275
	Colombia	m	m	m	m	m	m	m	m	2.731	0.079	1.311	0.032
	Costa Rica	m	m	m	m	m	m	m	m	m	m	1.237	0.065
	Croatia	m	m	m	m	m	m	m	m	1.625	0.739	0.739	0.340
	Dubai (UAE)	m	m	m	m	m	m	m	m	m	m	0.987	0.295
	Hong Kong-China	0.758	0.837	0.673	2.017	1.723	2.366	0.762	1.996	0.734	1.961	0.364	0.886
	Indonesia	3.255	2.874	3.652	c	c	c	3.230	0.023	3.151	0.023	1.559	0.008
	Jordan	m	m	m	m	m	m	m	m	2.626	0.094	1.285	0.054
	Kazakhstan	m	m	m	m	m	m	m	m	m	m	1.356	0.002
	Latvia	1.591	2.138	1.043	0.689	0.327	1.066	1.585	0.681	1.532	0.664	0.749	0.302
	Liechtenstein	1.187	1.124	1.373	1.712	1.318	2.214	1.170	1.709	1.132	1.676	0.750	0.900
	Lithuania	m	m	m	m	m	m	m	m	1.708	0.602	0.805	0.324
	Macao-China	m	m	m	m	m	m	1.382	1.157	1.346	1.130	0.651	0.526
	Malaysia	m	m	m	m	m	m	m	m	m	m	1.303	0.015
	Montenegro	m	m	m	m	m	m	m	m	2.567	0.215	1.267	0.075
	Peru	2.488	2.406	2.571	0.132	c	0.175	m	m	m	m	1.161	0.058
	Qatar	m	m	m	m	m	m	m	m	1.958	0.256	0.940	0.125
	Romania	2.498	2.587	2.417	0.330	0.230	0.431	m	m	2.411	0.325	1.196	0.177
	Russian Federation	2.090	2.393	1.791	0.666	0.447	0.895	2.088	0.659	2.031	0.643	1.069	0.314
	Serbia	m	m	m	m	m	m	m	m	2.254	0.431	1.099	0.221
	Shanghai-China	m	m	m	m	m	m	m	m	m	m	0.209	1.133
	Singapore	m	m	m	m	m	m	m	m	m	m	0.375	0.985
	Chinese Taipei	m	m	m	m	m	m	m	m	1.034	1.575	0.544	0.744
	Thailand	2.755	3.240	2.379	0.138	0.038	0.218	2.754	0.135	2.671	0.136	1.289	0.054
	Tunisia	m	m	m	m	m	m	2.586	0.057	2.513	0.056	1.265	0.041
	United Arab Emirates*	m	m	m	m	m	m	m	m	m	m	1.190	0.084
	Uruguay	m	m	m	m	m	m	2.506	0.176	2.431	0.172	1.261	0.097

Note: The link error is calculated empirically by adding a random error component from a normal distribution with mean equal to zero and standard deviation equal to those shown in Table A5.1 to each student's scores in PISA 2000, PISA 2003, PISA 2006 or PISA 2009. Each country's percentage of students in each proficiency level band are then calculated for each of 500 replications. The standard deviation in the observed coefficients is the result of the added error and is the reported link error.

* United Arab Emirates excluding Dubai.

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[Part 3/3]

Table A5.2 Link error for comparisons of proficiency levels between PISA 2012 and previous assessments

		Science comparison between PISA 2012 and…							
		PISA 2006						PISA 2009	
		Below Level 2			Level 5 or above			Below Level 2	Level 5 or above
		All	Boys	Girls	All	Boys	Girls	All	All
OECD	Australia	0.702	0.699	0.708	0.816	0.779	0.855	0.419	0.486
	Austria	0.935	0.912	0.963	0.704	0.742	0.669	m	m
	Belgium	0.805	0.748	0.867	0.767	0.764	0.772	0.451	0.433
	Canada	0.584	0.585	0.584	0.856	0.933	0.783	0.338	0.478
	Chile	1.563	1.488	1.639	0.143	0.207	0.087	0.888	0.079
	Czech Republic	0.836	0.719	0.970	0.605	0.444	0.786	0.456	0.361
	Denmark	0.922	0.872	0.975	0.519	0.573	0.478	0.540	0.277
	Estonia	0.506	0.560	0.456	0.933	0.929	0.941	0.310	0.518
	Finland	0.457	0.518	0.398	1.040	0.864	1.236	0.259	0.585
	France	0.830	0.761	0.899	0.634	0.718	0.562	0.489	0.326
	Germany	0.717	0.676	0.768	0.892	0.970	0.814	0.430	0.501
	Greece	1.222	1.308	1.146	0.279	0.342	0.224	0.722	0.165
	Hungary	1.073	1.186	0.971	0.606	0.677	0.542	0.639	0.365
	Iceland	0.940	0.930	0.957	0.484	0.496	0.476	0.486	0.288
	Ireland	0.748	0.826	0.680	0.677	0.691	0.668	0.425	0.401
	Israel	0.957	0.877	1.038	0.557	0.736	0.388	0.537	0.337
	Italy	1.014	0.959	1.075	0.516	0.566	0.465	0.607	0.303
	Japan	0.499	0.521	0.478	1.093	1.285	0.888	0.313	0.612
	Korea	0.499	0.586	0.404	0.976	1.129	0.809	0.293	0.584
	Luxembourg	0.947	0.751	1.156	0.650	0.603	0.705	0.548	0.386
	Mexico	2.072	1.952	2.190	0.022	0.028	0.017	1.195	0.014
	Netherlands	0.879	0.668	1.106	0.911	0.968	0.856	0.541	0.548
	New Zealand	0.796	0.677	0.923	0.803	0.900	0.707	0.433	0.451
	Norway	0.864	0.812	0.921	0.551	0.521	0.585	0.486	0.298
	Poland	0.620	0.708	0.545	0.813	0.795	0.835	0.334	0.484
	Portugal	0.953	0.928	0.982	0.422	0.442	0.407	0.522	0.221
	Slovak Republic	1.013	1.100	0.924	0.424	0.463	0.386	0.566	0.253
	Slovenia	0.918	1.222	0.600	0.758	0.832	0.685	0.542	0.414
	Spain	0.884	0.840	0.932	0.501	0.591	0.411	0.517	0.286
	Sweden	0.973	0.918	1.033	0.454	0.447	0.466	0.560	0.254
	Switzerland	0.740	0.725	0.760	0.712	0.665	0.765	0.443	0.389
	Turkey	1.492	1.514	1.480	0.246	0.296	0.203	0.870	0.130
	United Kingdom	0.718	0.648	0.790	0.808	0.862	0.768	0.411	0.452
	United States	0.938	0.946	0.938	0.507	0.546	0.476	0.527	0.288
Partners	Albania	m	m	m	m	m	m	0.808	0.051
	Argentina	1.800	1.660	1.941	0.053	0.066	0.047	1.025	0.027
	Brazil	1.755	1.616	1.882	0.038	0.049	0.034	1.019	0.017
	Bulgaria	1.207	1.248	1.169	0.264	0.249	0.286	0.723	0.149
	Colombia	1.891	2.043	1.768	0.012	0.022	0.004	1.111	0.005
	Costa Rica	m	m	m	m	m	m	1.026	0.036
	Croatia	0.965	1.036	0.895	0.456	0.465	0.452	0.572	0.284
	Dubai (UAE)	m	m	m	m	m	m	0.720	0.182
	Hong Kong-China	0.299	0.304	0.296	1.454	1.556	1.341	0.167	0.873
	Indonesia	1.740	1.763	1.728	c	c	c	0.932	c
	Jordan	1.669	1.530	1.808	0.051	0.057	0.053	0.936	0.028
	Kazakhstan	m	m	m	m	m	m	1.048	0.025
	Latvia	0.953	1.016	0.898	0.460	0.470	0.457	0.566	0.288
	Liechtenstein	0.597	0.867	0.380	0.728	0.928	0.584	0.269	0.423
	Lithuania	0.869	0.924	0.819	0.501	0.382	0.628	0.489	0.320
	Macao-China	0.685	0.640	0.742	0.656	0.820	0.494	0.434	0.383
	Malaysia	m	m	m	m	m	m	1.058	0.026
	Montenegro	1.689	1.595	1.793	0.067	0.071	0.070	1.035	0.042
	Peru	m	m	m	m	m	m	0.822	0.000
	Qatar	1.126	0.940	1.328	0.132	0.124	0.143	0.657	0.071
	Romania	1.861	1.923	1.810	0.129	0.129	0.130	1.122	0.094
	Russian Federation	1.298	1.333	1.267	0.398	0.390	0.407	0.801	0.230
	Serbia	1.482	1.599	1.369	0.117	0.115	0.125	0.844	0.061
	Shanghai-China	m	m	m	m	m	m	0.150	1.006
	Singapore	m	m	m	m	m	m	0.307	0.650
	Chinese Taipei	0.751	0.742	0.763	0.764	0.788	0.747	0.480	0.426
	Thailand	1.781	1.899	1.696	0.135	0.092	0.172	1.060	0.078
	Tunisia	1.794	1.703	1.877	0.022	0.033	0.021	1.049	0.014
	United Arab Emirates*	m	m	m	m	m	m	0.758	0.075
	Uruguay	1.352	1.225	1.468	0.096	0.157	0.049	0.760	0.052

Note: The link error is calculated empirically by adding a random error component from a normal distribution with mean equal to zero and standard deviation equal to those shown in Table A5.1 to each student's scores in PISA 2000, PISA 2003, PISA 2006 or PISA 2009. Each country's percentage of students in each proficiency level band are then calculated for each of 500 replications. The standard deviation in the observed coefficients is the result of the added error and is the reported link error.
* United Arab Emirates excluding Dubai.
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[Part 1/1]

Table A5.3 Link error for comparisons of annualised and curvilinear change between PISA 2012 and previous assessments

		Comparisons between PISA 2012 and all previous comparable assessments in…					
		Mathematics		Reading		Science	
		Linear term	Quadratic term	Linear term	Quadratic term	Linear term	Quadratic term
		Error	Error	Error	Error	Error	Error
OECD	Australia	0.192	0.092	0.194	0.149	0.595	0.168
	Austria	0.195	0.091	0.193	0.148	0.594	0.168
	Belgium	0.191	0.091	0.194	0.147	0.597	0.168
	Canada	0.199	0.092	0.187	0.148	0.592	0.168
	Chile	0.305	0.185	0.292	0.169	0.605	0.168
	Czech Republic	0.183	0.088	0.237	0.147	0.609	0.168
	Denmark	0.205	0.094	0.187	0.149	0.588	0.168
	Estonia	0.297	0.185	0.481	0.459	0.610	0.168
	Finland	0.195	0.092	0.193	0.148	0.593	0.168
	France	0.189	0.090	0.206	0.148	0.599	0.168
	Germany	0.189	0.084	0.305	0.145	0.635	0.168
	Greece	0.195	0.091	0.209	0.150	0.592	0.168
	Hungary	0.194	0.092	0.193	0.149	0.594	0.168
	Iceland	0.196	0.092	0.188	0.147	0.595	0.168
	Ireland	0.196	0.091	0.191	0.149	0.593	0.168
	Israel	0.330	0.185	0.235	0.172	0.593	0.168
	Italy	0.191	0.091	0.200	0.148	0.597	0.168
	Japan	0.194	0.092	0.202	0.150	0.592	0.168
	Korea	0.199	0.094	0.187	0.149	0.590	0.168
	Luxembourg	0.203	0.094	0.184	0.148	0.590	0.168
	Mexico	0.202	0.094	0.186	0.149	0.589	0.168
	Netherlands	0.194	0.091	0.189	0.148	0.594	0.168
	New Zealand	0.191	0.092	0.193	0.148	0.596	0.168
	Norway	0.199	0.092	0.186	0.147	0.593	0.168
	Poland	0.185	0.088	0.231	0.148	0.606	0.168
	Portugal	0.203	0.093	0.187	0.150	0.587	0.168
	Slovak Republic	0.184	0.089	0.320	0.223	0.607	0.168
	Slovenia	0.306	0.185	0.460	0.459	0.605	0.168
	Spain	0.194	0.092	0.198	0.148	0.595	0.168
	Sweden	0.191	0.090	0.191	0.146	0.599	0.168
	Switzerland	0.186	0.089	0.203	0.147	0.603	0.168
	Turkey	0.216	0.096	0.287	0.219	0.586	0.168
	United Kingdom	0.194	0.091	0.190	0.148	0.595	0.168
	United States	0.198	0.092	0.188	0.147	0.593	0.168
Partners	Albania	0.748	m	0.238	0.205	0.678	m
	Argentina	0.340	0.185	0.228	0.171	0.590	0.168
	Brazil	0.205	0.094	0.199	0.151	0.586	0.168
	Bulgaria	0.318	0.185	0.281	0.168	0.599	0.168
	Colombia	0.326	0.185	0.428	0.459	0.595	0.168
	Costa Rica	0.748	m	0.848	m	0.678	m
	Croatia	0.317	0.185	0.440	0.459	0.599	0.168
	Dubai (UAE)	0.748	m	0.848	m	0.678	m
	Hong Kong-China	0.195	0.092	0.201	0.177	0.593	0.168
	Indonesia	0.234	0.095	0.262	0.176	0.581	0.168
	Jordan	0.346	0.185	0.413	0.459	0.588	0.168
	Kazakhstan	0.748	m	0.848	m	0.678	m
	Latvia	0.184	0.086	0.255	0.148	0.614	0.168
	Liechtenstein	0.239	0.095	0.239	0.150	0.579	0.168
	Lithuania	0.310	0.185	0.451	0.459	0.602	0.168
	Macao-China	0.189	0.090	0.292	0.222	0.598	0.168
	Malaysia	0.748	m	0.848	m	0.678	m
	Montenegro	0.336	0.185	0.419	0.459	0.591	0.168
	Peru	0.748	m	0.245	0.205	0.678	m
	Qatar	0.358	0.185	0.411	0.459	0.584	0.168
	Romania	0.308	0.185	0.287	0.207	0.604	0.168
	Russian Federation	0.186	0.084	0.284	0.148	0.620	0.168
	Serbia	0.329	0.185	0.424	0.459	0.594	0.168
	Shanghai-China	0.748	m	0.848	m	0.678	m
	Singapore	0.748	m	0.848	m	0.678	m
	Chinese Taipei	0.336	0.185	0.419	0.459	0.591	0.168
	Thailand	0.199	0.093	0.208	0.176	0.590	0.168
	Tunisia	0.191	0.091	0.288	0.221	0.595	0.168
	United Arab Emirates*	1.122	m	1.273	m	1.017	m
	Uruguay	0.205	0.092	0.274	0.220	0.589	0.168

Note: The link error is calculated empirically by adding a random error component from a normal distribution with mean equal to zero and standard deviation equal to those shown in Table A5.1 to each student's scores in PISA 2000, PISA 2003, PISA 2006 or PISA 2009. The linear and quadratic terms of a regression model are then calculated for each of 500 replications. The standard deviation in the observed coefficients is the result of the added error and is the reported link error.

* United Arab Emirates excluding Dubai.

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The annualised change in performance is calculated through an individual-level OLS regression of the form

$$PISA_i = \beta_0 + \beta_1 year_i + \varepsilon_i$$

where $PISA_i$ is student *i*'s mathematics, reading or science score, $year_i$ is the year student *i* took the PISA assessment and ε_i is an error term indicating student *i*'s difference from the group mean. Under this specification, the estimate for β_1 indicates the annualised rate of change. Just as a link error is added when drawing comparisons between two PISA assessments, the standard errors for β_1 also include a link error:

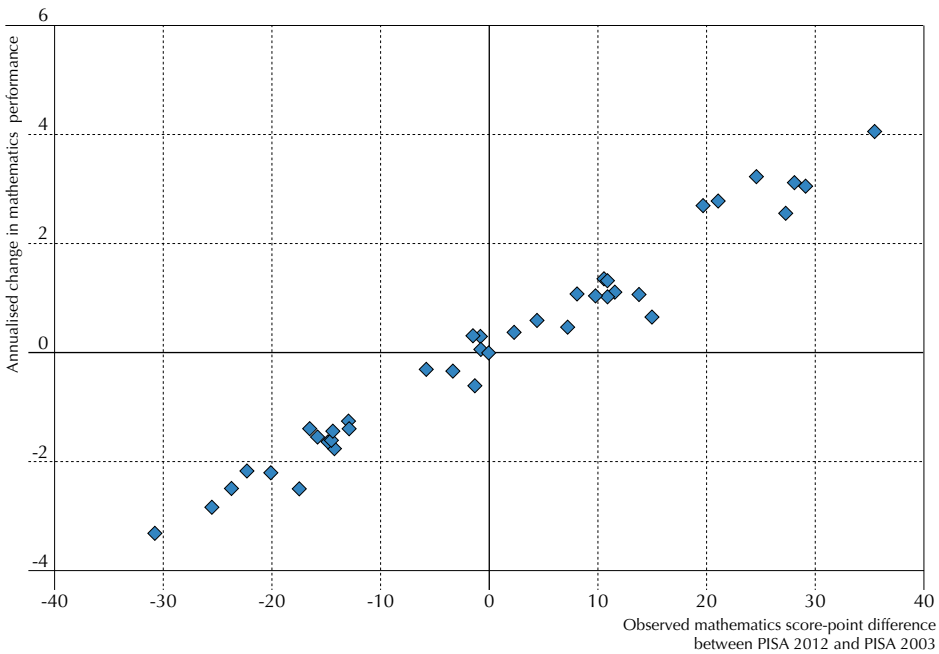
$$\sigma_{link}(\beta_1) = \sqrt{\sigma^2(\beta_1) + error^2_{annual}}$$

where $error_{annual}$ is the link error associated to the linear term in a regression model. It is presented in Table A5.3.

The annualised change is a more robust measure of a country's/economy's progress in education outcomes as it is based on information available from all assessments. It is thus less sensitive to abnormal measurements that may alter a country's/economy's PISA trends if results are compared only between two assessments. The annualised change is calculated as the best-fitting line throughout a country's/economy's participation in PISA. The year that individual students participated in PISA is regressed on their PISA scores, yielding the annualised change. The annualised change also takes into account the fact that, for some countries and economies, the period between PISA assessments is less than three years. This is the case for those countries and economies that participated in PISA 2000 or PISA 2009 as part of PISA+: they conducted the assessment in 2001, 2002 or 2010 instead of 2000 or 2009. Figure A5.1 compares the value of the annualised change in mathematics with the difference in mathematics performance observed in PISA 2012 and PISA 2003. Figures A5.2 and A5.3 do the same for reading and science: they compare the annualised change in performance with the difference between PISA 2012 and PISA 2000 and PISA 2006, respectively. In general, and especially in the comparison between science in PISA 2006 and PISA 2012, the annualised change provides a result similar to the difference in performance between two assessments. As more assessments are taken into account, the annualised change begins to differ from the observed trend, providing a more complete picture of a country's/economy's progress in PISA.

■ Figure A5.1 ■

Annualised change in mathematics performance since PISA 2003 and observed difference in performance between PISA 2012 and PISA 2003



Notes: The annualised change is the average annual change in PISA score points from a country's/economy's earliest participation in PISA to PISA 2012. It is calculated taking into account all country's/economy's participation in PISA.

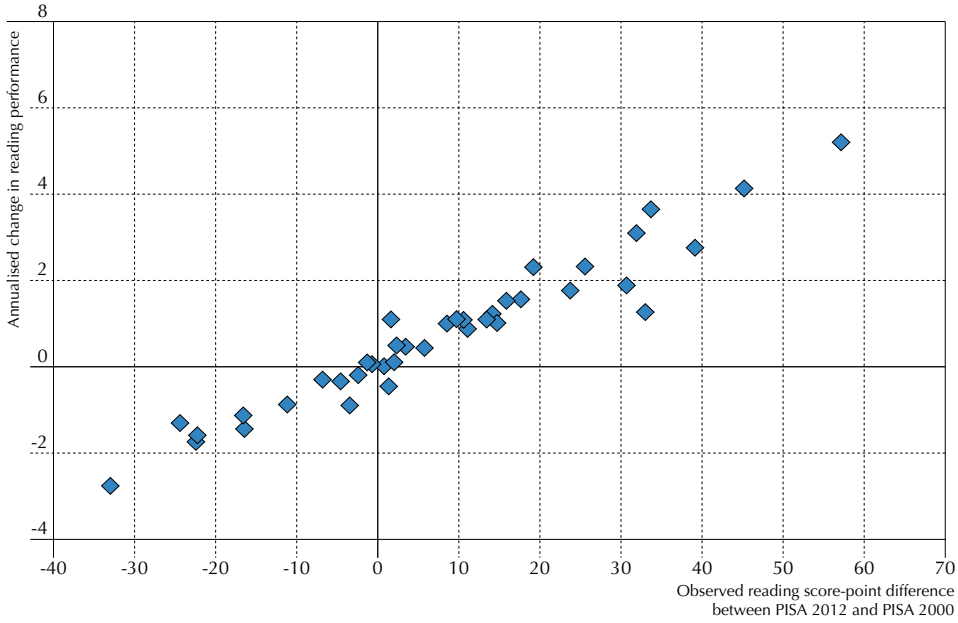
Source: OECD, PISA 2012 Database, Table I.2.3b.

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■ Figure A5.2 ■

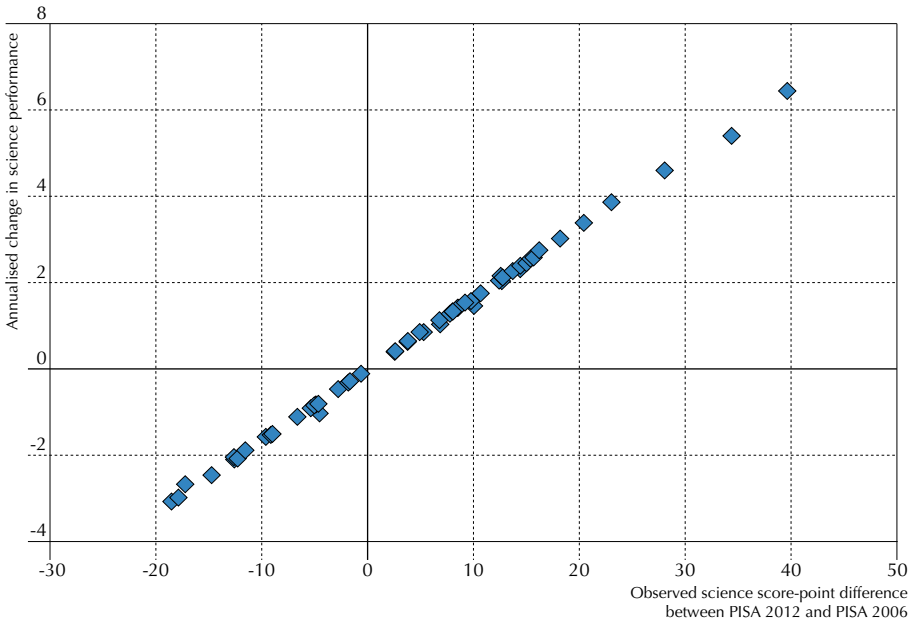
Annualised change in reading performance since PISA 2000 and observed difference in performance between PISA 2012 and PISA 2000



Notes: The annualised change is the average annual change in PISA score points from a country's/economy's earliest participation in PISA to PISA 2012. It is calculated taking into account all country's/economy's participation in PISA.
Source: OECD, PISA 2012 Database, Table I.4.3b.
StatLink http://dx.doi.org/10.1787/888932937054

■ Figure A5.3 ■

Annualised change in science performance since PISA 2006 and observed difference in performance between PISA 2012 and PISA 2006



Notes: The annualised change is the average annual change in PISA score points from a country's/economy's earliest participation in PISA to PISA 2012. It is calculated taking into account all country's/economy's participation in PISA.
Source: OECD, PISA 2012 Database, Table I.5.3b.
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The annualised change assumes that progress in PISA is linear. An extension of the model that yields the annualised change is one that adds the curvature to the estimated annualised change by adding a quadratic term to the regression model (the curvilinear change):

$$PISA_i = \beta_0 + \beta_1 year_i + \beta_2 year_1^2 + \varepsilon_i$$

where $year_i^2$ is equal to the square of $year_i$. When *year* is scaled such that it is equal to zero in 2012, β_1 indicates the estimated rate of change in 2012 and β_2 the acceleration/deceleration of the trend. If β_2 is positive, it indicates that the observed trend is U-shaped, and rates of change in performance observed in years closer to 2012 are higher than those observed in earlier years. If β_2 is negative, the observed trend has an inverse-U-shape, and rates of change in performance observed in years closer to 2012 are lower than those observed in earlier years. Just as a link error is added when in the estimation of the standard errors for the annualised change, the standard errors for β_2 also include a link error:

$$\sigma_{link}(\beta_2) = \sqrt{\sigma^2(\beta_2) + error_{quadratic}^2}$$

where $error_{quadratic}$ is the link error associated to the quadratic term in a regression model. It is presented in Table A5.3.

The Annualised and curvilinear change assumes a specific type of change: linear or quadratic. This specification may not fit well when a country's/economy's progress in PISA is the result of a one-time change (as can result from targeted policies that shift the performance level but does not create a continuous trajectory of change). Because of the variable nature of a country's/economy's change in performance in PISA, changes in performance must be analysed through the different measures reported in this volume.

Adjusted trends

PISA maintains its technical standards over time. Although this means that trends can be calculated over comparable populations, in some countries departures in sampling methods were observed. Furthermore, the demographic characteristics and socio-economic background of 15-year-old populations can also be subject to change, for example because of migration, changes in economic conditions or changes in students' and parents' educational attainment over a particular period of time.

Because trend analyses illustrate the pace of progress of successive cohorts of students, in order to draw reliable conclusions from such results, it is important to examine the extent to which they are driven by changes in the demographic and socio-economic condition of students. Two sets of trend results were therefore developed: unadjusted and adjusted trends. Adjusted trends represent trends in performance estimated when controlling for any changes in the average demographic and socio-economic profile of different student cohorts. Linear regression can be used to adjust performance results for differences in student background characteristics. The procedure to adjust performance trends for a single country over time is similar to the adjustment procedure that is used in PISA to derive estimates on between country differences in performance when adjusting for differences in country specific socio-economic and demographic conditions.

PISA reports three sets of results based on adjustments for differences in socio-economic status and demographic characteristics: country-specific estimated mean performances when adjusting for differences across countries in socio-economic and demographic characteristics; country-specific estimated performance change between two assessments when adjusting for differences across country-specific cohorts in socio-economic and demographic characteristics; and country-specific estimated annualised performance change when adjusting for differences across country-specific cohorts in socio-economic and demographic characteristics. The adjusted mathematics, reading and science performance results reported in PISA Volume I use the 2012 PISA sample as a reference. Thus, the results from previous assessments were adjusted to be comparable to the 2012 sample and population. This was achieved by centring background characteristics on the 2012 average values for each country and then carrying out a regression with centred background characteristics to obtain adjusted trends. In other words, results for 2000, 2003, 2006 and 2009 were adjusted to match the 2012 data.

Table A5.4 provides means for background variables, with the following measures used for the adjustment: student gender and age, as well as indicators for students whose language spoken at home is different from the language of assessment and whether the student has an immigrant background. The last columns show changes in these characteristics. The results were also adjusted for changes in socio-economic status as measured by the *PISA index of economic, social and cultural status* (variable ESCS). As explained in Annex A1 and below, the ESCS index was re-estimated for 2000, 2003, 2006 and 2009 assessments to be comparable with 2012 results. Mean values, the standard deviation and changes in these statistics for the re-estimated ESCS index between 2012 and 2003 are reported in Table II.2.3b. These statistics could differ from those reported in previous reports, since the re-estimated values of the ESCS index that are comparable with 2012 results can differ slightly from those reported in previous assessments. In both tables, changes that are in bold print suggest that mean values on the respective measure changed between assessments. In this case, the difference between unadjusted and adjusted trends reflects this change, with adjusted trends accounting for it.

Unadjusted performance results are averaged across all students participating in PISA assessments. Thus, adjusted results should be also calculated over all participants in each country. That is not always possible, as in some cases, information on student background characteristics are missing due to non-response or invalid responses. Imputation of missing values was needed prior to the adjustments to sustain sample sizes and comparisons with unadjusted results. This was achieved using multiple imputation models that maintained the relationships between performance and background characteristics when imputing missing information (Rubin, 1987; Royston, 2004).



[Part 1/3]

Table A5.4 Descriptive statistics for variables used to adjust mathematics, reading and science scores to the PISA 2012 samples

		Students' age										Student is a girl									
		2000		2003		2006		2009		2012		2000		2003		2006		2009		2012	
		Mean	S.E.	Mean	S.E.	Mean	S.E.	Mean	S.E.	Mean	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	15.7	(0.01)	15.8	(0.00)	15.8	(0.00)	15.8	(0.00)	15.8	(0.00)	47.5	(2.18)	49.2	(1.31)	48.9	(1.39)	51.1	(1.30)	48.5	(0.59)
	Austria	15.8	(0.01)	15.8	(0.01)	15.8	(0.01)	m	m	15.8	(0.01)	48.8	(2.25)	49.9	(1.56)	49.1	(1.82)	m	m	50.1	(1.52)
	Belgium	15.7	(0.00)	15.9	(0.00)	15.9	(0.00)	15.8	(0.00)	15.8	(0.00)	47.9	(1.65)	47.9	(1.36)	47.6	(1.40)	48.9	(1.22)	49.8	(0.91)
	Canada	15.8	(0.00)	15.9	(0.00)	15.8	(0.00)	15.8	(0.00)	15.8	(0.00)	50.1	(0.52)	50.7	(0.63)	49.7	(0.62)	49.7	(0.47)	50.1	(0.43)
	Chile	15.8	(0.00)	m	m	15.8	(0.00)	15.8	(0.00)	15.8	(0.00)	53.0	(1.82)	m	m	46.0	(1.55)	49.0	(1.12)	51.6	(1.28)
	Czech Republic	15.7	(0.01)	15.9	(0.01)	15.9	(0.01)	15.8	(0.01)	15.7	(0.01)	51.7	(1.77)	49.3	(1.72)	43.4	(1.90)	46.8	(1.80)	48.7	(1.68)
	Denmark	15.7	(0.00)	15.7	(0.01)	15.7	(0.01)	15.7	(0.00)	15.8	(0.01)	49.7	(0.94)	50.9	(0.81)	50.3	(0.80)	50.5	(0.70)	49.7	(0.56)
	Estonia	m	m	m	m	15.8	(0.01)	15.8	(0.00)	15.8	(0.01)	m	m	m	m	48.8	(0.86)	48.2	(0.70)	50.5	(0.69)
	Finland	15.6	(0.00)	15.7	(0.00)	15.6	(0.00)	15.7	(0.00)	15.7	(0.00)	51.4	(0.78)	50.1	(0.72)	50.4	(0.83)	49.9	(0.51)	48.6	(0.47)
	France	15.8	(0.01)	15.9	(0.00)	15.7	(0.01)	15.9	(0.00)	15.9	(0.00)	51.3	(1.32)	52.6	(1.35)	51.5	(1.28)	51.3	(1.19)	51.4	(1.00)
	Germany	15.7	(0.01)	15.8	(0.00)	15.9	(0.00)	15.8	(0.01)	15.8	(0.01)	49.7	(1.47)	49.7	(1.04)	48.4	(0.86)	48.9	(0.97)	49.1	(0.75)
	Greece	15.7	(0.01)	15.7	(0.00)	15.7	(0.00)	15.7	(0.01)	15.7	(0.00)	49.8	(1.31)	51.7	(1.19)	49.7	(1.00)	50.9	(1.11)	50.5	(0.72)
	Hungary	15.7	(0.01)	15.7	(0.01)	15.7	(0.01)	15.7	(0.00)	15.7	(0.00)	49.6	(2.11)	47.3	(1.58)	47.9	(1.87)	49.6	(1.51)	51.8	(1.43)
	Iceland	15.6	(0.00)	15.7	(0.00)	15.7	(0.00)	15.7	(0.00)	15.7	(0.00)	50.4	(0.84)	48.4	(0.82)	49.6	(0.75)	50.3	(0.26)	49.4	(0.33)
	Ireland	15.7	(0.00)	15.7	(0.01)	15.7	(0.00)	15.7	(0.00)	15.7	(0.00)	50.4	(1.79)	49.6	(0.91)	50.6	(1.07)	49.4	(1.08)	49.2	(1.09)
	Israel	15.6	(0.01)	m	m	15.8	(0.01)	15.7	(0.00)	15.7	(0.00)	58.2	(2.67)	m	m	50.4	(1.40)	50.9	(0.93)	50.8	(0.81)
	Italy	15.7	(0.00)	15.7	(0.00)	15.7	(0.00)	15.7	(0.00)	15.8	(0.00)	49.3	(2.70)	51.9	(1.71)	50.4	(0.97)	48.6	(0.93)	48.2	(0.91)
	Japan	15.7	(0.00)	15.8	(0.00)	15.8	(0.00)	15.8	(0.00)	15.8	(0.00)	50.5	(2.35)	51.7	(2.27)	49.9	(2.39)	48.4	(1.77)	47.4	(1.48)
	Korea	15.7	(0.00)	15.8	(0.00)	15.8	(0.01)	15.7	(0.01)	15.7	(0.01)	44.1	(3.53)	40.5	(3.00)	49.3	(2.98)	47.3	(1.81)	46.6	(1.58)
	Luxembourg	m	m	15.8	(0.00)	15.9	(0.00)	15.8	(0.00)	15.8	(0.00)	m	m	50.8	(0.58)	49.4	(0.67)	49.3	(0.16)	49.2	(0.20)
	Mexico	15.7	(0.01)	15.8	(0.01)	15.7	(0.01)	15.7	(0.00)	15.7	(0.00)	50.0	(1.19)	51.8	(0.99)	51.9	(0.95)	50.6	(0.44)	51.0	(0.36)
	Netherlands	m	m	15.7	(0.01)	15.7	(0.00)	15.7	(0.00)	15.7	(0.01)	m	m	49.0	(1.19)	49.1	(0.92)	50.3	(0.70)	48.8	(0.67)
	New Zealand	15.7	(0.00)	15.8	(0.00)	15.8	(0.00)	15.8	(0.00)	15.8	(0.00)	49.7	(2.44)	50.0	(1.98)	51.6	(2.10)	49.0	(1.23)	48.9	(1.19)
	Norway	15.7	(0.00)	15.8	(0.00)	15.8	(0.01)	15.8	(0.00)	15.8	(0.01)	49.0	(0.88)	49.6	(0.82)	48.3	(0.73)	48.9	(0.48)	48.7	(0.51)
	Poland	15.7	(0.01)	15.7	(0.00)	15.7	(0.00)	15.7	(0.00)	15.7	(0.00)	49.1	(2.65)	50.1	(0.72)	50.3	(0.75)	50.0	(0.51)	51.2	(0.84)
	Portugal	15.6	(0.00)	15.9	(0.01)	15.7	(0.01)	15.7	(0.01)	15.7	(0.01)	52.0	(0.92)	52.4	(0.90)	51.7	(0.81)	51.1	(0.62)	49.4	(0.68)
	Slovak Republic	m	m	15.8	(0.01)	15.7	(0.01)	15.7	(0.01)	15.8	(0.01)	m	m	48.8	(1.71)	48.6	(1.71)	50.4	(1.57)	47.6	(1.56)
	Slovenia	m	m	m	m	15.7	(0.00)	15.7	(0.01)	15.7	(0.00)	m	m	m	m	50.2	(0.74)	49.0	(0.45)	48.2	(0.44)
	Spain	15.8	(0.00)	15.8	(0.00)	15.8	(0.00)	15.9	(0.00)	15.9	(0.00)	50.8	(1.34)	50.8	(1.09)	49.4	(0.71)	49.2	(0.57)	49.2	(0.43)
	Sweden	15.7	(0.00)	15.7	(0.00)	15.7	(0.00)	15.8	(0.01)	15.7	(0.00)	49.2	(0.86)	49.9	(0.90)	48.7	(0.76)	49.2	(0.53)	49.6	(0.57)
	Switzerland	15.7	(0.01)	15.8	(0.01)	15.8	(0.01)	15.8	(0.01)	15.9	(0.01)	49.8	(1.00)	48.3	(1.62)	48.4	(0.83)	49.2	(1.14)	49.9	(1.20)
	Turkey	m	m	15.9	(0.00)	15.9	(0.01)	15.8	(0.00)	15.8	(0.00)	m	m	45.0	(1.95)	45.3	(1.92)	48.4	(1.71)	49.5	(1.98)
	United Kingdom	m	m	m	m	15.7	(0.00)	15.7	(0.00)	15.7	(0.00)	m	m	m	m	50.5	(1.02)	50.9	(1.61)	51.0	(1.35)
	United States	15.7	(0.01)	15.8	(0.01)	15.8	(0.01)	15.8	(0.01)	15.8	(0.01)	51.6	(0.98)	49.6	(0.82)	49.4	(0.94)	48.7	(0.75)	49.0	(0.72)
Partners	Albania	15.7	(0.01)	m	m	m	m	15.8	(0.01)	15.8	(0.01)	51.0	(1.20)	m	m	m	m	48.7	(0.87)	48.3	(1.25)
	Argentina	15.8	(0.01)	m	m	15.7	(0.01)	15.7	(0.01)	15.7	(0.01)	56.4	(2.52)	m	m	52.9	(1.39)	53.7	(1.06)	51.4	(1.14)
	Brazil	15.7	(0.01)	15.8	(0.00)	15.8	(0.00)	15.9	(0.00)	15.9	(0.00)	54.0	(1.16)	53.6	(0.82)	53.8	(0.81)	53.1	(0.38)	52.2	(0.43)
	Bulgaria	15.6	(0.00)	m	m	15.7	(0.01)	15.8	(0.01)	15.8	(0.00)	48.5	(1.90)	m	m	48.2	(1.83)	48.1	(2.24)	48.2	(1.78)
	Colombia	m	m	m	m	15.8	(0.01)	15.9	(0.01)	15.9	(0.00)	m	m	m	m	53.9	(1.93)	52.4	(1.20)	52.9	(0.94)
	Costa Rica	m	m	m	m	m	m	15.8	(0.01)	15.8	(0.01)	m	m	m	m	m	m	53.0	(0.61)	53.1	(0.72)
	Croatia	m	m	m	m	15.7	(0.00)	15.7	(0.00)	15.7	(0.00)	m	m	m	m	50.0	(1.90)	47.0	(1.87)	49.0	(0.99)
	Dubai (UAE)	m	m	m	m	m	m	15.8	(0.00)	15.8	(0.00)	m	m	m	m	m	m	48.9	(0.14)	48.9	(0.25)
	Hong Kong-China	15.7	(0.00)	15.8	(0.01)	15.8	(0.01)	15.7	(0.00)	15.7	(0.00)	49.8	(2.12)	49.8	(2.36)	50.7	(1.92)	47.1	(1.76)	46.3	(1.84)
	Indonesia	15.7	(0.01)	15.7	(0.00)	15.8	(0.01)	15.8	(0.01)	15.9	(0.01)	51.1	(1.84)	50.4	(1.36)	48.7	(2.05)	50.5	(1.95)	49.2	(1.51)
	Jordan	m	m	m	m	15.9	(0.00)	15.9	(0.01)	15.9	(0.00)	m	m	m	m	50.2	(1.95)	49.6	(1.30)	50.6	(1.58)
	Kazakhstan	m	m	m	m	m	m	15.8	(0.01)	15.8	(0.01)	m	m	m	m	m	m	49.3	(0.72)	50.2	(0.97)
	Latvia	15.7	(0.01)	15.9	(0.01)	15.8	(0.01)	15.8	(0.01)	15.8	(0.01)	51.3	(1.56)	52.0	(1.22)	51.4	(0.69)	50.7	(0.87)	49.6	(0.89)
	Liechtenstein	15.7	(0.02)	15.8	(0.01)	15.8	(0.01)	15.8	(0.02)	15.8	(0.01)	49.7	(2.87)	48.7	(2.77)	53.8	(2.31)	47.0	(1.21)	46.8	(1.31)
	Lithuania	m	m	m	m	15.8	(0.01)	15.8	(0.01)	15.8	(0.00)	m	m	m	m	49.1	(0.71)	49.3	(0.50)	49.6	(0.61)
	Macao-China	m	m	15.8	(0.01)	15.8	(0.00)	15.8	(0.00)	15.8	(0.00)	m	m	51.4	(1.53)	49.4	(0.81)	49.4	(0.09)	48.7	(0.24)
	Malaysia	m	m	m	m	m	m	15.8	(0.00)	15.8	(0.01)	m	m	m	m	m	m	50.9	(0.81)	51.6	(1.09)
	Montenegro	m	m	m	m	15.7	(0.00)	15.8	(0.00)	15.8	(0.00)	m	m	m	m	48.4	(0.57)	48.8	(0.26)	50.0	(0.23)
	Peru	15.7	(0.01)	m	m	m	m	15.8	(0.00)	15.8	(0.00)	49.9	(2.23)	m	m	m	m	49.5	(1.21)	51.4	(1.59)
	Qatar	m	m	m	m	15.7	(0.00)	15.7	(0.00)	15.8	(0.00)	m	m	m	m	49.4	(0.12)	49.1	(0.11)	48.4	(0.13)
	Romania	14.7	(0.01)	m	m	15.7	(0.01)	15.7	(0.01)	15.7	(0.00)	52.7	(1.12)	m	m	50.2	(1.77)	50.9	(1.41)	51.0	(1.26)
	Russian Federation	15.7	(0.00)	15.8	(0.01)	15.8	(0.01)	15.8	(0.01)	15.8	(0.01)	50.1	(0.89)	50.3	(1.32)	52.1	(1.00)	50.4	(0.72)	50.0	(0.82)
	Serbia	m	m	m	m	15.8	(0.01)	15.8	(0.01)	15.9	(0.01)	m	m	m	m	49.2	(1.48)	49.8	(1.21)	50.2	(1.07)
	Shanghai-China	m	m	m	m	m	m	15.8	(0.00)	15.8	(0.01)	m	m	m	m	m	m	50.5	(0.94)	51.3	(0.93)
	Singapore	m	m	m	m	m	m	15.7	(0.00)	15.8	(0.00)	m	m	m	m	m	m	49.2	(0.17)	49.0	(0.40)
	Chinese Taipei	m	m	m	m	15.7	(0.01)	15.7	(0.01)	15.7	(0.01)	m	m	m	m	47.6	(1.45)	49.5	(1.75)	50.9	(1.82)
	Thailand	15.8	(0.01)	15.7	(0.01)	15.7	(0.01)	15.7	(0.01)	15.7	(0.01)	58.8	(2.04)	54.9	(1.31)	57.4	(1.45)	56.7	(1.54)	56.0	(1.24)
	Tunisia	m	m	15.9	(0.00)	15.9	(0.00)	15.9	(0.00)	15.9	(0.00)	m	m	50.7	(0.76)	52.2	(0.92)	52.4	(0.48)	53.4	(0.61)
	United Arab Emirates*	m	m	m	m	m	m	15.8	(0.01)	15.9	(0.00)	m	m	m	m	m	m	50.4	(1.17)	51.8	(2.71)
	Uruguay	m	m	15.8	(0.01)	15.9	(0.00)	15.9	(0.00)	15.8	(0.00)	m	m	51.2	(1.18)	51.2	(0.95)	53.0	(0.69)	53.1	(0.92)

* United Arab Emirates excluding Dubai.

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[Part 2/3]

Table A5.4 Descriptive statistics for variables used to adjust mathematics, reading and science scores to the PISA 2012 samples

		Students' PISA index of economic, social and cultural status										Student has an immigrant background									
		2000		2003		2006		2009		2012		2000		2003		2006		2009		2012	
		Mean	S.E.	Mean	S.E.	Mean	S.E.	Mean	S.E.	Mean	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	-0.02	(0.03)	0.04	(0.02)	0.22	(0.01)	0.27	(0.01)	0.25	(0.01)	11.9	(1.20)	22.7	(1.13)	21.9	(1.16)	23.2	(1.15)	22.7	(0.74)
	Austria	-0.29	(0.02)	-0.26	(0.03)	0.03	(0.02)	m	m	0.08	(0.02)	6.9	(0.69)	13.3	(0.99)	13.2	(1.22)	m	m	16.5	(1.06)
	Belgium	-0.21	(0.02)	-0.03	(0.02)	0.07	(0.02)	0.16	(0.02)	0.15	(0.02)	3.5	(0.40)	11.8	(0.91)	13.3	(0.96)	14.8	(1.11)	15.3	(0.87)
	Canada	0.18	(0.01)	0.21	(0.02)	0.30	(0.02)	0.44	(0.01)	0.41	(0.02)	9.8	(0.61)	20.1	(1.14)	21.1	(1.18)	24.4	(1.33)	29.6	(1.33)
	Chile	-1.14	(0.04)	m	m	-0.98	(0.06)	-0.57	(0.03)	-0.58	(0.04)	0.2	(0.08)	m	m	0.6	(0.12)	0.5	(0.10)	0.9	(0.15)
	Czech Republic	-0.46	(0.02)	-0.05	(0.02)	-0.11	(0.02)	-0.07	(0.01)	-0.07	(0.02)	0.5	(0.11)	1.3	(0.18)	1.9	(0.23)	2.3	(0.24)	3.3	(0.37)
	Denmark	0.18	(0.02)	0.08	(0.03)	0.45	(0.02)	0.45	(0.02)	0.43	(0.02)	3.9	(0.43)	6.5	(0.78)	7.6	(0.81)	8.6	(0.39)	9.2	(0.59)
	Estonia	m	m	m	m	-0.13	(0.02)	0.10	(0.02)	0.11	(0.01)	m	m	m	m	11.6	(0.59)	8.0	(0.62)	8.1	(0.54)
	Finland	-0.18	(0.02)	0.06	(0.02)	0.19	(0.02)	0.39	(0.02)	0.36	(0.02)	1.0	(0.18)	1.9	(0.23)	1.5	(0.28)	2.6	(0.33)	3.4	(0.18)
	France	-0.42	(0.02)	-0.32	(0.03)	-0.28	(0.03)	-0.14	(0.03)	-0.04	(0.02)	2.2	(0.27)	14.3	(1.33)	13.0	(1.02)	13.1	(1.36)	15.0	(1.12)
	Germany	-0.01	(0.02)	0.01	(0.03)	0.19	(0.03)	0.20	(0.02)	0.19	(0.02)	10.2	(0.59)	15.4	(1.10)	14.2	(0.98)	17.6	(1.01)	13.4	(0.80)
	Greece	-0.36	(0.03)	-0.30	(0.05)	-0.22	(0.03)	-0.03	(0.03)	-0.06	(0.03)	4.4	(0.90)	7.4	(0.65)	7.6	(0.75)	9.0	(0.80)	10.6	(0.84)
	Hungary	-0.49	(0.03)	-0.31	(0.02)	-0.26	(0.03)	-0.16	(0.03)	-0.25	(0.03)	1.6	(0.20)	2.3	(0.23)	1.7	(0.25)	2.1	(0.25)	1.7	(0.24)
	Iceland	0.24	(0.02)	0.55	(0.02)	0.61	(0.01)	0.72	(0.01)	0.78	(0.01)	0.6	(0.15)	1.0	(0.19)	1.8	(0.24)	2.4	(0.25)	3.5	(0.33)
	Ireland	-0.33	(0.03)	-0.26	(0.03)	-0.06	(0.03)	0.08	(0.02)	0.13	(0.02)	1.4	(0.26)	3.5	(0.31)	5.6	(0.47)	8.3	(0.61)	10.2	(0.71)
	Israel	-0.17	(0.05)	m	m	0.11	(0.02)	0.14	(0.02)	0.17	(0.03)	8.8	(1.09)	m	m	23.0	(1.24)	19.7	(1.09)	18.3	(1.15)
	Italy	-0.33	(0.02)	-0.29	(0.03)	-0.19	(0.02)	-0.03	(0.01)	-0.05	(0.01)	0.8	(0.20)	2.1	(0.26)	3.8	(0.29)	5.5	(0.27)	7.5	(0.34)
	Japan	0.00	c	-0.42	(0.02)	-0.16	(0.02)	-0.07	(0.01)	-0.07	(0.02)	0.1	(0.05)	0.1	(0.05)	0.4	(0.10)	0.3	(0.07)	0.3	(0.07)
	Korea	-0.57	(0.03)	-0.36	(0.03)	-0.16	(0.02)	-0.01	(0.03)	0.01	(0.03)	0.0	c	0.0	(0.02)	0.0	(0.02)	0.0	(0.02)	0.0	(0.02)
	Luxembourg	m	m	-0.09	(0.01)	0.00	(0.01)	0.17	(0.01)	0.07	(0.01)	m	m	33.3	(0.61)	36.1	(0.63)	40.2	(0.65)	46.1	(0.66)
	Mexico	-1.23	(0.05)	-1.32	(0.05)	-1.05	(0.04)	-0.99	(0.03)	-1.11	(0.02)	2.4	(0.33)	2.3	(0.25)	2.4	(0.30)	1.9	(0.15)	1.3	(0.12)
	Netherlands	m	m	-0.08	(0.03)	0.16	(0.02)	0.13	(0.03)	0.23	(0.02)	m	m	11.0	(1.39)	11.3	(1.09)	12.1	(1.39)	10.9	(1.00)
	New Zealand	-0.07	(0.02)	-0.13	(0.02)	0.11	(0.02)	0.15	(0.01)	0.04	(0.02)	13.6	(0.85)	19.8	(1.14)	21.3	(0.99)	24.7	(1.05)	26.4	(1.54)
	Norway	0.21	(0.02)	0.19	(0.02)	0.35	(0.02)	0.58	(0.02)	0.46	(0.02)	3.1	(0.31)	5.6	(0.73)	6.1	(0.71)	6.8	(0.55)	9.5	(0.86)
	Poland	-0.62	(0.03)	-0.41	(0.02)	-0.57	(0.02)	-0.30	(0.02)	-0.21	(0.03)	0.2	(0.11)	0.0	(0.03)	0.2	(0.06)	0.0	(0.03)	0.2	(0.06)
	Portugal	-0.81	(0.04)	-0.91	(0.05)	-0.80	(0.04)	-0.45	(0.04)	-0.48	(0.05)	1.4	(0.19)	5.0	(1.43)	5.9	(0.75)	5.5	(0.46)	6.9	(0.64)
	Slovak Republic	m	m	-0.25	(0.03)	-0.18	(0.02)	-0.10	(0.02)	-0.18	(0.03)	m	m	0.9	(0.19)	0.5	(0.09)	0.5	(0.13)	0.7	(0.16)
	Slovenia	m	m	m	m	-0.22	(0.01)	0.06	(0.01)	0.07	(0.01)	m	m	m	m	10.3	(0.47)	7.8	(0.41)	8.7	(0.45)
	Spain	-0.74	(0.05)	-0.51	(0.04)	-0.46	(0.03)	-0.21	(0.03)	-0.19	(0.03)	1.4	(0.33)	3.4	(0.37)	6.9	(0.70)	9.5	(0.51)	9.9	(0.60)
	Sweden	0.15	(0.02)	0.08	(0.03)	0.26	(0.02)	0.39	(0.02)	0.28	(0.02)	6.0	(0.61)	11.5	(0.87)	10.8	(0.93)	11.7	(1.18)	14.9	(0.85)
	Switzerland	-0.17	(0.03)	-0.23	(0.03)	0.02	(0.02)	0.13	(0.02)	0.17	(0.02)	11.5	(0.71)	20.0	(0.91)	22.4	(0.73)	23.5	(0.90)	24.3	(0.89)
	Turkey	m	m	-1.15	(0.06)	-1.32	(0.04)	-1.14	(0.04)	-1.46	(0.04)	m	m	1.0	(0.24)	1.5	(0.45)	0.5	(0.14)	0.9	(0.23)
	United Kingdom	m	m	m	m	0.13	(0.01)	0.25	(0.02)	0.27	(0.02)	m	m	m	m	8.6	(0.90)	10.6	(0.97)	13.0	(1.08)
	United States	0.07	(0.07)	0.05	(0.03)	0.20	(0.04)	0.24	(0.04)	0.17	(0.04)	6.1	(0.90)	14.4	(0.95)	15.2	(1.23)	19.5	(1.34)	21.6	(1.98)
Partners	Albania	-0.92	(0.02)	m	m	m	m	-0.85	(0.03)	m	m	0.4	(0.13)	m	m	m	m	0.6	(0.18)	0.3	(0.08)
	Argentina	-1.02	(0.08)	m	m	-0.83	(0.06)	-0.68	(0.05)	-0.72	(0.04)	0.4	(0.12)	m	m	2.7	(0.32)	3.6	(0.52)	3.9	(0.44)
	Brazil	-1.58	(0.05)	-1.56	(0.05)	-1.41	(0.03)	-1.24	(0.03)	-1.17	(0.02)	0.1	(0.06)	0.8	(0.22)	2.4	(0.25)	0.8	(0.14)	0.7	(0.11)
	Bulgaria	-0.43	(0.04)	m	m	-0.47	(0.05)	-0.26	(0.04)	-0.28	(0.04)	0.3	(0.11)	m	m	0.2	(0.07)	0.5	(0.13)	0.5	(0.17)
	Colombia	m	m	m	m	-1.31	(0.05)	-1.23	(0.04)	-1.26	(0.04)	m	m	m	m	0.4	(0.12)	0.3	(0.08)	0.3	(0.07)
	Costa Rica	m	m	m	m	m	m	-0.99	(0.04)	-0.98	(0.04)	m	m	m	m	m	m	6.0	(0.60)	5.5	(0.72)
	Croatia	m	m	m	m	-0.43	(0.01)	-0.25	(0.02)	-0.34	(0.02)	m	m	m	m	12.0	(0.71)	10.7	(0.61)	12.1	(0.75)
	Dubai (UAE)	m	m	m	m	m	m	0.47	(0.01)	0.50	(0.01)	m	m	m	m	m	m	71.4	(0.42)	68.7	(0.34)
	Hong Kong-China	-1.25	(0.03)	-1.27	(0.04)	-1.03	(0.03)	-0.95	(0.03)	-0.79	(0.05)	17.7	(0.85)	43.3	(1.41)	43.8	(1.37)	39.4	(1.46)	34.7	(1.54)
	Indonesia	-1.88	(0.04)	-1.86	(0.04)	-1.90	(0.05)	-1.82	(0.05)	-1.80	(0.05)	0.2	(0.07)	0.3	(0.10)	0.2	(0.11)	0.3	(0.11)	0.2	(0.06)
	Jordan	m	m	m	m	-0.52	(0.03)	-0.42	(0.03)	-0.42	(0.02)	m	m	m	m	16.8	(0.89)	13.8	(0.86)	13.4	(0.73)
	Kazakhstan	m	m	m	m	m	m	-0.40	(0.02)	-0.32	(0.02)	m	m	m	m	m	m	11.6	(1.12)	16.1	(1.65)
	Latvia	-0.61	(0.03)	-0.34	(0.03)	-0.44	(0.02)	-0.28	(0.03)	-0.26	(0.03)	22.0	(2.79)	9.4	(0.94)	7.1	(0.63)	4.5	(0.51)	4.7	(0.54)
	Liechtenstein	-0.45	(0.05)	-0.31	(0.04)	0.00	(0.05)	0.02	(0.05)	0.30	(0.05)	10.1	(1.63)	17.1	(1.98)	36.8	(2.70)	30.3	(2.49)	33.6	(2.82)
	Lithuania	m	m	m	m	-0.26	(0.02)	-0.22	(0.02)	-0.13	(0.02)	m	m	m	m	2.1	(0.38)	1.7	(0.27)	1.7	(0.31)
	Macao-China	m	m	-1.60	(0.03)	-1.23	(0.02)	-1.02	(0.01)	-0.89	(0.01)	m	m	76.1	(1.41)	73.6	(0.64)	70.4	(0.62)	65.1	(0.63)
	Malaysia	m	m	m	m	m	m	-0.56	(0.03)	-0.72	(0.03)	m	m	m	m	m	m	1.3	(0.25)	1.7	(0.27)
	Montenegro	m	m	m	m	-0.40	(0.01)	-0.37	(0.02)	-0.25	(0.01)	m	m	m	m	7.2	(0.46)	6.6	(0.42)	5.8	(0.42)
	Peru	-1.37	(0.04)	m	m	m	m	-1.20	(0.05)	-1.23	(0.05)	0.1	(0.05)	m	m	m	m	0.4	(0.08)	0.5	(0.10)
	Qatar	m	m	m	m	0.24	(0.01)	0.47	(0.01)	0.44	(0.01)	m	m	m	m	40.5	(0.50)	46.4	(0.43)	51.9	(0.39)
	Romania	-1.05	(0.04)	m	m	-0.69	(0.03)	-0.48	(0.03)	-0.47	(0.04)	0.1	(0.05)	m	m	0.1	(0.03)	0.3	(0.08)	0.2	(0.06)
	Russian Federation	-0.82	(0.03)	-0.61	(0.03)	-0.63	(0.03)	-0.27	(0.02)	-0.11	(0.02)	2.7	(0.39)	13.5	(0.71)	8.7	(0.54)	12.1	(0.75)	10.9	(0.80)
	Serbia	m	m	m	m	-0.46	(0.02)	-0.31	(0.02)	-0.30	(0.02)	m	m	m	m	9.0	(0.50)	9.5	(0.56)	8.5	(0.76)
	Shanghai-China	m	m	m	m	m	m	-0.46	(0.03)	-0.36	(0.04)	m	m	m	m	m	m	0.5	(0.11)	0.9	(0.18)
	Singapore	m	m	m	m	m	m	-0.29	(0.01)	-0.26	(0.01)	m	m	m	m	m	m	14.4	(0.66)	18.3	(0.85)
	Chinese Taipei	m	m	m	m	-0.51	(0.02)	-0.36	(0.02)	-0.40	(0.02)	m	m	m	m	0.6	(0.11)	0.4	(0.11)	0.5	(0.11)
	Thailand	-2.04	(0.04)	-1.86	(0.04)	-1.82	(0.03)	-1.49	(0.04)	-1.35	(0.04)	0.0	(0.03)	0.1	(0.07)	0.3	(0.13)	0.0	c	0.7	(0.44)
	Tunisia	m	m	-1.69	(0.04)	-1.30	(0.06)	-1.42	(0.05)	-1.19	(0.05)	m	m	0.3	(0.08)	0.8	(0.14)	0.3	(0.10)	0.4	(0.10)
	United Arab Emirates*	m	m	m	m	m	m	0.09	(0.02)	0.26	(0.02)	m	m	m	m	m	m	42.9	(1.54)	49.8	(1.86)
	Uruguay	m	m	-0.76	(0.04)	-0.79	(0.03)	-0.88	(0.02)	-0.88	(0.03)	m	m	0.8	(0.17)	0.4	(0.07)	0.6	(0.12)	0.5	(0.11)

* United Arab Emirates excluding Dubai.

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[Part 3/3]

Table A5.4 Descriptive statistics for variables used to adjust mathematics, reading and science scores to the PISA 2012 samples

		Student speaks a language at home that is different than the language of assessment									
		2000		2003		2006		2009		2012	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	0.2	(0.06)	8.9	(0.66)	8.1	(0.68)	9.2	(0.72)	9.8	(0.51)
	Austria	0.0	c	9.0	(0.74)	10.0	(1.13)	m	m	11.4	(0.78)
	Belgium	19.0	(1.12)	4.8	(0.38)	18.0	(0.79)	21.6	(1.14)	21.6	(0.86)
	Canada	2.3	(0.15)	11.2	(0.69)	12.9	(0.77)	14.2	(0.83)	17.3	(0.91)
	Chile	0.3	(0.10)	m	m	0.2	(0.06)	0.5	(0.10)	0.6	(0.13)
	Czech Republic	0.0	c	0.9	(0.19)	1.6	(0.21)	1.3	(0.17)	2.9	(0.37)
	Denmark	0.0	c	3.9	(0.48)	4.5	(0.52)	4.5	(0.27)	4.6	(0.28)
	Estonia	m	m	m	m	4.1	(0.75)	2.7	(0.40)	5.5	(0.52)
	Finland	4.6	(0.22)	1.8	(0.21)	2.3	(0.45)	3.7	(0.32)	4.5	(0.22)
	France	1.1	(0.20)	6.1	(0.72)	7.0	(0.58)	7.0	(0.62)	8.0	(0.69)
	Germany	0.0	c	7.7	(0.57)	9.0	(0.74)	10.5	(0.76)	7.4	(0.63)
	Greece	0.0	c	3.2	(0.39)	3.9	(0.53)	4.8	(0.64)	5.1	(0.58)
	Hungary	0.0	c	0.6	(0.12)	0.8	(0.16)	1.0	(0.34)	1.0	(0.16)
	Iceland	0.0	c	1.6	(0.22)	2.2	(0.26)	3.1	(0.30)	3.9	(0.33)
	Ireland	1.0	(0.47)	0.8	(0.18)	4.1	(0.81)	5.8	(0.87)	4.9	(0.51)
	Israel	1.7	(0.37)	m	m	12.8	(1.12)	11.8	(1.05)	11.2	(0.91)
	Italy	17.4	(1.14)	1.6	(0.23)	14.6	(0.54)	14.3	(0.42)	14.3	(0.39)
	Japan	0.0	c	0.2	(0.07)	0.3	(0.10)	0.2	(0.06)	0.4	(0.08)
	Korea	0.0	c	0.1	(0.05)	0.1	(0.04)	0.1	(0.04)	0.1	(0.03)
	Luxembourg	m	m	25.0	(0.59)	90.4	(0.45)	88.9	(0.44)	85.5	(0.41)
	Mexico	1.5	(0.46)	1.1	(0.32)	3.4	(0.99)	2.8	(0.30)	3.2	(0.31)
	Netherlands	m	m	4.6	(0.62)	5.9	(0.69)	6.4	(0.81)	6.4	(0.54)
	New Zealand	0.8	(0.16)	9.0	(0.70)	9.0	(0.58)	14.5	(0.68)	16.1	(1.08)
	Norway	1.0	(0.22)	4.5	(0.53)	5.7	(0.50)	7.3	(0.51)	7.6	(0.63)
	Poland	0.5	(0.15)	0.2	(0.07)	0.4	(0.17)	0.6	(0.13)	0.8	(0.26)
	Portugal	0.0	c	1.4	(0.21)	2.3	(0.37)	1.6	(0.17)	2.6	(0.27)
	Slovak Republic	m	m	1.4	(0.33)	15.1	(1.38)	5.4	(0.77)	7.4	(0.88)
	Slovenia	m	m	m	m	6.1	(0.36)	5.2	(0.34)	5.9	(0.42)
	Spain	13.6	(1.45)	1.7	(0.28)	16.1	(0.86)	18.1	(1.04)	18.6	(1.11)
	Sweden	0.8	(0.17)	6.9	(0.67)	8.2	(0.89)	8.1	(0.86)	10.4	(0.69)
	Switzerland	6.1	(0.50)	9.5	(0.70)	15.7	(0.64)	15.5	(0.72)	16.5	(0.82)
	Turkey	m	m	1.2	(0.57)	2.4	(0.39)	4.0	(0.56)	6.3	(0.84)
	United Kingdom	m	m	m	m	4.8	(0.81)	6.2	(0.59)	7.0	(0.67)
	United States	0.0	c	9.0	(0.69)	10.7	(1.03)	13.1	(1.00)	14.4	(1.30)
Partners	Albania	0.7	(0.17)	m	m	m	m	1.0	(0.20)	2.6	(0.40)
	Argentina	0.4	(0.20)	m	m	0.9	(0.35)	1.4	(0.20)	1.6	(0.24)
	Brazil	0.0	c	0.5	(0.12)	0.3	(0.09)	0.7	(0.09)	1.1	(0.13)
	Bulgaria	1.2	(0.29)	m	m	10.5	(1.26)	10.9	(1.74)	10.7	(1.16)
	Colombia	m	m	m	m	0.5	(0.17)	0.4	(0.09)	0.7	(0.19)
	Costa Rica	m	m	m	m	m	m	1.5	(0.29)	1.2	(0.21)
	Croatia	m	m	m	m	1.4	(0.44)	1.7	(0.44)	1.3	(0.27)
	Dubai (UAE)	m	m	m	m	m	m	50.1	(0.65)	50.2	(0.73)
	Hong Kong-China	4.2	(0.73)	4.5	(0.39)	7.1	(0.89)	7.2	(1.08)	6.8	(0.88)
	Indonesia	67.4	(2.50)	2.1	(0.28)	65.8	(3.40)	64.4	(2.12)	58.9	(2.35)
	Jordan	m	m	m	m	2.9	(0.29)	3.2	(0.31)	4.7	(0.32)
	Kazakhstan	m	m	m	m	m	m	10.2	(0.78)	11.1	(0.92)
	Latvia	6.9	(0.94)	0.5	(0.12)	6.0	(0.51)	9.4	(1.30)	10.5	(1.40)
	Liechtenstein	7.9	(1.58)	18.4	(2.25)	12.2	(1.58)	15.0	(2.24)	11.7	(1.82)
	Lithuania	m	m	m	m	3.3	(0.89)	4.3	(0.83)	3.5	(0.51)
	Macao-China	m	m	4.6	(0.72)	99.3	(0.07)	11.0	(0.16)	13.6	(0.19)
	Malaysia	m	m	m	m	m	m	29.9	(2.23)	42.3	(2.46)
	Montenegro	m	m	m	m	43.6	(0.63)	1.7	(0.24)	1.0	(0.14)
	Peru	5.3	(1.22)	m	m	m	m	5.3	(0.86)	6.4	(0.89)
	Qatar	m	m	m	m	25.4	(0.30)	38.6	(0.31)	39.2	(0.30)
	Romania	1.8	(0.44)	m	m	2.9	(0.77)	3.2	(0.57)	1.7	(0.38)
	Russian Federation	0.0	c	5.4	(1.26)	9.5	(2.02)	9.6	(1.54)	8.6	(1.74)
	Serbia	m	m	m	m	1.3	(0.15)	1.8	(0.29)	4.2	(0.62)
	Shanghai-China	m	m	m	m	m	m	1.5	(0.24)	1.4	(0.18)
	Singapore	m	m	m	m	m	m	59.2	(0.80)	54.4	(0.87)
	Chinese Taipei	m	m	m	m	23.8	(1.40)	21.8	(1.24)	16.5	(1.07)
	Thailand	44.9	(2.34)	3.0	(1.04)	51.3	(1.87)	48.6	(1.65)	44.6	(1.68)
	Tunisia	m	m	0.4	(0.09)	4.7	(0.46)	0.1	(0.05)	1.1	(0.18)
	United Arab Emirates*	m	m	m	m	m	m	25.1	(1.25)	27.4	(1.18)
	Uruguay	m	m	1.9	(0.40)	1.4	(0.27)	2.3	(0.23)	2.1	(0.35)

* United Arab Emirates excluding Dubai.

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The imputation model was carried out once for each plausible value and included all student background characteristics that were listed in the previous paragraph. After the imputation, all calculations were carried out five times, once for each imputed dataset containing one of five plausible values of the performance measures. Final results were obtained by averaging regression outcomes obtained from each imputed dataset and by accounting for imputation error using so-called Rubin's combination rules (Rubin, 1987). The results after imputation differ negligibly from those without the imputation given that for most countries and assessments the number of missing observations was relatively low.

Comparing items and non-performance scales across PISA cycles

To gather information about students' and schools' characteristics, PISA asks both students and schools to complete a background questionnaire. In PISA 2003 and PISA 2012 several questions were left untouched, allowing for a comparison of responses to these questions over time. In this report, only questions that retained the same wording were used for trends analyses. Questions with subtle word changes or questions with major word changes were not compared across time because it is impossible to discern whether observed changes in the response are due to changes in the construct they are measuring or to changes in the way the construct is being measured.

Also, as described in Annex A1, questionnaire items in PISA are used to construct indices. Whenever the questions used in the construction of indices remains intact in PISA 2003 and PISA 2012, the corresponding indices are compared. Two types of indices are used in PISA: simple indices and scale indices.

Simple indices recode a set of responses to questionnaire items. For trends analyses, the values observed in PISA 2003 are compared directly to PISA 2012, just as simple responses to questionnaire items are. This is the case of indices like student-teacher ratio and ability grouping in mathematics.

Scale indices, on the other hand, imply WLE estimates which require rescaling in order to be comparable across PISA cycles. Scale indices, like the *PISA index of economic, social and cultural status*, the *index of sense of belonging*, the *index of attitudes towards school*, the *index of intrinsic motivation to learn mathematics*, the *index of instrumental motivation to learn mathematics*, the *index of mathematics self-efficacy*, the *index of mathematics self-concept*, the *index of anxiety towards mathematics*, the *index of teacher shortage*, the *index of quality of physical infrastructure*, the *index of quality of educational resources*, the *index of disciplinary climate*, the *index of student-teacher relations*, the *index of teacher morale*, the *index of student-related factors affecting school climate*, and the *index of teacher-related factors affecting school climate*, were scaled in PISA 2012 to have an OECD average of 0 and a standard deviation of 1, on average across OECD countries. In PISA 2003 these same scales were scaled to have an OECD average of 0 and a standard deviation of 1. Because they are on different scales, values reported in *Learning for Tomorrow's World: First Results from PISA 2003* (OECD, 2004) cannot be compared with those reported in this volume. To make these scale indices comparable, values for 2003 have been rescaled to the 2012 scale, using the PISA 2012 parameter estimates.

To evaluate change in these items and scales, analyses report the change in the estimate between two assessments, usually PISA 2003 and PISA 2012. Comparisons between two assessments (e.g. a country's/economy's change in the *index of anxiety towards mathematics* between PISA 2003 and PISA 2012 or the change in this index for a subgroup) is calculated as:

$$\Delta_{2012,t} = PISA_{2012} - PISA_{t}$$

where $\Delta_{2012,t}$ is the difference in the index between PISA 2012 and a previous assessment, $PISA_{2012}$ is the index value observed in PISA 2012, and $PISA_t$ is the index value observed in a previous assessment (2000, 2003, 2006 or 2009). The standard error of the change in performance $\sigma(\Delta_{2012\text{-}t})$ is:

$$\sigma(\Delta_{2012-t}) = \sqrt{\sigma_{2012}^2 + \sigma_t^2}$$

where σ_{2012} is the standard error observed for $PISA_{2012}$ and σ_t is the standard error observed for $PISA_t$. These comparisons are based on an identical set of items; there is no uncertainty related to the choice of items for equating purposes, so no link error is needed.

Although only scale indices that use the same items in PISA 2003 and PISA 2012 are valid for trend comparisons, this does not imply that PISA 2012 indices that include exactly the same items as 2003 as well as new questionnaire items cannot be compared with PISA 2003 indices that included a smaller pool of items. In such cases, for example the *index of sense of belonging* trend analyses were conducted by treating as missing in PISA 2003 items that were asked in the context of PISA 2012 but not in the PISA 2003 student questionnaire. This means that while the full set of information was used to scale the sense of belonging index in 2012, the PISA 2003 sense of belonging index was scaled under the assumption that if the 2012 items that were missing in 2003 had been asked in 2003, the overall index and index variation would have remained the same as those that were observed on common 2003 items. This is a tenable assumption inasmuch as in both PISA 2003 and PISA 2012 the questionnaire items used to construct the scale hold as an underlying factor in the construction of the scale.



OECD average

Throughout this report, the OECD average is used as a benchmark. It is calculated as the average across OECD countries, weighting each country equally. Some OECD countries did not participate in certain assessments, other OECD countries do not have comparable results for some assessments, others did not include certain questions in their questionnaires or changed them substantially from assessment to assessment. For this reason in trends tables and figures, the OECD average is reported as assessment-specific, that is, it includes only those countries for which there is comparable information in that particular assessment. This way, the 2003 OECD average includes only those OECD countries that have comparable information from the 2003 assessment, even if the results it refers to the PISA 2012 assessment and more countries have comparable information. This restriction allows for valid comparisons of the OECD average over time.

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ANNEX A6
DEVELOPMENT OF THE PISA ASSESSMENT INSTRUMENTS

Annex A6 is available on line only.

It can be found at: *www.pisa.oecd.org*



ANNEX A7
TECHNICAL NOTE ON BRAZIL

In 2006, the education system in Brazil was revised to include one more year at the beginning of primary school, with the compulsory school age being lowered from seven to six years old. This change has been implemented in stages and will be completed in 2016. At the time the PISA 2012 survey took place, many of the 15-year-olds in Grade 7 had started their education under the previous system. They were therefore equivalent to Grade 6 students in the previous system. Since students below Grade 7 are not eligible for participation in PISA, the Grade 7 students in the sample were not included in the database.

Brazil also has many rural "multigrade" schools where it is difficult to identify the exact grade of each student, so not possible to identify students who are at least in Grade 7. The results for Brazil have therefore been analysed both with and without these rural schools. The results reported in the main chapters of this report are those of the Brazilian sample without the rural schools, while this annex gives the results for Brazil with the rural schools included.

[Part 1/1]

Table A7.1 Percentage of Brazilian students at each proficiency level on the mathematics scale and mathematics subscales

		Below Level 1		Level 1		Level 2		Level 3		Level 4		Level 5		Level 6	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Mathematics scale	All	36.9	(0.9)	31.4	(0.7)	19.7	(0.7)	8.5	(0.4)	2.7	(0.3)	0.7	(0.2)	0.0	(0.0)
	Boys	33.0	(1.1)	31.3	(0.9)	21.1	(0.8)	10.0	(0.7)	3.5	(0.4)	1.0	(0.2)	0.1	(0.0)
	Girls	40.4	(1.1)	31.6	(0.9)	18.4	(0.8)	7.2	(0.6)	2.0	(0.3)	0.4	(0.2)	0.0	(0.0)
Mathematics subscale *formulating*	All	44.4	(1.0)	27.8	(0.6)	17.1	(0.6)	7.2	(0.4)	2.6	(0.3)	0.8	(0.2)	0.2	(0.1)
	Boys	38.1	(1.1)	29.0	(0.9)	19.3	(0.7)	8.6	(0.7)	3.5	(0.5)	1.1	(0.3)	0.2	(0.1)
	Girls	50.2	(1.3)	26.7	(0.9)	15.0	(0.8)	5.9	(0.5)	1.7	(0.3)	0.5	(0.2)	0.1	(0.1)
Mathematics subscale *employing*	All	39.0	(0.9)	29.7	(0.6)	19.1	(0.6)	8.5	(0.4)	2.9	(0.4)	0.7	(0.2)	0.1	(0.0)
	Boys	35.2	(1.0)	29.6	(0.9)	20.6	(0.9)	9.7	(0.6)	3.8	(0.5)	1.0	(0.3)	0.1	(0.1)
	Girls	42.6	(1.1)	29.8	(0.8)	17.8	(0.8)	7.3	(0.6)	2.0	(0.3)	0.5	(0.2)	0.1	(0.1)
Mathematics subscale *interpreting*	All	31.5	(0.9)	30.8	(0.7)	22.6	(0.8)	10.8	(0.5)	3.4	(0.4)	0.7	(0.2)	0.1	(0.0)
	Boys	29.5	(1.1)	29.7	(0.9)	23.4	(1.0)	12.1	(0.7)	4.2	(0.5)	1.0	(0.2)	0.1	(0.0)
	Girls	33.4	(1.1)	31.8	(0.9)	21.9	(0.8)	9.7	(0.6)	2.7	(0.4)	0.4	(0.1)	0.0	(0.0)
Mathematics subscale *change and relationships*	All	47.8	(1.1)	23.6	(0.7)	15.9	(0.7)	8.0	(0.6)	3.2	(0.4)	1.1	(0.2)	0.3	(0.1)
	Boys	44.2	(1.2)	23.7	(0.8)	17.0	(0.8)	9.2	(0.6)	4.0	(0.4)	1.5	(0.3)	0.4	(0.1)
	Girls	51.1	(1.3)	23.6	(0.9)	14.9	(0.8)	7.0	(0.7)	2.5	(0.5)	0.7	(0.2)	0.2	(0.1)
Mathematics subscale *space and shape*	All	41.5	(1.0)	30.3	(0.7)	18.2	(0.6)	7.0	(0.4)	2.3	(0.3)	0.6	(0.2)	0.1	(0.0)
	Boys	36.0	(1.1)	30.4	(0.8)	20.9	(0.8)	8.5	(0.5)	3.2	(0.4)	0.9	(0.3)	0.2	(0.1)
	Girls	46.6	(1.2)	30.2	(0.9)	15.7	(0.7)	5.6	(0.5)	1.5	(0.3)	0.3	(0.1)	0.1	(0.0)
Mathematics subscale *quantity*	All	38.1	(1.1)	26.6	(0.8)	19.6	(0.6)	10.1	(0.5)	4.1	(0.4)	1.2	(0.3)	0.2	(0.1)
	Boys	34.7	(1.3)	26.6	(1.1)	20.2	(0.8)	11.5	(0.7)	5.1	(0.5)	1.6	(0.3)	0.3	(0.1)
	Girls	41.3	(1.3)	26.6	(1.2)	19.1	(0.8)	8.9	(0.6)	3.1	(0.4)	0.8	(0.2)	0.1	(0.1)
Mathematics subscale *uncertainty and data*	All	27.8	(1.0)	35.1	(1.0)	24.7	(0.8)	9.6	(0.5)	2.4	(0.4)	0.3	(0.1)	0.0	c
	Boys	25.7	(1.0)	33.7	(1.1)	25.7	(1.0)	11.3	(0.7)	3.1	(0.5)	0.4	(0.1)	0.0	c
	Girls	29.7	(1.2)	36.4	(1.1)	23.9	(0.9)	8.1	(0.6)	1.8	(0.3)	0.2	(0.1)	0.0	c
Computer-based mathematics scale	All	23.6	(1.8)	28.8	(1.2)	26.8	(1.6)	13.4	(0.9)	5.7	(1.0)	1.6	(0.5)	0.2	(0.1)
	Boys	20.3	(1.9)	27.1	(1.5)	27.5	(1.7)	15.0	(1.1)	7.6	(1.4)	2.1	(0.6)	0.4	(0.2)
	Girls	26.6	(2.2)	30.3	(1.5)	26.1	(2.1)	11.8	(1.1)	4.1	(0.8)	1.1	(0.5)	0.1	(0.1)
Combined mathematics scale	All	27.8	(1.7)	32.7	(1.3)	23.4	(1.3)	11.3	(0.9)	3.9	(0.7)	0.9	(0.3)	0.1	(0.1)
	Boys	23.7	(1.9)	31.7	(1.5)	24.5	(1.5)	13.4	(1.4)	5.2	(0.9)	1.2	(0.4)	0.2	(0.2)
	Girls	31.6	(2.1)	33.6	(1.8)	22.3	(1.5)	9.2	(1.2)	2.7	(0.7)	0.5	(0.2)	0.0	(0.0)

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[Part 1/1]

Table A7.2 Percentage of Brazilian students at each proficiency level on the reading scale

		Below Level 1b		Level 1b		Level 1a		Level 2		Level 3		Level 4		Level 5		Level 6	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Reading scale	All	4.6	(0.4)	15.8	(0.6)	30.4	(0.8)	29.4	(0.7)	15.1	(0.6)	4.2	(0.4)	0.5	(0.1)	0.0	(0.0)
	Boys	6.9	(0.6)	20.0	(0.9)	31.8	(0.9)	25.9	(0.9)	11.7	(0.8)	3.3	(0.4)	0.4	(0.1)	0.0	c
	Girls	2.4	(0.3)	11.9	(0.6)	29.2	(1.1)	32.6	(1.0)	18.3	(1.1)	5.1	(0.5)	0.6	(0.2)	0.0	(0.0)
Combined reading scale	All	3.4	(0.7)	12.8	(1.1)	27.6	(1.4)	31.5	(1.5)	19.0	(1.3)	5.3	(0.8)	0.5	(0.2)	0.0	(0.0)
	Boys	5.1	(1.0)	15.1	(1.3)	29.7	(1.7)	29.3	(1.9)	15.6	(1.3)	4.7	(0.9)	0.4	(0.2)	0.0	c
	Girls	1.9	(0.5)	10.7	(1.2)	25.5	(1.8)	33.4	(2.0)	22.0	(1.6)	5.8	(0.8)	0.6	(0.2)	0.0	(0.0)

		Below Level 2		Level 2		Level 3		Level 4		Above Level 4	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Digital reading scale	All	39.3	(2.1)	29.6	(1.3)	21.8	(1.3)	7.9	(1.0)	1.3	(0.3)
	Boys	43.9	(2.4)	28.4	(1.9)	19.7	(1.7)	6.9	(1.1)	1.1	(0.5)
	Girls	35.1	(2.1)	30.7	(1.5)	23.8	(1.5)	8.9	(1.1)	1.5	(0.4)

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[Part 1/1]

Table A7.3 **Percentage of Brazilian students at each proficiency level on the science scale**

		Below Level 1		Level 1		Level 2		Level 3		Level 4		Level 5		Level 6	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Science scale	All	19.9	(0.8)	35.4	(0.8)	29.8	(0.8)	12.0	(0.6)	2.6	(0.3)	0.3	(0.1)	0.0	c
	Boys	20.8	(1.0)	34.1	(0.9)	29.5	(0.9)	12.3	(0.8)	3.0	(0.4)	0.3	(0.1)	0.0	c
	Girls	19.1	(0.9)	36.5	(1.0)	30.2	(1.0)	11.7	(0.9)	2.3	(0.4)	0.3	(0.1)	0.0	c

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[Part 1/1]

Table A7.4 **Top performers in mathematics, reading and science in Brazil**

	15-year-old students who are:														Percentage of top performers in mathematics who are also top performers in reading and science	
	not top performers in any of the three domains		top performers only in mathematics		top performers only in reading		top performers only in science		top performers in mathematics and reading but not in science		top performers in mathematics and science but not in reading		top performers in reading and science but not in mathematics		top performers in all three domains			
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
All	98.9	(0.2)	0.4	(0.1)	0.3	(0.1)	0.1	(0.0)	0.1	(0.1)	0.1	(0.0)	0.0	(0.0)	0.1	(0.1)	13.6	(7.5)
Boys	98.7	(0.3)	0.7	(0.2)	0.2	(0.1)	0.1	(0.1)	0.1	(0.1)	0.1	(0.1)	0.0	c	0.1	(0.1)	9.8	(6.4)
Girls	99.1	(0.3)	0.2	(0.1)	0.4	(0.1)	0.1	(0.1)	0.1	(0.1)	0.1	(0.0)	0.0	(0.0)	0.1	(0.1)	21.6	(15.2)

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[Part 1/1]

Table A7.5 **Mean score, variation and gender differences in student performance in Brazil**

	All students				Gender differences						Percentiles									
	Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
	Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
Mathematics scale	389	(1.9)	78	(1.6)	397	(2.1)	380	(2.2)	**17**	(1.8)	271	(2.4)	294	(2.1)	334	(1.9)	437	(2.6)	492	(4.2)	528	(5.2)
Mathematics subscale *formulating*	373	(2.4)	88	(1.9)	387	(2.5)	361	(2.7)	**26**	(1.9)	237	(3.3)	265	(2.6)	314	(2.2)	428	(3.0)	487	(4.9)	527	(6.9)
Mathematics subscale *employing*	385	(2.0)	82	(1.7)	393	(2.1)	377	(2.3)	**17**	(1.9)	259	(2.7)	285	(2.0)	329	(1.9)	437	(2.6)	493	(4.1)	529	(6.2)
Mathematics subscale *interpreting*	398	(2.0)	81	(1.4)	404	(2.2)	393	(2.1)	**11**	(1.7)	268	(3.4)	296	(2.5)	343	(2.2)	450	(2.3)	505	(3.7)	537	(5.1)
Mathematics subscale *change and relationships*	368	(2.5)	100	(1.9)	377	(2.7)	359	(2.8)	**18**	(2.2)	212	(3.4)	246	(3.2)	300	(2.9)	432	(3.1)	497	(5.0)	540	(6.7)
Mathematics subscale *space and shape*	378	(2.0)	82	(1.8)	390	(2.1)	367	(2.2)	**23**	(1.7)	251	(3.0)	279	(2.5)	324	(2.0)	428	(2.4)	482	(4.2)	519	(6.1)
Mathematics subscale *quantity*	389	(2.3)	92	(1.6)	399	(2.5)	381	(2.7)	**18**	(2.2)	246	(3.3)	275	(3.3)	326	(2.5)	449	(2.9)	511	(4.2)	550	(5.5)
Mathematics subscale *uncertainty and data*	400	(1.9)	72	(1.4)	405	(2.1)	394	(2.0)	**11**	(1.5)	286	(2.5)	311	(2.4)	352	(2.0)	445	(2.2)	492	(3.5)	522	(4.5)
Computer-based mathematics scale	418	(4.5)	84	(3.0)	429	(4.8)	408	(4.5)	**21**	(2.4)	289	(5.9)	316	(4.4)	362	(4.9)	471	(5.5)	528	(8.8)	565	(10.6)
Combined mathematics scale	406	(3.7)	78	(2.5)	416	(4.1)	396	(3.7)	**21**	(2.3)	289	(4.6)	312	(3.7)	352	(3.7)	454	(4.8)	510	(7.7)	543	(8.7)
Reading scale	407	(2.0)	86	(1.2)	390	(2.3)	422	(2.1)	**-32**	(2.0)	266	(3.5)	297	(2.8)	348	(2.4)	465	(2.6)	518	(3.1)	550	(3.7)
Digital reading scale	431	(4.8)	95	(2.7)	420	(5.4)	441	(4.6)	**-21**	(3.1)	271	(8.0)	308	(8.0)	369	(6.9)	497	(5.7)	550	(5.5)	580	(6.1)
Combined reading scale	420	(4.1)	86	(2.3)	407	(4.7)	432	(3.9)	**-25**	(2.8)	277	(6.9)	308	(6.2)	362	(5.1)	480	(5.2)	530	(5.2)	559	(6.1)
Science scale	402	(2.1)	79	(1.4)	402	(2.3)	401	(2.2)	0	(1.7)	275	(3.1)	302	(2.4)	348	(1.9)	454	(2.7)	505	(3.5)	536	(4.5)

Note: Values that are statistically significant are indicated in bold (see Annex A3).

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Annex B

PISA 2012 DATA

All figures and tables in Annex B are available on line

Annex B1: Results for countries and economies
http://dx.doi.org/10.1787/888932935667
http://dx.doi.org/10.1787/888932935686
http://dx.doi.org/10.1787/888932935705
http://dx.doi.org/10.1787/888932935724

Annex B2: Results for regions within countries
http://dx.doi.org/10.1787/888932935762

Annex B3: Results for the computer-based and combined scales for mathematics and reading
http://dx.doi.org/10.1787/888932935781

Annex B4: Trends in mathematics, reading and science performance
http://dx.doi.org/10.1787/888932935648
http://dx.doi.org/10.1787/888932936446

Notes regarding Cyprus

Note by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

Note by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

A note regarding Israel

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.



ANNEX B1

RESULTS FOR COUNTRIES AND ECONOMIES

[Part 1/1]

Table I.2.1a **Percentage of students at each proficiency level in mathematics**

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	6.1	(0.4)	13.5	(0.6)	21.9	(0.8)	24.6	(0.6)	19.0	(0.5)	10.5	(0.4)	4.3	(0.4)
	Austria	5.7	(0.6)	13.0	(0.7)	21.9	(0.9)	24.2	(0.8)	21.0	(0.9)	11.0	(0.7)	3.3	(0.4)
	Belgium	7.0	(0.6)	12.0	(0.5)	18.4	(0.6)	22.4	(0.7)	20.6	(0.6)	13.4	(0.7)	6.1	(0.4)
	Canada	3.6	(0.3)	10.2	(0.4)	21.0	(0.6)	26.4	(0.6)	22.4	(0.5)	12.1	(0.5)	4.3	(0.3)
	Chile	22.0	(1.4)	29.5	(1.0)	25.3	(1.0)	15.4	(0.8)	6.2	(0.6)	1.5	(0.2)	0.1	(0.0)
	Czech Republic	6.8	(0.8)	14.2	(1.0)	21.7	(0.8)	24.8	(1.1)	19.7	(0.9)	9.6	(0.7)	3.2	(0.3)
	Denmark	4.4	(0.5)	12.5	(0.7)	24.4	(1.0)	29.0	(1.0)	19.8	(0.7)	8.3	(0.6)	1.7	(0.3)
	Estonia	2.0	(0.3)	8.6	(0.6)	22.0	(0.8)	29.4	(0.8)	23.4	(0.9)	11.0	(0.7)	3.6	(0.4)
	Finland	3.3	(0.4)	8.9	(0.5)	20.5	(0.7)	28.8	(0.8)	23.2	(0.8)	11.7	(0.6)	3.5	(0.3)
	France	8.7	(0.7)	13.6	(0.8)	22.1	(1.0)	23.8	(0.8)	18.9	(0.8)	9.8	(0.5)	3.1	(0.4)
	Germany	5.5	(0.7)	12.2	(0.8)	19.4	(0.8)	23.7	(0.8)	21.7	(0.7)	12.8	(0.7)	4.7	(0.5)
	Greece	14.5	(0.9)	21.2	(0.8)	27.2	(1.0)	22.1	(0.9)	11.2	(0.8)	3.3	(0.4)	0.6	(0.1)
	Hungary	9.9	(0.8)	18.2	(1.0)	25.3	(1.2)	23.0	(1.0)	14.4	(0.9)	7.1	(0.7)	2.1	(0.5)
	Iceland	7.5	(0.5)	14.0	(0.8)	23.6	(0.9)	25.7	(0.9)	18.1	(0.8)	8.9	(0.6)	2.3	(0.4)
	Ireland	4.8	(0.5)	12.1	(0.7)	23.9	(0.7)	28.2	(0.9)	20.3	(0.8)	8.5	(0.5)	2.2	(0.2)
	Israel	15.9	(1.2)	17.6	(0.9)	21.6	(0.9)	21.0	(0.9)	14.6	(0.9)	7.2	(0.7)	2.2	(0.4)
	Italy	8.5	(0.4)	16.1	(0.5)	24.1	(0.5)	24.6	(0.6)	16.7	(0.5)	7.8	(0.4)	2.2	(0.2)
	Japan	3.2	(0.5)	7.9	(0.7)	16.9	(0.8)	24.7	(1.0)	23.7	(0.9)	16.0	(0.9)	7.6	(0.8)
	Korea	2.7	(0.5)	6.4	(0.6)	14.7	(0.8)	21.4	(1.0)	23.9	(1.2)	18.8	(0.9)	12.1	(1.3)
	Luxembourg	8.8	(0.5)	15.5	(0.5)	22.3	(0.7)	23.6	(0.7)	18.5	(0.6)	8.6	(0.4)	2.6	(0.2)
	Mexico	22.8	(0.7)	31.9	(0.6)	27.8	(0.5)	13.1	(0.4)	3.7	(0.2)	0.6	(0.1)	0.0	(0.0)
	Netherlands	3.8	(0.6)	11.0	(0.9)	17.9	(1.1)	24.2	(1.2)	23.8	(1.1)	14.9	(1.0)	4.4	(0.6)
	New Zealand	7.5	(0.6)	15.1	(0.7)	21.6	(0.8)	22.7	(0.8)	18.1	(0.8)	10.5	(0.7)	4.5	(0.4)
	Norway	7.2	(0.8)	15.1	(0.9)	24.3	(0.8)	25.7	(1.0)	18.3	(1.0)	7.3	(0.6)	2.1	(0.3)
	Poland	3.3	(0.4)	11.1	(0.8)	22.1	(0.9)	25.5	(0.9)	21.3	(1.1)	11.7	(0.8)	5.0	(0.8)
	Portugal	8.9	(0.8)	16.0	(1.0)	22.8	(0.9)	24.0	(0.8)	17.7	(0.9)	8.5	(0.7)	2.1	(0.3)
	Slovak Republic	11.1	(1.0)	16.4	(0.9)	23.1	(1.1)	22.1	(1.1)	16.4	(1.1)	7.8	(0.6)	3.1	(0.5)
	Slovenia	5.1	(0.5)	15.0	(0.7)	23.6	(0.9)	23.9	(1.0)	18.7	(0.8)	10.3	(0.6)	3.4	(0.4)
	Spain	7.8	(0.5)	15.8	(0.6)	24.9	(0.6)	26.0	(0.6)	17.6	(0.6)	6.7	(0.4)	1.3	(0.2)
	Sweden	9.5	(0.7)	17.5	(0.8)	24.7	(0.9)	23.9	(0.8)	16.3	(0.7)	6.5	(0.5)	1.6	(0.3)
	Switzerland	3.6	(0.3)	8.9	(0.6)	17.8	(1.1)	24.5	(1.0)	23.9	(0.8)	14.6	(0.8)	6.8	(0.7)
	Turkey	15.5	(1.1)	26.5	(1.3)	25.5	(1.2)	16.5	(1.0)	10.1	(1.1)	4.7	(0.8)	1.2	(0.5)
	United Kingdom	7.8	(0.8)	14.0	(0.8)	23.2	(0.8)	24.8	(0.8)	18.4	(0.8)	9.0	(0.6)	2.9	(0.4)
	United States	8.0	(0.7)	17.9	(1.0)	26.3	(0.8)	23.3	(0.9)	15.8	(0.9)	6.6	(0.6)	2.2	(0.3)
	OECD total	9.1	(0.2)	16.9	(0.3)	23.3	(0.3)	22.2	(0.3)	16.5	(0.3)	8.6	(0.2)	3.3	(0.1)
	OECD average	8.0	(0.1)	15.0	(0.1)	22.5	(0.1)	23.7	(0.2)	18.1	(0.1)	9.3	(0.1)	3.3	(0.1)
Partners	Albania	32.5	(1.0)	28.1	(1.0)	22.9	(0.9)	12.0	(0.9)	3.6	(0.3)	0.8	(0.2)	0.0	(0.0)
	Argentina	34.9	(1.9)	31.6	(1.2)	22.2	(1.4)	9.2	(0.9)	1.8	(0.4)	0.3	(0.1)	0.0	c
	Brazil	35.2	(0.9)	31.9	(0.7)	20.4	(0.7)	8.9	(0.5)	2.9	(0.3)	0.7	(0.2)	0.0	(0.0)
	Bulgaria	20.0	(1.5)	23.8	(0.9)	24.4	(1.1)	17.9	(0.9)	9.9	(0.8)	3.4	(0.5)	0.7	(0.2)
	Colombia	41.6	(1.7)	32.2	(1.0)	17.8	(0.9)	6.4	(0.6)	1.6	(0.3)	0.3	(0.1)	0.0	(0.0)
	Costa Rica	23.6	(1.7)	36.2	(1.2)	26.8	(1.3)	10.1	(1.0)	2.6	(0.5)	0.5	(0.2)	0.1	(0.1)
	Croatia	9.5	(0.7)	20.4	(1.0)	26.7	(0.9)	22.9	(1.1)	13.5	(0.8)	5.4	(0.8)	1.6	(0.5)
	Cyprus*	19.0	(0.6)	23.0	(0.7)	25.5	(0.6)	19.2	(0.6)	9.6	(0.4)	3.1	(0.2)	0.6	(0.2)
	Hong Kong-China	2.6	(0.4)	5.9	(0.6)	12.0	(0.8)	19.7	(1.0)	26.1	(1.1)	21.4	(1.0)	12.3	(0.9)
	Indonesia	42.3	(2.1)	33.4	(1.6)	16.8	(1.1)	5.7	(0.9)	1.5	(0.5)	0.3	(0.2)	0.0	c
	Jordan	36.5	(1.6)	32.1	(0.9)	21.0	(1.0)	8.1	(0.6)	1.8	(0.3)	0.5	(0.3)	0.1	(0.1)
	Kazakhstan	14.5	(0.9)	30.7	(1.4)	31.5	(0.9)	16.9	(1.1)	5.4	(0.8)	0.9	(0.3)	0.1	(0.0)
	Latvia	4.8	(0.5)	15.1	(1.0)	26.6	(1.3)	27.8	(0.9)	17.6	(0.9)	6.5	(0.6)	1.5	(0.3)
	Liechtenstein	3.5	(1.3)	10.6	(1.8)	15.2	(2.5)	22.7	(2.8)	23.2	(3.0)	17.4	(3.2)	7.4	(1.9)
	Lithuania	8.7	(0.7)	17.3	(0.9)	25.9	(0.8)	24.6	(1.0)	15.4	(0.7)	6.6	(0.5)	1.4	(0.2)
	Macao-China	3.2	(0.3)	7.6	(0.5)	16.4	(0.7)	24.0	(0.7)	24.4	(0.9)	16.8	(0.6)	7.6	(0.3)
	Malaysia	23.0	(1.2)	28.8	(1.1)	26.0	(0.9)	14.9	(0.9)	6.0	(0.7)	1.2	(0.3)	0.1	(0.1)
	Montenegro	27.5	(0.6)	29.1	(1.1)	24.2	(1.1)	13.1	(0.7)	4.9	(0.5)	0.9	(0.2)	0.1	(0.1)
	Peru	47.0	(1.8)	27.6	(0.9)	16.1	(1.0)	6.7	(0.7)	2.1	(0.4)	0.5	(0.2)	0.0	(0.0)
	Qatar	47.0	(0.4)	22.6	(0.5)	15.2	(0.4)	8.8	(0.3)	4.5	(0.3)	1.7	(0.2)	0.3	(0.1)
	Romania	14.0	(1.2)	26.8	(1.2)	28.3	(1.1)	19.2	(1.1)	8.4	(0.8)	2.6	(0.4)	0.6	(0.3)
	Russian Federation	7.5	(0.7)	16.5	(0.8)	26.6	(1.0)	26.0	(1.0)	15.7	(0.8)	6.3	(0.6)	1.5	(0.3)
	Serbia	15.5	(1.2)	23.4	(0.9)	26.5	(1.1)	19.5	(1.0)	10.5	(0.7)	3.5	(0.5)	1.1	(0.3)
	Shanghai-China	0.8	(0.2)	2.9	(0.5)	7.5	(0.6)	13.1	(0.8)	20.2	(0.8)	24.6	(1.0)	30.8	(1.2)
	Singapore	2.2	(0.2)	6.1	(0.4)	12.2	(0.7)	17.5	(0.7)	22.0	(0.6)	21.0	(0.6)	19.0	(0.5)
	Chinese Taipei	4.5	(0.5)	8.3	(0.6)	13.1	(0.6)	17.1	(0.6)	19.7	(0.8)	19.2	(0.9)	18.0	(1.0)
	Thailand	19.1	(1.1)	30.6	(1.2)	27.3	(1.0)	14.5	(1.2)	5.8	(0.7)	2.0	(0.4)	0.5	(0.2)
	Tunisia	36.5	(1.9)	31.3	(1.1)	21.1	(1.2)	8.0	(0.8)	2.3	(0.7)	0.7	(0.3)	0.1	(0.1)
	United Arab Emirates	20.5	(0.9)	25.8	(0.8)	24.9	(0.7)	16.9	(0.6)	8.5	(0.5)	2.9	(0.3)	0.5	(0.1)
	Uruguay	29.2	(1.2)	26.5	(0.8)	23.0	(0.9)	14.4	(0.9)	5.4	(0.6)	1.3	(0.3)	0.1	(0.1)
	Viet Nam	3.6	(0.8)	10.6	(1.3)	22.8	(1.3)	28.4	(1.5)	21.3	(1.2)	9.8	(1.0)	3.5	(0.7)

* See notes at the beginning of this Annex.

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[Part 1/2]

Table I.2.1b Percentage of students below Level 2 and at Level 5 or above in mathematics in PISA 2003 through 2012

		Proficiency levels in PISA 2003				Proficiency levels in PISA 2006				Proficiency levels in PISA 2009				Proficiency levels in PISA 2012			
		Below Level 2 (less than 420.07 score points)		Level 5 or above (above 606.99 score points)		Below Level 2 (less than 420.07 score points)		Level 5 or above (above 606.99 score points)		Below Level 2 (less than 420.07 score points)		Level 5 or above (above 606.99 score points)		Below Level 2 (less than 420.07 score points)		Level 5 or above (above 606.99 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	14.3	(0.7)	19.8	(0.8)	13.0	(0.6)	16.4	(0.8)	15.9	(0.7)	16.4	(0.9)	19.7	(0.6)	14.8	(0.6)
	Austria	18.8	(1.2)	14.3	(1.0)	20.0	(1.4)	15.8	(1.0)	m	m	m	m	18.7	(1.0)	14.3	(0.9)
	Belgium	16.5	(0.8)	26.4	(0.8)	17.3	(1.0)	22.3	(0.8)	19.1	(0.8)	20.4	(0.7)	19.0	(0.8)	19.5	(0.8)
	Canada	10.1	(0.5)	20.3	(0.7)	10.8	(0.6)	17.9	(0.7)	11.5	(0.5)	18.3	(0.6)	13.8	(0.5)	16.4	(0.6)
	Chile	m	m	m	m	55.1	(2.2)	1.5	(0.4)	51.0	(1.7)	1.3	(0.3)	51.5	(1.7)	1.6	(0.2)
	Czech Republic	16.6	(1.3)	18.3	(1.2)	19.2	(1.2)	18.3	(1.2)	22.3	(1.1)	11.6	(0.9)	21.0	(1.2)	12.9	(0.8)
	Denmark	15.4	(0.8)	15.9	(0.9)	13.6	(1.0)	13.7	(0.8)	17.1	(0.9)	11.6	(0.8)	16.8	(1.0)	10.0	(0.7)
	Estonia	m	m	m	m	12.1	(1.0)	12.5	(0.8)	12.6	(0.9)	12.1	(0.8)	10.5	(0.6)	14.6	(0.8)
	Finland	6.8	(0.5)	23.4	(0.8)	6.0	(0.6)	24.4	(1.0)	7.8	(0.5)	21.7	(0.9)	12.3	(0.7)	15.3	(0.7)
	France	16.6	(1.1)	15.1	(0.9)	22.3	(1.3)	12.5	(0.9)	22.5	(1.3)	13.7	(1.0)	22.4	(0.9)	12.9	(0.8)
	Germany	21.6	(1.2)	16.2	(0.9)	19.9	(1.4)	15.4	(1.0)	18.6	(1.1)	17.8	(0.9)	17.7	(1.0)	17.5	(0.9)
	Greece	38.9	(1.9)	4.0	(0.6)	32.3	(1.4)	5.0	(0.5)	30.3	(1.8)	5.7	(0.6)	35.7	(1.3)	3.9	(0.4)
	Hungary	23.0	(1.0)	10.7	(0.9)	21.2	(1.1)	10.3	(0.9)	22.3	(1.5)	10.1	(1.1)	28.1	(1.3)	9.3	(1.1)
	Iceland	15.0	(0.7)	15.5	(0.7)	16.8	(0.8)	12.7	(0.7)	17.0	(0.6)	13.6	(0.6)	21.5	(0.7)	11.2	(0.7)
	Ireland	16.8	(1.0)	11.4	(0.8)	16.4	(1.2)	10.2	(0.8)	20.8	(1.0)	6.7	(0.6)	16.9	(1.0)	10.7	(0.5)
	Israel	m	m	m	m	42.0	(1.7)	6.1	(0.6)	39.5	(1.3)	5.9	(0.7)	33.5	(1.7)	9.4	(1.0)
	Italy	31.9	(1.5)	7.0	(0.5)	32.8	(0.9)	6.2	(0.5)	24.9	(0.6)	9.0	(0.5)	24.7	(0.8)	9.9	(0.6)
	Japan	13.3	(1.2)	24.3	(1.5)	13.0	(1.1)	18.3	(1.0)	12.5	(1.0)	20.9	(1.2)	11.1	(1.0)	23.7	(1.5)
	Korea	9.5	(0.8)	24.8	(1.4)	8.9	(1.0)	27.1	(1.5)	8.1	(1.0)	25.6	(1.6)	9.1	(0.9)	30.9	(1.8)
	Luxembourg	21.7	(0.6)	10.8	(0.6)	22.8	(0.6)	10.6	(0.5)	23.9	(0.6)	11.4	(0.6)	24.3	(0.5)	11.2	(0.4)
	Mexico	65.9	(1.7)	0.4	(0.1)	56.5	(1.3)	0.8	(0.2)	50.8	(1.0)	0.7	(0.1)	54.7	(0.8)	0.6	(0.1)
	Netherlands	10.9	(1.1)	25.5	(1.3)	11.5	(1.0)	21.1	(1.1)	13.4	(1.4)	19.9	(1.5)	14.8	(1.3)	19.3	(1.2)
	New Zealand	15.1	(0.8)	20.7	(0.7)	14.0	(0.8)	18.9	(0.9)	15.4	(0.9)	18.9	(0.9)	22.6	(0.8)	15.0	(0.9)
	Norway	20.8	(1.0)	11.4	(0.6)	22.2	(1.2)	10.4	(0.7)	18.2	(0.9)	10.2	(0.7)	22.3	(1.1)	9.4	(0.7)
	Poland	22.0	(1.1)	10.1	(0.6)	19.8	(0.9)	10.6	(0.8)	20.5	(1.1)	10.4	(0.9)	14.4	(0.9)	16.7	(1.3)
	Portugal	30.1	(1.7)	5.4	(0.5)	30.7	(1.5)	5.7	(0.5)	23.7	(1.1)	9.6	(0.8)	24.9	(1.5)	10.6	(0.8)
	Slovak Republic	19.9	(1.4)	12.7	(0.9)	20.9	(1.0)	11.0	(0.9)	21.0	(1.2)	12.7	(1.0)	27.5	(1.3)	11.0	(0.9)
	Slovenia	m	m	m	m	17.7	(0.7)	13.7	(0.6)	20.3	(0.5)	14.2	(0.6)	20.1	(0.6)	13.7	(0.6)
	Spain	23.0	(1.0)	7.9	(0.7)	24.7	(1.1)	7.2	(0.5)	23.7	(0.8)	8.0	(0.5)	23.6	(0.8)	8.0	(0.4)
	Sweden	17.3	(0.9)	15.8	(0.8)	18.3	(1.0)	12.6	(0.7)	21.1	(1.0)	11.4	(0.8)	27.1	(1.1)	8.0	(0.5)
	Switzerland	14.5	(0.8)	21.2	(1.5)	13.5	(0.9)	22.6	(1.2)	13.5	(0.8)	24.1	(1.4)	12.4	(0.7)	21.4	(1.2)
	Turkey	52.2	(2.6)	5.5	(1.6)	52.1	(1.8)	4.2	(1.2)	42.1	(1.8)	5.6	(1.2)	42.0	(1.9)	5.9	(1.1)
	United Kingdom	m	m	m	m	19.8	(0.8)	11.1	(0.6)	20.2	(0.9)	9.8	(0.7)	21.8	(1.3)	11.8	(0.8)
	United States	25.7	(1.2)	10.1	(0.7)	28.1	(1.7)	7.6	(0.8)	23.4	(1.3)	9.9	(1.0)	25.8	(1.4)	8.8	(0.8)
	OECD average 2003	21.5	(0.2)	14.6	(0.2)	21.3	(0.2)	13.5	(0.2)	20.8	(0.2)	13.4	(0.2)	22.2	(0.2)	13.1	(0.2)
	OECD average 2006	m	m	m	m	22.5	(0.2)	12.8	(0.1)	22.0	(0.2)	12.7	(0.2)	23.0	(0.2)	12.6	(0.1)
	OECD average 2009	m	m	m	m	m	m	m	m	22.0	(0.2)	12.7	(0.2)	23.1	(0.2)	12.6	(0.2)
Partners	Albania	m	m	m	m	m	m	m	m	67.7	(1.9)	0.4	(0.2)	60.7	(1.0)	0.8	(0.2)
	Argentina	m	m	m	m	64.1	(2.5)	1.0	(0.4)	63.6	(2.0)	0.9	(0.3)	66.5	(2.0)	0.3	(0.1)
	Brazil	75.2	(1.7)	1.2	(0.4)	72.5	(1.2)	1.0	(0.3)	69.1	(1.2)	0.8	(0.2)	67.1	(1.0)	0.8	(0.2)
	Bulgaria	m	m	m	m	53.3	(2.4)	3.1	(0.8)	47.1	(2.5)	3.8	(1.0)	43.8	(1.8)	4.1	(0.6)
	Colombia	m	m	m	m	71.9	(1.6)	0.4	(0.2)	70.4	(1.6)	0.1	(0.1)	73.8	(1.4)	0.3	(0.1)
	Costa Rica	m	m	m	m	m	m	m	m	56.7	(1.9)	0.3	(0.2)	59.9	(1.9)	0.6	(0.2)
	Croatia	m	m	m	m	28.6	(1.2)	4.7	(0.5)	33.2	(1.4)	4.9	(0.7)	29.9	(1.4)	7.0	(1.1)
	Dubai (UAE)	m	m	m	m	m	m	m	m	38.8	(0.6)	6.5	(0.4)	33.3	(0.6)	6.8	(0.5)
	Hong Kong-China	10.4	(1.2)	30.7	(1.5)	9.5	(0.9)	27.7	(1.2)	8.8	(0.7)	30.7	(1.2)	8.5	(0.8)	33.7	(1.4)
	Indonesia	78.1	(1.7)	0.2	(0.1)	65.8	(3.1)	0.4	(0.2)	76.7	(1.9)	0.1	(0.0)	75.7	(2.1)	0.3	(0.2)
	Jordan	m	m	m	m	66.4	(1.6)	0.2	(0.1)	65.3	(1.9)	0.3	(0.2)	68.6	(1.5)	0.6	(0.4)
	Kazakhstan	m	m	m	m	m	m	m	m	59.1	(1.5)	1.2	(0.4)	45.2	(1.7)	0.9	(0.3)
	Latvia	23.7	(1.4)	8.0	(0.8)	20.7	(1.2)	6.6	(0.6)	22.6	(1.4)	5.7	(0.6)	19.9	(1.1)	8.0	(0.8)
	Liechtenstein	12.3	(1.7)	25.6	(3.4)	13.2	(2.0)	18.5	(2.0)	9.5	(1.8)	18.1	(2.4)	14.1	(2.0)	24.8	(2.6)
	Lithuania	m	m	m	m	23.0	(1.1)	9.1	(0.9)	26.3	(1.2)	7.0	(0.7)	26.0	(1.2)	8.1	(0.6)
	Macao-China	11.2	(1.2)	18.7	(1.4)	10.9	(0.7)	17.4	(0.7)	11.0	(0.5)	17.1	(0.5)	10.8	(0.5)	24.3	(0.6)
	Malaysia	m	m	m	m	m	m	m	m	59.3	(1.6)	0.4	(0.1)	51.8	(1.7)	1.3	(0.3)
	Montenegro	m	m	m	m	60.1	(1.0)	0.8	(0.2)	58.4	(1.1)	1.0	(0.2)	56.6	(1.0)	1.0	(0.2)
	Peru	m	m	m	m	m	m	m	m	73.5	(1.8)	0.6	(0.2)	74.6	(1.8)	0.6	(0.2)
	Qatar	m	m	m	m	87.2	(0.6)	0.6	(0.1)	73.8	(0.4)	1.8	(0.2)	69.6	(0.5)	2.0	(0.2)
	Romania	m	m	m	m	52.7	(2.2)	1.3	(0.3)	47.0	(2.0)	1.3	(0.3)	40.8	(1.9)	3.2	(0.6)
	Russian Federation	30.2	(1.8)	7.0	(0.8)	26.6	(1.6)	7.4	(0.8)	28.6	(1.5)	5.2	(0.8)	24.0	(1.1)	7.8	(0.8)
	Serbia	m	m	m	m	42.6	(1.7)	2.8	(0.4)	40.6	(1.4)	3.5	(0.5)	38.9	(1.5)	4.6	(0.7)
	Shanghai-China	m	m	m	m	m	m	m	m	4.9	(0.5)	50.4	(1.2)	3.8	(0.5)	55.4	(1.4)
	Singapore	m	m	m	m	m	m	m	m	9.8	(0.6)	35.6	(0.8)	8.3	(0.5)	40.0	(0.7)
	Chinese Taipei	m	m	m	m	12.0	(1.1)	31.9	(1.4)	12.8	(0.8)	28.6	(1.5)	12.8	(0.8)	37.2	(1.2)
	Thailand	54.0	(1.7)	1.6	(0.4)	53.0	(1.3)	1.3	(0.3)	52.5	(1.6)	1.3	(0.4)	49.7	(1.7)	2.6	(0.5)
	Tunisia	78.0	(1.2)	0.2	(0.1)	72.5	(1.8)	0.5	(0.2)	73.6	(1.5)	0.3	(0.2)	67.7	(1.8)	0.8	(0.4)
	United Arab Emirates*	m	m	m	m	m	m	m	m	55.2	(1.4)	1.7	(0.4)	50.9	(1.6)	2.3	(0.4)
	Uruguay	48.1	(1.5)	2.8	(0.4)	46.1	(1.2)	3.2	(0.5)	47.6	(1.3)	2.4	(0.4)	55.8	(1.3)	1.4	(0.3)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).
In the United Arab Emirates, Dubai took the PISA 2009 assessment in 2009 and the rest of the United Arab Emirates in 2010 as part of PISA 2009+. Results are thus reported separately.

* United Arab Emirates excluding Dubai (see note above).

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[Part 2/2]

Table I.2.1b **Percentage of students below Level 2 and at Level 5 or above in mathematics in PISA 2003 through 2012**

		Change between 2003 and 2012 (PISA 2012 - PISA 2003)				Change between 2006 and 2012 (PISA 2012 - PISA 2006)				Change between 2009 and 2012 (PISA 2012 - PISA 2009)			
		Below Level 2 (less than 420.07 score points)		Level 5 or above (above 606.99 score points)		Below Level 2 (less than 420.07 score points)		Level 5 or above (above 606.99 score points)		Below Level 2 (less than 420.07 score points)		Level 5 or above (above 606.99 score points)	
		% dif.	S.E.	% dif.	S.E.	% dif.	S.E.	% dif.	S.E.	% dif.	S.E.	% dif.	S.E.
OECD	Australia	**5.3**	(1.1)	**-5.0**	(1.1)	**6.7**	(1.0)	-1.6	(1.1)	**3.8**	(1.1)	-1.6	(1.2)
	Austria	-0.1	(1.6)	0.0	(1.4)	-1.3	(1.8)	-1.5	(1.5)	m	m	m	m
	Belgium	**2.5**	(1.2)	**-6.9**	(1.3)	1.6	(1.4)	**-2.8**	(1.3)	-0.1	(1.3)	-0.8	(1.2)
	Canada	**3.7**	(0.9)	**-3.9**	(1.1)	**3.0**	(1.0)	-1.5	(1.1)	**2.4**	(0.9)	-1.9	(1.1)
	Chile	m	m	m	m	-3.6	(2.9)	0.1	(0.4)	0.5	(2.6)	0.3	(0.4)
	Czech Republic	**4.4**	(1.8)	**-5.4**	(1.5)	1.8	(1.8)	**-5.4**	(1.5)	-1.4	(1.8)	1.2	(1.3)
	Denmark	1.4	(1.4)	**-5.9**	(1.2)	**3.2**	(1.6)	**-3.7**	(1.1)	-0.2	(1.5)	-1.6	(1.1)
	Estonia	m	m	m	m	-1.5	(1.3)	2.1	(1.3)	-2.1	(1.2)	**2.5**	(1.3)
	Finland	**5.5**	(0.9)	**-8.1**	(1.2)	**6.3**	(1.0)	**-9.2**	(1.3)	**4.4**	(1.0)	**-6.4**	(1.3)
	France	**5.7**	(1.5)	-2.2	(1.3)	0.1	(1.7)	0.4	(1.3)	-0.2	(1.7)	-0.8	(1.3)
	Germany	**-3.9**	(1.6)	1.2	(1.4)	-2.1	(1.8)	2.0	(1.5)	-0.9	(1.6)	-0.4	(1.4)
	Greece	-3.3	(2.5)	-0.1	(0.7)	3.3	(2.2)	-1.1	(0.7)	**5.4**	(2.5)	**-1.8**	(0.8)
	Hungary	**5.1**	(1.8)	-1.4	(1.5)	**6.9**	(1.8)	-1.1	(1.5)	**5.8**	(2.1)	-0.8	(1.6)
	Iceland	**6.5**	(1.1)	**-4.3**	(1.0)	**4.7**	(1.2)	-1.5	(1.1)	**4.5**	(1.2)	**-2.4**	(1.0)
	Ireland	0.1	(1.5)	-0.7	(1.0)	0.5	(1.7)	0.4	(1.1)	**-3.9**	(1.5)	**4.0**	(1.0)
	Israel	m	m	m	m	**-8.5**	(2.5)	**3.3**	(1.2)	**-6.0**	(2.3)	**3.5**	(1.3)
	Italy	**-7.3**	(1.8)	**2.9**	(0.8)	**-8.2**	(1.4)	**3.7**	(0.9)	-0.3	(1.2)	1.0	(0.9)
	Japan	-2.3	(1.6)	-0.6	(2.2)	-2.0	(1.6)	**5.4**	(1.9)	-1.4	(1.5)	2.8	(2.1)
	Korea	-0.4	(1.3)	**6.1**	(2.4)	0.3	(1.4)	3.8	(2.5)	1.0	(1.4)	**5.3**	(2.6)
	Luxembourg	**2.6**	(1.0)	0.4	(0.8)	1.5	(1.0)	0.6	(0.8)	0.4	(1.0)	-0.1	(0.9)
	Mexico	**-11.2**	(2.2)	0.3	(0.1)	-1.8	(1.9)	-0.2	(0.2)	**3.9**	(1.7)	-0.1	(0.2)
	Netherlands	**3.9**	(1.8)	**-6.3**	(1.9)	3.3	(1.7)	-1.9	(1.7)	1.4	(2.0)	-0.6	(2.1)
	New Zealand	**7.6**	(1.3)	**-5.7**	(1.2)	**8.6**	(1.4)	**-3.9**	(1.3)	**7.2**	(1.4)	**-3.9**	(1.3)
	Norway	1.5	(1.6)	**-2.0**	(1.0)	0.1	(1.7)	-1.0	(1.1)	**4.1**	(1.6)	-0.8	(1.0)
	Poland	**-7.7**	(1.5)	**6.7**	(1.6)	**-5.5**	(1.4)	**6.1**	(1.7)	**-6.1**	(1.5)	**6.3**	(1.7)
	Portugal	**-5.2**	(2.4)	**5.3**	(1.0)	**-5.8**	(2.2)	**4.9**	(1.1)	1.2	(2.0)	1.0	(1.3)
	Slovak Republic	**7.5**	(2.0)	-1.7	(1.3)	**6.6**	(1.8)	0.0	(1.4)	**6.4**	(1.9)	-1.7	(1.4)
	Slovenia	m	m	m	m	**2.4**	(1.2)	0.0	(1.0)	-0.3	(1.1)	-0.5	(0.9)
	Spain	0.6	(1.4)	0.1	(0.9)	-1.1	(1.5)	0.8	(0.8)	-0.1	(1.4)	0.0	(0.8)
	Sweden	**9.8**	(1.6)	**-7.8**	(1.0)	**8.8**	(1.7)	**-4.6**	(0.9)	**6.0**	(1.7)	**-3.4**	(1.0)
	Switzerland	-2.1	(1.2)	0.2	(2.0)	-1.1	(1.2)	-1.3	(1.8)	-1.0	(1.2)	-2.8	(1.9)
	Turkey	**-10.2**	(3.4)	0.4	(1.9)	**-10.1**	(2.8)	1.7	(1.6)	-0.2	(2.9)	0.2	(1.7)
	United Kingdom	m	m	m	m	2.1	(1.6)	0.7	(1.1)	1.6	(1.7)	2.0	(1.1)
	United States	0.1	(2.0)	-1.3	(1.1)	-2.3	(2.4)	1.2	(1.2)	2.5	(2.1)	-1.1	(1.3)
	OECD average 2003	**0.7**	(0.3)	**-1.6**	(0.3)	**0.9**	(0.3)	-0.4	(0.2)	**1.6**	(0.3)	-0.4	(0.3)
	OECD average 2006	m	m	m	m	0.5	(0.3)	-0.2	(0.2)	**1.2**	(0.3)	-0.1	(0.2)
	OECD average 2009	m	m	m	m	m	m	m	m	**1.2**	(0.3)	-0.1	(0.2)
Partners	Albania	m	m	m	m	m	m	m	m	**-7.1**	(2.3)	0.4	(0.2)
	Argentina	m	m	m	m	2.3	(3.4)	**-0.8**	(0.4)	2.9	(3.0)	-0.6	(0.3)
	Brazil	**-8.1**	(2.2)	-0.4	(0.5)	**-5.4**	(1.9)	-0.3	(0.4)	-2.0	(1.9)	0.0	(0.3)
	Bulgaria	m	m	m	m	**-9.5**	(3.1)	1.0	(1.0)	-3.4	(3.2)	0.3	(1.2)
	Colombia	m	m	m	m	1.9	(2.3)	-0.1	(0.2)	3.4	(2.3)	0.2	(0.1)
	Costa Rica	m	m	m	m	m	m	m	m	3.2	(2.9)	0.2	(0.2)
	Croatia	m	m	m	m	1.3	(2.0)	2.3	(1.3)	-3.3	(2.2)	2.1	(1.3)
	Dubai (UAE)	m	m	m	m	m	m	m	m	**-5.5**	(1.1)	0.3	(0.8)
	Hong Kong-China	-1.9	(1.4)	3.0	(2.2)	-1.0	(1.3)	**6.0**	(2.0)	-0.2	(1.1)	3.1	(2.0)
	Indonesia	-2.4	(2.8)	0.0	(0.2)	**9.9**	(3.8)	-0.1	(0.2)	-1.0	(2.9)	0.2	(0.2)
	Jordan	m	m	m	m	2.2	(2.4)	0.3	(0.5)	3.3	(2.6)	0.3	(0.5)
	Kazakhstan	m	m	m	m	m	m	m	m	**-13.9**	(2.6)	-0.2	(0.5)
	Latvia	-3.8	(1.9)	0.0	(1.2)	-0.8	(1.8)	1.4	(1.1)	-2.6	(2.0)	**2.3**	(1.1)
	Liechtenstein	1.8	(2.7)	-0.8	(4.4)	0.9	(2.9)	6.4	(3.4)	4.6	(2.8)	6.8	(3.7)
	Lithuania	m	m	m	m	3.1	(1.8)	-1.0	(1.1)	-0.3	(1.9)	1.1	(1.0)
	Macao-China	-0.4	(1.3)	**5.7**	(1.7)	-0.2	(0.9)	**6.9**	(1.2)	-0.2	(0.8)	**7.2**	(1.1)
	Malaysia	m	m	m	m	m	m	m	m	**-7.6**	(2.5)	**1.0**	(0.3)
	Montenegro	m	m	m	m	**-3.4**	(1.6)	0.2	(0.3)	-1.8	(1.7)	0.1	(0.3)
	Peru	m	m	m	m	m	m	m	m	1.0	(2.6)	-0.1	(0.3)
	Qatar	m	m	m	m	**-17.6**	(0.9)	**1.4**	(0.2)	**-4.2**	(0.9)	0.2	(0.3)
	Romania	m	m	m	m	**-11.9**	(3.1)	**1.9**	(0.7)	**-6.2**	(3.0)	**1.9**	(0.7)
	Russian Federation	**-6.3**	(2.3)	0.8	(1.2)	-2.7	(2.2)	0.4	(1.2)	**-4.6**	(2.1)	**2.6**	(1.2)
	Serbia	m	m	m	m	-3.7	(2.5)	**1.7**	(0.8)	-1.7	(2.3)	1.0	(0.9)
	Shanghai-China	m	m	m	m	m	m	m	m	-1.1	(0.8)	**5.0**	(2.0)
	Singapore	m	m	m	m	m	m	m	m	-1.6	(0.8)	**4.4**	(1.4)
	Chinese Taipei	m	m	m	m	0.9	(1.5)	**5.3**	(2.0)	0.0	(1.2)	**8.6**	(2.0)
	Thailand	-4.2	(2.6)	0.9	(0.6)	-3.3	(2.4)	**1.2**	(0.6)	-2.8	(2.6)	1.3	(0.7)
	Tunisia	**-10.2**	(2.3)	0.6	(0.4)	-4.7	(2.7)	0.3	(0.4)	**-5.8**	(2.5)	0.5	(0.4)
	United Arab Emirates*	m	m	m	m	m	m	m	m	-4.2	(2.4)	0.5	(0.5)
	Uruguay	**7.7**	(2.2)	**-1.4**	(0.5)	**9.7**	(2.0)	**-1.8**	(0.6)	**8.2**	(2.1)	**-1.0**	(0.5)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).
In the United Arab Emirates, Dubai took the PISA 2009 assessment in 2009 and the rest of the United Arab Emirates in 2010 as part of PISA 2009+. Results are thus reported separately.

* United Arab Emirates excluding Dubai (see note above).

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[Part 1/2]

Table I.2.2a **Percentage of students at each proficiency level in mathematics, by gender**

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	5.9	(0.4)	12.3	(0.6)	21.5	(1.1)	23.9	(0.8)	19.3	(0.9)	11.7	(0.7)	5.3	(0.6)
	Austria	4.9	(0.8)	11.2	(1.1)	20.3	(1.4)	23.4	(1.2)	22.2	(1.3)	13.3	(1.1)	4.7	(0.7)
	Belgium	6.9	(0.8)	11.7	(0.9)	17.1	(1.0)	21.5	(0.8)	20.5	(0.9)	15.0	(1.0)	7.4	(0.6)
	Canada	3.7	(0.4)	9.7	(0.6)	20.0	(0.8)	25.4	(0.9)	22.1	(0.7)	13.5	(0.7)	5.5	(0.5)
	Chile	17.6	(1.5)	27.6	(1.2)	26.4	(1.3)	18.1	(1.0)	7.9	(0.8)	2.1	(0.4)	0.2	(0.1)
	Czech Republic	6.8	(1.0)	12.4	(1.0)	20.6	(1.1)	24.6	(1.2)	21.1	(1.0)	10.6	(0.9)	3.8	(0.5)
	Denmark	4.0	(0.6)	11.2	(0.9)	22.3	(1.5)	29.5	(1.2)	21.5	(1.0)	9.5	(0.8)	2.1	(0.4)
	Estonia	2.0	(0.4)	8.7	(0.8)	21.5	(1.1)	28.5	(1.1)	23.1	(1.1)	12.1	(0.9)	4.1	(0.5)
	Finland	4.0	(0.5)	10.0	(0.7)	20.4	(1.0)	26.8	(1.2)	22.4	(0.9)	12.1	(0.8)	4.2	(0.5)
	France	8.8	(0.9)	13.6	(0.9)	21.0	(1.2)	22.1	(1.2)	19.3	(1.1)	11.2	(0.8)	4.1	(0.6)
	Germany	5.3	(0.8)	11.5	(1.0)	18.0	(1.0)	23.3	(1.0)	22.0	(1.0)	14.0	(1.0)	6.0	(0.7)
	Greece	15.6	(1.2)	18.9	(1.0)	24.6	(1.3)	23.3	(1.1)	12.5	(1.1)	4.2	(0.6)	1.0	(0.3)
	Hungary	9.9	(1.2)	17.7	(1.3)	24.4	(1.5)	21.7	(1.4)	15.1	(1.0)	8.2	(0.8)	3.0	(0.7)
	Iceland	9.0	(0.9)	14.2	(1.3)	23.3	(1.3)	24.6	(1.1)	17.4	(1.0)	8.9	(0.7)	2.6	(0.5)
	Ireland	4.5	(0.7)	10.7	(1.0)	21.7	(1.0)	28.9	(1.2)	21.5	(1.1)	9.8	(0.9)	2.9	(0.4)
	Israel	17.8	(1.8)	15.8	(1.5)	18.5	(1.3)	19.3	(1.0)	15.3	(1.2)	9.9	(1.4)	3.4	(0.7)
	Italy	8.2	(0.5)	14.6	(0.7)	22.4	(0.7)	23.8	(0.7)	18.0	(0.6)	9.9	(0.6)	3.1	(0.4)
	Japan	3.3	(0.6)	7.6	(0.9)	15.2	(1.0)	21.9	(1.1)	24.2	(1.3)	17.9	(1.2)	9.9	(1.2)
	Korea	2.9	(0.6)	6.3	(0.8)	13.3	(1.1)	19.5	(1.4)	22.7	(1.6)	19.9	(1.2)	15.5	(1.7)
	Luxembourg	7.0	(0.5)	13.0	(0.8)	21.4	(0.9)	24.5	(1.0)	19.9	(1.0)	10.2	(0.7)	3.9	(0.5)
	Mexico	20.7	(0.8)	30.1	(0.7)	28.7	(0.7)	14.9	(0.6)	4.7	(0.3)	0.9	(0.1)	0.1	(0.0)
	Netherlands	3.4	(0.7)	10.4	(1.0)	17.5	(1.2)	23.7	(1.5)	23.5	(1.3)	16.1	(1.1)	5.3	(0.7)
	New Zealand	7.9	(0.8)	13.8	(0.8)	19.6	(1.1)	21.6	(1.1)	19.1	(1.3)	12.0	(1.1)	5.9	(0.6)
	Norway	7.7	(0.9)	14.9	(1.1)	23.4	(1.1)	24.8	(1.2)	19.2	(1.2)	7.6	(0.9)	2.4	(0.5)
	Poland	3.7	(0.6)	11.3	(1.1)	21.4	(1.4)	24.2	(1.5)	21.2	(1.6)	12.0	(1.0)	6.1	(1.1)
	Portugal	9.2	(0.9)	14.8	(1.1)	20.7	(1.3)	24.4	(1.1)	18.3	(1.1)	9.7	(0.9)	2.9	(0.5)
	Slovak Republic	10.8	(1.2)	16.8	(1.2)	22.3	(1.2)	21.1	(1.6)	15.4	(1.3)	9.3	(0.8)	4.3	(0.8)
	Slovenia	5.1	(0.6)	15.2	(1.1)	22.9	(1.2)	23.6	(1.4)	18.3	(1.3)	10.9	(0.8)	3.9	(0.6)
	Spain	7.3	(0.6)	14.8	(0.7)	22.9	(0.8)	25.0	(0.8)	19.3	(0.7)	8.7	(0.6)	1.9	(0.3)
	Sweden	11.0	(1.0)	17.1	(1.0)	24.2	(1.2)	22.7	(1.2)	16.1	(1.0)	6.9	(0.8)	1.9	(0.4)
	Switzerland	3.5	(0.4)	8.3	(0.7)	16.4	(1.1)	23.5	(1.2)	24.4	(1.2)	15.9	(1.1)	8.0	(0.9)
	Turkey	14.9	(1.4)	25.9	(1.5)	25.6	(1.3)	16.3	(1.1)	10.3	(1.2)	5.5	(1.0)	1.5	(0.5)
	United Kingdom	7.2	(0.9)	12.5	(0.9)	22.2	(1.1)	25.3	(1.2)	19.4	(1.1)	10.3	(1.0)	3.2	(0.6)
	United States	8.4	(0.9)	18.1	(1.1)	24.1	(1.2)	22.7	(1.2)	17.0	(1.1)	7.2	(0.8)	2.4	(0.5)
	OECD total	8.9	(0.3)	16.3	(0.3)	22.0	(0.4)	21.7	(0.4)	17.3	(0.3)	9.7	(0.3)	4.2	(0.2)
	OECD average	7.9	(0.2)	14.2	(0.2)	21.3	(0.2)	23.2	(0.2)	18.7	(0.2)	10.5	(0.2)	4.2	(0.1)
Partners	Albania	33.0	(1.3)	28.0	(1.3)	22.3	(1.3)	11.9	(0.9)	4.0	(0.6)	0.7	(0.3)	0.0	c
	Argentina	31.8	(2.2)	31.2	(1.4)	23.8	(1.6)	10.3	(1.1)	2.4	(0.5)	0.4	(0.2)	0.0	c
	Brazil	31.1	(1.0)	31.6	(0.9)	22.0	(0.9)	10.5	(0.7)	3.7	(0.4)	1.0	(0.3)	0.1	(0.0)
	Bulgaria	21.4	(1.8)	23.7	(1.5)	22.7	(1.2)	17.2	(1.1)	10.5	(1.0)	3.7	(0.6)	0.8	(0.3)
	Colombia	35.2	(1.9)	32.1	(1.5)	20.7	(1.2)	8.9	(0.9)	2.6	(0.6)	0.4	(0.2)	0.0	(0.0)
	Costa Rica	18.9	(1.7)	33.3	(1.8)	29.9	(1.8)	13.1	(1.4)	3.8	(0.7)	0.8	(0.3)	0.1	(0.1)
	Croatia	9.3	(1.0)	19.5	(1.3)	25.2	(1.3)	22.7	(1.2)	14.5	(1.1)	6.5	(0.9)	2.2	(0.7)
	Cyprus*	21.9	(0.7)	20.9	(0.9)	22.7	(0.9)	18.7	(0.9)	10.6	(0.7)	4.2	(0.4)	1.0	(0.3)
	Hong Kong-China	2.7	(0.4)	5.8	(0.8)	11.5	(1.0)	17.8	(1.2)	24.2	(1.5)	22.6	(1.5)	15.3	(1.6)
	Indonesia	41.4	(2.4)	33.1	(1.9)	17.2	(1.3)	6.4	(1.1)	1.6	(0.5)	0.3	(0.2)	0.0	c
	Jordan	43.3	(2.6)	29.2	(1.2)	17.7	(1.5)	7.0	(0.9)	1.9	(0.5)	0.8	(0.6)	0.2	(0.2)
	Kazakhstan	15.3	(1.2)	30.2	(1.7)	30.3	(1.4)	17.5	(1.4)	5.6	(1.0)	1.0	(0.3)	0.1	(0.1)
	Latvia	5.3	(0.9)	16.2	(1.3)	26.8	(1.6)	25.9	(1.3)	17.1	(1.2)	6.9	(0.8)	1.8	(0.4)
	Liechtenstein	2.1	(1.3)	9.1	(2.7)	14.0	(4.0)	24.5	(3.6)	23.1	(4.3)	17.0	(3.5)	10.2	(3.0)
	Lithuania	9.5	(0.8)	18.2	(1.0)	24.3	(1.0)	23.9	(1.4)	14.5	(0.9)	7.7	(0.6)	1.9	(0.3)
	Macao-China	3.7	(0.4)	7.8	(0.6)	15.5	(0.9)	23.4	(1.0)	23.5	(1.2)	17.9	(1.1)	8.2	(0.6)
	Malaysia	25.4	(1.6)	28.7	(1.6)	24.4	(1.4)	14.2	(1.1)	5.9	(0.8)	1.3	(0.3)	0.1	(0.1)
	Montenegro	28.4	(1.0)	28.4	(1.3)	23.0	(1.0)	13.8	(0.9)	5.1	(0.7)	1.2	(0.4)	0.1	c
	Peru	42.6	(1.8)	28.8	(1.3)	17.5	(1.2)	7.6	(1.0)	2.7	(0.5)	0.7	(0.3)	0.1	(0.0)
	Qatar	50.9	(0.5)	19.9	(0.5)	13.8	(0.5)	8.4	(0.4)	4.7	(0.4)	1.9	(0.3)	0.3	(0.1)
	Romania	13.9	(1.5)	26.6	(1.6)	27.9	(1.2)	19.3	(1.4)	8.7	(1.0)	2.8	(0.6)	0.9	(0.4)
	Russian Federation	7.9	(0.9)	16.7	(1.1)	25.9	(1.6)	25.6	(1.3)	16.0	(1.0)	6.3	(0.9)	1.4	(0.4)
	Serbia	14.5	(1.4)	22.9	(1.2)	26.7	(1.5)	19.6	(1.4)	10.6	(1.1)	4.3	(0.7)	1.5	(0.4)
	Shanghai-China	1.0	(0.3)	2.9	(0.6)	7.6	(0.9)	12.8	(1.0)	18.9	(1.1)	23.9	(1.4)	32.8	(1.6)
	Singapore	2.9	(0.4)	6.8	(0.6)	12.4	(0.7)	16.6	(1.0)	21.0	(0.8)	20.4	(0.8)	19.9	(0.8)
	Chinese Taipei	5.3	(0.8)	9.0	(1.0)	12.3	(1.0)	14.6	(0.8)	18.8	(1.1)	20.0	(1.2)	20.0	(1.7)
	Thailand	21.9	(1.4)	32.1	(1.5)	25.4	(1.2)	13.0	(1.3)	5.2	(0.7)	1.8	(0.5)	0.5	(0.2)
	Tunisia	32.3	(2.2)	31.4	(1.4)	23.3	(1.6)	9.4	(1.1)	2.5	(0.7)	0.9	(0.4)	0.2	(0.2)
	United Arab Emirates	23.7	(1.4)	24.7	(1.1)	22.4	(1.1)	16.0	(0.9)	8.9	(0.8)	3.5	(0.5)	0.8	(0.2)
	Uruguay	28.0	(1.6)	24.7	(1.3)	22.9	(1.1)	15.7	(1.2)	6.6	(0.9)	1.8	(0.4)	0.2	(0.1)
	Viet Nam	3.7	(1.0)	10.6	(1.6)	21.3	(1.4)	26.9	(2.2)	21.8	(1.5)	11.2	(1.2)	4.7	(1.0)

* See notes at the beginning of this Annex.

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[Part 2/2]

Table I.2.2a **Percentage of students at each proficiency level in mathematics, by gender**

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	6.3	(0.5)	14.8	(0.7)	22.4	(0.7)	25.3	(0.8)	18.8	(0.7)	9.3	(0.5)	3.2	(0.4)
	Austria	6.5	(0.9)	14.7	(1.3)	23.5	(1.1)	24.9	(1.1)	19.8	(1.1)	8.8	(0.8)	1.8	(0.4)
	Belgium	7.0	(0.7)	12.3	(0.8)	19.8	(1.0)	23.4	(1.1)	20.7	(0.9)	11.9	(0.8)	4.9	(0.4)
	Canada	3.6	(0.4)	10.7	(0.6)	22.0	(0.8)	27.3	(0.7)	22.7	(0.8)	10.7	(0.6)	3.1	(0.3)
	Chile	26.1	(1.6)	31.4	(1.5)	24.3	(1.3)	12.8	(0.9)	4.5	(0.6)	0.8	(0.2)	0.1	(0.0)
	Czech Republic	6.8	(1.2)	16.0	(1.8)	22.9	(1.5)	25.0	(1.6)	18.1	(1.5)	8.6	(0.8)	2.7	(0.3)
	Denmark	4.7	(0.6)	13.8	(0.9)	26.5	(1.0)	28.5	(1.4)	18.0	(1.0)	7.1	(0.8)	1.3	(0.3)
	Estonia	2.0	(0.4)	8.5	(0.7)	22.5	(1.2)	30.3	(1.3)	23.8	(1.1)	9.9	(0.9)	3.1	(0.5)
	Finland	2.6	(0.5)	7.8	(0.5)	20.6	(1.2)	30.9	(1.1)	24.0	(1.0)	11.3	(0.8)	2.8	(0.4)
	France	8.7	(0.9)	13.7	(1.0)	23.3	(1.3)	25.3	(1.2)	18.4	(1.2)	8.4	(0.7)	2.2	(0.4)
	Germany	5.8	(0.7)	12.9	(1.1)	20.9	(1.3)	24.2	(1.2)	21.3	(0.9)	11.5	(0.9)	3.4	(0.6)
	Greece	13.4	(1.1)	23.5	(1.4)	29.6	(1.5)	20.9	(1.2)	9.9	(0.8)	2.4	(0.5)	0.3	(0.2)
	Hungary	9.9	(0.9)	18.6	(1.3)	26.1	(1.4)	24.1	(1.3)	13.8	(1.1)	6.1	(0.8)	1.3	(0.4)
	Iceland	5.8	(0.6)	13.8	(1.1)	24.0	(1.2)	26.8	(1.5)	18.7	(1.4)	8.9	(1.0)	2.0	(0.4)
	Ireland	5.1	(0.6)	13.5	(0.9)	26.2	(1.0)	27.5	(1.1)	19.0	(1.1)	7.2	(0.7)	1.4	(0.3)
	Israel	14.0	(1.2)	19.4	(1.1)	24.5	(1.1)	22.6	(1.2)	13.9	(1.0)	4.6	(0.5)	1.0	(0.2)
	Italy	8.9	(0.6)	17.8	(0.7)	25.8	(0.7)	25.4	(0.8)	15.4	(0.7)	5.5	(0.4)	1.1	(0.2)
	Japan	3.0	(0.5)	8.2	(0.9)	18.9	(1.3)	27.7	(1.4)	23.2	(1.1)	13.9	(1.2)	5.2	(0.8)
	Korea	2.6	(0.5)	6.5	(0.8)	16.2	(1.3)	23.6	(1.1)	25.3	(1.4)	17.5	(1.3)	8.3	(1.1)
	Luxembourg	10.6	(0.9)	18.1	(0.9)	23.2	(1.1)	22.7	(0.9)	17.0	(0.7)	6.9	(0.6)	1.4	(0.3)
	Mexico	24.9	(0.8)	33.6	(0.7)	27.0	(0.7)	11.4	(0.5)	2.7	(0.3)	0.3	(0.1)	0.0	c
	Netherlands	4.3	(0.7)	11.5	(1.1)	18.4	(1.3)	24.8	(1.4)	24.1	(1.5)	13.6	(1.3)	3.3	(0.6)
	New Zealand	7.1	(0.7)	16.5	(1.0)	23.7	(1.1)	23.8	(1.1)	16.9	(1.0)	8.8	(0.9)	3.1	(0.4)
	Norway	6.8	(0.9)	15.3	(1.2)	25.2	(1.1)	26.6	(1.4)	17.4	(1.2)	7.0	(0.9)	1.8	(0.4)
	Poland	2.9	(0.4)	10.9	(0.9)	22.7	(1.2)	26.6	(1.1)	21.4	(1.4)	11.5	(1.0)	3.9	(0.6)
	Portugal	8.6	(0.9)	17.3	(1.3)	24.9	(1.0)	23.6	(1.1)	17.0	(1.1)	7.3	(0.8)	1.3	(0.3)
	Slovak Republic	11.4	(1.2)	15.9	(1.4)	24.0	(1.4)	23.2	(1.3)	17.4	(1.5)	6.2	(0.9)	1.9	(0.4)
	Slovenia	5.0	(0.6)	14.8	(0.8)	24.3	(1.3)	24.3	(1.3)	19.1	(1.2)	9.6	(0.9)	2.9	(0.6)
	Spain	8.2	(0.7)	16.9	(0.7)	26.9	(0.9)	26.9	(0.7)	15.7	(0.7)	4.7	(0.4)	0.7	(0.1)
	Sweden	8.0	(0.7)	17.9	(1.1)	25.2	(1.2)	25.2	(1.3)	16.5	(1.2)	6.0	(0.6)	1.2	(0.2)
	Switzerland	3.6	(0.4)	9.5	(0.8)	19.2	(1.3)	25.5	(1.5)	23.4	(1.2)	13.4	(1.0)	5.5	(0.8)
	Turkey	16.1	(1.4)	27.1	(1.6)	25.5	(1.5)	16.8	(1.4)	9.8	(1.4)	3.8	(0.9)	0.9	(0.5)
	United Kingdom	8.4	(1.1)	15.4	(1.1)	24.2	(1.1)	24.3	(1.1)	17.4	(1.0)	7.7	(0.8)	2.6	(0.6)
	United States	7.4	(0.9)	17.7	(1.4)	28.5	(1.2)	24.0	(1.2)	14.5	(1.1)	5.9	(0.9)	1.9	(0.4)
	OECD total	9.4	(0.3)	17.6	(0.4)	24.6	(0.4)	22.8	(0.4)	15.7	(0.3)	7.4	(0.3)	2.4	(0.2)
	OECD average	8.1	(0.1)	15.8	(0.2)	23.6	(0.2)	24.3	(0.2)	17.6	(0.2)	8.2	(0.1)	2.4	(0.1)
Partners	Albania	32.0	(1.4)	28.3	(1.4)	23.6	(1.6)	12.1	(1.4)	3.2	(0.5)	0.8	(0.2)	0.0	c
	Argentina	37.8	(2.1)	32.0	(1.8)	20.6	(1.5)	8.3	(1.0)	1.2	(0.3)	0.1	(0.1)	0.0	c
	Brazil	39.0	(1.1)	32.1	(0.9)	19.0	(0.8)	7.4	(0.6)	2.1	(0.3)	0.4	(0.2)	0.0	(0.0)
	Bulgaria	18.5	(1.6)	23.8	(1.3)	26.1	(1.6)	18.7	(1.2)	9.3	(1.0)	3.0	(0.6)	0.6	(0.2)
	Colombia	47.4	(2.1)	32.2	(1.4)	15.2	(1.0)	4.3	(0.7)	0.7	(0.2)	0.1	(0.1)	0.0	(0.0)
	Costa Rica	27.8	(2.0)	38.8	(1.4)	24.1	(1.7)	7.6	(1.2)	1.5	(0.4)	0.2	(0.1)	0.0	c
	Croatia	9.7	(1.0)	21.3	(1.3)	28.2	(1.3)	23.2	(1.6)	12.4	(1.1)	4.2	(0.9)	1.0	(0.4)
	Cyprus*	16.1	(1.0)	25.2	(1.1)	28.4	(1.1)	19.6	(1.0)	8.6	(0.7)	1.9	(0.3)	0.3	(0.1)
	Hong Kong-China	2.4	(0.5)	6.1	(0.8)	12.6	(1.0)	21.9	(1.6)	28.2	(1.5)	20.1	(1.2)	8.7	(1.2)
	Indonesia	43.2	(2.4)	33.6	(1.8)	16.5	(1.3)	5.0	(1.0)	1.4	(0.7)	0.2	(0.2)	0.0	c
	Jordan	29.9	(1.7)	34.9	(1.2)	24.1	(1.2)	9.2	(1.1)	1.8	(0.6)	0.2	(0.2)	0.0	c
	Kazakhstan	13.8	(1.1)	31.2	(1.6)	32.8	(1.2)	16.2	(1.3)	5.2	(0.9)	0.7	(0.3)	0.1	(0.1)
	Latvia	4.3	(0.7)	14.0	(1.4)	26.5	(1.6)	29.8	(1.3)	18.1	(1.1)	6.0	(0.8)	1.3	(0.3)
	Liechtenstein	5.1	(2.3)	12.3	(3.0)	16.6	(5.0)	20.6	(5.7)	23.4	(5.5)	17.9	(4.3)	4.2	(1.6)
	Lithuania	8.0	(0.9)	16.4	(1.3)	27.6	(1.3)	25.3	(1.5)	16.3	(1.0)	5.6	(0.6)	1.0	(0.3)
	Macao-China	2.7	(0.3)	7.3	(0.7)	17.5	(0.9)	24.6	(0.9)	25.5	(0.9)	15.6	(0.8)	6.9	(0.5)
	Malaysia	20.7	(1.3)	28.9	(1.4)	27.5	(1.1)	15.6	(1.1)	6.1	(0.9)	1.2	(0.4)	0.1	(0.1)
	Montenegro	26.6	(0.8)	29.9	(1.4)	25.4	(1.6)	12.5	(1.1)	4.8	(0.6)	0.7	(0.3)	0.1	(0.1)
	Peru	51.1	(2.4)	26.4	(1.3)	14.8	(1.3)	5.8	(0.9)	1.5	(0.4)	0.4	(0.2)	0.0	c
	Qatar	42.8	(0.6)	25.4	(0.9)	16.6	(0.6)	9.2	(0.5)	4.1	(0.3)	1.5	(0.2)	0.3	(0.1)
	Romania	14.1	(1.3)	27.1	(1.4)	28.8	(1.5)	19.2	(1.3)	8.2	(1.1)	2.4	(0.5)	0.3	(0.2)
	Russian Federation	7.1	(0.7)	16.2	(1.0)	27.2	(1.2)	26.3	(1.1)	15.4	(0.9)	6.3	(0.8)	1.5	(0.3)
	Serbia	16.5	(1.4)	24.0	(1.4)	26.4	(1.4)	19.4	(1.4)	10.4	(1.0)	2.8	(0.6)	0.6	(0.2)
	Shanghai-China	0.7	(0.2)	2.9	(0.5)	7.4	(0.8)	13.4	(1.0)	21.4	(1.1)	25.2	(1.2)	29.0	(1.4)
	Singapore	1.4	(0.3)	5.3	(0.5)	12.0	(1.0)	18.6	(1.1)	22.9	(0.8)	21.6	(0.9)	18.1	(0.7)
	Chinese Taipei	3.7	(0.5)	7.7	(0.7)	14.0	(1.0)	19.5	(1.1)	20.6	(1.0)	18.3	(1.2)	16.1	(2.1)
	Thailand	17.0	(1.2)	29.4	(1.5)	28.9	(1.2)	15.7	(1.4)	6.4	(1.0)	2.2	(0.5)	0.6	(0.2)
	Tunisia	40.2	(2.1)	31.2	(1.5)	19.3	(1.3)	6.7	(0.9)	2.2	(0.8)	0.5	(0.3)	0.0	c
	United Arab Emirates	17.5	(1.2)	26.8	(1.2)	27.2	(0.9)	17.7	(0.9)	8.0	(0.7)	2.4	(0.3)	0.3	(0.1)
	Uruguay	30.3	(1.3)	28.1	(1.2)	23.1	(1.3)	13.2	(1.0)	4.4	(0.6)	0.8	(0.3)	0.0	c
	Viet Nam	3.6	(0.8)	10.6	(1.2)	24.1	(1.5)	29.7	(1.4)	20.9	(1.4)	8.6	(1.0)	2.4	(0.7)

* See notes at the beginning of this Annex.

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[Part 1/2]

Table I.2.2b Percentage of students below Level 2 and at Level 5 or above in mathematics in PISA 2003 and 2012, by gender

		Boys											
		Proficiency levels in PISA 2003				Proficiency levels in PISA 2012				Change between 2003 and 2012 (PISA 2012 - PISA 2003)			
		Below Level 2 (less than 420.07 score points)		Level 5 or above (above 606.99 score points)		Below Level 2 (less than 420.07 score points)		Level 5 or above (above 606.99 score points)		Below Level 2 (less than 420.07 score points)		Level 5 or above (above 606.99 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	% dif.	S.E.	% dif.	S.E.
OECD	Australia	14.9	(0.8)	21.6	(1.2)	18.3	(0.8)	17.0	(1.0)	**3.4**	(1.2)	**-4.6**	(1.6)
	Austria	19.2	(1.4)	16.7	(1.3)	16.1	(1.4)	18.0	(1.5)	-3.1	(2.1)	1.3	(2.0)
	Belgium	17.2	(1.2)	29.1	(1.2)	18.6	(1.3)	22.3	(1.0)	1.4	(1.8)	**-6.8**	(1.6)
	Canada	10.3	(0.6)	25.2	(1.0)	13.4	(0.7)	19.0	(0.9)	**3.1**	(1.0)	**-6.1**	(1.3)
	Czech Republic	15.1	(1.4)	21.6	(1.5)	19.3	(1.4)	14.4	(1.1)	**4.2**	(2.0)	**-7.3**	(1.9)
	Denmark	13.4	(1.0)	18.0	(1.2)	15.1	(1.3)	11.5	(0.9)	1.8	(1.7)	**-6.5**	(1.5)
	Finland	7.3	(0.7)	26.0	(1.2)	14.1	(0.9)	16.3	(1.0)	**6.7**	(1.2)	**-9.7**	(1.6)
	France	16.8	(1.5)	17.9	(1.5)	22.3	(1.1)	15.3	(1.1)	**5.6**	(2.0)	-2.6	(1.8)
	Germany	21.4	(1.5)	18.3	(1.3)	16.8	(1.1)	19.9	(1.2)	**-4.6**	(1.9)	1.6	(1.8)
	Greece	35.8	(2.1)	5.8	(0.8)	34.5	(1.7)	5.1	(0.6)	-1.3	(2.8)	-0.6	(1.0)
	Hungary	22.2	(1.3)	11.9	(1.0)	27.6	(1.7)	11.2	(1.3)	**5.4**	(2.2)	-0.7	(1.7)
	Iceland	18.3	(1.0)	15.0	(1.0)	23.2	(1.1)	11.5	(0.9)	**5.0**	(1.6)	**-3.6**	(1.3)
	Ireland	15.0	(1.3)	13.7	(1.1)	15.2	(1.4)	12.7	(0.9)	0.2	(2.0)	-1.0	(1.4)
	Italy	29.7	(2.1)	9.6	(0.7)	22.8	(0.9)	13.0	(0.8)	**-6.9**	(2.3)	**3.3**	(1.1)
	Japan	14.2	(1.5)	27.5	(2.3)	10.9	(1.2)	27.8	(1.9)	-3.3	(1.9)	0.3	(3.0)
	Korea	8.5	(1.1)	28.6	(1.8)	9.2	(1.2)	35.3	(2.4)	0.7	(1.7)	**6.7**	(3.0)
	Luxembourg	20.0	(0.8)	13.8	(0.8)	20.1	(0.8)	14.1	(0.7)	0.1	(1.3)	0.3	(1.1)
	Mexico	63.1	(2.1)	0.5	(0.2)	50.7	(1.0)	0.9	(0.1)	**-12.4**	(2.5)	**0.4**	(0.2)
	Netherlands	10.2	(1.5)	26.1	(1.7)	13.9	(1.4)	21.5	(1.4)	3.7	(2.0)	**-4.6**	(2.2)
	New Zealand	14.5	(0.9)	23.9	(1.1)	21.8	(1.1)	17.9	(1.3)	**7.2**	(1.6)	**-6.1**	(1.7)
	Norway	20.6	(1.1)	13.2	(0.8)	22.6	(1.2)	10.0	(0.8)	2.0	(1.7)	**-3.2**	(1.2)
	Poland	22.7	(1.2)	12.1	(1.0)	15.0	(1.2)	18.1	(1.6)	**-7.7**	(1.8)	**6.0**	(1.9)
	Portugal	28.7	(2.0)	7.2	(0.8)	24.0	(1.5)	12.6	(1.0)	-4.8	(2.5)	**5.3**	(1.3)
	Slovak Republic	18.0	(1.6)	15.4	(1.1)	27.6	(1.6)	13.6	(1.3)	**9.6**	(2.3)	-1.9	(1.7)
	Spain	22.5	(1.3)	9.9	(1.1)	22.1	(1.0)	10.6	(0.7)	-0.3	(1.8)	0.7	(1.3)
	Sweden	16.7	(1.1)	17.3	(1.1)	28.2	(1.4)	8.8	(0.8)	**11.5**	(1.9)	**-8.5**	(1.4)
	Switzerland	13.4	(1.0)	24.2	(2.4)	11.8	(0.8)	23.9	(1.5)	-1.7	(1.3)	-0.3	(2.8)
	Turkey	49.3	(2.9)	6.5	(1.9)	40.8	(2.2)	7.1	(1.3)	**-8.6**	(3.8)	0.5	(2.3)
	United States	25.2	(1.3)	11.7	(1.0)	26.5	(1.5)	9.6	(0.9)	1.3	(2.1)	-2.1	(1.4)
	OECD average 2003	20.8	(0.3)	16.8	(0.2)	21.5	(0.2)	15.1	(0.2)	0.6	(0.4)	**-1.7**	(0.3)
Partners	Brazil	72.5	(2.3)	1.9	(0.7)	62.7	(1.2)	1.1	(0.3)	**-9.8**	(2.8)	-0.8	(0.7)
	Hong Kong-China	11.8	(1.7)	33.1	(2.3)	8.5	(1.0)	37.9	(2.0)	-3.3	(2.0)	4.8	(3.0)
	Indonesia	78.0	(1.7)	0.2	(0.1)	74.6	(2.4)	0.3	(0.2)	-3.4	(3.0)	0.1	(0.2)
	Latvia	24.4	(1.9)	9.4	(1.1)	21.5	(1.5)	8.7	(1.0)	-2.8	(2.5)	-0.7	(1.5)
	Liechtenstein	10.2	(2.4)	32.3	(5.1)	11.2	(2.8)	27.3	(3.3)	1.0	(3.8)	-5.1	(6.1)
	Macao-China	10.8	(1.7)	24.0	(2.7)	11.6	(0.7)	26.1	(0.9)	0.7	(1.9)	2.1	(2.9)
	Russian Federation	29.9	(2.3)	8.9	(1.1)	24.6	(1.4)	7.8	(1.1)	-5.2	(2.8)	-1.2	(1.6)
	Thailand	55.0	(2.1)	1.7	(0.5)	54.1	(1.8)	2.3	(0.6)	-0.9	(2.9)	0.7	(0.8)
	Tunisia	76.3	(1.2)	0.3	(0.2)	63.7	(2.2)	1.1	(0.5)	**-12.7**	(2.6)	0.9	(0.5)
	Uruguay	45.6	(1.8)	3.8	(0.6)	52.8	(1.8)	2.0	(0.5)	**7.2**	(2.6)	**-1.7**	(0.8)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).
Only countries and economies with comparable results in PISA 2003 and PISA 2012 are presented.
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[Part 2/2]

Table I.2.2b Percentage of students below Level 2 and at Level 5 or above in mathematics in PISA 2003 and 2012, by gender

		Girls											
		Proficiency levels in PISA 2003				Proficiency levels in PISA 2012				Change between 2003 and 2012 (PISA 2012 - PISA 2003)			
		Below Level 2 (less than 420.07 score points)		Level 5 or above (above 606.99 score points)		Below Level 2 (less than 420.07 score points)		Level 5 or above (above 606.99 score points)		Below Level 2 (less than 420.07 score points)		Level 5 or above (above 606.99 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	% dif.	S.E.	% dif.	S.E.
OECD	Australia	13.8	(0.9)	17.9	(1.0)	21.1	(0.8)	12.4	(0.6)	**7.4**	(1.4)	**-5.4**	(1.2)
	Austria	18.4	(1.5)	11.8	(1.2)	21.2	(1.4)	10.6	(0.9)	2.8	(2.1)	-1.2	(1.5)
	Belgium	15.7	(1.1)	23.6	(1.0)	19.3	(1.1)	16.8	(0.8)	3.6	(1.6)	**-6.8**	(1.4)
	Canada	9.4	(0.6)	17.8	(0.9)	14.3	(0.7)	13.8	(0.7)	**4.8**	(1.0)	**-4.0**	(1.2)
	Czech Republic	18.1	(1.7)	14.8	(1.3)	22.7	(1.7)	11.3	(0.9)	4.7	(2.5)	**-3.5**	(1.6)
	Denmark	17.4	(1.2)	13.9	(1.0)	18.6	(1.1)	8.4	(0.8)	1.2	(1.7)	**-5.5**	(1.3)
	Finland	6.2	(0.6)	20.8	(1.0)	10.4	(0.8)	14.1	(0.9)	**4.2**	(1.0)	**-6.7**	(1.4)
	France	16.5	(1.3)	12.6	(1.0)	22.4	(1.0)	10.6	(0.8)	**5.9**	(1.7)	-2.0	(1.3)
	Germany	21.4	(1.4)	14.1	(1.1)	18.7	(1.3)	14.9	(1.1)	-2.7	(2.0)	0.8	(1.6)
	Greece	41.9	(2.1)	2.3	(0.5)	36.9	(1.8)	2.7	(0.4)	-5.0	(2.9)	0.4	(0.7)
	Hungary	23.9	(1.4)	9.3	(1.0)	28.5	(1.6)	7.4	(1.1)	**4.6**	(2.3)	-1.8	(1.5)
	Iceland	11.5	(0.9)	15.9	(1.0)	19.7	(1.0)	10.8	(1.1)	**8.2**	(1.5)	**-5.1**	(1.5)
	Ireland	18.7	(1.4)	9.0	(1.0)	18.7	(1.2)	8.5	(0.7)	0.0	(2.0)	-0.5	(1.3)
	Italy	34.0	(2.1)	4.6	(0.4)	26.7	(1.0)	6.7	(0.5)	**-7.3**	(2.4)	**2.1**	(0.7)
	Japan	12.4	(1.4)	21.3	(1.5)	11.2	(1.1)	19.1	(1.6)	-1.2	(1.9)	-2.2	(2.3)
	Korea	11.0	(1.3)	19.1	(2.0)	9.1	(1.1)	25.8	(2.0)	-1.9	(1.8)	**6.7**	(2.9)
	Luxembourg	23.4	(0.9)	7.9	(0.7)	28.7	(0.7)	8.3	(0.6)	**5.3**	(1.3)	0.4	(0.9)
	Mexico	68.5	(2.0)	0.2	(0.1)	58.5	(0.9)	0.3	(0.1)	**-10.0**	(2.4)	0.1	(0.1)
	Netherlands	11.7	(1.4)	24.9	(1.5)	15.8	(1.5)	16.9	(1.4)	4.1	(2.1)	**-7.9**	(2.1)
	New Zealand	15.6	(1.3)	17.4	(0.9)	23.6	(1.1)	12.0	(1.1)	**7.9**	(1.8)	**-5.4**	(1.5)
	Norway	21.1	(1.5)	9.6	(0.8)	22.0	(1.4)	8.8	(1.0)	0.9	(2.1)	-0.8	(1.3)
	Poland	21.4	(1.3)	8.1	(0.8)	13.8	(1.0)	15.4	(1.4)	**-7.6**	(1.7)	**7.3**	(1.7)
	Portugal	31.3	(1.8)	3.7	(0.6)	25.9	(1.8)	8.6	(0.8)	**-5.4**	(2.6)	**5.0**	(1.1)
	Slovak Republic	22.0	(1.7)	9.8	(0.9)	27.3	(1.7)	8.1	(1.0)	**5.3**	(2.5)	-1.7	(1.4)
	Spain	23.4	(1.0)	6.1	(0.6)	25.1	(1.0)	5.3	(0.3)	1.7	(1.6)	-0.8	(0.7)
	Sweden	17.9	(1.0)	14.2	(1.2)	26.0	(1.3)	7.2	(0.6)	**8.1**	(1.8)	**-7.1**	(1.4)
	Switzerland	15.7	(1.1)	18.0	(1.4)	13.1	(0.9)	18.8	(1.3)	-2.6	(1.5)	0.9	(2.0)
	Turkey	55.8	(3.0)	4.2	(1.4)	43.2	(2.4)	4.7	(1.2)	**-12.5**	(4.1)	0.5	(1.8)
	United States	26.3	(1.4)	8.4	(0.9)	25.2	(1.6)	7.9	(1.1)	-1.1	(2.3)	-0.6	(1.4)
	OECD average 2003	22.2	(0.3)	12.5	(0.2)	23.0	(0.2)	10.9	(0.2)	**0.8**	(0.4)	**-1.6**	(0.3)
Partners	Brazil	77.5	(1.5)	0.5	(0.3)	71.1	(1.2)	0.4	(0.2)	**-6.4**	(2.1)	-0.1	(0.3)
	Hong Kong-China	9.0	(1.1)	28.3	(2.0)	8.5	(1.0)	28.8	(1.8)	-0.5	(1.5)	0.6	(2.9)
	Indonesia	78.3	(2.0)	0.2	(0.1)	76.9	(2.2)	0.2	(0.2)	-1.4	(3.1)	0.0	(0.2)
	Latvia	23.1	(1.6)	6.7	(0.9)	18.3	(1.4)	7.3	(0.9)	**-4.8**	(2.2)	0.6	(1.3)
	Liechtenstein	14.4	(2.7)	18.6	(4.3)	17.3	(3.5)	22.1	(4.4)	2.9	(4.4)	3.5	(6.2)
	Macao-China	11.5	(1.7)	13.6	(1.6)	10.0	(0.7)	22.5	(0.7)	-1.5	(1.8)	**8.9**	(1.9)
	Russian Federation	30.6	(2.0)	5.1	(0.8)	23.3	(1.2)	7.8	(0.9)	**-7.3**	(2.5)	**2.7**	(1.2)
	Thailand	53.1	(1.9)	1.6	(0.5)	46.3	(2.1)	2.8	(0.6)	**-6.8**	(3.0)	1.2	(0.8)
	Tunisia	79.6	(1.5)	0.2	(0.1)	71.3	(1.9)	0.5	(0.3)	**-8.3**	(2.6)	0.3	(0.3)
	Uruguay	50.5	(1.9)	1.9	(0.4)	58.5	(1.6)	0.8	(0.3)	**8.0**	(2.6)	**-1.1**	(0.5)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).
Only countries and economies with comparable results in PISA 2003 and PISA 2012 are presented.
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Table I.2.3a Mean score, variation and gender differences in student performance in mathematics

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	Australia	504	(1.6)	96	(1.2)	510	(2.4)	498	(2.0)	**12**	(3.1)	348	(2.9)	382	(2.3)	437	(2.0)	571	(2.3)	630	(3.0)	663	(3.4)
	Austria	506	(2.7)	92	(1.7)	517	(3.9)	494	(3.3)	**22**	(4.9)	353	(4.1)	384	(3.9)	440	(3.2)	572	(3.5)	624	(3.8)	654	(4.3)
	Belgium	515	(2.1)	102	(1.4)	520	(2.9)	509	(2.6)	**11**	(3.4)	342	(4.5)	378	(3.9)	443	(3.4)	589	(2.8)	646	(2.5)	677	(3.0)
	Canada	518	(1.8)	89	(0.8)	523	(2.1)	513	(2.1)	**10**	(2.0)	370	(2.8)	402	(2.4)	457	(2.1)	580	(2.3)	633	(2.3)	663	(2.7)
	Chile	423	(3.1)	81	(1.5)	436	(3.8)	411	(3.1)	**25**	(3.6)	299	(4.1)	323	(3.7)	365	(3.5)	476	(4.2)	532	(4.2)	563	(4.1)
	Czech Republic	499	(2.9)	95	(1.6)	505	(3.7)	493	(3.6)	**12**	(4.6)	344	(6.4)	377	(4.9)	432	(3.9)	566	(3.3)	621	(3.6)	653	(4.0)
	Denmark	500	(2.3)	82	(1.3)	507	(2.9)	493	(2.3)	**14**	(2.3)	363	(4.6)	393	(4.0)	444	(3.3)	556	(2.7)	607	(3.1)	635	(4.2)
	Estonia	521	(2.0)	81	(1.2)	523	(2.6)	518	(2.2)	**5**	(2.6)	389	(3.5)	417	(3.0)	465	(2.7)	576	(2.7)	626	(3.2)	657	(4.1)
	Finland	519	(1.9)	85	(1.2)	517	(2.6)	520	(2.2)	-3	(2.9)	376	(4.5)	409	(3.3)	463	(2.5)	577	(2.4)	629	(3.1)	657	(3.2)
	France	495	(2.5)	97	(1.7)	499	(3.4)	491	(2.5)	**9**	(3.4)	330	(5.0)	365	(4.7)	429	(2.7)	565	(3.4)	621	(3.5)	652	(3.7)
	Germany	514	(2.9)	96	(1.6)	520	(3.0)	507	(3.4)	**14**	(2.8)	353	(5.4)	385	(4.7)	447	(3.6)	583	(3.6)	637	(3.8)	667	(4.1)
	Greece	453	(2.5)	88	(1.3)	457	(3.3)	449	(2.6)	**8**	(3.2)	308	(4.6)	338	(3.8)	393	(3.6)	513	(2.8)	567	(3.1)	597	(3.7)
	Hungary	477	(3.2)	94	(2.4)	482	(3.7)	473	(3.6)	**9**	(3.7)	327	(4.6)	358	(4.2)	411	(3.3)	540	(4.8)	603	(6.4)	637	(7.9)
	Iceland	493	(1.7)	92	(1.3)	490	(2.3)	496	(2.3)	**-6**	(3.0)	339	(4.1)	372	(2.8)	431	(2.6)	557	(3.0)	612	(3.3)	641	(3.7)
	Ireland	501	(2.2)	85	(1.3)	509	(3.3)	494	(2.6)	**15**	(3.8)	359	(5.0)	391	(3.6)	445	(3.2)	559	(2.4)	610	(2.5)	640	(3.2)
	Israel	466	(4.7)	105	(1.8)	472	(7.8)	461	(3.5)	12	(7.6)	292	(7.3)	328	(5.7)	393	(5.1)	541	(5.3)	603	(6.0)	639	(6.1)
	Italy	485	(2.0)	93	(1.1)	494	(2.4)	476	(2.2)	**18**	(2.5)	333	(2.6)	366	(2.2)	421	(2.3)	550	(2.7)	607	(3.0)	639	(3.4)
	Japan	536	(3.6)	94	(2.2)	545	(4.6)	527	(3.6)	**18**	(4.3)	377	(6.1)	415	(5.1)	473	(4.2)	603	(4.4)	657	(5.1)	686	(5.5)
	Korea	554	(4.6)	99	(2.1)	562	(5.8)	544	(5.1)	**18**	(6.2)	386	(7.4)	425	(5.8)	486	(4.8)	624	(5.1)	679	(6.0)	710	(7.5)
	Luxembourg	490	(1.1)	95	(0.9)	502	(1.5)	477	(1.4)	**25**	(2.0)	334	(3.3)	363	(3.0)	422	(1.5)	558	(1.6)	613	(2.2)	644	(2.3)
	Mexico	413	(1.4)	74	(0.7)	420	(1.6)	406	(1.4)	**14**	(1.2)	295	(1.8)	320	(1.9)	362	(1.6)	462	(1.7)	510	(2.0)	539	(2.1)
	Netherlands	523	(3.5)	92	(2.1)	528	(3.6)	518	(3.9)	**10**	(2.8)	367	(4.8)	397	(5.5)	457	(5.1)	591	(4.3)	638	(3.7)	665	(4.0)
	New Zealand	500	(2.2)	100	(1.2)	507	(3.2)	492	(2.9)	**15**	(4.3)	340	(4.9)	371	(3.6)	428	(3.2)	570	(2.8)	632	(3.0)	665	(4.4)
	Norway	489	(2.7)	90	(1.3)	490	(2.8)	488	(3.4)	2	(3.0)	341	(5.1)	373	(3.9)	428	(2.9)	552	(3.3)	604	(3.4)	638	(5.1)
	Poland	518	(3.6)	90	(1.9)	520	(4.3)	516	(3.8)	4	(3.4)	373	(3.9)	402	(2.8)	454	(3.3)	580	(4.9)	636	(6.0)	669	(7.1)
	Portugal	487	(3.8)	94	(1.4)	493	(4.1)	481	(3.9)	**11**	(2.5)	333	(4.5)	363	(4.2)	421	(5.0)	554	(4.3)	610	(3.9)	640	(4.1)
	Slovak Republic	482	(3.4)	101	(2.5)	486	(4.1)	477	(4.1)	**9**	(4.5)	314	(6.7)	352	(6.2)	413	(4.2)	553	(4.7)	613	(5.3)	647	(6.7)
	Slovenia	501	(1.2)	92	(1.0)	503	(2.0)	499	(2.0)	3	(3.1)	357	(3.9)	384	(2.5)	434	(2.0)	566	(2.1)	624	(2.9)	655	(4.3)
	Spain	484	(1.9)	88	(0.7)	492	(2.4)	476	(2.0)	**16**	(2.2)	339	(3.6)	370	(3.1)	424	(2.6)	546	(2.1)	597	(2.4)	626	(2.0)
	Sweden	478	(2.3)	92	(1.3)	477	(3.0)	480	(2.4)	-3	(3.0)	329	(4.4)	360	(3.5)	415	(2.9)	543	(2.7)	596	(2.9)	627	(3.6)
	Switzerland	531	(3.0)	94	(1.5)	537	(3.5)	524	(3.1)	**13**	(2.7)	374	(3.9)	408	(3.3)	466	(3.4)	597	(3.6)	651	(4.3)	681	(4.7)
	Turkey	448	(4.8)	91	(3.1)	452	(5.1)	444	(5.7)	8	(4.7)	313	(4.3)	339	(3.3)	382	(3.6)	507	(8.0)	577	(9.7)	614	(9.4)
	United Kingdom	494	(3.3)	95	(1.7)	500	(4.2)	488	(3.8)	**12**	(4.7)	336	(4.7)	371	(5.0)	429	(4.2)	560	(3.7)	616	(4.1)	648	(5.1)
	United States	481	(3.6)	90	(1.3)	484	(3.8)	479	(3.9)	5	(2.8)	339	(4.2)	368	(3.9)	418	(3.7)	543	(4.4)	600	(4.3)	634	(5.4)
	OECD total	487	(1.1)	98	(0.5)	493	(1.3)	481	(1.2)	**12**	(1.1)	331	(1.3)	362	(1.2)	417	(1.3)	555	(1.5)	617	(1.4)	651	(1.6)
	OECD average	494	(0.5)	92	(0.3)	499	(0.6)	489	(0.5)	**11**	(0.6)	343	(0.8)	375	(0.7)	430	(0.6)	558	(0.6)	614	(0.7)	645	(0.8)
Partners	Albania	394	(2.0)	91	(1.4)	394	(2.6)	395	(2.6)	-1	(3.3)	236	(5.9)	278	(4.8)	338	(3.0)	454	(2.4)	510	(3.5)	540	(3.5)
	Argentina	388	(3.5)	77	(1.7)	396	(4.2)	382	(3.4)	**14**	(2.9)	264	(5.5)	292	(4.6)	337	(3.8)	440	(4.5)	488	(4.1)	514	(4.3)
	Brazil	391	(2.1)	78	(1.6)	401	(2.2)	383	(2.3)	**18**	(1.8)	275	(2.7)	298	(2.0)	337	(1.9)	440	(2.7)	495	(4.5)	530	(5.5)
	Bulgaria	439	(4.0)	94	(2.2)	438	(4.7)	440	(4.2)	-2	(4.1)	290	(5.7)	320	(4.8)	372	(4.7)	503	(5.2)	565	(5.6)	597	(6.2)
	Colombia	376	(2.9)	74	(1.7)	390	(3.4)	364	(3.2)	**25**	(3.2)	262	(4.8)	285	(4.0)	326	(2.8)	423	(3.6)	474	(4.8)	506	(5.4)
	Costa Rica	407	(3.0)	68	(1.8)	420	(3.6)	396	(3.1)	**24**	(2.4)	301	(3.8)	323	(3.8)	361	(3.6)	449	(3.9)	496	(5.1)	525	(6.9)
	Croatia	471	(3.5)	88	(2.5)	477	(4.4)	465	(3.7)	**12**	(4.1)	334	(4.2)	360	(3.3)	408	(3.6)	531	(4.5)	589	(7.3)	623	(8.8)
	Cyprus*	440	(1.1)	93	(0.8)	440	(1.5)	440	(1.6)	0	(2.2)	287	(2.8)	320	(2.6)	376	(1.6)	503	(2.0)	561	(2.1)	595	(3.1)
	Hong Kong-China	561	(3.2)	96	(1.9)	568	(4.6)	553	(3.9)	**15**	(5.7)	391	(5.9)	430	(6.2)	499	(4.7)	629	(3.5)	679	(4.2)	709	(4.3)
	Indonesia	375	(4.0)	71	(3.3)	377	(4.4)	373	(4.3)	5	(3.4)	266	(4.9)	288	(4.2)	327	(3.8)	418	(5.2)	469	(7.8)	501	(12.4)
	Jordan	386	(3.1)	78	(2.7)	375	(5.4)	396	(3.1)	**-21**	(6.3)	263	(4.4)	290	(4.0)	335	(3.2)	435	(3.3)	485	(4.3)	514	(6.8)
	Kazakhstan	432	(3.0)	71	(1.8)	432	(3.4)	432	(3.3)	0	(2.9)	319	(3.1)	343	(2.5)	383	(2.8)	478	(4.4)	527	(5.7)	554	(6.0)
	Latvia	491	(2.8)	82	(1.5)	489	(3.4)	493	(3.2)	-4	(3.6)	360	(4.8)	387	(4.4)	434	(3.3)	546	(3.8)	597	(3.7)	626	(4.6)
	Liechtenstein	535	(4.0)	95	(3.7)	546	(6.0)	523	(5.8)	**23**	(8.8)	370	(16.8)	403	(11.2)	470	(8.0)	606	(5.0)	656	(9.2)	680	(12.5)
	Lithuania	479	(2.6)	89	(1.4)	479	(2.8)	479	(3.0)	0	(2.4)	334	(3.9)	364	(3.5)	418	(3.1)	540	(3.3)	596	(3.5)	627	(4.0)
	Macao-China	538	(1.0)	94	(0.9)	540	(1.4)	537	(1.3)	3	(1.9)	379	(3.9)	415	(2.8)	476	(1.7)	605	(1.7)	657	(2.3)	685	(2.4)
	Malaysia	421	(3.2)	81	(1.6)	416	(3.7)	424	(3.7)	**-8**	(3.8)	294	(3.4)	319	(3.2)	363	(3.1)	474	(4.3)	530	(4.9)	562	(5.6)
	Montenegro	410	(1.1)	83	(1.1)	410	(1.6)	410	(1.6)	0	(2.4)	280	(2.7)	306	(2.0)	352	(1.7)	465	(2.0)	520	(2.7)	552	(3.2)
	Peru	368	(3.7)	84	(2.2)	378	(3.6)	359	(4.8)	**19**	(3.9)	237	(4.0)	264	(3.4)	311	(3.6)	421	(4.9)	478	(6.7)	517	(7.6)
	Qatar	376	(0.8)	100	(0.7)	369	(1.1)	385	(0.9)	**-16**	(1.4)	230	(2.1)	257	(1.7)	306	(1.3)	440	(1.7)	514	(1.9)	560	(2.5)
	Romania	445	(3.8)	81	(2.2)	447	(4.3)	443	(4.0)	4	(3.6)	322	(3.9)	344	(3.5)	386	(3.8)	497	(4.8)	553	(6.1)	588	(7.4)
	Russian Federation	482	(3.0)	86	(1.6)	481	(3.7)	483	(3.1)	-2	(3.0)	341	(4.2)	371	(3.9)	423	(3.1)	540	(3.6)	595	(4.7)	626	(5.3)
	Serbia	449	(3.4)	91	(2.2)	453	(4.1)	444	(3.7)	**9**	(3.9)	306	(4.4)	335	(4.1)	386	(3.7)	508	(4.4)	567	(5.8)	603	(6.7)
	Shanghai-China	613	(3.3)	101	(2.3)	616	(4.0)	610	(3.4)	6	(3.3)	435	(6.9)	475	(5.8)	546	(4.4)	685	(3.5)	737	(3.5)	765	(5.6)
	Singapore	573	(1.3)	105	(0.9)	572	(1.9)	575	(1.8)	-3	(2.5)	393	(3.6)	432	(3.6)	501	(2.7)	650	(1.9)	707	(2.3)	737	(2.5)
	Chinese Taipei	560	(3.3)	116	(1.9)	563	(5.4)	557	(5.7)	5	(8.9)	363	(5.6)	402	(4.8)	478	(4.8)	645	(3.4)	703	(4.9)	738	(5.1)
	Thailand	427	(3.4)	82	(2.1)	419	(3.6)	433	(4.1)	**-14**	(3.6)	302	(3.8)	328	(3.1)	372	(2.6)	476	(4.8)	535	(7.3)	575	(8.6)
	Tunisia	388	(3.9)	78	(3.1)	396	(4.3)	381	(4.0)	**15**	(2.7)	267	(4.7)	292	(4.3)	334	(3.7)	437	(4.5)	488	(7.3)	523	(11.6)
	United Arab Emirates	434	(2.4)	90	(1.2)	432	(3.8)	436	(3.0)	-5	(4.7)	297	(3.0)	323	(2.5)	370	(2.9)	494	(2.9)	555	(3.9)	591	(3.4)
	Uruguay	409	(2.8)	89	(1.7)	415	(3.5)	404	(2.9)	**11**	(3.1)	267	(5.0)	297	(4.1)	347	(3.0)	470	(3.6)	526	(3.8)	558	(6.4)
	Viet Nam	511	(4.8)	86	(2.7)	517	(5.6)	507	(4.7)	**10**	(3.0)	371	(8.1)	401	(7.4)	454	(5.3)	568	(5.5)	623	(6.8)	654	(7.9)

Note: Values that are statistically significant are indicated in bold (see Annex A3).
* See notes at the beginning of this Annex.
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[Part 1/1]

Table I.2.3b Mean mathematics performance in PISA 2003 through 2012

		PISA 2003		PISA 2006		PISA 2009		PISA 2012		Change between 2003 and 2012 (PISA 2012 - PISA 2003)		Change between 2006 and 2012 (PISA 2012 - PISA 2006)		Change between 2009 and 2012 (PISA 2012 - PISA 2009)		Annualised change in mathematics across PISA assessments		Curvilinear change in mathematics performance			
																		Linear term (annual change in 2012)		Rate of acceleration or deceleration in performance (Quadratic term)	
		Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Annual change	S.E.	Coef.	S.E.	Coef.	S.E.
OECD	Australia	524	(2.1)	520	(2.2)	514	(2.5)	504	(1.6)	**-20**	(3.3)	**-16**	(3.5)	**-10**	(3.8)	**-2.2**	(0.34)	**-3.7**	(1.16)	-0.2	(0.16)
	Austria	506	(3.3)	505	(3.7)	m	m	506	(2.7)	0	(4.6)	0	(5.0)	m	m	0.0	(0.52)	0.0	(2.14)	0.0	(0.26)
	Belgium	529	(2.3)	520	(3.0)	515	(2.3)	515	(2.1)	**-15**	(3.7)	-6	(4.2)	-1	(3.9)	**-1.6**	(0.40)	0.4	(1.32)	0.2	(0.16)
	Canada	532	(1.8)	527	(2.0)	527	(1.6)	518	(1.8)	**-14**	(3.2)	**-9**	(3.4)	**-9**	(3.4)	**-1.4**	(0.34)	**-2.2**	(1.05)	-0.1	(0.14)
	Chile	m	m	411	(4.6)	421	(3.1)	423	(3.1)	m	m	11	(5.9)	2	(4.9)	**1.9**	(0.93)	-0.8	(2.44)	-0.5	(0.46)
	Czech Republic	516	(3.5)	510	(3.6)	493	(2.8)	499	(2.9)	**-17**	(4.9)	**-11**	(5.0)	6	(4.6)	**-2.5**	(0.54)	0.4	(1.66)	0.3	(0.21)
	Denmark	514	(2.7)	513	(2.6)	503	(2.6)	500	(2.3)	**-14**	(4.1)	**-13**	(4.1)	-3	(4.2)	**-1.8**	(0.43)	-2.2	(1.40)	0.0	(0.18)
	Estonia	m	m	515	(2.7)	512	(2.6)	521	(2.0)	m	m	6	(4.0)	**8**	(4.0)	0.9	(0.69)	**4.6**	(1.89)	0.6	(0.36)
	Finland	544	(1.9)	548	(2.3)	541	(2.2)	519	(1.9)	**-26**	(3.3)	**-30**	(3.7)	**-22**	(3.7)	**-2.8**	(0.34)	**-9.3**	(1.09)	**-0.7**	(0.15)
	France	511	(2.5)	496	(3.2)	497	(3.1)	495	(2.5)	**-16**	(4.0)	-1	(4.5)	-2	(4.6)	**-1.5**	(0.44)	1.9	(1.50)	**0.4**	(0.18)
	Germany	503	(3.3)	504	(3.9)	513	(2.9)	514	(2.9)	**11**	(4.8)	10	(5.3)	1	(4.7)	**1.4**	(0.50)	1.5	(1.76)	0.0	(0.21)
	Greece	445	(3.9)	459	(3.0)	466	(3.9)	453	(2.5)	8	(5.0)	-6	(4.4)	**-13**	(5.2)	**1.1**	(0.55)	**-5.8**	(1.62)	**-0.8**	(0.21)
	Hungary	490	(2.8)	491	(2.9)	490	(3.5)	477	(3.2)	**-13**	(4.7)	**-14**	(4.8)	**-13**	(5.2)	**-1.3**	(0.49)	**-4.8**	(1.62)	**-0.4**	(0.19)
	Iceland	515	(1.4)	506	(1.8)	507	(1.4)	493	(1.7)	**-22**	(2.9)	**-13**	(3.2)	**-14**	(3.2)	**-2.2**	(0.31)	**-3.2**	(0.87)	-0.1	(0.13)
	Ireland	503	(2.4)	501	(2.8)	487	(2.5)	501	(2.2)	-1	(3.8)	0	(4.1)	**14**	(4.1)	-0.6	(0.41)	**3.2**	(1.38)	**0.4**	(0.17)
	Israel	m	m	442	(4.3)	447	(3.3)	466	(4.7)	m	m	**25**	(6.7)	**20**	(6.2)	**4.2**	(1.15)	**9.0**	(3.28)	0.8	(0.54)
	Italy	466	(3.1)	462	(2.3)	483	(1.9)	485	(2.0)	**20**	(4.2)	**24**	(3.7)	2	(3.6)	**2.7**	(0.45)	**4.3**	(1.19)	0.2	(0.16)
	Japan	534	(4.0)	523	(3.3)	529	(3.3)	536	(3.6)	2	(5.7)	**13**	(5.3)	7	(5.4)	0.4	(0.58)	**5.0**	(1.49)	**0.5**	(0.20)
	Korea	542	(3.2)	547	(3.8)	546	(4.0)	554	(4.6)	12	(5.9)	6	(6.3)	8	(6.5)	1.1	(0.59)	1.8	(2.31)	0.1	(0.25)
	Luxembourg	493	(1.0)	490	(1.1)	489	(1.2)	490	(1.1)	-3	(2.4)	0	(2.6)	1	(2.8)	-0.3	(0.26)	0.6	(0.50)	0.1	(0.11)
	Mexico	385	(3.6)	406	(2.9)	419	(1.8)	413	(1.4)	**28**	(4.3)	**8**	(3.8)	-5	(3.2)	**3.1**	(0.46)	**-3.2**	(1.17)	**-0.7**	(0.17)
	Netherlands	538	(3.1)	531	(2.6)	526	(4.7)	523	(3.5)	**-15**	(5.1)	-8	(4.8)	-3	(6.3)	**-1.6**	(0.58)	-0.6	(1.80)	0.1	(0.22)
	New Zealand	523	(2.3)	522	(2.4)	519	(2.3)	500	(2.2)	**-24**	(3.7)	**-22**	(3.9)	**-20**	(3.9)	**-2.5**	(0.40)	**-7.0**	(1.10)	**-0.5**	(0.15)
	Norway	495	(2.4)	490	(2.6)	498	(2.4)	489	(2.7)	-6	(4.1)	0	(4.3)	**-9**	(4.3)	-0.3	(0.45)	-1.1	(1.34)	-0.1	(0.17)
	Poland	490	(2.5)	495	(2.4)	495	(2.8)	518	(3.6)	**27**	(4.8)	**22**	(4.8)	**23**	(5.1)	**2.6**	(0.46)	**6.8**	(1.73)	**0.5**	(0.19)
	Portugal	466	(3.4)	466	(3.1)	487	(2.9)	487	(3.8)	**21**	(5.5)	**21**	(5.3)	0	(5.3)	**2.8**	(0.58)	2.7	(1.62)	0.0	(0.19)
	Slovak Republic	498	(3.3)	492	(2.8)	497	(3.1)	482	(3.4)	**-17**	(5.2)	**-10**	(4.9)	**-15**	(5.1)	**-1.4**	(0.53)	**-3.5**	(1.66)	-0.2	(0.20)
	Slovenia	m	m	504	(1.0)	501	(1.2)	501	(1.2)	m	m	-3	(2.6)	0	(2.9)	-0.6	(0.41)	0.3	(1.04)	0.1	(0.25)
	Spain	485	(2.4)	480	(2.3)	483	(2.1)	484	(1.9)	-1	(3.6)	4	(3.7)	1	(3.6)	0.1	(0.39)	1.5	(1.09)	0.2	(0.15)
	Sweden	509	(2.6)	502	(2.4)	494	(2.9)	478	(2.3)	**-31**	(3.9)	**-24**	(3.9)	**-16**	(4.3)	**-3.3**	(0.40)	**-5.6**	(1.38)	-0.3	(0.17)
	Switzerland	527	(3.4)	530	(3.2)	534	(3.3)	531	(3.0)	4	(4.9)	1	(4.9)	-3	(5.0)	0.6	(0.53)	-0.9	(1.53)	-0.2	(0.19)
	Turkey	423	(6.7)	424	(4.9)	445	(4.4)	448	(4.8)	**25**	(8.5)	**24**	(7.2)	3	(7.0)	**3.2**	(0.81)	3.2	(2.64)	0.0	(0.31)
	United Kingdom	m	m	495	(2.1)	492	(2.4)	494	(3.3)	m	m	-2	(4.4)	2	(4.7)	-0.3	(0.57)	1.3	(2.62)	0.3	(0.40)
	United States	483	(2.9)	474	(4.0)	487	(3.6)	481	(3.6)	-2	(5.0)	7	(5.8)	-6	(5.6)	0.3	(0.57)	1.0	(1.88)	0.1	(0.21)
	OECD average 2003	500	(0.6)	498	(0.5)	499	(0.6)	496	(0.5)	**-3**	(0.9)	-1	(0.9)	**-3**	(0.9)	**-0.3**	(0.09)	**-0.6**	(0.29)	0.0	(0.04)
	OECD average 2006	m	m	494	(0.5)	496	(0.5)	494	(0.5)	m	m	0	(0.8)	**-2**	(0.8)	-0.1	(0.09)	-0.1	(0.29)	0.0	(0.04)
	OECD average 2009	m	m	m	m	496	(0.5)	494	(0.5)	m	m	m	m	**-2**	(0.8)	-0.1	(0.09)	-0.1	(0.29)	0.0	(0.04)
Partners	Albania	m	m	m	m	377	(4.0)	394	(2.0)	m	m	m	m	**17**	(5.0)	**5.6**	(1.67)	m	m	m	m
	Argentina	m	m	381	(6.2)	388	(4.1)	388	(3.5)	m	m	7	(7.5)	0	(5.9)	1.2	(1.28)	-1.0	(3.31)	-0.4	(0.63)
	Brazil	356	(4.8)	370	(2.9)	386	(2.4)	391	(2.1)	**35**	(5.6)	**22**	(4.1)	6	(3.9)	**4.1**	(0.56)	2.0	(1.35)	-0.2	(0.20)
	Bulgaria	m	m	413	(6.1)	428	(5.9)	439	(4.0)	m	m	**25**	(7.6)	11	(7.5)	**4.2**	(1.34)	2.9	(4.66)	-0.2	(0.83)
	Colombia	m	m	370	(3.8)	381	(3.2)	376	(2.9)	m	m	7	(5.2)	-4	(4.9)	1.1	(0.89)	-4.0	(2.82)	-0.8	(0.50)
	Costa Rica	m	m	m	m	409	(3.0)	407	(3.0)	m	m	m	m	-2	(4.8)	-1.2	(2.26)	m	m	m	m
	Croatia	m	m	467	(2.4)	460	(3.1)	471	(3.5)	m	m	4	(4.7)	**11**	(5.2)	0.6	(0.78)	**6.8**	(3.02)	**1.0**	(0.49)
	Dubai (UAE)	m	m	m	m	453	(1.1)	464	(1.2)	m	m	m	m	**11**	(2.8)	**3.8**	(0.91)	m	m	m	m
	Hong Kong-China	550	(4.5)	547	(2.7)	555	(2.7)	561	(3.2)	11	(5.9)	**14**	(4.7)	7	(4.8)	**1.3**	(0.58)	**3.7**	(1.66)	0.3	(0.21)
	Indonesia	360	(3.9)	391	(5.6)	371	(3.7)	375	(4.0)	**15**	(5.9)	**-16**	(7.2)	4	(5.9)	0.7	(0.63)	**-5.6**	(2.37)	**-0.7**	(0.26)
	Jordan	m	m	384	(3.3)	387	(3.7)	386	(3.1)	m	m	2	(5.0)	-1	(5.4)	0.2	(0.84)	-1.0	(2.85)	-0.2	(0.51)
	Kazakhstan	m	m	m	m	405	(3.0)	432	(3.0)	m	m	m	m	**27**	(4.9)	**9.0**	(1.54)	m	m	m	m
	Latvia	483	(3.7)	486	(3.0)	482	(3.1)	491	(2.8)	7	(5.0)	4	(4.6)	9	(4.7)	0.5	(0.54)	1.6	(1.60)	0.1	(0.20)
	Liechtenstein	536	(4.1)	525	(4.2)	536	(4.1)	535	(4.0)	-1	(6.0)	10	(6.1)	-1	(6.1)	0.3	(0.63)	2.8	(2.13)	0.3	(0.25)
	Lithuania	m	m	486	(2.9)	477	(2.6)	479	(2.6)	m	m	-8	(4.5)	2	(4.4)	-1.4	(0.81)	2.7	(1.95)	0.7	(0.37)
	Macao-China	527	(2.9)	525	(1.3)	525	(0.9)	538	(1.0)	**11**	(3.6)	**13**	(2.6)	**13**	(2.7)	**1.0**	(0.36)	**4.8**	(0.77)	**0.4**	(0.14)
	Malaysia	m	m	m	m	404	(2.7)	421	(3.2)	m	m	m	m	**16**	(4.8)	**8.1**	(2.12)	m	m	m	m
	Montenegro	m	m	399	(1.4)	403	(2.0)	410	(1.1)	m	m	**10**	(2.7)	**7**	(3.2)	**1.7**	(0.45)	3.0	(1.55)	0.2	(0.31)
	Peru	m	m	m	m	365	(4.0)	368	(3.7)	m	m	m	m	3	(5.9)	1.0	(2.09)	m	m	m	m
	Qatar	m	m	318	(1.0)	368	(0.7)	376	(0.8)	m	m	**58**	(2.4)	**8**	(2.5)	**9.2**	(0.41)	**-4.2**	(0.68)	**-2.3**	(0.21)
	Romania	m	m	415	(4.2)	427	(3.4)	445	(3.8)	m	m	**30**	(6.0)	**17**	(5.6)	**4.9**	(1.00)	**6.7**	(3.09)	0.3	(0.54)
	Russian Federation	468	(4.2)	476	(3.9)	468	(3.3)	482	(3.0)	**14**	(5.5)	6	(5.3)	**14**	(5.0)	1.1	(0.59)	2.1	(1.86)	0.1	(0.23)
	Serbia	m	m	435	(3.5)	442	(2.9)	449	(3.4)	m	m	**13**	(5.3)	6	(5.0)	**2.2**	(0.93)	2.1	(2.68)	0.0	(0.45)
	Shanghai-China	m	m	m	m	600	(2.8)	613	(3.3)	m	m	m	m	**13**	(4.9)	**4.2**	(1.69)	m	m	m	m
	Singapore	m	m	m	m	562	(1.4)	573	(1.3)	m	m	m	m	**11**	(3.0)	**3.8**	(0.98)	m	m	m	m
	Chinese Taipei	m	m	549	(4.1)	543	(3.4)	560	(3.3)	m	m	10	(5.7)	**17**	(5.3)	1.7	(0.91)	**9.4**	(2.91)	**1.3**	(0.52)
	Thailand	417	(3.0)	417	(2.3)	419	(3.2)	427	(3.4)	**10**	(5.0)	**10**	(4.7)	8	(5.3)	1.0	(0.56)	**3.1**	(1.46)	0.2	(0.17)
	Tunisia	359	(2.5)	365	(4.0)	371	(3.0)	388	(3.9)	**29**	(5.0)	**22**	(5.9)	**16**	(5.4)	**3.1**	(0.53)	**5.5**	(1.90)	0.3	(0.20)
	United Arab Emirates*	m	m	m	m	411	(3.2)	423	(3.2)	m	m	m	m	**12**	(5.0)	**5.9**	(2.55)	m	m	m	m
	Uruguay	422	(3.3)	427	(2.6)	427	(2.6)	409	(2.8)	**-13**	(4.7)	**-18**	(4.3)	**-17**	(4.4)	**-1.4**	(0.49)	**-6.8**	(1.41)	**-0.6**	(0.18)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Annualised change is the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. This model considers that Costa Rica, Malaysia and the United Arab Emirates (with the exception of Dubai) implemented the PISA 2009 assessment in 2010 as part of PISA 2009+.

The curvilinear change is estimated by a regression of time and time-squared on mathematics performance. The linear term is the estimated annual increase in performance in 2012. The quadratic term is the rate at which changes in performance are accelerating (positive estimate) or decelerating (negative estimate).

In the United Arab Emirates, Dubai took the PISA 2009 assessment in 2009 and the rest of the United Arab Emirates in 2010 as part of PISA 2009+. Results are thus reported separately.

* United Arab Emirates excluding Dubai (see note above).

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Table I.2.3c **Gender differences in mathematics performance in PISA 2003 and 2012**

		PISA 2003						PISA 2012						Change between 2003 and 2012 (PISA 2012 - PISA 2003)					
		Boys		Girls		Difference (B-G)		Boys		Girls		Difference (B-G)		Boys		Girls		Difference (B-G)	
		Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.
OECD	Australia	527	(3.0)	522	(2.7)	5	(3.8)	510	(2.4)	498	(2.0)	**12**	(3.1)	**-17**	(4.3)	**-24**	(3.9)	7	(4.9)
	Austria	509	(4.0)	502	(4.0)	8	(4.4)	517	(3.9)	494	(3.3)	**22**	(4.9)	7	(5.9)	-7	(5.5)	**15**	(7.3)
	Belgium	533	(3.4)	525	(3.2)	8	(4.8)	520	(2.9)	509	(2.6)	**11**	(3.4)	**-13**	(4.9)	**-16**	(4.6)	4	(5.7)
	Canada	541	(2.1)	530	(1.9)	**11**	(2.1)	523	(2.1)	513	(2.1)	**10**	(2.0)	**-18**	(3.5)	**-17**	(3.4)	-1	(3.0)
	Czech Republic	524	(4.3)	509	(4.4)	**15**	(5.1)	505	(3.7)	493	(3.6)	**12**	(4.6)	**-19**	(6.0)	**-16**	(6.0)	-3	(6.7)
	Denmark	523	(3.4)	506	(3.0)	**17**	(3.2)	507	(2.9)	493	(2.3)	**14**	(2.3)	**-16**	(4.8)	**-13**	(4.2)	-3	(4.4)
	Finland	548	(2.5)	541	(2.1)	**7**	(2.7)	517	(2.6)	520	(2.2)	-3	(2.9)	**-31**	(4.1)	**-20**	(3.6)	**-10**	(4.0)
	France	515	(3.6)	507	(2.9)	**9**	(4.2)	499	(3.4)	491	(2.5)	**9**	(3.4)	**-16**	(5.3)	**-16**	(4.3)	0	(5.6)
	Germany	508	(4.0)	499	(3.9)	**9**	(4.4)	520	(3.0)	507	(3.4)	**14**	(2.8)	**12**	(5.4)	8	(5.5)	5	(5.3)
	Greece	455	(4.8)	436	(3.8)	**19**	(3.6)	457	(3.3)	449	(2.6)	**8**	(3.2)	2	(6.1)	**13**	(5.0)	**-11**	(4.9)
	Hungary	494	(3.3)	486	(3.3)	**8**	(3.5)	482	(3.7)	473	(3.6)	**9**	(3.7)	**-12**	(5.4)	**-13**	(5.3)	1	(5.1)
	Iceland	508	(2.3)	523	(2.2)	**-15**	(3.5)	490	(2.3)	496	(2.3)	**-6**	(3.0)	**-18**	(3.8)	**-27**	(3.7)	**9**	(4.4)
	Ireland	510	(3.0)	495	(3.4)	**15**	(4.2)	509	(3.3)	494	(2.6)	**15**	(3.8)	-1	(4.8)	-2	(4.7)	1	(5.7)
	Italy	475	(4.6)	457	(3.8)	**18**	(5.9)	494	(2.4)	476	(2.2)	**18**	(2.5)	**19**	(5.5)	**19**	(4.8)	1	(6.7)
	Japan	539	(5.8)	530	(4.0)	8	(5.9)	545	(4.6)	527	(3.6)	**18**	(4.3)	6	(7.7)	-3	(5.7)	9	(7.3)
	Korea	552	(4.4)	528	(5.3)	**23**	(6.8)	562	(5.8)	544	(5.1)	**18**	(6.2)	10	(7.5)	**16**	(7.7)	-5	(9.4)
	Luxembourg	502	(1.9)	485	(1.5)	**17**	(2.8)	502	(1.5)	477	(1.4)	**25**	(2.0)	0	(3.1)	**-8**	(2.8)	**8**	(3.3)
	Mexico	391	(4.3)	380	(4.1)	**11**	(3.9)	420	(1.6)	406	(1.4)	**14**	(1.2)	**30**	(4.9)	**26**	(4.7)	3	(4.2)
	Netherlands	540	(4.1)	535	(3.5)	5	(4.3)	528	(3.6)	518	(3.9)	**10**	(2.8)	**-12**	(5.7)	**-17**	(5.6)	5	(5.6)
	New Zealand	531	(2.8)	516	(3.2)	**14**	(3.9)	507	(3.2)	492	(2.9)	**15**	(4.3)	**-24**	(4.7)	**-24**	(4.7)	1	(6.2)
	Norway	498	(2.8)	492	(2.9)	6	(3.2)	490	(2.8)	488	(3.4)	2	(3.0)	-8	(4.4)	-4	(4.9)	-4	(4.4)
	Poland	493	(3.0)	487	(2.9)	6	(3.1)	520	(4.3)	516	(3.8)	4	(3.4)	**27**	(5.5)	**28**	(5.1)	-2	(4.4)
	Portugal	472	(4.2)	460	(3.4)	**12**	(3.3)	493	(4.1)	481	(3.9)	**11**	(2.5)	**20**	(6.2)	**21**	(5.6)	-1	(4.4)
	Slovak Republic	507	(3.9)	489	(3.6)	**19**	(3.7)	486	(4.1)	477	(4.1)	**9**	(4.5)	**-21**	(6.0)	**-12**	(5.7)	-9	(5.3)
	Spain	490	(3.4)	481	(2.2)	**9**	(3.0)	492	(2.4)	476	(2.0)	**16**	(2.2)	3	(4.6)	-5	(3.5)	**8**	(3.8)
	Sweden	512	(3.0)	506	(3.1)	**7**	(3.3)	477	(3.0)	480	(2.4)	-3	(3.0)	**-35**	(4.6)	**-26**	(4.4)	**-9**	(3.9)
	Switzerland	535	(4.7)	518	(3.6)	**17**	(4.9)	537	(3.5)	524	(3.1)	**13**	(2.7)	3	(6.2)	7	(5.2)	-4	(5.2)
	Turkey	430	(7.9)	415	(6.7)	**15**	(6.2)	452	(5.1)	444	(5.7)	8	(4.7)	**22**	(9.6)	**29**	(9.0)	-7	(8.0)
	United States	486	(3.3)	480	(3.2)	**6**	(2.9)	484	(3.8)	479	(3.9)	5	(2.8)	-2	(5.4)	-1	(5.4)	-2	(3.9)
	OECD average 2003	505	(0.7)	494	(0.7)	**11**	(0.8)	502	(0.6)	491	(0.6)	**11**	(0.6)	**-3**	(1.0)	**-4**	(1.0)	0	(1.0)
Partners	Brazil	365	(6.1)	348	(4.4)	**16**	(4.1)	401	(2.2)	383	(2.3)	**18**	(1.8)	**36**	(6.7)	**34**	(5.3)	2	(4.8)
	Hong Kong-China	552	(6.5)	548	(4.6)	4	(6.6)	568	(4.6)	553	(3.9)	**15**	(5.7)	16	(8.2)	5	(6.3)	11	(8.6)
	Indonesia	362	(3.9)	358	(4.6)	3	(3.4)	377	(4.4)	373	(4.3)	5	(3.4)	**16**	(6.2)	**14**	(6.6)	1	(4.3)
	Latvia	485	(4.8)	482	(3.6)	3	(4.0)	489	(3.4)	493	(3.2)	-4	(3.6)	4	(6.2)	**10**	(5.1)	-7	(4.7)
	Liechtenstein	550	(7.2)	521	(6.3)	**29**	(10.9)	546	(6.0)	523	(5.8)	**23**	(8.8)	-4	(9.6)	2	(8.7)	-6	(13.9)
	Macao-China	538	(4.8)	517	(3.3)	**21**	(5.8)	540	(1.4)	537	(1.3)	3	(1.9)	1	(5.4)	**20**	(4.0)	**-18**	(6.4)
	Russian Federation	473	(5.3)	463	(4.2)	**10**	(4.4)	481	(3.7)	483	(3.1)	-2	(3.0)	8	(6.7)	**20**	(5.5)	**-12**	(5.3)
	Thailand	415	(4.0)	419	(3.4)	-4	(4.2)	419	(3.6)	433	(4.1)	**-14**	(3.6)	4	(5.7)	**14**	(5.6)	-10	(5.4)
	Tunisia	365	(2.7)	353	(2.9)	**12**	(2.5)	396	(4.3)	381	(4.0)	**15**	(2.7)	**31**	(5.5)	**28**	(5.4)	3	(3.7)
	Uruguay	428	(4.0)	416	(3.8)	**12**	(4.2)	415	(3.5)	404	(2.9)	**11**	(3.1)	**-13**	(5.6)	**-12**	(5.2)	-1	(4.9)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).
Only countries and economies with comparable results in PISA 2003 and PISA 2012 are presented.
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Table I.2.3d **Distribution of scores in mathematics in PISA 2003 through 2012, by percentiles**

		PISA 2003								PISA 2006							
		10th percentile		25th percentile		75th percentile		90th percentile		10th percentile		25th percentile		75th percentile		90th percentile	
		Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	Australia	399	(3.4)	460	(2.7)	592	(2.5)	645	(3.0)	406	(2.7)	460	(2.3)	581	(2.5)	633	(3.3)
	Austria	384	(4.4)	439	(4.0)	571	(4.2)	626	(4.0)	373	(6.3)	438	(5.5)	577	(4.0)	630	(3.8)
	Belgium	381	(4.6)	456	(3.4)	611	(2.5)	664	(2.4)	381	(6.6)	451	(4.0)	598	(2.5)	650	(2.4)
	Canada	419	(2.5)	474	(2.2)	593	(2.1)	644	(2.6)	416	(3.3)	470	(2.4)	587	(2.3)	635	(2.3)
	Chile	m	m	m	m	m	m	m	m	302	(4.3)	350	(4.4)	470	(5.1)	527	(6.6)
	Czech Republic	392	(5.7)	449	(4.5)	584	(4.0)	641	(4.3)	376	(4.7)	441	(4.3)	582	(4.7)	644	(4.8)
	Denmark	396	(4.5)	453	(3.7)	578	(3.1)	632	(3.7)	404	(4.3)	456	(3.4)	572	(2.8)	621	(3.4)
	Estonia	m	m	m	m	m	m	m	m	411	(4.3)	461	(3.5)	570	(3.3)	618	(3.2)
	Finland	438	(2.8)	488	(2.2)	603	(2.3)	652	(2.8)	444	(3.4)	494	(2.6)	605	(2.6)	652	(2.8)
	France	389	(5.6)	449	(3.7)	575	(3.0)	628	(3.6)	369	(5.4)	429	(4.7)	565	(3.8)	617	(3.8)
	Germany	363	(5.6)	432	(4.7)	578	(3.5)	632	(3.5)	375	(6.8)	437	(4.9)	574	(3.9)	632	(3.8)
	Greece	324	(5.1)	382	(4.6)	508	(4.3)	566	(5.3)	341	(5.6)	399	(3.9)	522	(4.0)	575	(4.1)
	Hungary	370	(4.2)	426	(3.0)	556	(3.9)	611	(4.7)	377	(3.9)	431	(2.9)	551	(4.1)	609	(5.0)
	Iceland	396	(2.7)	454	(2.8)	578	(1.9)	629	(3.0)	391	(3.6)	446	(2.4)	567	(2.4)	618	(3.2)
	Ireland	393	(3.2)	445	(3.4)	562	(3.0)	614	(3.6)	396	(4.4)	445	(4.1)	559	(3.1)	608	(3.2)
	Israel	m	m	m	m	m	m	m	m	304	(6.9)	368	(5.4)	518	(4.7)	581	(5.0)
	Italy	342	(5.9)	400	(4.3)	530	(3.0)	589	(3.6)	341	(3.3)	398	(2.7)	527	(2.8)	584	(4.2)
	Japan	402	(6.3)	467	(5.4)	605	(4.4)	660	(6.1)	404	(5.5)	463	(4.6)	587	(3.0)	638	(3.6)
	Korea	423	(4.5)	479	(3.7)	606	(4.2)	659	(5.4)	426	(6.1)	485	(4.3)	612	(4.4)	664	(6.9)
	Luxembourg	373	(2.7)	430	(2.2)	557	(1.9)	611	(3.2)	368	(3.5)	426	(1.9)	555	(1.9)	610	(2.7)
	Mexico	276	(4.7)	327	(4.3)	444	(4.5)	497	(4.7)	299	(4.9)	349	(3.7)	463	(2.8)	514	(3.3)
	Netherlands	415	(5.8)	471	(5.4)	608	(3.8)	657	(3.2)	412	(5.0)	467	(4.6)	596	(2.7)	645	(3.3)
	New Zealand	394	(3.9)	455	(2.9)	593	(2.2)	650	(3.2)	401	(4.1)	458	(3.2)	587	(3.0)	643	(4.0)
	Norway	376	(3.4)	433	(2.9)	560	(3.3)	614	(3.6)	373	(3.8)	428	(3.9)	552	(2.8)	609	(3.3)
	Poland	376	(3.6)	428	(3.1)	553	(2.9)	607	(3.3)	384	(3.4)	435	(2.8)	557	(3.3)	610	(3.7)
	Portugal	352	(5.3)	406	(5.0)	526	(3.5)	580	(3.3)	348	(5.2)	404	(4.2)	530	(3.0)	583	(2.8)
	Slovak Republic	379	(5.8)	436	(4.6)	565	(3.8)	619	(3.5)	370	(5.1)	433	(3.6)	558	(3.5)	611	(4.4)
	Slovenia	m	m	m	m	m	m	m	m	390	(2.1)	441	(2.4)	566	(2.1)	623	(2.7)
	Spain	369	(3.5)	426	(3.0)	546	(3.1)	597	(3.5)	366	(2.8)	421	(3.2)	542	(2.5)	593	(2.9)
	Sweden	387	(4.4)	446	(3.0)	576	(3.2)	630	(3.8)	387	(4.2)	442	(3.5)	565	(3.2)	617	(2.8)
	Switzerland	396	(4.2)	461	(3.6)	595	(4.9)	652	(5.2)	401	(4.7)	464	(4.1)	600	(3.7)	652	(3.7)
	Turkey	300	(5.0)	351	(5.3)	485	(8.5)	560	(14.2)	316	(4.0)	360	(3.3)	477	(7.2)	550	(12.4)
	United Kingdom	m	m	m	m	m	m	m	m	381	(3.3)	434	(2.7)	557	(2.5)	612	(3.2)
	United States	356	(4.5)	418	(3.7)	550	(3.4)	607	(3.9)	358	(5.8)	411	(4.8)	537	(5.0)	593	(4.8)
	OECD average 2003	378	(0.8)	436	(0.7)	565	(0.7)	620	(0.9)	379	(0.9)	436	(0.7)	562	(0.7)	615	(0.8)
	OECD average 2006	m	m	m	m	m	m	m	m	376	(0.8)	432	(0.6)	558	(0.6)	612	(0.7)
	OECD average 2009	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Partners	Albania	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Argentina	m	m	m	m	m	m	m	m	249	(9.8)	316	(7.9)	451	(6.9)	508	(7.6)
	Brazil	233	(5.3)	286	(4.6)	419	(6.2)	488	(9.5)	255	(4.5)	308	(3.0)	427	(3.7)	487	(5.8)
	Bulgaria	m	m	m	m	m	m	m	m	287	(7.2)	345	(6.1)	481	(6.8)	543	(8.4)
	Colombia	m	m	m	m	m	m	m	m	258	(5.6)	311	(4.9)	428	(4.6)	482	(3.8)
	Costa Rica	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Croatia	m	m	m	m	m	m	m	m	361	(3.3)	410	(3.0)	524	(3.3)	576	(3.6)
	Dubai (UAE)	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Hong Kong-China	417	(8.0)	485	(6.9)	622	(3.7)	672	(4.1)	423	(6.4)	486	(4.5)	614	(3.1)	665	(3.5)
	Indonesia	260	(4.8)	306	(3.5)	412	(4.8)	466	(6.5)	293	(3.9)	336	(4.2)	444	(9.3)	498	(9.4)
	Jordan	m	m	m	m	m	m	m	m	279	(4.3)	330	(3.4)	441	(3.9)	489	(5.0)
	Kazakhstan	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Latvia	371	(5.1)	424	(3.9)	544	(4.7)	596	(4.4)	378	(5.2)	432	(3.6)	542	(3.2)	590	(3.4)
	Liechtenstein	408	(9.8)	470	(7.6)	609	(7.9)	655	(9.5)	402	(11.1)	464	(10.0)	588	(5.2)	643	(9.5)
	Lithuania	m	m	m	m	m	m	m	m	369	(4.3)	426	(3.3)	549	(3.6)	602	(4.9)
	Macao-China	414	(6.0)	467	(4.4)	587	(4.0)	639	(5.5)	416	(3.1)	467	(2.1)	585	(2.0)	632	(2.4)
	Malaysia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Montenegro	m	m	m	m	m	m	m	m	291	(3.0)	342	(2.0)	456	(2.4)	510	(2.4)
	Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Qatar	m	m	m	m	m	m	m	m	212	(2.2)	257	(1.3)	368	(1.7)	438	(2.7)
	Romania	m	m	m	m	m	m	m	m	307	(7.4)	358	(5.5)	470	(4.9)	523	(7.1)
	Russian Federation	351	(5.0)	406	(4.8)	530	(5.0)	588	(5.3)	363	(4.8)	416	(4.2)	535	(5.1)	592	(5.3)
	Serbia	m	m	m	m	m	m	m	m	318	(5.0)	375	(4.4)	498	(3.8)	553	(3.9)
	Shanghai-China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Singapore	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Chinese Taipei	m	m	m	m	m	m	m	m	409	(6.2)	477	(6.1)	625	(3.3)	677	(3.4)
	Thailand	316	(3.1)	361	(2.9)	469	(3.8)	526	(4.7)	317	(3.5)	362	(3.3)	470	(2.9)	524	(3.7)
	Tunisia	256	(3.5)	303	(2.6)	412	(3.6)	466	(4.8)	250	(3.9)	301	(3.7)	427	(5.5)	488	(7.8)
	United Arab Emirates*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Uruguay	291	(3.8)	353	(4.1)	491	(3.8)	550	(4.4)	296	(4.4)	360	(3.5)	495	(3.5)	551	(5.5)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Annualised change is the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. This model considers that Costa Rica, Malaysia and the United Arab Emirates (with the exception of Dubai) implemented the PISA 2009 assessment in 2010 as part of PISA 2009+.

In the United Arab Emirates, Dubai took the PISA 2009 assessment in 2009 and the rest of the United Arab Emirates in 2010 as part of PISA 2009+. Results are thus reported separately.

* United Arab Emirates excluding Dubai (see note above).

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[Part 2/3]

Table I.2.3d **Distribution of scores in mathematics in PISA 2003 through 2012, by percentiles**

		PISA 2009								PISA 2012							
		10th percentile		25th percentile		75th percentile		90th percentile		10th percentile		25th percentile		75th percentile		90th percentile	
		Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	Australia	393	(2.8)	451	(2.5)	580	(3.1)	634	(3.9)	382	(2.3)	437	(2.0)	571	(2.3)	630	(3.0)
	Austria	m	m	m	m	m	m	m	m	384	(3.9)	440	(3.2)	572	(3.5)	624	(3.8)
	Belgium	373	(4.9)	444	(3.1)	593	(2.4)	646	(3.0)	378	(3.9)	443	(3.4)	589	(2.8)	646	(2.5)
	Canada	413	(2.7)	468	(2.0)	588	(1.9)	638	(2.2)	402	(2.4)	457	(2.1)	580	(2.3)	633	(2.3)
	Chile	322	(3.8)	366	(3.1)	473	(4.2)	527	(5.1)	323	(3.7)	365	(3.5)	476	(4.2)	532	(4.2)
	Czech Republic	374	(4.3)	428	(3.5)	557	(3.8)	615	(4.3)	377	(4.9)	432	(3.9)	566	(3.3)	621	(3.6)
	Denmark	390	(4.0)	445	(3.1)	564	(3.3)	614	(3.4)	393	(4.0)	444	(3.3)	556	(2.7)	607	(3.1)
	Estonia	409	(3.5)	458	(3.7)	567	(2.7)	616	(3.6)	417	(3.0)	465	(2.7)	576	(2.7)	626	(3.2)
	Finland	431	(3.7)	487	(3.0)	599	(2.5)	644	(2.6)	409	(3.3)	463	(2.5)	577	(2.4)	629	(3.1)
	France	361	(6.3)	429	(4.8)	570	(3.7)	622	(3.9)	365	(4.7)	429	(2.7)	565	(3.4)	621	(3.5)
	Germany	380	(4.7)	443	(4.4)	585	(3.1)	638	(3.5)	385	(4.7)	447	(3.6)	583	(3.6)	637	(3.8)
	Greece	352	(5.9)	406	(4.4)	527	(3.6)	580	(4.1)	338	(3.8)	393	(3.6)	513	(2.8)	567	(3.1)
	Hungary	370	(7.1)	428	(4.6)	554	(4.5)	608	(5.6)	358	(4.2)	411	(3.3)	540	(4.8)	603	(6.4)
	Iceland	388	(3.5)	447	(2.0)	569	(2.0)	623	(2.8)	372	(2.8)	431	(2.6)	557	(3.0)	612	(3.3)
	Ireland	376	(4.4)	432	(3.1)	548	(2.8)	591	(3.1)	391	(3.6)	445	(3.2)	559	(2.4)	610	(2.5)
	Israel	310	(6.1)	374	(4.6)	520	(4.2)	581	(5.2)	328	(5.7)	393	(5.1)	541	(5.3)	603	(6.0)
	Italy	363	(2.4)	420	(1.9)	548	(2.5)	602	(2.5)	366	(2.2)	421	(2.3)	550	(2.7)	607	(3.0)
	Japan	407	(5.4)	468	(4.4)	595	(3.7)	648	(4.8)	415	(5.1)	473	(4.2)	603	(4.4)	657	(5.1)
	Korea	430	(6.8)	486	(5.3)	609	(4.3)	659	(4.6)	425	(5.8)	486	(4.8)	624	(5.1)	679	(6.0)
	Luxembourg	360	(3.1)	423	(1.7)	560	(2.2)	613	(2.5)	363	(3.0)	422	(1.5)	558	(1.6)	613	(2.2)
	Mexico	318	(2.6)	366	(2.2)	472	(2.1)	520	(2.8)	320	(1.9)	362	(1.6)	462	(1.7)	510	(2.0)
	Netherlands	406	(5.6)	460	(6.8)	593	(4.4)	640	(4.4)	397	(5.5)	457	(5.1)	591	(4.3)	638	(3.7)
	New Zealand	392	(4.4)	454	(2.8)	589	(3.1)	642	(3.9)	371	(3.6)	428	(3.2)	570	(2.8)	632	(3.0)
	Norway	387	(3.6)	441	(3.2)	557	(2.9)	608	(3.4)	373	(3.9)	428	(2.9)	552	(3.3)	604	(3.4)
	Poland	380	(3.8)	434	(3.3)	557	(3.2)	609	(4.1)	402	(2.8)	454	(3.3)	580	(4.9)	636	(6.0)
	Portugal	367	(3.5)	424	(3.4)	551	(3.4)	605	(4.3)	363	(4.2)	421	(5.0)	554	(4.3)	610	(3.9)
	Slovak Republic	376	(4.7)	432	(3.7)	561	(3.8)	621	(5.4)	352	(6.2)	413	(4.2)	553	(4.7)	613	(5.3)
	Slovenia	379	(2.4)	435	(2.5)	569	(2.3)	628	(3.6)	384	(2.5)	434	(2.0)	566	(2.1)	624	(2.9)
	Spain	364	(2.9)	424	(2.5)	546	(2.3)	597	(2.3)	370	(3.1)	424	(2.6)	546	(2.1)	597	(2.4)
	Sweden	374	(4.2)	432	(3.1)	560	(3.3)	613	(3.9)	360	(3.5)	415	(2.9)	543	(2.7)	596	(2.9)
	Switzerland	401	(3.6)	468	(4.2)	604	(3.9)	658	(4.1)	408	(3.3)	466	(3.4)	597	(3.6)	651	(4.3)
	Turkey	331	(3.6)	378	(3.8)	506	(6.3)	574	(9.0)	339	(3.3)	382	(3.6)	507	(8.0)	577	(9.7)
	United Kingdom	380	(3.1)	434	(3.0)	552	(3.2)	606	(3.9)	371	(5.0)	429	(4.2)	560	(3.7)	616	(4.1)
	United States	368	(4.3)	425	(3.9)	551	(4.9)	607	(4.6)	368	(3.9)	418	(3.7)	543	(4.4)	600	(4.3)
	OECD average 2003	379	(0.8)	437	(0.7)	564	(0.7)	617	(0.8)	377	(0.7)	433	(0.6)	561	(0.7)	616	(0.8)
	OECD average 2006	376	(0.8)	434	(0.6)	560	(0.6)	613	(0.7)	375	(0.7)	430	(0.6)	558	(0.6)	614	(0.7)
	OECD average 2009	376	(0.8)	434	(0.6)	560	(0.6)	613	(0.7)	375	(0.7)	430	(0.6)	558	(0.6)	613	(0.7)
Partners	Albania	261	(5.0)	317	(5.2)	438	(4.8)	493	(5.7)	278	(4.8)	338	(3.0)	454	(2.4)	510	(3.5)
	Argentina	271	(6.0)	327	(4.3)	451	(5.0)	509	(7.1)	292	(4.6)	337	(3.8)	440	(4.5)	488	(4.1)
	Brazil	287	(2.7)	331	(2.3)	435	(3.3)	493	(4.7)	298	(2.0)	337	(1.9)	440	(2.7)	495	(4.5)
	Bulgaria	302	(5.8)	359	(6.2)	496	(6.6)	555	(9.0)	320	(4.8)	372	(4.7)	503	(5.2)	565	(5.6)
	Colombia	286	(5.1)	330	(4.0)	431	(3.4)	479	(4.2)	285	(4.0)	326	(2.8)	423	(3.6)	474	(4.8)
	Costa Rica	319	(3.3)	361	(2.8)	457	(3.6)	502	(4.7)	323	(3.8)	361	(3.6)	449	(3.9)	496	(5.1)
	Croatia	347	(4.1)	399	(3.5)	521	(3.8)	574	(5.4)	360	(3.3)	408	(3.6)	531	(4.5)	589	(7.3)
	Dubai (UAE)	326	(2.5)	382	(2.3)	523	(2.1)	584	(3.3)	342	(2.5)	396	(2.0)	530	(2.6)	587	(3.5)
	Hong Kong-China	428	(4.9)	492	(3.5)	622	(3.1)	673	(3.9)	430	(6.2)	499	(4.7)	629	(3.5)	679	(4.2)
	Indonesia	284	(4.6)	324	(3.7)	416	(4.6)	462	(6.4)	288	(4.2)	327	(3.8)	418	(5.2)	469	(7.8)
	Jordan	281	(4.8)	333	(3.5)	443	(4.4)	490	(5.5)	290	(4.0)	335	(3.2)	435	(3.3)	485	(4.3)
	Kazakhstan	303	(3.3)	347	(3.5)	458	(4.3)	514	(5.3)	343	(2.5)	383	(2.8)	478	(4.4)	527	(5.7)
	Latvia	379	(4.5)	427	(3.7)	537	(3.8)	584	(3.8)	387	(4.4)	434	(3.3)	546	(3.8)	597	(3.7)
	Liechtenstein	421	(9.4)	484	(7.9)	593	(5.5)	637	(11.6)	403	(11.2)	470	(8.0)	606	(5.0)	656	(9.2)
	Lithuania	363	(4.2)	417	(3.0)	537	(3.1)	590	(4.0)	364	(3.5)	418	(3.1)	540	(3.3)	596	(3.5)
	Macao-China	415	(2.7)	468	(1.5)	584	(1.3)	634	(1.6)	415	(2.8)	476	(1.7)	605	(1.7)	657	(2.3)
	Malaysia	312	(2.9)	354	(2.4)	453	(3.4)	500	(4.7)	319	(3.2)	363	(3.1)	474	(4.3)	530	(4.9)
	Montenegro	295	(4.4)	346	(2.8)	458	(2.2)	509	(2.7)	306	(2.0)	352	(1.7)	465	(2.0)	520	(2.7)
	Peru	252	(4.0)	303	(3.7)	424	(5.2)	480	(6.4)	264	(3.4)	311	(3.6)	421	(4.9)	478	(6.7)
	Qatar	255	(1.5)	300	(1.3)	425	(1.5)	506	(2.4)	257	(1.7)	306	(1.3)	440	(1.7)	514	(1.9)
	Romania	326	(4.1)	372	(4.0)	481	(3.6)	530	(5.4)	344	(3.5)	386	(3.8)	497	(4.8)	553	(6.1)
	Russian Federation	360	(4.5)	411	(4.2)	524	(3.8)	576	(5.3)	371	(3.9)	423	(3.1)	540	(3.6)	595	(4.7)
	Serbia	327	(4.3)	380	(3.7)	504	(3.2)	560	(4.3)	335	(4.1)	386	(3.7)	508	(4.4)	567	(5.8)
	Shanghai-China	462	(5.0)	531	(4.0)	674	(3.2)	726	(4.2)	475	(5.8)	546	(4.4)	685	(3.5)	737	(3.5)
	Singapore	422	(4.1)	490	(2.9)	638	(2.0)	693	(2.5)	432	(3.6)	501	(2.7)	650	(1.9)	707	(2.3)
	Chinese Taipei	405	(3.8)	471	(3.6)	618	(4.6)	675	(5.4)	402	(4.8)	478	(4.8)	645	(3.4)	703	(4.9)
	Thailand	321	(4.2)	365	(3.5)	469	(3.7)	522	(5.4)	328	(3.1)	372	(2.6)	476	(4.8)	535	(7.3)
	Tunisia	273	(4.3)	318	(3.7)	423	(3.4)	471	(4.9)	292	(4.3)	334	(3.7)	437	(4.5)	488	(7.3)
	United Arab Emirates*	303	(4.5)	352	(3.5)	467	(3.3)	524	(4.7)	318	(3.2)	363	(3.1)	479	(4.6)	538	(5.9)
	Uruguay	310	(4.0)	364	(3.4)	490	(3.1)	546	(4.1)	297	(4.1)	347	(3.0)	470	(3.6)	526	(3.8)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Annualised change is the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. This model considers that Costa Rica, Malaysia and the United Arab Emirates (with the exception of Dubai) implemented the PISA 2009 assessment in 2010 as part of PISA 2009+.

In the United Arab Emirates, Dubai took the PISA 2009 assessment in 2009 and the rest of the United Arab Emirates in 2010 as part of PISA 2009+. Results are thus reported separately.

* United Arab Emirates excluding Dubai (see note above).

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[Part 3/3]

Table I.2.3d **Distribution of scores in mathematics in PISA 2003 through 2012, by percentiles**

		Change in percentiles between 2003 and 2012 (PISA 2012 - PISA 2003)								Annualised change in percentiles across PISA assessments							
		10th percentile		25th percentile		75th percentile		90th percentile		10th percentile		25th percentile		75th percentile		90th percentile	
		Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score change	S.E.	Score change	S.E.	Score change	S.E.	Score change	S.E.
OECD	Australia	**-17**	(4.6)	**-23**	(3.9)	**-21**	(3.9)	**-14**	(4.7)	**-2.3**	(0.19)	**-2.6**	(0.19)	**-2.1**	(0.19)	**-1.4**	(0.19)
	Austria	0	(6.2)	1	(5.5)	1	(5.8)	-2	(5.8)	0.2	(0.33)	0.2	(0.21)	0.0	(0.20)	-0.4	(0.22)
	Belgium	-3	(6.3)	**-13**	(5.2)	**-23**	(4.2)	**-19**	(3.9)	-0.5	(0.75)	**-1.5**	(0.75)	**-2.5**	(0.75)	**-2.0**	(0.75)
	Canada	**-17**	(4.0)	**-17**	(3.6)	**-13**	(3.7)	**-11**	(3.9)	**-1.8**	(0.20)	**-1.7**	(0.20)	**-1.2**	(0.20)	**-1.1**	(0.20)
	Chile	m	m	m	m	m	m	m	m	**3.3**	(0.50)	**2.4**	(0.56)	1.0	(1.61)	0.9	(3.29)
	Czech Republic	-15	(7.8)	**-17**	(6.3)	**-18**	(5.5)	**-20**	(6.0)	**-1.6**	(0.36)	**-2.2**	(0.21)	**-2.7**	(0.19)	**-2.9**	(0.19)
	Denmark	-2	(6.4)	-9	(5.3)	**-22**	(4.6)	**-25**	(5.2)	**-0.7**	(0.23)	**-1.3**	(0.21)	**-2.4**	(0.21)	**-2.7**	(0.21)
	Estonia	m	m	m	m	m	m	m	m	1.0	(0.87)	0.7	(0.43)	**0.9**	(0.42)	**1.4**	(0.42)
	Finland	**-29**	(4.7)	**-25**	(3.9)	**-26**	(3.8)	**-23**	(4.6)	**-3.5**	(0.20)	**-3.0**	(0.20)	**-3.1**	(0.20)	**-2.7**	(0.20)
	France	**-23**	(7.5)	**-20**	(5.0)	**-11**	(5.0)	-6	(5.4)	**-2.5**	(0.32)	**-2.0**	(0.19)	**-0.9**	(0.19)	**-0.5**	(0.19)
	Germany	**22**	(7.6)	**15**	(6.2)	5	(5.3)	4	(5.5)	**2.3**	(0.41)	**1.6**	(0.21)	**0.9**	(0.19)	**0.6**	(0.20)
	Greece	**15**	(6.7)	10	(6.1)	6	(5.5)	1	(6.4)	**1.7**	(0.24)	**1.1**	(0.20)	**0.6**	(0.21)	0.2	(0.23)
	Hungary	-12	(6.2)	**-15**	(4.9)	**-15**	(6.5)	-8	(8.2)	**-1.5**	(0.22)	**-1.6**	(0.20)	**-1.4**	(0.24)	-0.8	(0.47)
	Iceland	**-24**	(4.3)	**-23**	(4.3)	**-22**	(4.0)	**-17**	(4.9)	**-2.5**	(0.20)	**-2.2**	(0.20)	**-2.1**	(0.20)	**-1.6**	(0.20)
	Ireland	-2	(5.2)	0	(5.0)	-3	(4.3)	-4	(4.8)	**-0.7**	(0.21)	-0.3	(0.20)	**-0.5**	(0.20)	**-0.7**	(0.20)
	Israel	m	m	m	m	m	m	m	m	4.0	(8.60)	4.1	(2.78)	4.0	(2.44)	3.8	(5.89)
	Italy	**23**	(6.5)	**21**	(5.3)	**19**	(4.5)	**17**	(5.1)	**3.2**	(0.19)	**3.0**	(0.19)	**2.8**	(0.19)	**2.7**	(0.20)
	Japan	13	(8.3)	6	(7.1)	-2	(6.5)	-3	(8.2)	**1.5**	(0.32)	**1.0**	(0.23)	0.3	(0.24)	0.2	(0.42)
	Korea	2	(7.5)	7	(6.4)	**18**	(6.9)	**20**	(8.3)	0.4	(0.28)	**0.8**	(0.21)	**1.7**	(0.24)	**1.8**	(0.51)
	Luxembourg	**-9**	(4.5)	**-8**	(3.3)	1	(3.2)	2	(4.3)	**-1.0**	(0.20)	**-0.9**	(0.20)	0.2	(0.20)	0.3	(0.20)
	Mexico	**44**	(5.4)	**36**	(5.0)	**18**	(5.1)	**13**	(5.4)	**4.9**	(0.21)	**4.0**	(0.20)	**2.0**	(0.20)	**1.5**	(0.21)
	Netherlands	**-19**	(8.2)	-13	(7.7)	**-17**	(6.1)	**-18**	(5.3)	**-2.1**	(0.48)	**-1.5**	(0.48)	**-1.7**	(0.22)	**-1.9**	(0.20)
	New Zealand	**-23**	(5.7)	**-27**	(4.8)	**-23**	(4.1)	**-18**	(4.8)	**-2.7**	(0.20)	**-2.8**	(0.19)	**-2.2**	(0.19)	**-1.8**	(0.19)
	Norway	-3	(5.6)	-5	(4.5)	-8	(5.0)	-10	(5.3)	0.1	(0.21)	-0.1	(0.20)	**-0.6**	(0.20)	**-0.9**	(0.20)
	Poland	**26**	(4.9)	**26**	(4.9)	**27**	(6.0)	**29**	(7.2)	**2.4**	(0.19)	**2.5**	(0.19)	**2.8**	(0.19)	**2.9**	(0.21)
	Portugal	11	(7.0)	**15**	(7.3)	**28**	(5.9)	**30**	(5.5)	**1.8**	(0.30)	**2.2**	(0.32)	**3.6**	(0.21)	**3.8**	(0.21)
	Slovak Republic	**-27**	(8.7)	**-23**	(6.5)	-12	(6.4)	-6	(6.6)	**-2.5**	(0.54)	**-2.2**	(0.21)	**-1.1**	(0.20)	-0.4	(0.22)
	Slovenia	m	m	m	m	m	m	m	m	**-1.1**	(0.31)	**-1.2**	(0.31)	0.1	(0.31)	0.1	(0.34)
	Spain	1	(5.1)	-2	(4.4)	0	(4.2)	0	(4.7)	0.2	(0.20)	0.1	(0.19)	0.3	(0.19)	0.3	(0.19)
	Sweden	**-27**	(5.9)	**-31**	(4.6)	**-33**	(4.6)	**-34**	(5.1)	**-3.2**	(0.20)	**-3.5**	(0.19)	**-3.5**	(0.19)	**-3.5**	(0.20)
	Switzerland	**12**	(5.7)	6	(5.3)	2	(6.4)	-1	(7.1)	**1.2**	(0.19)	**0.6**	(0.19)	0.2	(0.20)	0.1	(0.21)
	Turkey	**38**	(6.3)	**31**	(6.6)	22	(11.9)	17	(17.4)	**4.3**	(0.23)	**3.7**	(0.23)	3.1	(2.13)	2.5	(16.74)
	United Kingdom	m	m	m	m	m	m	m	m	**-1.6**	(0.36)	**-0.9**	(0.23)	**0.5**	(0.24)	**0.7**	(0.26)
	United States	11	(6.3)	0	(5.6)	-6	(5.9)	-7	(6.1)	**1.5**	(0.24)	**0.4**	(0.21)	-0.2	(0.22)	-0.2	(0.22)
	OECD average 2003	-1	(1.2)	**-3**	(1.0)	**-4**	(1.0)	**-4**	(1.2)	**-0.1**	(0.06)	**-0.3**	(0.05)	**-0.3**	(0.09)	-0.3	(0.58)
	OECD average 2006	m	m	m	m	m	m	m	m	0.1	(0.26)	-0.1	(0.09)	-0.1	(0.11)	-0.1	(0.53)
	OECD average 2009	m	m	m	m	m	m	m	m	0.1	(0.27)	-0.1	(0.10)	-0.1	(0.12)	0.0	(0.55)
Partners	Albania	m	m	m	m	m	m	m	m	5.8	(65.52)	6.9	(35.99)	5.4	(25.58)	5.6	(55.88)
	Argentina	m	m	m	m	m	m	m	m	7.1	(19.66)	3.5	(5.44)	-1.8	(3.57)	-3.7	(4.54)
	Brazil	**65**	(6.0)	**52**	(5.3)	**21**	(7.0)	7	(10.7)	**6.9**	(0.22)	**5.3**	(0.21)	**2.2**	(0.21)	1.0	(0.84)
	Bulgaria	m	m	m	m	m	m	m	m	5.5	(6.71)	4.5	(3.52)	3.6	(7.70)	3.7	(16.94)
	Colombia	m	m	m	m	m	m	m	m	**3.7**	(1.54)	**1.7**	(0.67)	-1.1	(1.31)	-1.3	(1.29)
	Costa Rica	m	m	m	m	m	m	m	m	2.2	(75.14)	0.0	(55.91)	-3.8	(119.50)	-3.3	(566.82)
	Croatia	m	m	m	m	m	m	m	m	-0.1	(0.54)	-0.5	(0.41)	1.0	(0.65)	2.1	(2.88)
	Dubai (UAE)	m	m	m	m	m	m	m	m	**5.5**	(2.30)	**4.9**	(0.92)	**2.3**	(1.06)	0.7	(7.46)
	Hong Kong-China	13	(10.3)	14	(8.6)	7	(5.5)	8	(6.2)	1.5	(1.58)	**1.6**	(0.49)	**0.9**	(0.20)	**1.1**	(0.21)
	Indonesia	**27**	(6.6)	**21**	(5.5)	7	(7.3)	3	(10.3)	**2.8**	(0.24)	**2.1**	(0.24)	0.1	(0.29)	-0.6	(1.48)
	Jordan	m	m	m	m	m	m	m	m	1.9	(1.02)	0.8	(0.45)	**-1.0**	(0.51)	-0.8	(1.51)
	Kazakhstan	m	m	m	m	m	m	m	m	**13.6**	(4.52)	**11.8**	(5.67)	6.6	(22.85)	4.4	(96.70)
	Latvia	**16**	(7.0)	10	(5.4)	3	(6.3)	1	(6.1)	**1.6**	(0.22)	**0.9**	(0.19)	0.1	(0.20)	-0.1	(0.21)
	Liechtenstein	-5	(15.0)	0	(11.2)	-2	(9.6)	1	(13.4)	0.4	(5.52)	0.6	(1.22)	-0.1	(2.50)	0.0	(1.45)
	Lithuania	m	m	m	m	m	m	m	m	-0.9	(0.80)	**-1.4**	(0.61)	**-1.5**	(0.55)	-0.9	(0.89)
	Macao-China	1	(6.9)	9	(5.1)	**18**	(4.8)	**18**	(6.3)	0.0	(0.19)	**1.1**	(0.19)	**2.5**	(0.19)	**2.8**	(0.19)
	Malaysia	m	m	m	m	m	m	m	m	3.6	(45.78)	4.5	(19.46)	10.8	(130.86)	15.1	(369.80)
	Montenegro	m	m	m	m	m	m	m	m	**2.6**	(0.34)	**1.7**	(0.34)	**1.4**	(0.34)	**1.7**	(0.36)
	Peru	m	m	m	m	m	m	m	m	4.1	(8.09)	2.4	(19.62)	-1.0	(117.76)	-0.7	(305.18)
	Qatar	m	m	m	m	m	m	m	m	**7.1**	(0.36)	**7.8**	(0.36)	**11.4**	(0.36)	**11.8**	(0.36)
	Romania	m	m	m	m	m	m	m	m	6.2	(3.59)	**4.6**	(1.62)	**4.5**	(1.70)	5.0	(8.35)
	Russian Federation	**20**	(6.6)	**17**	(6.0)	10	(6.4)	7	(7.3)	**1.9**	(0.24)	**1.6**	(0.20)	**0.7**	(0.20)	0.2	(0.36)
	Serbia	m	m	m	m	m	m	m	m	**2.8**	(1.40)	2.0	(1.19)	1.8	(1.41)	2.4	(2.55)
	Shanghai-China	m	m	m	m	m	m	m	m	4.3	(70.18)	5.0	(30.43)	3.6	(14.30)	3.5	(25.23)
	Singapore	m	m	m	m	m	m	m	m	3.2	(12.71)	3.5	(3.20)	**3.9**	(1.01)	**4.6**	(2.16)
	Chinese Taipei	m	m	m	m	m	m	m	m	-1.2	(5.10)	0.0	(3.52)	**3.0**	(0.44)	**4.0**	(0.76)
	Thailand	**12**	(4.8)	**11**	(4.4)	7	(6.4)	9	(8.9)	**1.3**	(0.20)	**1.2**	(0.20)	**0.7**	(0.25)	0.8	(0.84)
	Tunisia	**35**	(5.9)	**31**	(4.9)	**26**	(6.1)	**22**	(8.9)	**4.4**	(0.20)	**3.6**	(0.19)	**2.4**	(0.21)	**1.6**	(0.57)
	United Arab Emirates*	m	m	m	m	m	m	m	m	7.3	(171.04)	5.2	(66.48)	5.9	(219.54)	7.2	(753.38)
	Uruguay	6	(5.9)	-6	(5.4)	**-21**	(5.5)	**-24**	(6.1)	**1.0**	(0.21)	**-0.6**	(0.21)	**-2.2**	(0.21)	**-2.4**	(0.24)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Annualised change is the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. This model considers that Costa Rica, Malaysia and the United Arab Emirates (with the exception of Dubai) implemented the PISA 2009 assessment in 2010 as part of PISA 2009+.

In the United Arab Emirates, Dubai took the PISA 2009 assessment in 2009 and the rest of the United Arab Emirates in 2010 as part of PISA 2009+. Results are thus reported separately.

* United Arab Emirates excluding Dubai (see note above).

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[Part 1/1]

Table I.2.4 **Trends in mathematics performance adjusted for demographic changes**

		Adjusted PISA 2003 results		Adjusted PISA 2006 results		Adjusted PISA 2009 results		Adjusted PISA 2012 results		Change between 2003 and 2012 (PISA 2012 - PISA 2003)		Change between 2006 and 2012 (PISA 2012 - PISA 2006)		Change between 2009 and 2012 (PISA 2012 - PISA 2009)		Annualised adjusted change across PISA assessments	
		Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.
OECD	Australia	533	(1.8)	521	(1.9)	514	(2.1)	504	(1.5)	**-29.1**	(3.0)	**-16.9**	(3.2)	**-10.1**	(3.4)	**-3.2**	(0.3)
	Austria	517	(2.8)	505	(3.1)	m	m	506	(2.4)	**-11.5**	(4.3)	0.2	(4.6)	m	m	**-1.1**	(0.5)
	Belgium	533	(1.8)	522	(2.6)	514	(1.9)	515	(1.8)	**-18.9**	(3.1)	**-7.8**	(3.9)	0.3	(3.4)	**-2.4**	(0.3)
	Canada	539	(1.6)	530	(1.9)	526	(1.4)	518	(1.6)	**-20.5**	(2.9)	**-12.1**	(3.3)	**-7.7**	(3.1)	**-2.2**	(0.3)
	Chile	m	m	424	(3.0)	420	(2.5)	423	(2.4)	m	m	-1.8	(4.1)	2.4	(3.9)	-0.3	(0.7)
	Czech Republic	514	(2.8)	508	(3.2)	490	(2.6)	499	(2.5)	**-14.9**	(4.1)	**-9.4**	(4.5)	**8.8**	(3.9)	**-2.3**	(0.4)
	Denmark	527	(2.0)	512	(2.1)	503	(2.3)	500	(1.7)	**-26.5**	(3.2)	**-12.3**	(3.5)	-2.9	(3.7)	**-2.8**	(0.4)
	Estonia	m	m	524	(2.5)	512	(2.3)	520	(1.9)	m	m	-3.0	(4.0)	**8.5**	(3.7)	-0.7	(0.6)
	Finland	552	(1.7)	553	(2.1)	539	(2.1)	519	(1.7)	**-33.0**	(3.1)	**-34.7**	(3.4)	**-20.2**	(3.3)	**-3.8**	(0.3)
	France	523	(2.0)	510	(2.6)	501	(2.4)	495	(2.2)	**-27.6**	(3.5)	**-14.8**	(4.2)	-6.3	(3.9)	**-3.1**	(0.4)
	Germany	516	(2.5)	505	(3.0)	515	(2.2)	513	(2.4)	-2.9	(3.9)	8.2	(4.4)	-1.3	(4.2)	0.0	(0.4)
	Greece	453	(2.9)	464	(2.4)	465	(3.4)	453	(1.9)	0.2	(4.0)	**-10.7**	(3.7)	**-12.0**	(4.4)	0.1	(0.4)
	Hungary	492	(2.1)	491	(2.3)	485	(2.7)	477	(2.5)	**-15.1**	(3.7)	**-14.3**	(4.0)	**-8.4**	(4.2)	**-1.7**	(0.4)
	Iceland	521	(1.4)	510	(1.9)	508	(1.4)	493	(1.7)	**-27.9**	(3.0)	**-17.1**	(3.1)	**-15.1**	(3.2)	**-2.9**	(0.3)
	Ireland	517	(1.9)	509	(2.2)	489	(2.3)	502	(1.9)	**-15.0**	(3.4)	-7.0	(3.7)	**12.7**	(4.0)	**-2.0**	(0.4)
	Israel	m	m	442	(4.2)	449	(2.7)	466	(4.0)	m	m	**24.1**	(6.1)	**17.9**	(5.3)	**4.0**	(1.0)
	Italy	470	(2.9)	465	(2.2)	482	(1.7)	485	(1.7)	**15.0**	(3.8)	**20.3**	(3.7)	3.2	(3.4)	**2.1**	(0.4)
	Japan	549	(3.5)	527	(3.0)	529	(3.1)	536	(3.2)	**-12.8**	(5.0)	**9.2**	(4.1)	7.4	(4.8)	**-1.3**	(0.5)
	Korea	471	(20.1)	554	(3.4)	547	(3.6)	469	(20.7)	-1.0	(4.9)	0.0	(5.6)	6.5	(6.2)	-0.4	(0.5)
	Luxembourg	490	(1.9)	491	(1.2)	486	(1.2)	490	(1.2)	-0.1	(3.0)	-1.3	(2.6)	4.4	(2.7)	0.0	(0.3)
	Mexico	389	(3.0)	405	(2.3)	417	(1.5)	413	(1.1)	**24.1**	(3.7)	**7.8**	(3.3)	-3.2	(2.9)	**2.7**	(0.4)
	Netherlands	550	(2.5)	534	(2.2)	530	(4.0)	523	(3.3)	**-27.0**	(4.7)	**-10.6**	(4.4)	-7.4	(5.8)	**-2.8**	(0.5)
	New Zealand	531	(2.0)	518	(2.2)	513	(2.1)	500	(2.2)	**-30.8**	(3.6)	**-18.3**	(3.6)	**-13.4**	(3.8)	**-3.2**	(0.4)
	Norway	503	(2.1)	492	(2.4)	494	(2.3)	489	(2.5)	**-14.1**	(3.9)	-2.9	(4.0)	-4.4	(3.9)	**-1.3**	(0.4)
	Poland	498	(2.0)	510	(2.3)	499	(2.4)	518	(3.0)	**19.4**	(3.9)	7.8	(4.2)	**19.0**	(4.5)	**1.5**	(0.4)
	Portugal	477	(2.3)	476	(2.3)	485	(2.2)	487	(2.9)	**10.1**	(4.5)	**11.0**	(4.4)	1.7	(4.1)	**1.3**	(0.5)
	Slovak Republic	499	(2.2)	495	(2.3)	492	(2.8)	482	(2.4)	**-16.9**	(3.8)	**-13.5**	(3.7)	**-10.7**	(4.2)	**-1.8**	(0.4)
	Slovenia	m	m	517	(1.2)	501	(1.2)	501	(1.2)	m	m	**-15.6**	(2.7)	-0.3	(2.9)	**-2.7**	(0.4)
	Spain	492	(1.7)	488	(1.7)	484	(1.8)	484	(1.6)	**-7.5**	(3.0)	-3.3	(3.1)	0.3	(3.5)	**-0.8**	(0.3)
	Sweden	513	(2.0)	501	(2.3)	488	(2.3)	478	(2.0)	**-35.1**	(3.4)	**-23.1**	(3.8)	**-10.1**	(3.9)	**-4.0**	(0.4)
	Switzerland	538	(2.9)	535	(2.8)	536	(2.7)	531	(2.6)	-6.6	(4.5)	-4.1	(4.2)	-4.6	(4.4)	-0.7	(0.5)
	Turkey	408	(4.5)	417	(3.8)	434	(3.5)	448	(4.1)	**39.5**	(6.0)	**31.2**	(6.0)	**14.4**	(6.0)	**4.6**	(0.6)
	United Kingdom	m	m	501	(2.1)	493	(2.0)	494	(2.8)	m	m	**-7.1**	(3.4)	0.9	(4.4)	**-1.2**	(0.5)
	United States	488	(2.3)	474	(3.1)	486	(2.5)	481	(2.8)	-6.7	(4.4)	7.4	(4.4)	-4.2	(4.5)	-0.2	(0.4)
	OECD average 2003	504	(0.8)	501	(0.5)	498	(0.4)	493	(0.8)	**-10.1**	(0.7)	**-4.5**	(0.7)	**-2.3**	(0.8)	**-1.1**	(0.1)
	OECD average 2006	m	m	498	(0.5)	495	(0.4)	492	(0.8)	m	m	**-4.0**	(0.7)	-1.0	(0.8)	**-1.0**	(0.1)
	OECD average 2009	m	m	m	m	495	(0.4)	491	(0.7)	m	m	m	m	-1.0	(0.7)	**-0.9**	(0.1)
Partners	Albania	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Argentina	m	m	385	(4.8)	387	(3.2)	388	(2.9)	m	m	3.5	(6.1)	1.4	(4.6)	0.6	(1.0)
	Brazil	368	(4.3)	378	(2.6)	388	(2.0)	391	(1.8)	**23.0**	(4.9)	**13.2**	(3.7)	3.3	(3.7)	**2.6**	(0.5)
	Bulgaria	m	m	422	(4.5)	428	(4.6)	439	(3.1)	m	m	**16.3**	(6.2)	11.0	(6.2)	**2.6**	(1.0)
	Colombia	m	m	372	(3.3)	380	(2.7)	376	(2.4)	m	m	4.8	(4.7)	-3.3	(4.5)	0.8	(0.8)
	Costa Rica	m	m	m	m	411	(4.1)	407	(2.5)	m	m	m	m	-4.0	(5.9)	-1.3	(2.0)
	Croatia	m	m	470	(2.2)	457	(2.9)	471	(3.2)	m	m	0.7	(4.3)	**14.6**	(5.3)	0.1	(0.7)
	Dubai (UAE)	m	m	m	m	453	(1.1)	463	(1.2)	m	m	m	m	**10.7**	(2.8)	**3.6**	(0.9)
	Hong Kong-China	560	(4.2)	553	(2.6)	559	(2.3)	561	(2.6)	0.7	(5.2)	7.7	(4.2)	2.3	(4.4)	0.2	(0.5)
	Indonesia	368	(4.7)	394	(5.2)	371	(3.3)	375	(3.4)	6.8	(5.6)	**-18.7**	(6.7)	3.6	(4.8)	-0.4	(0.5)
	Jordan	m	m	386	(3.1)	387	(3.3)	386	(2.9)	m	m	-0.1	(4.8)	-1.0	(4.8)	-0.1	(0.8)
	Kazakhstan	m	m	m	m	408	(2.8)	432	(2.9)	m	m	m	m	**24.0**	(4.5)	**8.0**	(1.5)
	Latvia	484	(3.4)	492	(2.8)	483	(2.5)	491	(2.3)	6.7	(4.6)	-1.2	(4.1)	7.9	(4.2)	0.2	(0.5)
	Liechtenstein	556	(5.5)	537	(4.5)	544	(4.2)	536	(4.0)	**-20.3**	(7.0)	-1.1	(6.2)	-8.7	(6.1)	**-1.8**	(0.6)
	Lithuania	m	m	491	(2.6)	480	(2.4)	479	(2.2)	m	m	**-12.4**	(4.2)	-1.5	(3.8)	**-2.2**	(0.7)
	Macao-China	536	(3.9)	527	(3.6)	527	(0.9)	538	(1.0)	2.2	(4.5)	**10.2**	(4.4)	**11.2**	(2.6)	-0.3	(0.4)
	Malaysia	m	m	m	m	391	(3.4)	421	(2.6)	m	m	m	m	**29.1**	(5.4)	**9.7**	(1.8)
	Montenegro	m	m	412	(2.1)	407	(1.7)	410	(1.1)	m	m	-2.1	(3.1)	2.8	(3.1)	-0.4	(0.5)
	Peru	m	m	m	m	363	(2.9)	368	(2.3)	m	m	m	m	4.9	(4.3)	1.6	(1.4)
	Qatar	m	m	339	(1.0)	375	(0.7)	376	(0.8)	m	m	**37.0**	(2.4)	0.9	(2.5)	**5.6**	(0.4)
	Romania	m	m	423	(3.8)	428	(3.0)	445	(3.0)	m	m	**21.1**	(5.3)	**16.7**	(5.1)	**3.4**	(0.9)
	Russian Federation	484	(3.7)	492	(3.3)	475	(2.9)	482	(2.9)	-2.1	(5.3)	**-10.1**	(4.8)	7.2	(4.6)	-0.7	(0.6)
	Serbia	m	m	442	(3.1)	443	(2.5)	449	(2.9)	m	m	7.2	(5.1)	5.8	(4.7)	1.2	(0.8)
	Shanghai-China	m	m	m	m	603	(2.4)	613	(2.6)	m	m	m	m	**9.4**	(4.2)	**3.1**	(1.4)
	Singapore	m	m	m	m	565	(1.4)	573	(1.2)	m	m	m	m	**8.0**	(3.0)	**2.7**	(1.0)
	Chinese Taipei	m	m	556	(3.2)	542	(2.8)	560	(2.4)	m	m	3.6	(4.5)	**17.8**	(4.4)	0.7	(0.7)
	Thailand	432	(4.1)	429	(2.4)	422	(2.7)	427	(2.9)	-4.8	(5.8)	-2.2	(4.0)	5.0	(4.4)	-0.6	(0.5)
	Tunisia	370	(2.7)	369	(3.1)	376	(2.6)	388	(3.4)	**17.7**	(4.6)	**19.2**	(5.2)	**11.7**	(4.6)	**1.9**	(0.5)
	United Arab Emirates*	m	m	m	m	422	(4.6)	423	(2.5)	m	m	m	m	1.2	(6.2)	0.4	(2.2)
	Uruguay	417	(2.8)	422	(2.4)	426	(2.2)	409	(2.2)	**-7.7**	(3.9)	**-12.6**	(4.0)	**-16.5**	(3.8)	**-0.7**	(0.4)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Annualised change is the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. This model considers that Costa Rica, Malaysia and the United Arab Emirates (with the exception of Dubai) implemented the PISA 2009 assessment in 2010 as part of PISA 2009+.

Adjusted scores are obtained by estimating a regression of students' demographic characteristics on math performance with demographic characteristics centred at the 2012 values. Demographic characteristics that entered the model are: students' age, gender, PISA index of economic, social and cultural status, immigrant background (first or second generation) and whether students speak a language at home which is different from the language of instruction. Adjusted values therefore represent average scores in previous assessment assuming that demographic characteristics remained unchanged. See Annex A5 for more details on the estimation of adjusted trends.

In the United Arab Emirates, Dubai took the PISA 2009 assessment in 2009 and the rest of the United Arab Emirates in 2010 as part of PISA 2009+. Results are thus reported separately.

* United Arab Emirates excluding Dubai (see note above).

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[Part 1/1]

Table I.2.5 **Percentage of students at each proficiency level on the mathematics subscale *formulating***

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	9.7	(0.5)	15.1	(0.5)	20.7	(0.4)	21.2	(0.4)	16.7	(0.6)	10.1	(0.5)	6.4	(0.5)
	Austria	8.7	(0.7)	14.7	(0.8)	20.7	(0.8)	21.3	(0.8)	18.5	(0.7)	11.1	(0.7)	4.9	(0.6)
	Belgium	8.6	(0.6)	12.6	(0.6)	18.3	(0.6)	20.9	(0.6)	19.1	(0.8)	12.8	(0.6)	7.9	(0.5)
	Canada	5.9	(0.3)	11.7	(0.5)	20.3	(0.7)	23.1	(0.7)	19.8	(0.5)	12.4	(0.5)	6.8	(0.4)
	Chile	24.6	(1.4)	27.9	(0.9)	24.3	(0.9)	14.7	(0.8)	6.3	(0.6)	1.8	(0.2)	0.4	(0.1)
	Czech Republic	8.7	(0.9)	14.6	(0.8)	21.7	(0.9)	22.9	(1.0)	18.2	(1.1)	9.5	(0.8)	4.3	(0.4)
	Denmark	5.3	(0.5)	13.1	(0.6)	22.8	(0.9)	26.3	(0.8)	20.2	(0.7)	9.6	(0.7)	2.8	(0.4)
	Estonia	3.6	(0.4)	10.4	(0.7)	22.0	(0.8)	26.7	(0.7)	20.7	(0.9)	11.2	(0.6)	5.4	(0.4)
	Finland	4.9	(0.5)	10.7	(0.6)	19.8	(0.8)	25.1	(0.9)	21.1	(0.9)	12.5	(0.8)	6.1	(0.5)
	France	12.1	(0.8)	15.8	(0.7)	21.8	(0.9)	21.3	(1.0)	16.6	(0.7)	8.6	(0.6)	3.8	(0.5)
	Germany	7.7	(0.7)	12.7	(0.7)	19.5	(0.8)	21.9	(1.2)	19.4	(0.8)	12.4	(0.7)	6.5	(0.6)
	Greece	15.7	(0.9)	22.3	(1.0)	27.7	(1.3)	20.6	(0.8)	10.0	(0.7)	3.1	(0.3)	0.7	(0.2)
	Hungary	12.9	(0.9)	19.9	(1.1)	24.4	(1.1)	20.2	(0.9)	12.8	(0.7)	6.7	(0.7)	3.1	(0.7)
	Iceland	6.7	(0.5)	13.3	(0.6)	22.1	(0.8)	25.8	(0.9)	18.7	(0.8)	9.9	(0.7)	3.4	(0.4)
	Ireland	7.9	(0.7)	14.8	(0.9)	22.8	(1.2)	25.2	(1.1)	17.8	(0.7)	8.6	(0.6)	3.0	(0.3)
	Israel	17.1	(1.3)	17.4	(0.8)	20.9	(0.8)	20.7	(0.9)	14.3	(0.9)	6.8	(0.7)	2.8	(0.5)
	Italy	12.5	(0.5)	17.1	(0.5)	23.6	(0.6)	21.9	(0.5)	14.8	(0.4)	7.3	(0.4)	2.9	(0.3)
	Japan	4.0	(0.6)	7.6	(0.7)	13.6	(0.8)	20.7	(0.9)	21.5	(1.0)	17.1	(0.9)	15.3	(1.3)
	Korea	3.5	(0.5)	7.1	(0.8)	13.4	(0.9)	19.2	(0.9)	21.5	(0.9)	18.1	(0.7)	17.4	(1.6)
	Luxembourg	11.7	(0.5)	17.0	(0.8)	21.8	(0.7)	21.5	(0.6)	16.5	(0.6)	8.2	(0.4)	3.3	(0.3)
	Mexico	27.6	(0.8)	28.2	(0.6)	24.5	(0.6)	13.4	(0.5)	4.9	(0.3)	1.2	(0.1)	0.2	(0.0)
	Netherlands	4.9	(0.7)	10.7	(0.8)	17.4	(1.0)	22.5	(1.2)	21.6	(0.9)	15.1	(1.1)	7.6	(0.8)
	New Zealand	9.9	(0.7)	16.0	(0.7)	20.8	(0.9)	20.6	(0.9)	16.3	(0.8)	10.1	(0.7)	6.3	(0.6)
	Norway	9.2	(0.7)	15.6	(0.8)	22.8	(0.8)	23.3	(1.1)	16.9	(0.8)	8.6	(0.5)	3.7	(0.4)
	Poland	5.5	(0.5)	12.5	(0.8)	20.9	(0.9)	23.0	(0.8)	19.0	(0.9)	12.1	(0.9)	7.1	(0.9)
	Portugal	13.5	(1.0)	17.1	(1.0)	20.5	(0.9)	20.9	(0.8)	15.8	(1.0)	8.5	(0.6)	3.6	(0.4)
	Slovak Republic	13.0	(1.1)	17.0	(0.9)	21.5	(1.0)	20.5	(1.1)	15.3	(1.0)	8.3	(0.6)	4.5	(0.6)
	Slovenia	9.5	(0.6)	16.2	(0.7)	21.8	(1.1)	21.6	(0.9)	16.4	(0.6)	9.7	(0.5)	4.8	(0.4)
	Spain	12.0	(0.6)	16.8	(0.6)	22.6	(0.6)	22.8	(0.6)	15.9	(0.5)	7.5	(0.4)	2.5	(0.2)
	Sweden	11.8	(0.8)	17.3	(0.9)	22.3	(0.7)	21.9	(0.9)	15.9	(0.9)	8.0	(0.7)	3.0	(0.3)
	Switzerland	4.7	(0.4)	8.5	(0.5)	16.0	(0.8)	22.1	(0.9)	22.5	(0.8)	15.6	(0.8)	10.5	(0.8)
	Turkey	16.7	(1.2)	24.8	(1.3)	24.5	(1.1)	16.6	(1.1)	10.6	(1.1)	5.1	(0.9)	1.5	(0.5)
	United Kingdom	10.6	(1.1)	15.5	(0.7)	22.3	(0.8)	22.0	(0.7)	16.2	(0.8)	9.2	(0.7)	4.3	(0.5)
	United States	11.1	(1.1)	19.1	(1.0)	24.6	(1.1)	21.6	(1.2)	13.7	(1.1)	7.0	(0.7)	3.0	(0.4)
	OECD total	11.8	(0.3)	17.2	(0.3)	21.8	(0.3)	20.3	(0.3)	15.0	(0.3)	8.8	(0.2)	5.1	(0.2)
	OECD average	10.3	(0.1)	15.6	(0.1)	21.3	(0.2)	21.6	(0.2)	16.6	(0.1)	9.5	(0.1)	5.0	(0.1)
Partners	Albania	31.5	(1.0)	27.6	(0.9)	23.3	(1.0)	12.3	(0.9)	4.2	(0.4)	0.9	(0.2)	0.1	(0.1)
	Argentina	37.2	(1.9)	30.7	(1.1)	21.3	(1.3)	8.5	(0.8)	1.9	(0.3)	0.3	(0.1)	0.0	(0.0)
	Brazil	43.1	(1.0)	28.1	(0.6)	17.6	(0.6)	7.5	(0.5)	2.7	(0.3)	0.8	(0.2)	0.2	(0.1)
	Bulgaria	21.8	(1.4)	23.3	(1.0)	23.3	(0.9)	17.4	(1.1)	9.2	(0.8)	3.8	(0.6)	1.2	(0.3)
	Colombia	43.1	(1.8)	29.7	(1.1)	17.6	(0.9)	7.0	(0.7)	2.1	(0.3)	0.4	(0.1)	0.1	(0.1)
	Costa Rica	30.0	(1.6)	33.0	(1.2)	23.3	(1.2)	9.9	(0.9)	3.0	(0.5)	0.7	(0.2)	0.2	(0.1)
	Croatia	16.5	(1.0)	22.3	(1.0)	24.5	(1.0)	19.9	(0.9)	10.3	(0.7)	4.5	(0.6)	1.9	(0.6)
	Cyprus*	20.2	(0.6)	24.0	(0.9)	25.6	(1.2)	17.4	(0.7)	8.9	(0.4)	3.3	(0.3)	0.7	(0.2)
	Hong Kong-China	4.2	(0.5)	6.5	(0.6)	11.9	(0.7)	16.8	(0.8)	21.5	(1.0)	19.9	(0.8)	19.2	(1.1)
	Indonesia	46.8	(2.1)	27.5	(1.2)	15.9	(1.1)	6.9	(0.9)	2.3	(0.6)	0.5	(0.2)	0.1	c
	Jordan	34.8	(1.7)	32.4	(1.2)	21.0	(1.1)	8.8	(0.7)	2.1	(0.3)	0.6	(0.4)	0.2	(0.3)
	Kazakhstan	14.9	(1.1)	26.0	(1.1)	28.9	(1.1)	19.5	(1.2)	8.0	(0.9)	2.3	(0.4)	0.5	(0.2)
	Latvia	7.3	(0.9)	15.6	(1.2)	25.7	(1.1)	25.0	(1.1)	16.7	(1.1)	7.1	(0.8)	2.6	(0.3)
	Liechtenstein	4.5	(1.9)	9.5	(2.1)	16.9	(2.5)	21.1	(2.6)	23.1	(2.9)	15.7	(2.5)	9.2	(1.7)
	Lithuania	11.9	(0.8)	17.5	(0.8)	23.4	(0.8)	21.5	(0.8)	14.7	(0.8)	7.7	(0.5)	3.3	(0.5)
	Macao-China	4.8	(0.3)	8.7	(0.5)	14.9	(0.5)	20.3	(0.6)	21.3	(0.7)	16.9	(0.7)	13.0	(0.4)
	Malaysia	32.4	(1.5)	25.4	(1.0)	20.7	(0.8)	12.9	(0.8)	6.4	(0.6)	1.8	(0.3)	0.4	(0.1)
	Montenegro	30.9	(0.8)	28.2	(1.0)	22.2	(0.8)	12.7	(0.7)	4.6	(0.4)	1.2	(0.2)	0.2	(0.1)
	Peru	45.9	(1.7)	26.6	(0.8)	16.5	(0.9)	7.5	(0.8)	2.7	(0.4)	0.6	(0.2)	0.1	(0.1)
	Qatar	45.8	(0.5)	23.1	(0.5)	15.3	(0.4)	8.8	(0.4)	4.6	(0.3)	1.9	(0.2)	0.5	(0.1)
	Romania	17.4	(1.2)	23.7	(1.1)	26.2	(1.0)	18.2	(1.2)	9.8	(0.8)	3.6	(0.6)	1.2	(0.4)
	Russian Federation	9.9	(0.7)	16.4	(0.9)	24.3	(0.9)	24.0	(0.8)	15.8	(0.8)	7.0	(0.7)	2.5	(0.5)
	Serbia	17.9	(1.2)	23.1	(1.3)	24.7	(1.3)	18.4	(1.0)	9.9	(0.8)	4.2	(0.5)	1.8	(0.4)
	Shanghai-China	1.8	(0.3)	3.7	(0.5)	7.0	(0.6)	11.9	(0.6)	17.2	(0.8)	20.5	(1.0)	37.9	(1.3)
	Singapore	3.7	(0.3)	6.5	(0.4)	11.6	(0.5)	15.6	(0.5)	18.5	(0.6)	18.8	(0.6)	25.3	(0.6)
	Chinese Taipei	6.1	(0.6)	7.8	(0.5)	11.1	(0.6)	14.2	(0.6)	16.4	(0.7)	17.1	(1.0)	27.3	(1.1)
	Thailand	28.2	(1.3)	26.6	(1.1)	22.1	(0.8)	13.0	(0.9)	6.1	(0.7)	2.8	(0.4)	1.1	(0.3)
	Tunisia	45.7	(1.7)	26.9	(1.1)	16.9	(1.0)	6.9	(0.7)	2.5	(0.5)	0.8	(0.4)	0.3	(0.1)
	United Arab Emirates	26.1	(1.0)	23.8	(0.6)	21.7	(0.7)	15.9	(0.7)	8.3	(0.6)	3.2	(0.3)	1.1	(0.2)
	Uruguay	31.4	(1.3)	25.0	(0.8)	21.8	(1.1)	13.6	(0.8)	6.1	(0.6)	1.8	(0.3)	0.3	(0.1)
	Viet Nam	7.6	(1.1)	13.7	(1.0)	22.6	(1.1)	25.3	(1.3)	17.6	(1.2)	8.9	(0.8)	4.2	(0.7)

* See notes at the beginning of this Annex.

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[Part 1/2]

Table I.2.6 **Percentage of students at each proficiency level on the mathematics subscale *formulating*, by gender**

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	8.4	(0.5)	14.3	(0.6)	20.3	(0.8)	21.0	(0.7)	17.3	(0.9)	10.8	(0.8)	7.9	(0.8)
	Austria	7.2	(0.9)	12.6	(1.0)	18.3	(1.2)	21.3	(1.3)	19.8	(1.0)	13.6	(1.0)	7.1	(1.1)
	Belgium	8.4	(0.8)	11.7	(0.8)	17.3	(0.7)	19.7	(0.8)	19.5	(1.0)	14.1	(0.8)	9.4	(0.6)
	Canada	5.5	(0.5)	11.4	(0.7)	19.0	(0.9)	22.6	(0.9)	19.4	(0.7)	13.8	(0.6)	8.3	(0.6)
	Chile	19.2	(1.5)	26.5	(1.2)	26.0	(1.0)	17.3	(1.2)	8.0	(0.9)	2.5	(0.4)	0.6	(0.2)
	Czech Republic	7.7	(1.0)	12.9	(1.3)	20.9	(1.5)	23.0	(1.2)	19.6	(1.2)	10.9	(1.2)	5.0	(0.7)
	Denmark	4.5	(0.7)	11.4	(0.9)	21.1	(1.0)	27.1	(1.1)	21.6	(1.2)	11.0	(1.0)	3.3	(0.5)
	Estonia	3.2	(0.5)	9.9	(1.1)	20.9	(1.3)	26.4	(1.0)	20.8	(1.1)	12.1	(0.9)	6.6	(0.6)
	Finland	5.5	(0.7)	11.0	(0.9)	19.3	(1.1)	23.5	(1.3)	21.0	(1.3)	12.7	(1.0)	7.0	(0.8)
	France	11.6	(0.9)	14.8	(0.9)	20.5	(1.2)	20.8	(1.2)	17.6	(1.0)	10.2	(0.8)	4.7	(0.6)
	Germany	6.9	(0.7)	11.6	(0.8)	18.1	(1.2)	21.3	(1.4)	20.3	(0.9)	13.7	(0.9)	8.1	(0.8)
	Greece	15.7	(1.3)	19.6	(1.1)	26.5	(1.6)	21.4	(1.3)	11.7	(0.9)	4.0	(0.4)	1.0	(0.3)
	Hungary	11.9	(1.2)	18.5	(1.3)	23.5	(1.4)	20.6	(1.4)	13.6	(1.1)	7.6	(0.8)	4.3	(1.0)
	Iceland	7.6	(0.8)	13.3	(0.8)	21.6	(1.1)	25.2	(1.4)	18.4	(1.5)	10.0	(1.0)	3.9	(0.7)
	Ireland	6.7	(1.0)	13.3	(1.2)	21.0	(1.7)	25.9	(1.4)	18.9	(1.1)	10.1	(0.9)	4.0	(0.5)
	Israel	17.6	(1.8)	16.6	(1.4)	18.0	(1.1)	19.4	(1.2)	15.4	(1.5)	8.8	(1.2)	4.2	(0.9)
	Italy	11.4	(0.6)	15.1	(0.6)	22.0	(0.8)	21.7	(0.8)	16.4	(0.6)	9.2	(0.5)	4.2	(0.4)
	Japan	4.2	(0.8)	7.0	(0.8)	12.0	(0.9)	18.8	(1.0)	21.5	(1.1)	18.3	(1.0)	18.1	(1.6)
	Korea	3.4	(0.7)	6.7	(1.0)	12.4	(1.1)	17.0	(1.3)	20.4	(1.2)	18.9	(0.9)	21.2	(2.1)
	Luxembourg	8.9	(0.6)	14.3	(0.8)	21.0	(0.8)	22.4	(0.9)	18.8	(0.9)	9.8	(0.6)	4.8	(0.5)
	Mexico	24.1	(0.9)	27.0	(0.8)	25.6	(0.7)	15.3	(0.6)	6.2	(0.4)	1.6	(0.2)	0.3	(0.1)
	Netherlands	4.5	(0.8)	9.1	(1.0)	17.0	(1.2)	22.7	(1.5)	21.3	(1.3)	16.4	(1.1)	9.0	(1.1)
	New Zealand	9.3	(1.0)	14.3	(1.2)	18.8	(1.0)	20.4	(1.2)	17.2	(1.2)	11.8	(0.9)	8.3	(0.9)
	Norway	9.5	(0.9)	15.5	(0.9)	22.2	(1.2)	22.8	(1.3)	17.5	(1.1)	8.6	(0.7)	4.0	(0.5)
	Poland	5.3	(0.7)	11.8	(1.1)	19.3	(1.3)	23.2	(1.3)	18.8	(1.2)	12.8	(1.2)	8.8	(1.3)
	Portugal	12.7	(1.2)	15.7	(1.2)	19.2	(1.5)	21.5	(1.0)	16.5	(1.3)	9.5	(0.8)	4.9	(0.7)
	Slovak Republic	11.9	(1.3)	16.7	(1.0)	21.1	(1.3)	19.8	(1.7)	15.2	(1.2)	9.2	(0.8)	6.0	(0.8)
	Slovenia	8.9	(0.9)	16.4	(0.9)	21.2	(1.4)	21.2	(1.2)	16.6	(1.0)	10.3	(0.9)	5.4	(0.6)
	Spain	11.2	(0.8)	15.4	(0.8)	20.8	(0.8)	22.7	(0.9)	17.2	(0.8)	9.2	(0.6)	3.6	(0.4)
	Sweden	12.4	(1.0)	16.8	(1.0)	22.0	(1.1)	21.0	(1.2)	15.6	(1.0)	8.5	(0.7)	3.7	(0.5)
	Switzerland	4.1	(0.5)	7.9	(0.7)	13.9	(0.8)	21.4	(1.1)	23.1	(1.1)	16.7	(1.1)	12.9	(1.0)
	Turkey	15.2	(1.4)	24.6	(1.6)	24.9	(1.5)	16.6	(1.4)	10.8	(1.3)	5.8	(1.1)	2.1	(0.6)
	United Kingdom	9.4	(1.4)	14.9	(1.2)	21.6	(1.2)	22.4	(1.0)	16.6	(1.1)	10.4	(1.0)	4.7	(0.6)
	United States	11.3	(1.2)	18.2	(1.1)	23.1	(1.4)	21.7	(1.3)	14.5	(1.3)	8.0	(0.8)	3.2	(0.5)
	OECD total	11.0	(0.3)	16.2	(0.4)	20.8	(0.5)	20.2	(0.4)	15.7	(0.4)	9.9	(0.3)	6.2	(0.2)
	OECD average	9.6	(0.2)	14.6	(0.2)	20.3	(0.2)	21.4	(0.2)	17.3	(0.2)	10.6	(0.2)	6.2	(0.1)
Partners	Albania	32.0	(1.3)	27.6	(1.1)	22.4	(1.3)	12.7	(1.2)	4.3	(0.5)	0.9	(0.3)	0.1	(0.1)
	Argentina	33.3	(2.1)	30.3	(1.3)	23.1	(1.6)	10.3	(1.1)	2.4	(0.5)	0.5	(0.2)	0.0	(0.1)
	Brazil	36.7	(1.1)	29.3	(0.9)	19.9	(0.7)	9.0	(0.7)	3.7	(0.5)	1.2	(0.3)	0.3	(0.1)
	Bulgaria	21.9	(1.5)	23.0	(1.2)	22.0	(1.1)	17.6	(1.3)	10.0	(1.1)	4.2	(0.7)	1.4	(0.4)
	Colombia	35.6	(2.0)	30.8	(1.6)	20.6	(1.4)	9.1	(1.2)	3.2	(0.5)	0.6	(0.2)	0.1	(0.1)
	Costa Rica	22.4	(1.9)	31.0	(2.3)	27.4	(1.5)	13.4	(1.3)	4.4	(0.8)	1.1	(0.5)	0.3	(0.2)
	Croatia	15.4	(1.3)	20.8	(1.4)	23.6	(1.3)	20.5	(1.2)	11.7	(1.0)	5.6	(0.9)	2.5	(0.8)
	Cyprus*	20.8	(0.8)	21.9	(1.0)	23.8	(1.2)	18.0	(0.8)	9.9	(0.8)	4.5	(0.5)	1.1	(0.3)
	Hong Kong-China	4.0	(0.6)	6.3	(0.8)	11.1	(1.0)	15.3	(1.1)	19.8	(1.1)	20.0	(1.1)	23.4	(1.7)
	Indonesia	45.7	(2.4)	27.5	(1.4)	16.3	(1.2)	7.4	(1.3)	2.6	(0.7)	0.6	(0.3)	0.0	c
	Jordan	37.6	(2.7)	30.6	(1.5)	19.5	(1.8)	8.7	(1.1)	2.3	(0.6)	0.8	(0.4)	0.4	(0.6)
	Kazakhstan	14.2	(1.3)	25.1	(1.5)	28.7	(1.8)	20.4	(1.4)	8.6	(1.1)	2.4	(0.5)	0.6	(0.2)
	Latvia	7.8	(1.3)	16.3	(1.7)	25.1	(1.4)	24.2	(1.3)	16.2	(1.3)	7.4	(1.0)	2.9	(0.5)
	Liechtenstein	3.0	(2.1)	7.3	(2.3)	16.1	(4.1)	22.0	(4.1)	23.2	(4.0)	15.8	(3.8)	12.6	(2.9)
	Lithuania	12.4	(1.0)	17.9	(1.0)	22.2	(1.2)	21.0	(1.1)	14.2	(1.1)	8.1	(0.6)	4.1	(0.6)
	Macao-China	5.0	(0.4)	8.5	(0.5)	14.1	(0.7)	19.4	(0.9)	20.6	(0.9)	18.1	(0.9)	14.4	(0.7)
	Malaysia	33.8	(1.6)	24.7	(1.2)	19.8	(1.3)	12.8	(1.1)	6.6	(1.0)	1.9	(0.5)	0.4	(0.2)
	Montenegro	30.5	(1.1)	27.1	(1.3)	22.1	(1.2)	13.6	(1.1)	5.1	(0.7)	1.5	(0.4)	0.2	(0.2)
	Peru	40.5	(1.6)	27.3	(1.1)	18.6	(1.2)	9.1	(1.1)	3.4	(0.6)	0.9	(0.3)	0.2	(0.1)
	Qatar	48.1	(0.7)	21.4	(0.8)	14.4	(0.6)	8.6	(0.5)	4.9	(0.3)	2.1	(0.3)	0.5	(0.1)
	Romania	16.7	(1.4)	23.3	(1.3)	26.2	(1.5)	18.3	(1.2)	10.0	(1.0)	4.1	(0.7)	1.4	(0.5)
	Russian Federation	10.0	(0.9)	15.6	(1.1)	23.7	(1.2)	24.2	(1.1)	16.3	(1.2)	7.4	(0.8)	2.8	(0.7)
	Serbia	15.8	(1.3)	23.2	(1.4)	25.1	(1.5)	18.4	(1.2)	10.5	(1.1)	4.7	(0.5)	2.3	(0.5)
	Shanghai-China	1.9	(0.4)	3.9	(0.6)	6.9	(0.8)	11.4	(0.7)	16.4	(1.0)	19.0	(1.1)	40.4	(1.6)
	Singapore	4.4	(0.5)	7.0	(0.5)	11.4	(0.8)	15.0	(0.8)	17.6	(0.9)	18.2	(0.8)	26.4	(0.8)
	Chinese Taipei	6.6	(0.8)	7.9	(0.7)	10.0	(0.8)	12.8	(1.0)	15.4	(1.1)	16.9	(1.2)	30.3	(1.8)
	Thailand	29.8	(1.5)	27.0	(1.6)	21.6	(1.3)	12.0	(1.0)	6.0	(0.9)	2.7	(0.6)	1.0	(0.4)
	Tunisia	38.4	(2.1)	28.4	(1.6)	20.5	(1.3)	8.3	(1.1)	3.0	(0.6)	0.9	(0.4)	0.5	(0.3)
	United Arab Emirates	26.9	(1.3)	23.2	(0.9)	21.1	(1.0)	15.4	(0.9)	8.6	(0.7)	3.5	(0.5)	1.4	(0.3)
	Uruguay	28.1	(1.5)	23.5	(1.1)	22.5	(1.4)	15.3	(1.0)	7.6	(0.7)	2.7	(0.5)	0.4	(0.2)
	Viet Nam	6.9	(1.3)	12.5	(1.3)	21.4	(1.7)	24.8	(1.9)	18.5	(1.4)	10.4	(1.0)	5.6	(1.0)

* See notes at the beginning of this Annex.

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[Part 2/2]

Table I.2.6 **Percentage of students at each proficiency level on the mathematics subscale *formulating*, by gender**

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	11.0	(0.6)	16.0	(0.7)	21.2	(0.7)	21.5	(0.8)	16.0	(0.8)	9.4	(0.5)	4.8	(0.5)
	Austria	10.2	(1.1)	16.8	(1.2)	23.1	(1.1)	21.3	(1.2)	17.2	(1.0)	8.7	(0.8)	2.7	(0.4)
	Belgium	8.8	(0.6)	13.5	(0.7)	19.3	(0.9)	22.0	(1.0)	18.7	(1.0)	11.4	(0.8)	6.3	(0.5)
	Canada	6.2	(0.5)	12.0	(0.6)	21.6	(0.9)	23.7	(1.0)	20.2	(0.8)	11.1	(0.6)	5.2	(0.4)
	Chile	29.6	(1.7)	29.3	(1.2)	22.7	(1.5)	12.3	(0.9)	4.7	(0.6)	1.2	(0.3)	0.2	(0.1)
	Czech Republic	9.8	(1.0)	16.5	(1.2)	22.5	(1.3)	22.8	(1.6)	16.7	(1.5)	8.1	(0.8)	3.6	(0.5)
	Denmark	6.1	(0.7)	14.8	(0.9)	24.4	(1.4)	25.6	(1.1)	18.7	(1.1)	8.2	(1.0)	2.3	(0.4)
	Estonia	3.9	(0.7)	10.9	(0.9)	23.0	(1.0)	27.0	(1.1)	20.7	(1.1)	10.3	(0.8)	4.2	(0.5)
	Finland	4.1	(0.6)	10.4	(0.8)	20.3	(1.0)	26.7	(1.2)	21.2	(1.0)	12.2	(0.9)	5.1	(0.5)
	France	12.7	(1.0)	16.9	(1.0)	23.2	(1.2)	21.8	(1.1)	15.6	(0.9)	7.1	(0.7)	2.9	(0.4)
	Germany	8.5	(0.9)	13.8	(1.0)	20.8	(1.1)	22.5	(1.4)	18.5	(1.1)	11.0	(0.9)	4.9	(0.6)
	Greece	15.6	(1.1)	24.8	(1.3)	28.8	(1.5)	19.8	(1.0)	8.4	(0.8)	2.2	(0.3)	0.3	(0.2)
	Hungary	13.9	(1.1)	21.2	(1.4)	25.2	(1.3)	19.8	(1.2)	12.0	(1.0)	5.8	(0.9)	1.9	(0.6)
	Iceland	5.7	(0.6)	13.4	(0.9)	22.7	(1.2)	26.5	(1.3)	19.0	(1.1)	9.8	(0.9)	2.9	(0.6)
	Ireland	9.2	(0.9)	16.3	(1.0)	24.6	(1.3)	24.4	(1.4)	16.6	(0.9)	6.9	(0.5)	2.0	(0.3)
	Israel	16.5	(1.3)	18.2	(0.9)	23.7	(1.0)	22.0	(1.1)	13.2	(1.1)	4.9	(0.6)	1.5	(0.3)
	Italy	13.6	(0.7)	19.2	(0.7)	25.3	(0.7)	22.1	(0.7)	13.2	(0.6)	5.2	(0.4)	1.5	(0.2)
	Japan	3.8	(0.6)	8.3	(0.9)	15.4	(1.1)	22.9	(1.2)	21.5	(1.3)	15.8	(1.3)	12.3	(1.5)
	Korea	3.5	(0.6)	7.5	(1.0)	14.5	(1.3)	21.7	(1.2)	22.7	(1.3)	17.2	(1.3)	12.9	(1.5)
	Luxembourg	14.6	(0.8)	19.9	(1.2)	22.6	(1.0)	20.5	(0.9)	14.1	(0.8)	6.5	(0.7)	1.8	(0.4)
	Mexico	30.9	(0.9)	29.4	(0.7)	23.5	(0.7)	11.5	(0.6)	3.8	(0.3)	0.8	(0.1)	0.1	(0.0)
	Netherlands	5.4	(0.9)	12.5	(1.1)	17.9	(1.4)	22.4	(1.6)	22.0	(1.3)	13.8	(1.6)	6.1	(0.8)
	New Zealand	10.5	(0.9)	17.7	(1.0)	22.9	(1.4)	20.8	(1.2)	15.4	(1.1)	8.5	(0.9)	4.3	(0.6)
	Norway	8.8	(0.9)	15.7	(1.2)	23.5	(1.1)	23.8	(1.4)	16.4	(0.9)	8.5	(0.7)	3.3	(0.5)
	Poland	5.6	(0.6)	13.1	(1.2)	22.4	(1.4)	22.8	(1.0)	19.2	(1.1)	11.5	(1.2)	5.4	(0.8)
	Portugal	14.3	(1.3)	18.5	(1.3)	21.9	(1.0)	20.4	(1.2)	15.1	(1.2)	7.5	(0.7)	2.4	(0.4)
	Slovak Republic	14.1	(1.4)	17.3	(1.5)	21.9	(1.7)	21.2	(1.3)	15.4	(1.4)	7.4	(0.8)	2.7	(0.5)
	Slovenia	10.1	(0.7)	16.0	(1.0)	22.5	(1.3)	21.9	(1.1)	16.2	(1.0)	9.1	(1.0)	4.1	(0.6)
	Spain	12.9	(0.7)	18.2	(0.8)	24.4	(1.1)	22.9	(0.8)	14.5	(0.7)	5.7	(0.5)	1.4	(0.2)
	Sweden	11.2	(0.9)	17.7	(1.1)	22.5	(0.9)	22.8	(1.2)	16.1	(1.4)	7.5	(1.0)	2.2	(0.4)
	Switzerland	5.2	(0.6)	9.1	(0.7)	18.1	(1.1)	22.8	(1.0)	22.0	(1.1)	14.6	(1.0)	8.2	(0.9)
	Turkey	18.3	(1.6)	25.0	(1.7)	24.1	(1.6)	16.7	(1.4)	10.5	(1.5)	4.4	(1.0)	1.0	(0.5)
	United Kingdom	11.7	(1.1)	16.0	(0.9)	22.9	(1.1)	21.6	(0.9)	15.7	(0.9)	8.0	(0.8)	4.0	(0.7)
	United States	10.9	(1.2)	20.0	(1.3)	26.1	(1.2)	21.5	(1.6)	12.9	(1.3)	5.9	(0.9)	2.7	(0.5)
	OECD total	12.7	(0.4)	18.2	(0.4)	22.8	(0.4)	20.4	(0.4)	14.3	(0.4)	7.6	(0.3)	3.9	(0.2)
	OECD average	11.1	(0.2)	16.7	(0.2)	22.3	(0.2)	21.8	(0.2)	16.0	(0.2)	8.4	(0.1)	3.7	(0.1)
Partners	Albania	31.0	(1.5)	27.7	(1.3)	24.3	(1.4)	12.0	(1.3)	4.0	(0.7)	0.9	(0.3)	0.1	c
	Argentina	41.0	(2.0)	31.1	(1.6)	19.5	(1.5)	6.8	(0.8)	1.4	(0.3)	0.2	(0.1)	0.0	c
	Brazil	49.0	(1.3)	27.1	(1.0)	15.4	(0.8)	6.1	(0.5)	1.7	(0.3)	0.5	(0.2)	0.1	(0.1)
	Bulgaria	21.8	(1.8)	23.5	(1.4)	24.8	(1.3)	17.2	(1.3)	8.4	(0.8)	3.4	(0.7)	1.0	(0.3)
	Colombia	49.8	(2.2)	28.8	(1.3)	14.8	(1.0)	5.2	(0.9)	1.1	(0.4)	0.2	(0.1)	0.1	(0.1)
	Costa Rica	36.8	(2.1)	34.7	(1.3)	19.7	(1.5)	6.8	(0.9)	1.7	(0.5)	0.3	(0.1)	0.0	c
	Croatia	17.6	(1.2)	24.0	(1.1)	25.5	(1.4)	19.3	(1.4)	8.9	(0.8)	3.4	(0.7)	1.3	(0.6)
	Cyprus*	19.5	(0.9)	26.3	(1.4)	27.4	(1.6)	16.7	(1.2)	7.8	(0.6)	2.0	(0.4)	0.3	(0.1)
	Hong Kong-China	4.3	(0.7)	6.8	(0.7)	12.8	(1.0)	18.5	(1.5)	23.4	(1.5)	19.9	(1.2)	14.3	(1.4)
	Indonesia	48.0	(2.5)	27.6	(1.9)	15.6	(1.4)	6.4	(1.0)	2.0	(0.7)	0.4	(0.3)	0.1	c
	Jordan	32.2	(1.7)	34.1	(1.5)	22.5	(1.1)	9.0	(0.9)	1.8	(0.4)	0.4	(0.4)	0.0	c
	Kazakhstan	15.6	(1.5)	26.9	(1.5)	29.1	(1.2)	18.5	(1.3)	7.3	(0.9)	2.1	(0.6)	0.5	(0.3)
	Latvia	6.7	(1.0)	14.9	(1.2)	26.3	(1.5)	25.8	(1.5)	17.2	(1.4)	6.9	(1.0)	2.2	(0.4)
	Liechtenstein	6.1	(2.8)	12.0	(3.3)	17.8	(4.6)	20.1	(3.8)	23.0	(4.7)	15.6	(3.1)	5.4	(2.2)
	Lithuania	11.4	(1.0)	17.2	(1.0)	24.6	(1.2)	21.9	(1.3)	15.3	(1.0)	7.3	(0.7)	2.4	(0.4)
	Macao-China	4.6	(0.4)	9.0	(0.8)	15.7	(0.8)	21.3	(1.0)	22.0	(0.9)	15.8	(0.9)	11.7	(0.7)
	Malaysia	31.0	(1.9)	26.1	(1.5)	21.6	(1.0)	13.0	(0.9)	6.2	(0.9)	1.8	(0.4)	0.3	(0.1)
	Montenegro	31.4	(1.2)	29.3	(1.3)	22.3	(1.1)	11.8	(0.9)	4.1	(0.5)	0.9	(0.3)	0.2	c
	Peru	51.1	(2.3)	25.9	(1.3)	14.6	(1.2)	6.0	(0.8)	2.0	(0.5)	0.4	(0.2)	0.1	c
	Qatar	43.3	(0.7)	24.9	(0.7)	16.4	(0.5)	8.9	(0.5)	4.4	(0.4)	1.7	(0.2)	0.5	(0.1)
	Romania	18.1	(1.5)	24.1	(1.4)	26.2	(1.1)	18.1	(1.6)	9.6	(1.0)	3.0	(0.6)	0.9	(0.4)
	Russian Federation	9.8	(0.8)	17.2	(1.4)	24.9	(1.6)	23.8	(1.0)	15.3	(1.0)	6.6	(0.9)	2.3	(0.4)
	Serbia	20.0	(1.6)	23.0	(2.0)	24.3	(1.6)	18.3	(1.2)	9.3	(0.9)	3.8	(0.7)	1.3	(0.4)
	Shanghai-China	1.7	(0.4)	3.5	(0.6)	7.2	(0.8)	12.3	(0.9)	17.9	(1.0)	22.0	(1.3)	35.5	(1.5)
	Singapore	3.0	(0.4)	5.9	(0.5)	11.9	(0.7)	16.3	(0.9)	19.3	(0.9)	19.5	(1.0)	24.1	(0.8)
	Chinese Taipei	5.7	(0.6)	7.7	(0.8)	12.1	(1.1)	15.6	(0.9)	17.3	(0.9)	17.3	(1.1)	24.3	(2.2)
	Thailand	26.9	(1.5)	26.4	(1.3)	22.5	(1.1)	13.8	(1.0)	6.3	(0.8)	2.9	(0.6)	1.3	(0.4)
	Tunisia	52.0	(1.9)	25.7	(1.1)	13.7	(1.3)	5.7	(0.8)	2.0	(0.7)	0.7	(0.4)	0.1	(0.1)
	United Arab Emirates	25.4	(1.6)	24.4	(0.8)	22.2	(0.9)	16.4	(0.8)	8.0	(0.7)	2.9	(0.3)	0.7	(0.2)
	Uruguay	34.4	(1.6)	26.3	(1.1)	21.2	(1.3)	12.0	(1.0)	4.7	(0.8)	1.1	(0.3)	0.2	(0.1)
	Viet Nam	8.3	(1.2)	14.8	(1.2)	23.8	(1.3)	25.8	(1.3)	16.8	(1.3)	7.7	(1.0)	2.9	(0.7)

* See notes at the beginning of this Annex.

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[Part 1/1]

Mean score, variation and gender differences in student performance on the mathematics subscale *formulating*

Table I.2.7

		All students				Gender differences						Percentiles									
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	Australia	498	(1.9)	110	(1.5)	506	(2.8)	489	(2.3)	**17**	(3.5)	323	(3.3)	359	(2.6)	421	(1.8)	573	(2.7)	643	(3.8)	683	(4.7)
	Austria	499	(3.2)	105	(2.1)	515	(4.6)	484	(3.6)	**32**	(5.5)	328	(6.6)	365	(4.9)	425	(3.9)	575	(3.9)	635	(5.0)	668	(5.4)
	Belgium	512	(2.4)	111	(1.5)	520	(3.2)	505	(2.6)	**15**	(3.4)	328	(5.3)	367	(4.1)	435	(3.3)	591	(2.9)	656	(3.1)	692	(3.6)
	Canada	516	(2.2)	101	(0.9)	522	(2.6)	510	(2.4)	**13**	(2.4)	350	(2.8)	385	(2.7)	446	(2.7)	587	(2.8)	648	(3.6)	685	(3.2)
	Chile	420	(3.2)	88	(1.6)	434	(3.8)	406	(3.3)	**29**	(3.7)	284	(4.6)	311	(4.3)	359	(3.5)	477	(3.7)	535	(4.9)	573	(5.4)
	Czech Republic	495	(3.4)	103	(2.6)	503	(4.3)	486	(3.8)	**17**	(4.4)	330	(7.5)	365	(5.1)	425	(4.2)	565	(3.6)	626	(4.6)	663	(4.3)
	Denmark	502	(2.4)	89	(1.3)	511	(2.8)	494	(2.6)	**17**	(2.5)	355	(4.9)	387	(4.3)	441	(3.3)	565	(2.7)	618	(3.7)	649	(4.2)
	Estonia	517	(2.3)	91	(1.1)	523	(2.9)	512	(2.4)	**11**	(2.7)	371	(3.5)	402	(3.9)	454	(2.8)	578	(3.0)	637	(3.1)	673	(4.2)
	Finland	519	(2.4)	97	(1.4)	520	(3.0)	518	(2.6)	2	(3.0)	359	(4.9)	393	(3.4)	453	(2.5)	585	(3.0)	645	(3.3)	678	(3.8)
	France	483	(2.8)	106	(2.0)	491	(3.8)	476	(3.0)	**15**	(3.9)	309	(5.7)	346	(4.1)	410	(3.3)	558	(3.8)	620	(4.1)	656	(6.0)
	Germany	511	(3.4)	105	(1.7)	520	(3.6)	501	(3.9)	**19**	(3.2)	337	(4.7)	372	(4.5)	438	(4.2)	586	(4.3)	647	(4.3)	681	(5.3)
	Greece	448	(2.3)	89	(1.6)	454	(3.2)	442	(2.6)	**13**	(3.4)	303	(5.3)	334	(3.8)	387	(3.4)	507	(2.9)	563	(3.7)	596	(3.9)
	Hungary	469	(3.6)	101	(2.9)	478	(4.0)	461	(4.2)	**17**	(3.9)	312	(5.5)	344	(4.1)	398	(3.9)	536	(5.2)	605	(8.4)	645	(9.5)
	Iceland	500	(1.7)	94	(1.2)	499	(2.4)	501	(2.4)	-1	(3.3)	344	(4.5)	377	(3.9)	436	(2.5)	565	(3.0)	623	(3.1)	654	(4.4)
	Ireland	492	(2.4)	95	(1.4)	502	(3.7)	482	(2.8)	**20**	(4.4)	335	(4.5)	369	(4.4)	427	(3.5)	557	(2.4)	615	(3.1)	650	(3.3)
	Israel	465	(4.7)	109	(2.5)	472	(7.7)	457	(3.6)	**15**	(7.3)	284	(7.9)	323	(6.1)	388	(5.4)	541	(5.9)	605	(6.2)	643	(6.4)
	Italy	475	(2.2)	102	(1.2)	487	(2.6)	463	(2.4)	**24**	(2.6)	309	(3.0)	345	(2.6)	406	(2.4)	545	(2.7)	608	(3.4)	645	(3.5)
	Japan	554	(4.2)	110	(2.7)	563	(5.2)	544	(4.4)	**19**	(4.9)	370	(7.5)	410	(6.6)	481	(5.2)	631	(4.7)	695	(5.8)	730	(6.5)
	Korea	562	(5.1)	111	(2.4)	573	(6.5)	550	(5.8)	**22**	(7.0)	377	(7.5)	417	(6.0)	487	(5.2)	642	(6.2)	704	(6.9)	738	(8.5)
	Luxembourg	482	(1.0)	102	(1.0)	498	(1.4)	465	(1.5)	**33**	(2.1)	317	(3.4)	349	(2.5)	409	(2.0)	554	(1.9)	615	(2.5)	650	(3.4)
	Mexico	409	(1.7)	86	(0.8)	419	(1.9)	400	(1.8)	**20**	(1.7)	270	(2.8)	301	(2.1)	351	(1.9)	466	(2.1)	521	(2.4)	555	(2.3)
	Netherlands	527	(3.8)	101	(2.4)	535	(3.8)	519	(4.2)	**16**	(2.8)	358	(5.6)	393	(5.0)	455	(5.2)	600	(4.9)	657	(5.4)	689	(6.3)
	New Zealand	496	(2.5)	109	(1.4)	507	(3.6)	484	(3.3)	**23**	(4.8)	326	(4.2)	359	(3.6)	417	(2.9)	571	(3.3)	641	(4.7)	683	(5.4)
	Norway	489	(3.1)	100	(1.5)	490	(3.1)	488	(3.7)	2	(3.2)	328	(5.4)	363	(4.5)	421	(3.7)	557	(3.4)	618	(4.2)	655	(4.8)
	Poland	516	(4.2)	102	(2.1)	522	(4.8)	509	(4.4)	**13**	(3.8)	353	(4.8)	387	(4.2)	443	(4.0)	585	(5.7)	650	(7.1)	687	(8.9)
	Portugal	479	(4.3)	107	(1.5)	487	(4.6)	471	(4.3)	**17**	(2.8)	304	(4.9)	339	(4.8)	401	(5.1)	554	(5.0)	619	(4.7)	655	(5.6)
	Slovak Republic	480	(4.1)	110	(2.7)	488	(4.8)	472	(4.7)	**16**	(4.8)	301	(8.4)	341	(6.2)	405	(4.4)	557	(5.6)	623	(6.0)	662	(7.3)
	Slovenia	492	(1.5)	104	(1.2)	496	(2.4)	488	(2.2)	**8**	(3.6)	328	(4.8)	360	(3.0)	418	(2.7)	565	(2.7)	630	(3.7)	667	(3.6)
	Spain	477	(2.2)	102	(1.1)	486	(2.8)	467	(2.3)	**19**	(2.6)	305	(4.5)	346	(3.7)	408	(2.9)	547	(2.4)	607	(2.9)	640	(2.9)
	Sweden	479	(2.7)	102	(1.5)	480	(3.4)	478	(2.9)	2	(3.3)	313	(6.0)	348	(3.9)	407	(3.3)	550	(2.9)	612	(3.8)	647	(4.0)
	Switzerland	538	(3.1)	104	(1.6)	548	(3.5)	528	(3.4)	**20**	(3.1)	361	(4.2)	402	(3.8)	468	(3.7)	611	(3.8)	672	(4.2)	707	(4.5)
	Turkey	449	(5.2)	96	(3.1)	454	(5.4)	444	(6.0)	**10**	(4.8)	307	(4.9)	334	(3.9)	380	(4.1)	512	(8.0)	583	(10.5)	622	(9.2)
	United Kingdom	489	(3.7)	104	(2.0)	495	(4.6)	483	(4.4)	**12**	(5.3)	319	(6.2)	355	(6.2)	417	(5.0)	560	(4.0)	626	(5.2)	663	(4.6)
	United States	475	(4.1)	98	(1.6)	479	(4.2)	471	(4.6)	**8**	(3.0)	323	(4.4)	352	(4.9)	406	(4.4)	540	(5.6)	606	(6.0)	645	(5.8)
	OECD total	485	(1.3)	108	(0.6)	493	(1.4)	477	(1.4)	**16**	(1.2)	315	(1.5)	348	(1.6)	407	(1.5)	559	(1.6)	629	(1.7)	670	(2.0)
	OECD average	492	(0.5)	101	(0.3)	499	(0.7)	484	(0.6)	**16**	(0.7)	327	(0.9)	362	(0.8)	421	(0.6)	562	(0.7)	624	(0.8)	660	(0.9)
Partners	Albania	398	(1.9)	92	(1.4)	397	(2.5)	399	(2.5)	-1	(3.1)	244	(4.3)	281	(4.5)	340	(2.8)	459	(2.9)	513	(3.0)	546	(4.3)
	Argentina	383	(3.5)	81	(2.1)	392	(3.9)	374	(3.6)	**17**	(3.0)	251	(6.0)	282	(4.9)	330	(4.4)	436	(3.8)	486	(4.8)	515	(4.7)
	Brazil	376	(2.5)	88	(1.9)	390	(2.6)	363	(2.8)	**27**	(2.0)	239	(3.1)	268	(2.7)	317	(2.1)	431	(3.3)	489	(5.2)	529	(6.6)
	Bulgaria	437	(4.2)	99	(2.4)	439	(4.8)	434	(4.9)	5	(4.6)	282	(6.4)	313	(5.0)	368	(4.4)	503	(5.7)	567	(6.9)	607	(7.3)
	Colombia	375	(3.3)	81	(1.8)	390	(3.7)	362	(3.8)	**29**	(3.6)	247	(5.3)	275	(4.3)	322	(3.2)	426	(3.9)	480	(5.1)	515	(6.5)
	Costa Rica	399	(3.5)	78	(2.3)	416	(4.0)	383	(3.5)	**33**	(2.8)	277	(4.8)	303	(4.5)	346	(3.7)	447	(4.2)	499	(5.9)	532	(7.7)
	Croatia	453	(4.0)	96	(3.0)	461	(5.1)	444	(4.2)	**16**	(4.7)	304	(3.7)	332	(3.5)	384	(3.2)	515	(5.1)	580	(8.6)	622	(13.0)
	Cyprus*	437	(1.2)	93	(0.9)	441	(1.6)	432	(1.8)	**9**	(2.5)	290	(3.2)	320	(2.3)	372	(1.9)	498	(2.0)	559	(2.5)	596	(4.0)
	Hong Kong-China	568	(3.7)	115	(2.1)	579	(5.3)	557	(4.8)	**22**	(7.1)	369	(7.0)	415	(7.0)	493	(5.2)	649	(4.1)	711	(4.0)	744	(5.0)
	Indonesia	368	(4.6)	86	(3.2)	371	(5.0)	365	(5.1)	6	(4.3)	233	(5.2)	262	(4.7)	310	(4.1)	422	(6.0)	481	(8.5)	518	(12.2)
	Jordan	390	(3.4)	79	(3.6)	387	(5.8)	393	(3.1)	-7	(6.4)	267	(4.4)	294	(4.1)	337	(3.6)	439	(3.6)	491	(4.6)	522	(7.4)
	Kazakhstan	442	(3.8)	82	(2.1)	446	(4.1)	438	(4.2)	**7**	(3.3)	313	(3.7)	339	(3.9)	385	(3.8)	496	(5.0)	548	(6.3)	582	(7.5)
	Latvia	488	(3.0)	90	(1.6)	487	(4.0)	489	(3.4)	-2	(4.3)	343	(5.4)	373	(4.4)	426	(3.1)	549	(4.0)	606	(5.2)	639	(4.7)
	Liechtenstein	535	(4.4)	101	(3.6)	548	(6.4)	520	(6.5)	**28**	(9.7)	362	(20.2)	395	(11.8)	467	(8.7)	608	(8.3)	665	(12.0)	698	(12.5)
	Lithuania	477	(3.1)	102	(1.6)	479	(3.3)	476	(3.6)	3	(2.9)	312	(5.3)	348	(4.4)	407	(4.1)	547	(3.9)	613	(5.0)	651	(6.1)
	Macao-China	545	(1.4)	112	(1.2)	549	(1.7)	540	(2.2)	**9**	(2.7)	360	(3.2)	400	(3.7)	471	(2.2)	623	(2.4)	685	(2.6)	721	(3.4)
	Malaysia	406	(3.6)	96	(1.8)	404	(4.2)	407	(4.1)	-3	(4.3)	256	(4.4)	286	(4.0)	337	(3.5)	470	(5.2)	536	(5.5)	571	(5.4)
	Montenegro	404	(1.3)	87	(1.0)	407	(1.9)	401	(1.9)	**6**	(2.7)	267	(3.4)	295	(2.7)	343	(2.0)	462	(2.8)	519	(3.6)	553	(4.0)
	Peru	370	(3.7)	90	(2.1)	383	(3.6)	358	(4.7)	**25**	(3.7)	226	(4.9)	258	(4.3)	310	(3.6)	427	(4.8)	487	(5.8)	526	(6.6)
	Qatar	378	(0.9)	103	(0.7)	374	(1.2)	383	(1.1)	**-9**	(1.5)	225	(3.0)	255	(1.8)	306	(1.0)	441	(1.6)	518	(2.4)	567	(2.5)
	Romania	445	(4.1)	93	(2.7)	449	(4.7)	441	(4.2)	7	(3.8)	301	(4.9)	329	(3.6)	380	(4.0)	505	(5.5)	567	(7.4)	604	(8.1)
	Russian Federation	481	(3.6)	95	(2.1)	484	(4.4)	479	(3.5)	5	(3.4)	327	(4.5)	358	(3.6)	416	(4.0)	546	(4.3)	605	(5.7)	639	(7.6)
	Serbia	447	(3.8)	98	(2.5)	453	(4.4)	441	(4.3)	**12**	(4.3)	294	(6.3)	326	(3.9)	379	(4.1)	509	(4.7)	576	(6.8)	617	(7.9)
	Shanghai-China	624	(4.1)	119	(2.8)	629	(4.9)	620	(4.2)	**8**	(3.9)	413	(8.9)	462	(7.4)	547	(5.1)	710	(3.9)	769	(5.2)	807	(7.5)
	Singapore	582	(1.6)	122	(1.3)	581	(2.2)	582	(2.1)	-1	(2.9)	374	(3.5)	419	(3.2)	496	(3.0)	670	(2.4)	737	(2.9)	773	(4.8)
	Chinese Taipei	578	(4.0)	137	(2.4)	584	(6.3)	573	(6.9)	11	(10.5)	345	(6.7)	393	(6.2)	482	(6.0)	678	(4.1)	751	(5.5)	791	(6.7)
	Thailand	416	(4.0)	98	(2.5)	412	(4.4)	419	(4.7)	-7	(4.3)	265	(3.1)	296	(3.7)	350	(3.3)	475	(6.0)	545	(8.2)	592	(10.4)
	Tunisia	373	(4.1)	88	(3.6)	387	(4.6)	360	(4.4)	**27**	(3.2)	238	(5.4)	267	(4.3)	313	(3.5)	426	(4.6)	485	(8.0)	526	(12.9)
	United Arab Emirates	426	(2.7)	100	(1.4)	427	(3.7)	425	(3.6)	2	(4.9)	271	(3.2)	302	(2.7)	354	(3.0)	494	(3.4)	559	(4.5)	599	(3.8)
	Uruguay	406	(3.2)	97	(2.0)	417	(3.8)	396	(3.5)	**20**	(3.3)	248	(5.8)	283	(4.6)	339	(3.9)	471	(3.8)	533	(5.1)	570	(5.8)
	Viet Nam	497	(5.1)	98	(3.0)	507	(5.9)	489	(5.0)	**18**	(3.2)	336	(8.4)	373	(7.0)	432	(6.1)	561	(5.8)	624	(8.0)	661	(8.6)

Note: Values that are statistically significant are indicated in bold (see Annex A3).
* See notes at the beginning of this Annex.
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[Part 1/1]

Table I.2.8 **Percentage of students at each proficiency level on the mathematics subscale *employing***

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	6.6	(0.3)	13.5	(0.4)	22.7	(0.5)	24.5	(0.6)	19.1	(0.6)	10.2	(0.4)	3.5	(0.4)
	Austria	4.2	(0.5)	11.6	(0.7)	22.5	(1.0)	25.8	(0.9)	22.6	(1.0)	10.8	(0.7)	2.6	(0.4)
	Belgium	6.7	(0.6)	11.5	(0.6)	18.5	(0.7)	22.3	(0.7)	21.6	(0.7)	13.8	(0.6)	5.6	(0.4)
	Canada	3.8	(0.3)	10.2	(0.5)	21.1	(0.7)	26.8	(0.7)	22.6	(0.6)	12.1	(0.6)	3.5	(0.3)
	Chile	25.8	(1.5)	28.1	(1.0)	23.7	(1.2)	14.7	(0.9)	6.2	(0.6)	1.4	(0.2)	0.1	(0.0)
	Czech Republic	5.9	(0.7)	13.0	(1.0)	22.4	(1.0)	24.8	(1.2)	20.3	(0.9)	10.1	(0.7)	3.5	(0.3)
	Denmark	4.7	(0.5)	13.7	(0.7)	25.4	(0.9)	28.6	(0.9)	19.4	(0.8)	7.1	(0.6)	1.2	(0.2)
	Estonia	1.9	(0.3)	7.5	(0.5)	20.3	(0.8)	30.4	(0.9)	24.6	(0.9)	11.9	(0.7)	3.4	(0.4)
	Finland	2.8	(0.4)	9.1	(0.5)	21.4	(0.7)	30.5	(1.0)	23.1	(0.9)	10.7	(0.6)	2.4	(0.3)
	France	8.4	(0.7)	13.9	(0.6)	21.1	(1.0)	23.9	(0.9)	19.8	(0.8)	9.9	(0.6)	3.0	(0.4)
	Germany	5.3	(0.7)	11.3	(0.7)	18.9	(0.8)	24.6	(0.8)	22.1	(0.7)	13.6	(0.8)	4.2	(0.4)
	Greece	16.2	(1.0)	21.5	(0.8)	26.4	(1.2)	21.1	(1.0)	10.9	(0.6)	3.4	(0.3)	0.5	(0.1)
	Hungary	9.7	(0.8)	17.0	(1.1)	24.3	(1.1)	23.3	(1.1)	15.6	(0.8)	7.9	(0.8)	2.2	(0.5)
	Iceland	7.4	(0.6)	14.7	(0.8)	23.5	(0.9)	26.4	(1.3)	18.5	(0.9)	7.8	(0.6)	1.6	(0.3)
	Ireland	4.6	(0.5)	11.5	(0.7)	24.0	(0.8)	28.1	(0.9)	21.5	(0.8)	8.7	(0.6)	1.7	(0.2)
	Israel	15.4	(1.3)	16.7	(0.9)	21.6	(0.7)	21.8	(0.9)	15.2	(0.9)	7.3	(0.7)	2.0	(0.3)
	Italy	8.7	(0.4)	15.7	(0.5)	24.1	(0.6)	24.6	(0.6)	17.2	(0.5)	7.7	(0.4)	2.0	(0.2)
	Japan	3.3	(0.5)	8.1	(0.6)	17.8	(0.9)	25.6	(1.1)	24.4	(1.0)	15.3	(1.1)	5.5	(0.7)
	Korea	2.3	(0.4)	6.0	(0.6)	14.5	(0.9)	22.4	(1.0)	25.0	(0.9)	19.2	(1.1)	10.5	(1.2)
	Luxembourg	7.8	(0.4)	15.2	(0.5)	22.4	(1.2)	24.2	(0.9)	19.0	(0.6)	9.0	(0.5)	2.4	(0.2)
	Mexico	23.8	(0.7)	30.4	(0.6)	27.2	(0.5)	13.6	(0.4)	4.1	(0.2)	0.7	(0.1)	0.1	(0.0)
	Netherlands	4.0	(0.7)	10.5	(0.9)	19.2	(1.1)	24.2	(1.4)	25.5	(1.4)	13.9	(1.1)	2.6	(0.4)
	New Zealand	8.3	(0.6)	15.4	(0.7)	22.0	(0.7)	22.7	(0.8)	17.7	(0.7)	9.8	(0.6)	4.1	(0.4)
	Norway	7.3	(0.7)	15.5	(0.9)	25.3	(1.0)	25.4	(0.9)	17.5	(0.8)	7.0	(0.5)	1.9	(0.3)
	Poland	2.8	(0.4)	10.8	(0.7)	21.8	(0.9)	26.7	(0.9)	21.2	(0.9)	12.1	(0.8)	4.7	(0.7)
	Portugal	8.8	(0.8)	15.5	(1.0)	22.2	(0.8)	24.0	(1.0)	18.8	(0.9)	8.6	(0.7)	2.1	(0.4)
	Slovak Republic	10.5	(1.0)	15.2	(1.0)	22.6	(1.0)	22.6	(1.0)	17.6	(0.9)	8.7	(0.6)	2.7	(0.4)
	Slovenia	4.6	(0.4)	13.9	(0.8)	23.1	(1.1)	25.3	(0.8)	19.0	(0.6)	10.6	(0.6)	3.5	(0.4)
	Spain	8.1	(0.5)	16.2	(0.7)	24.7	(0.6)	26.3	(0.6)	17.7	(0.5)	6.0	(0.4)	0.9	(0.1)
	Sweden	10.1	(0.8)	17.6	(0.7)	25.8	(0.8)	24.2	(0.9)	15.4	(0.8)	5.9	(0.6)	1.1	(0.3)
	Switzerland	3.2	(0.4)	8.5	(0.6)	18.4	(0.9)	25.2	(0.8)	24.6	(0.9)	14.4	(0.9)	5.7	(0.6)
	Turkey	17.0	(1.3)	24.7	(1.4)	24.7	(1.2)	16.9	(1.1)	10.4	(1.1)	4.9	(0.9)	1.2	(0.4)
	United Kingdom	8.1	(0.7)	14.8	(0.9)	22.8	(0.8)	25.0	(0.9)	18.1	(0.8)	8.7	(0.6)	2.5	(0.3)
	United States	8.6	(0.8)	17.8	(1.1)	26.0	(1.1)	23.7	(0.9)	15.2	(0.8)	6.8	(0.7)	2.0	(0.4)
	OECD total	9.6	(0.2)	16.5	(0.3)	23.1	(0.3)	22.7	(0.3)	16.7	(0.3)	8.6	(0.2)	2.8	(0.1)
	OECD average	8.1	(0.1)	14.6	(0.1)	22.4	(0.2)	24.1	(0.2)	18.6	(0.1)	9.3	(0.1)	2.8	(0.1)
Partners	Albania	31.6	(1.1)	27.5	(1.0)	23.3	(0.8)	12.3	(0.7)	4.4	(0.4)	0.9	(0.2)	0.0	c
	Argentina	35.0	(1.9)	31.2	(1.1)	22.3	(1.2)	9.3	(0.8)	1.9	(0.3)	0.3	(0.1)	0.0	(0.0)
	Brazil	37.5	(0.9)	30.1	(0.6)	19.8	(0.6)	8.8	(0.4)	3.0	(0.4)	0.8	(0.2)	0.1	(0.0)
	Bulgaria	20.5	(1.6)	23.4	(1.2)	23.3	(1.1)	18.3	(0.9)	9.9	(0.8)	3.7	(0.6)	0.8	(0.2)
	Colombia	46.9	(1.7)	28.4	(1.0)	16.2	(1.0)	6.3	(0.7)	1.8	(0.3)	0.4	(0.1)	0.0	(0.0)
	Costa Rica	28.1	(1.9)	34.1	(1.5)	25.1	(1.3)	9.4	(0.9)	2.9	(0.5)	0.5	(0.2)	0.0	(0.1)
	Croatia	8.9	(0.8)	18.7	(1.0)	25.5	(1.0)	23.9	(1.1)	14.8	(1.0)	6.4	(0.8)	1.8	(0.5)
	Cyprus*	17.6	(0.5)	22.6	(1.0)	26.7	(1.0)	19.5	(0.8)	9.9	(0.5)	3.2	(0.3)	0.5	(0.1)
	Hong Kong-China	2.0	(0.4)	5.5	(0.6)	11.8	(0.9)	21.0	(0.8)	28.5	(0.9)	21.9	(0.9)	9.2	(0.8)
	Indonesia	45.2	(2.0)	31.2	(1.3)	16.5	(1.1)	5.3	(0.9)	1.5	(0.6)	0.3	(0.2)	0.0	c
	Jordan	38.5	(1.7)	29.2	(1.0)	20.4	(1.1)	8.9	(0.8)	2.3	(0.4)	0.6	(0.3)	0.1	(0.1)
	Kazakhstan	17.1	(1.0)	28.0	(1.0)	28.8	(1.2)	17.7	(1.0)	6.7	(0.8)	1.5	(0.3)	0.2	(0.1)
	Latvia	4.3	(0.5)	13.1	(0.9)	26.0	(1.2)	29.3	(1.1)	19.1	(1.0)	7.1	(0.7)	1.1	(0.2)
	Liechtenstein	3.0	(1.0)	10.3	(1.8)	16.6	(3.3)	20.9	(2.6)	23.6	(3.2)	18.3	(2.4)	7.4	(1.5)
	Lithuania	7.5	(0.7)	16.5	(0.9)	26.1	(0.8)	26.0	(0.9)	16.4	(0.9)	6.4	(0.6)	1.1	(0.2)
	Macao-China	2.7	(0.2)	7.1	(0.5)	16.7	(0.9)	25.3	(1.1)	26.4	(0.7)	16.2	(0.6)	5.5	(0.3)
	Malaysia	23.3	(1.2)	26.7	(1.0)	25.3	(1.0)	15.9	(0.9)	6.9	(0.7)	1.7	(0.3)	0.1	(0.1)
	Montenegro	27.9	(0.7)	28.7	(0.8)	24.0	(0.7)	13.4	(0.6)	4.8	(0.5)	1.1	(0.2)	0.1	c
	Peru	47.1	(1.8)	26.4	(0.8)	16.0	(0.9)	7.3	(0.8)	2.5	(0.5)	0.6	(0.2)	0.1	(0.1)
	Qatar	48.2	(0.6)	22.0	(0.5)	15.0	(0.5)	8.5	(0.3)	4.5	(0.3)	1.6	(0.1)	0.3	(0.1)
	Romania	15.8	(1.3)	25.2	(1.2)	26.3	(1.0)	19.0	(1.1)	9.7	(0.9)	3.2	(0.5)	0.8	(0.3)
	Russian Federation	7.1	(0.6)	15.2	(0.8)	25.4	(1.0)	26.8	(1.0)	17.2	(0.9)	6.8	(0.7)	1.6	(0.3)
	Serbia	15.5	(1.2)	23.0	(1.0)	25.7	(1.3)	20.0	(1.1)	10.6	(0.8)	3.9	(0.5)	1.3	(0.3)
	Shanghai-China	0.6	(0.2)	2.2	(0.4)	6.7	(0.7)	13.3	(0.8)	21.1	(0.7)	26.9	(1.2)	29.3	(1.2)
	Singapore	1.7	(0.2)	5.2	(0.3)	11.4	(0.6)	18.3	(0.6)	23.8	(0.7)	22.4	(0.7)	17.2	(0.5)
	Chinese Taipei	4.9	(0.5)	8.9	(0.6)	13.7	(0.9)	18.2	(1.0)	21.6	(0.8)	19.5	(0.8)	13.3	(0.8)
	Thailand	20.4	(1.2)	29.0	(1.3)	27.5	(1.1)	14.5	(0.9)	6.3	(0.7)	1.9	(0.4)	0.4	(0.1)
	Tunisia	36.0	(1.9)	29.1	(1.0)	21.4	(1.2)	9.6	(0.8)	3.0	(0.7)	0.8	(0.3)	0.1	(0.1)
	United Arab Emirates	19.1	(0.8)	24.5	(0.7)	25.0	(0.6)	17.8	(0.7)	9.8	(0.6)	3.2	(0.3)	0.7	(0.1)
	Uruguay	30.5	(1.3)	25.4	(1.0)	22.2	(1.1)	14.1	(0.7)	6.2	(0.5)	1.4	(0.3)	0.1	(0.1)
	Viet Nam	3.2	(0.7)	9.0	(1.0)	20.1	(1.2)	27.1	(1.2)	23.4	(1.2)	12.3	(1.1)	4.8	(0.9)

* See notes at the beginning of this Annex.

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[Part 1/2]

Table I.2.9 **Percentage of students at each proficiency level on the mathematics subscale *employing*, by gender**

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	6.3	(0.5)	12.8	(0.7)	21.9	(0.7)	24.1	(0.7)	19.8	(0.7)	10.9	(0.7)	4.2	(0.5)
	Austria	3.3	(0.6)	10.4	(0.9)	20.4	(1.2)	25.1	(1.2)	23.8	(1.3)	13.0	(1.1)	4.0	(0.6)
	Belgium	6.6	(0.7)	11.0	(0.7)	17.8	(0.8)	21.2	(0.9)	21.4	(1.0)	14.9	(0.7)	7.1	(0.5)
	Canada	3.8	(0.4)	9.7	(0.7)	20.0	(0.9)	25.9	(1.0)	22.6	(0.9)	13.7	(0.9)	4.4	(0.4)
	Chile	21.2	(1.8)	26.2	(1.5)	25.0	(1.4)	17.3	(1.1)	8.1	(1.0)	1.9	(0.4)	0.2	(0.1)
	Czech Republic	5.6	(0.9)	11.7	(1.2)	21.2	(1.7)	25.1	(1.6)	21.5	(1.4)	10.8	(1.0)	4.2	(0.7)
	Denmark	4.4	(0.7)	12.4	(1.1)	23.8	(1.1)	29.1	(1.1)	20.9	(1.1)	8.1	(0.7)	1.3	(0.3)
	Estonia	1.8	(0.4)	7.8	(0.8)	19.8	(1.1)	29.4	(1.2)	24.6	(1.3)	12.5	(0.8)	4.1	(0.5)
	Finland	3.6	(0.5)	10.3	(0.8)	21.0	(0.9)	28.7	(0.9)	22.3	(1.0)	11.4	(0.9)	2.7	(0.5)
	France	8.9	(1.0)	13.4	(1.0)	19.7	(1.1)	22.4	(1.2)	20.4	(1.0)	11.6	(0.9)	3.7	(0.5)
	Germany	5.2	(0.7)	10.8	(1.0)	17.7	(1.1)	24.2	(1.0)	21.9	(1.0)	14.9	(1.0)	5.4	(0.6)
	Greece	17.3	(1.5)	19.4	(1.4)	25.0	(1.7)	21.2	(2.0)	12.2	(0.9)	4.3	(0.6)	0.7	(0.2)
	Hungary	9.3	(1.2)	16.9	(1.3)	23.2	(1.3)	23.0	(1.6)	15.6	(1.1)	9.0	(0.9)	3.1	(0.7)
	Iceland	9.3	(0.9)	14.5	(1.1)	23.1	(1.4)	25.5	(1.4)	17.4	(1.2)	8.3	(0.9)	1.9	(0.4)
	Ireland	4.3	(0.8)	10.6	(1.0)	22.0	(1.1)	28.3	(1.3)	22.9	(1.2)	9.6	(1.0)	2.3	(0.3)
	Israel	17.3	(1.9)	15.8	(1.6)	18.1	(1.0)	19.7	(1.2)	16.2	(1.4)	9.8	(1.3)	3.1	(0.6)
	Italy	8.3	(0.5)	14.5	(0.6)	22.3	(0.7)	23.7	(0.7)	18.6	(0.7)	9.7	(0.6)	2.9	(0.3)
	Japan	3.7	(0.6)	7.5	(0.8)	15.7	(1.1)	23.3	(1.3)	25.2	(1.3)	17.2	(1.3)	7.5	(1.0)
	Korea	2.5	(0.6)	5.9	(0.8)	13.1	(1.1)	20.0	(1.4)	24.5	(1.6)	20.3	(1.5)	13.6	(1.7)
	Luxembourg	6.4	(0.6)	12.9	(0.7)	21.2	(1.4)	24.6	(1.3)	20.6	(0.9)	10.8	(0.8)	3.6	(0.4)
	Mexico	22.0	(0.7)	28.8	(0.8)	27.7	(0.7)	15.2	(0.6)	5.2	(0.3)	1.0	(0.1)	0.1	(0.0)
	Netherlands	3.9	(0.9)	10.2	(1.0)	18.3	(1.4)	23.9	(1.6)	25.2	(1.6)	15.4	(1.3)	3.1	(0.6)
	New Zealand	8.7	(0.8)	14.0	(1.1)	20.0	(1.1)	21.7	(1.1)	18.6	(1.2)	11.6	(1.1)	5.4	(0.6)
	Norway	7.8	(0.7)	15.5	(1.2)	24.3	(1.4)	25.0	(1.1)	18.2	(1.0)	7.2	(0.6)	2.0	(0.4)
	Poland	3.5	(0.6)	11.1	(1.0)	21.5	(1.2)	26.1	(1.3)	20.3	(1.3)	12.2	(1.0)	5.3	(1.0)
	Portugal	9.3	(1.1)	14.4	(1.1)	20.3	(1.0)	24.0	(1.3)	19.6	(1.0)	9.6	(1.0)	2.8	(0.5)
	Slovak Republic	10.1	(1.0)	15.4	(1.1)	22.7	(1.1)	21.5	(1.3)	16.9	(1.2)	9.9	(0.8)	3.4	(0.6)
	Slovenia	4.7	(0.7)	13.9	(1.0)	22.5	(1.4)	25.2	(1.0)	18.6	(0.9)	11.2	(0.8)	3.9	(0.5)
	Spain	7.9	(0.7)	15.3	(1.0)	22.6	(0.7)	25.7	(0.8)	19.3	(0.6)	7.8	(0.6)	1.4	(0.2)
	Sweden	11.8	(1.0)	17.5	(1.0)	25.2	(1.3)	22.8	(1.1)	15.1	(1.0)	6.3	(0.6)	1.3	(0.4)
	Switzerland	3.3	(0.4)	8.2	(0.6)	17.2	(1.0)	24.4	(0.9)	24.9	(1.2)	15.3	(1.2)	6.7	(0.8)
	Turkey	16.4	(1.5)	24.3	(1.6)	24.5	(1.6)	17.2	(1.2)	10.5	(1.2)	5.5	(1.0)	1.6	(0.5)
	United Kingdom	7.3	(0.9)	13.4	(1.1)	22.2	(1.1)	25.5	(1.3)	19.0	(1.1)	9.8	(0.9)	2.9	(0.5)
	United States	9.4	(1.1)	17.8	(1.3)	23.8	(1.1)	23.5	(1.0)	16.1	(0.9)	7.3	(0.7)	2.0	(0.5)
	OECD total	9.5	(0.3)	15.9	(0.4)	21.7	(0.4)	22.3	(0.3)	17.4	(0.4)	9.7	(0.3)	3.5	(0.2)
	OECD average	8.1	(0.2)	13.9	(0.2)	21.3	(0.2)	23.6	(0.2)	19.1	(0.2)	10.4	(0.2)	3.6	(0.1)
Partners	Albania	32.1	(1.5)	27.6	(1.2)	23.1	(1.1)	11.9	(0.9)	4.5	(0.6)	0.8	(0.3)	0.0	c
	Argentina	32.0	(2.2)	31.3	(1.5)	23.3	(1.5)	10.2	(1.0)	2.6	(0.5)	0.4	(0.2)	0.0	(0.0)
	Brazil	33.5	(1.0)	29.8	(0.9)	21.4	(1.0)	10.2	(0.6)	4.0	(0.5)	1.0	(0.3)	0.1	(0.1)
	Bulgaria	22.1	(2.1)	23.7	(1.6)	21.2	(1.1)	17.9	(1.2)	10.3	(1.0)	4.0	(0.6)	0.8	(0.3)
	Colombia	40.2	(1.9)	28.9	(1.2)	19.1	(1.3)	8.4	(0.9)	2.8	(0.6)	0.6	(0.2)	0.1	(0.0)
	Costa Rica	22.8	(2.2)	32.0	(1.8)	28.4	(1.7)	11.9	(1.2)	4.0	(0.8)	0.8	(0.3)	0.1	c
	Croatia	9.1	(1.0)	18.3	(1.4)	24.5	(1.2)	23.1	(1.4)	15.1	(1.3)	7.6	(1.0)	2.4	(0.7)
	Cyprus*	20.3	(0.8)	21.0	(0.9)	23.9	(1.0)	18.7	(1.2)	11.0	(0.8)	4.5	(0.5)	0.7	(0.2)
	Hong Kong-China	2.1	(0.4)	5.6	(0.8)	11.6	(1.1)	19.4	(1.2)	26.8	(1.2)	23.0	(1.3)	11.6	(1.2)
	Indonesia	44.7	(2.2)	30.2	(1.6)	17.2	(1.2)	5.9	(1.1)	1.6	(0.6)	0.3	(0.2)	0.0	c
	Jordan	45.9	(2.7)	26.7	(1.3)	16.9	(1.5)	7.3	(1.0)	2.2	(0.6)	0.9	(0.6)	0.1	(0.2)
	Kazakhstan	17.7	(1.2)	27.7	(1.4)	27.7	(1.3)	18.1	(1.2)	6.9	(1.0)	1.7	(0.4)	0.2	(0.1)
	Latvia	5.1	(1.0)	14.4	(1.2)	26.1	(1.5)	27.8	(1.7)	18.0	(1.3)	7.4	(0.8)	1.2	(0.3)
	Liechtenstein	2.0	(1.3)	9.1	(2.4)	15.8	(3.6)	21.1	(4.3)	24.4	(4.7)	18.4	(3.4)	9.2	(2.5)
	Lithuania	8.1	(1.0)	17.5	(1.2)	25.0	(1.1)	25.1	(1.0)	15.7	(1.1)	7.1	(0.7)	1.5	(0.3)
	Macao-China	3.1	(0.3)	7.6	(0.7)	15.9	(1.3)	24.1	(1.5)	26.2	(0.9)	17.0	(0.7)	6.1	(0.6)
	Malaysia	26.0	(1.6)	26.1	(1.1)	24.0	(1.2)	15.3	(1.1)	6.9	(1.0)	1.6	(0.4)	0.1	(0.1)
	Montenegro	29.0	(1.3)	28.5	(1.4)	22.7	(0.9)	13.5	(1.0)	5.0	(0.7)	1.1	(0.3)	0.2	c
	Peru	43.1	(1.8)	27.2	(1.1)	17.3	(1.2)	8.5	(1.1)	3.0	(0.6)	0.8	(0.3)	0.1	c
	Qatar	51.7	(0.7)	19.7	(0.8)	13.7	(0.8)	8.0	(0.4)	4.8	(0.4)	1.8	(0.2)	0.3	(0.1)
	Romania	15.8	(1.5)	25.2	(1.4)	25.7	(1.2)	19.1	(1.5)	9.9	(1.1)	3.1	(0.6)	1.1	(0.4)
	Russian Federation	7.7	(0.7)	15.3	(0.9)	25.4	(1.6)	26.6	(1.5)	16.8	(1.1)	6.7	(0.9)	1.5	(0.4)
	Serbia	14.4	(1.4)	22.8	(1.3)	25.6	(2.0)	20.0	(1.2)	11.0	(1.0)	4.6	(0.6)	1.6	(0.4)
	Shanghai-China	0.7	(0.2)	2.4	(0.4)	6.7	(0.7)	13.7	(1.0)	20.1	(1.1)	25.5	(1.4)	31.0	(1.5)
	Singapore	2.2	(0.3)	5.9	(0.5)	12.2	(0.8)	17.2	(0.8)	22.8	(0.9)	22.0	(1.1)	17.7	(0.7)
	Chinese Taipei	5.7	(0.7)	9.5	(0.8)	12.7	(0.9)	16.2	(1.1)	20.7	(1.1)	20.3	(1.2)	14.9	(1.5)
	Thailand	24.3	(1.4)	29.7	(1.4)	25.8	(1.4)	12.9	(1.0)	5.5	(0.8)	1.6	(0.4)	0.3	(0.2)
	Tunisia	31.9	(2.3)	28.6	(1.5)	23.0	(1.6)	11.7	(1.1)	3.5	(0.8)	1.1	(0.5)	0.2	(0.1)
	United Arab Emirates	22.2	(1.2)	23.8	(1.0)	22.9	(0.9)	16.5	(0.9)	9.9	(0.9)	3.8	(0.5)	1.0	(0.2)
	Uruguay	29.1	(1.7)	24.2	(1.4)	22.5	(1.5)	14.4	(0.9)	7.5	(0.7)	2.0	(0.4)	0.2	(0.1)
	Viet Nam	3.4	(0.9)	9.2	(1.3)	18.9	(1.4)	26.1	(1.6)	22.8	(1.3)	13.5	(1.3)	6.2	(1.3)

* See notes at the beginning of this Annex.

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[Part 2/2]

Table I.2.9 **Percentage of students at each proficiency level on the mathematics subscale *employing*, by gender**

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	7.0	(0.5)	14.3	(0.6)	23.5	(0.8)	24.9	(0.9)	18.3	(1.0)	9.3	(0.6)	2.7	(0.4)
	Austria	5.0	(0.8)	12.7	(1.2)	24.5	(1.5)	26.5	(1.5)	21.3	(1.1)	8.7	(0.8)	1.3	(0.3)
	Belgium	6.8	(0.7)	12.0	(0.8)	19.2	(1.0)	23.4	(0.8)	21.8	(1.0)	12.7	(0.8)	4.0	(0.4)
	Canada	3.7	(0.3)	10.6	(0.5)	22.3	(0.9)	27.7	(1.0)	22.6	(0.8)	10.5	(0.7)	2.7	(0.3)
	Chile	30.1	(1.7)	30.0	(1.4)	22.4	(1.5)	12.2	(1.1)	4.4	(0.5)	0.9	(0.2)	0.0	(0.0)
	Czech Republic	6.1	(0.9)	14.3	(1.4)	23.6	(1.4)	24.6	(1.5)	19.0	(1.2)	9.4	(1.1)	2.9	(0.4)
	Denmark	5.1	(0.5)	15.0	(0.9)	27.0	(1.2)	28.1	(1.5)	17.8	(1.0)	6.0	(0.7)	1.0	(0.3)
	Estonia	2.0	(0.4)	7.2	(0.7)	20.8	(1.1)	31.3	(1.8)	24.7	(1.5)	11.3	(0.8)	2.7	(0.5)
	Finland	2.1	(0.4)	7.8	(0.5)	21.9	(1.1)	32.3	(1.7)	23.8	(1.2)	10.0	(0.7)	2.1	(0.3)
	France	7.9	(0.8)	14.3	(0.8)	22.5	(1.3)	25.4	(1.2)	19.3	(1.3)	8.3	(0.7)	2.3	(0.4)
	Germany	5.4	(0.8)	11.8	(1.1)	20.2	(1.0)	25.0	(1.1)	22.4	(1.0)	12.3	(0.9)	2.9	(0.4)
	Greece	15.2	(1.2)	23.7	(1.2)	27.7	(1.4)	21.0	(1.2)	9.7	(0.8)	2.4	(0.4)	0.3	(0.2)
	Hungary	10.0	(1.0)	17.1	(1.6)	25.3	(1.5)	23.7	(1.4)	15.6	(1.1)	6.9	(0.9)	1.3	(0.4)
	Iceland	5.4	(0.6)	14.9	(1.1)	24.0	(1.2)	27.4	(1.8)	19.5	(1.3)	7.4	(1.0)	1.4	(0.4)
	Ireland	4.9	(0.6)	12.6	(1.1)	26.0	(1.1)	27.9	(1.2)	19.9	(1.1)	7.6	(0.7)	1.1	(0.3)
	Israel	13.6	(1.2)	17.6	(0.9)	24.9	(1.1)	23.8	(1.3)	14.3	(1.1)	4.8	(0.5)	1.0	(0.2)
	Italy	9.0	(0.6)	17.0	(0.6)	26.0	(0.7)	25.6	(0.7)	15.7	(0.6)	5.6	(0.4)	1.1	(0.2)
	Japan	3.0	(0.6)	8.7	(0.8)	20.1	(1.0)	28.1	(1.3)	23.6	(1.1)	13.1	(1.2)	3.3	(0.7)
	Korea	2.0	(0.4)	6.2	(0.9)	16.1	(1.3)	25.1	(1.3)	25.6	(1.2)	18.0	(1.4)	7.0	(1.0)
	Luxembourg	9.2	(0.6)	17.5	(0.8)	23.7	(1.2)	23.7	(1.0)	17.4	(0.7)	7.3	(0.6)	1.2	(0.2)
	Mexico	25.6	(0.8)	32.0	(0.7)	26.8	(0.7)	12.1	(0.5)	3.1	(0.3)	0.4	(0.1)	0.0	(0.0)
	Netherlands	4.2	(0.7)	10.9	(1.1)	20.1	(1.4)	24.5	(1.5)	25.8	(1.6)	12.4	(1.2)	2.0	(0.5)
	New Zealand	7.7	(0.8)	16.9	(1.4)	24.0	(1.4)	23.7	(1.1)	16.9	(0.9)	7.9	(0.7)	2.9	(0.4)
	Norway	6.9	(0.9)	15.6	(1.0)	26.5	(1.2)	25.7	(1.2)	16.8	(1.0)	6.7	(0.7)	1.8	(0.4)
	Poland	2.2	(0.5)	10.5	(0.9)	22.0	(1.1)	27.2	(1.3)	22.1	(1.3)	12.0	(1.0)	4.1	(0.7)
	Portugal	8.3	(0.9)	16.7	(1.4)	24.1	(1.2)	24.1	(1.5)	17.9	(1.4)	7.5	(0.8)	1.4	(0.5)
	Slovak Republic	11.0	(1.3)	15.0	(1.4)	22.5	(1.3)	23.8	(1.5)	18.3	(1.4)	7.4	(0.8)	2.0	(0.4)
	Slovenia	4.5	(0.5)	13.9	(1.0)	23.7	(1.5)	25.4	(1.3)	19.5	(0.9)	9.9	(0.9)	3.0	(0.6)
	Spain	8.3	(0.6)	17.1	(0.8)	26.9	(0.8)	26.9	(0.8)	16.0	(0.7)	4.2	(0.3)	0.4	(0.1)
	Sweden	8.3	(0.9)	17.7	(1.3)	26.4	(1.2)	25.6	(1.3)	15.7	(1.2)	5.5	(0.8)	0.8	(0.3)
	Switzerland	3.1	(0.5)	8.9	(0.8)	19.7	(1.1)	25.9	(1.1)	24.3	(1.2)	13.5	(1.0)	4.6	(0.7)
	Turkey	17.6	(1.6)	25.1	(1.8)	25.0	(1.6)	16.6	(1.6)	10.4	(1.3)	4.3	(1.0)	0.8	(0.4)
	United Kingdom	8.8	(0.9)	16.1	(1.2)	23.4	(1.5)	24.6	(1.4)	17.3	(0.9)	7.6	(0.7)	2.2	(0.4)
	United States	7.8	(0.9)	17.8	(1.2)	28.3	(1.5)	23.8	(1.1)	14.2	(1.1)	6.1	(0.8)	1.9	(0.4)
	OECD total	9.7	(0.3)	17.2	(0.4)	24.5	(0.4)	23.0	(0.4)	16.0	(0.4)	7.5	(0.3)	2.1	(0.1)
	OECD average	8.2	(0.1)	15.3	(0.2)	23.6	(0.2)	24.6	(0.2)	18.1	(0.2)	8.2	(0.1)	2.1	(0.1)
Partners	Albania	31.1	(1.7)	27.5	(1.5)	23.4	(1.0)	12.8	(0.8)	4.3	(0.5)	1.0	(0.3)	0.0	c
	Argentina	37.9	(2.0)	31.1	(1.3)	21.3	(1.4)	8.5	(1.0)	1.2	(0.3)	0.1	(0.1)	0.0	c
	Brazil	41.2	(1.2)	30.2	(0.8)	18.3	(0.8)	7.6	(0.6)	2.1	(0.4)	0.5	(0.2)	0.1	(0.1)
	Bulgaria	18.8	(1.5)	23.2	(1.4)	25.7	(1.5)	18.7	(1.1)	9.4	(1.1)	3.4	(0.8)	0.8	(0.3)
	Colombia	52.9	(2.2)	27.9	(1.3)	13.6	(1.1)	4.5	(0.8)	0.9	(0.2)	0.2	(0.1)	0.0	(0.0)
	Costa Rica	32.7	(2.0)	35.9	(1.8)	22.1	(1.7)	7.3	(1.0)	1.8	(0.5)	0.2	(0.1)	0.0	c
	Croatia	8.7	(0.9)	19.1	(1.4)	26.5	(1.6)	24.7	(1.4)	14.5	(1.1)	5.2	(0.9)	1.3	(0.5)
	Cyprus*	14.8	(0.8)	24.2	(1.9)	29.7	(1.7)	20.4	(1.2)	8.7	(1.0)	1.9	(0.4)	0.3	(0.1)
	Hong Kong-China	1.9	(0.5)	5.5	(0.7)	12.1	(1.2)	22.9	(1.2)	30.6	(1.4)	20.7	(1.1)	6.4	(0.9)
	Indonesia	45.7	(2.3)	32.2	(1.6)	15.7	(1.4)	4.7	(1.0)	1.4	(0.8)	0.2	(0.2)	0.0	c
	Jordan	31.4	(1.8)	31.6	(1.6)	23.9	(1.3)	10.5	(1.1)	2.3	(0.6)	0.3	(0.2)	0.0	c
	Kazakhstan	16.5	(1.5)	28.3	(1.5)	30.0	(1.8)	17.3	(1.3)	6.5	(1.0)	1.2	(0.4)	0.2	(0.2)
	Latvia	3.5	(0.5)	11.9	(1.1)	25.9	(1.4)	30.9	(1.3)	20.1	(1.3)	6.7	(0.9)	1.0	(0.3)
	Liechtenstein	4.1	(1.8)	11.6	(3.3)	17.4	(5.0)	20.6	(4.0)	22.7	(4.8)	18.3	(3.8)	5.3	(2.0)
	Lithuania	6.8	(0.8)	15.5	(1.1)	27.2	(1.1)	26.9	(1.3)	17.1	(1.1)	5.7	(0.8)	0.8	(0.3)
	Macao-China	2.2	(0.3)	6.6	(0.7)	17.6	(1.1)	26.5	(1.0)	26.7	(1.2)	15.5	(0.9)	4.9	(0.5)
	Malaysia	20.8	(1.2)	27.2	(1.4)	26.5	(1.2)	16.5	(1.2)	6.9	(0.8)	1.9	(0.5)	0.1	(0.1)
	Montenegro	26.8	(0.9)	28.9	(1.1)	25.2	(1.1)	13.4	(0.9)	4.5	(0.8)	1.0	(0.4)	0.1	c
	Peru	50.8	(2.5)	25.7	(1.3)	14.8	(1.2)	6.2	(0.9)	2.1	(0.5)	0.4	(0.2)	0.0	(0.0)
	Qatar	44.4	(0.8)	24.4	(0.7)	16.4	(0.8)	8.9	(0.5)	4.2	(0.3)	1.4	(0.2)	0.3	(0.1)
	Romania	15.8	(1.5)	25.1	(1.5)	26.9	(1.4)	19.0	(1.3)	9.4	(1.1)	3.3	(0.6)	0.5	(0.2)
	Russian Federation	6.4	(0.7)	15.1	(1.1)	25.3	(1.3)	27.0	(1.1)	17.5	(1.2)	6.9	(0.8)	1.7	(0.4)
	Serbia	16.6	(1.3)	23.3	(1.4)	25.8	(1.7)	20.1	(1.7)	10.1	(0.9)	3.2	(0.7)	0.9	(0.4)
	Shanghai-China	0.5	(0.2)	2.0	(0.5)	6.7	(0.9)	13.0	(0.9)	22.0	(1.2)	28.2	(1.4)	27.6	(1.4)
	Singapore	1.0	(0.2)	4.4	(0.5)	10.7	(0.7)	19.4	(1.1)	24.9	(1.0)	22.9	(1.0)	16.7	(0.8)
	Chinese Taipei	4.0	(0.5)	8.3	(0.8)	14.6	(1.4)	20.2	(1.4)	22.5	(1.2)	18.7	(1.3)	11.7	(1.7)
	Thailand	17.3	(1.3)	28.4	(1.7)	28.9	(1.4)	15.8	(1.1)	7.0	(0.9)	2.2	(0.5)	0.4	(0.2)
	Tunisia	39.5	(2.0)	29.5	(1.2)	20.1	(1.5)	7.8	(0.9)	2.6	(0.8)	0.5	(0.3)	0.0	c
	United Arab Emirates	16.1	(1.2)	25.1	(1.1)	27.0	(0.9)	19.1	(1.0)	9.7	(0.9)	2.7	(0.4)	0.4	(0.2)
	Uruguay	31.8	(1.4)	26.4	(1.1)	21.9	(1.1)	13.9	(1.0)	5.1	(0.7)	0.9	(0.4)	0.0	c
	Viet Nam	3.1	(0.8)	8.8	(1.2)	21.2	(1.7)	28.0	(1.5)	23.9	(1.6)	11.3	(1.3)	3.6	(0.8)

* See notes at the beginning of this Annex.

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[Part 1/1]

Mean score, variation and gender differences in student performance on the mathematics subscale *employing*

Table I.2.10

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	Australia	500	(1.7)	95	(1.1)	505	(2.3)	495	(2.0)	**10**	(2.9)	345	(3.1)	378	(2.2)	435	(1.9)	567	(2.1)	624	(2.6)	655	(3.2)
	Austria	510	(2.5)	87	(1.6)	520	(3.5)	499	(3.2)	**20**	(4.6)	366	(4.7)	397	(3.4)	448	(3.2)	572	(2.9)	621	(3.6)	649	(3.4)
	Belgium	516	(2.1)	101	(1.6)	521	(2.7)	510	(2.7)	**11**	(3.4)	342	(5.1)	380	(3.8)	446	(3.0)	590	(2.6)	644	(2.9)	673	(2.4)
	Canada	517	(1.9)	87	(0.9)	521	(2.1)	512	(2.2)	**10**	(2.2)	370	(2.9)	403	(2.6)	457	(2.3)	578	(2.1)	629	(2.3)	657	(2.9)
	Chile	416	(3.3)	86	(1.5)	430	(4.1)	404	(3.3)	**26**	(3.8)	283	(4.4)	309	(4.1)	356	(3.7)	474	(4.3)	532	(4.6)	563	(4.3)
	Czech Republic	504	(2.9)	94	(1.8)	509	(3.6)	498	(3.6)	**12**	(4.5)	349	(6.5)	384	(4.8)	440	(4.1)	569	(3.4)	623	(3.6)	656	(3.6)
	Denmark	495	(2.4)	81	(1.3)	500	(3.0)	489	(2.4)	**12**	(2.6)	360	(5.3)	390	(3.3)	438	(2.9)	551	(2.8)	599	(2.9)	626	(3.6)
	Estonia	524	(2.1)	79	(1.1)	527	(2.4)	522	(2.4)	4	(2.5)	394	(4.1)	423	(2.8)	471	(2.4)	578	(2.8)	628	(3.1)	656	(3.7)
	Finland	516	(1.8)	81	(0.9)	514	(2.5)	517	(1.9)	-3	(2.7)	380	(3.7)	411	(3.0)	463	(1.9)	571	(2.4)	619	(2.8)	646	(2.7)
	France	496	(2.3)	97	(1.8)	501	(3.3)	492	(2.5)	**8**	(3.5)	331	(6.1)	367	(4.6)	429	(2.7)	567	(3.4)	620	(3.8)	650	(3.4)
	Germany	516	(2.8)	95	(1.6)	521	(3.0)	510	(3.3)	**11**	(2.8)	354	(6.4)	389	(4.7)	451	(3.9)	584	(3.7)	636	(3.0)	663	(3.7)
	Greece	449	(2.7)	90	(1.4)	452	(3.6)	446	(2.9)	6	(3.4)	299	(5.8)	332	(3.8)	387	(3.6)	511	(3.8)	565	(3.0)	596	(4.0)
	Hungary	481	(3.2)	95	(2.4)	486	(3.7)	477	(3.7)	**8**	(3.6)	327	(5.0)	359	(4.2)	415	(4.2)	547	(4.9)	608	(6.1)	640	(6.9)
	Iceland	490	(1.6)	90	(1.1)	487	(2.2)	493	(2.2)	**-7**	(3.1)	340	(4.2)	372	(3.2)	429	(2.4)	553	(2.7)	604	(3.2)	635	(3.1)
	Ireland	502	(2.4)	84	(1.3)	509	(3.4)	496	(2.7)	**13**	(3.9)	360	(4.4)	394	(4.6)	447	(3.5)	561	(2.6)	609	(3.0)	637	(3.1)
	Israel	469	(4.6)	105	(2.1)	473	(7.7)	464	(3.5)	9	(7.5)	292	(7.8)	330	(6.3)	397	(5.5)	544	(4.8)	603	(5.5)	636	(4.7)
	Italy	485	(2.1)	93	(1.2)	494	(2.4)	476	(2.3)	**17**	(2.5)	332	(2.5)	365	(2.7)	422	(2.2)	550	(2.6)	606	(3.0)	637	(3.1)
	Japan	530	(3.5)	90	(2.1)	539	(4.4)	521	(3.5)	**17**	(4.1)	376	(6.1)	412	(5.2)	471	(4.1)	595	(4.2)	645	(4.0)	673	(4.8)
	Korea	553	(4.3)	95	(2.0)	561	(5.5)	544	(4.9)	**17**	(6.0)	395	(6.5)	430	(5.2)	489	(4.5)	620	(5.0)	672	(5.6)	700	(6.8)
	Luxembourg	493	(0.9)	93	(0.8)	505	(1.2)	481	(1.3)	**24**	(1.8)	340	(2.4)	371	(2.8)	426	(1.6)	560	(1.3)	614	(2.3)	642	(2.6)
	Mexico	413	(1.4)	78	(0.9)	420	(1.5)	407	(1.6)	**13**	(1.3)	287	(2.5)	315	(2.0)	360	(1.6)	465	(1.7)	514	(2.0)	544	(2.1)
	Netherlands	518	(3.4)	88	(2.2)	522	(3.7)	515	(3.8)	**8**	(2.8)	367	(7.1)	398	(5.4)	457	(5.1)	584	(4.5)	628	(3.6)	650	(3.8)
	New Zealand	495	(2.2)	100	(1.2)	502	(3.2)	488	(2.9)	**14**	(4.2)	335	(4.3)	367	(3.4)	424	(2.7)	566	(3.0)	626	(3.1)	660	(3.9)
	Norway	486	(2.7)	89	(1.3)	487	(2.7)	486	(3.4)	2	(2.9)	341	(5.5)	374	(3.8)	426	(3.1)	548	(2.8)	600	(4.0)	632	(3.7)
	Poland	519	(3.5)	88	(1.7)	518	(4.1)	519	(3.7)	-1	(3.5)	377	(3.6)	406	(3.7)	456	(3.5)	580	(4.3)	636	(5.3)	666	(6.5)
	Portugal	489	(3.7)	94	(1.4)	493	(4.0)	484	(3.8)	**9**	(2.5)	330	(4.5)	364	(4.7)	422	(5.0)	556	(3.6)	610	(3.5)	640	(3.9)
	Slovak Republic	485	(3.4)	101	(2.4)	489	(3.9)	481	(4.2)	7	(4.4)	316	(7.2)	355	(5.9)	418	(4.6)	556	(3.9)	614	(4.5)	645	(5.6)
	Slovenia	505	(1.2)	90	(1.0)	506	(2.0)	503	(2.0)	3	(3.1)	361	(3.4)	389	(2.6)	440	(2.5)	569	(2.0)	626	(3.3)	656	(3.9)
	Spain	481	(2.0)	87	(0.8)	488	(2.5)	474	(2.1)	**14**	(2.3)	336	(3.6)	367	(3.2)	422	(2.7)	544	(2.1)	592	(2.0)	619	(2.1)
	Sweden	474	(2.5)	90	(1.5)	471	(3.1)	476	(2.6)	-5	(2.9)	325	(4.6)	357	(4.2)	413	(2.9)	536	(3.3)	591	(3.5)	621	(3.4)
	Switzerland	529	(2.9)	90	(1.5)	534	(3.3)	525	(3.0)	**9**	(2.7)	377	(4.1)	411	(3.1)	468	(3.1)	593	(4.0)	644	(4.3)	675	(4.5)
	Turkey	448	(5.0)	94	(3.1)	451	(5.4)	445	(5.8)	6	(5.0)	308	(6.0)	333	(4.3)	380	(3.9)	510	(8.0)	582	(9.6)	616	(9.0)
	United Kingdom	492	(3.1)	94	(1.5)	498	(4.0)	486	(3.6)	**12**	(4.4)	335	(5.0)	368	(4.7)	427	(4.5)	557	(3.2)	613	(3.9)	645	(4.0)
	United States	480	(3.5)	90	(1.4)	481	(3.8)	479	(3.7)	2	(2.8)	337	(3.9)	365	(4.0)	416	(3.5)	541	(4.2)	600	(4.8)	631	(5.3)
	OECD total	486	(1.1)	97	(0.5)	491	(1.3)	480	(1.2)	**10**	(1.1)	329	(1.2)	360	(1.3)	417	(1.3)	554	(1.4)	614	(1.3)	646	(1.4)
	OECD average	493	(0.5)	91	(0.3)	498	(0.6)	489	(0.5)	**9**	(0.6)	343	(0.9)	375	(0.7)	431	(0.6)	557	(0.6)	611	(0.7)	641	(0.7)
Partners	Albania	397	(2.2)	94	(1.5)	396	(2.7)	398	(2.8)	-3	(3.2)	235	(6.3)	280	(4.9)	340	(3.3)	460	(2.7)	514	(3.4)	548	(4.6)
	Argentina	387	(3.4)	79	(1.7)	394	(4.0)	381	(3.4)	**13**	(3.0)	255	(5.1)	285	(4.6)	335	(4.1)	440	(4.2)	489	(4.0)	517	(4.5)
	Brazil	388	(2.1)	82	(1.7)	397	(2.2)	379	(2.4)	**18**	(1.9)	263	(2.8)	289	(2.0)	332	(1.8)	439	(2.7)	496	(4.0)	531	(6.6)
	Bulgaria	439	(4.1)	96	(2.3)	437	(5.0)	441	(4.3)	-4	(4.4)	287	(5.7)	318	(5.1)	371	(4.8)	506	(5.1)	567	(6.2)	603	(7.1)
	Colombia	367	(3.3)	82	(1.7)	382	(3.7)	354	(3.7)	**28**	(3.5)	239	(4.8)	267	(3.9)	312	(3.3)	419	(3.7)	474	(5.2)	509	(5.8)
	Costa Rica	401	(3.4)	73	(2.0)	413	(3.9)	390	(3.5)	**23**	(2.5)	287	(6.8)	311	(4.6)	351	(3.7)	447	(3.7)	495	(5.1)	528	(6.6)
	Croatia	478	(3.7)	91	(2.5)	481	(4.6)	474	(3.9)	7	(4.3)	334	(4.2)	363	(3.8)	413	(3.6)	538	(4.9)	597	(6.9)	633	(9.7)
	Cyprus*	443	(1.1)	91	(0.9)	443	(1.5)	443	(1.6)	0	(2.1)	295	(2.7)	327	(2.0)	381	(1.9)	505	(1.8)	561	(2.1)	594	(3.7)
	Hong Kong-China	558	(3.1)	89	(1.9)	563	(4.3)	552	(3.7)	**11**	(5.0)	396	(6.0)	438	(5.8)	501	(4.3)	620	(3.1)	666	(3.6)	690	(3.8)
	Indonesia	369	(4.2)	75	(3.3)	371	(4.5)	367	(4.5)	4	(3.4)	252	(4.9)	278	(4.4)	319	(3.9)	417	(5.1)	466	(7.8)	498	(11.6)
	Jordan	383	(3.4)	84	(2.6)	371	(5.8)	396	(3.5)	**-25**	(6.9)	249	(4.8)	279	(4.6)	327	(3.6)	439	(4.2)	491	(4.8)	521	(6.9)
	Kazakhstan	433	(3.2)	79	(2.1)	433	(3.5)	432	(3.6)	0	(3.2)	308	(3.4)	334	(3.9)	378	(2.9)	485	(4.5)	536	(6.0)	567	(6.9)
	Latvia	495	(2.8)	79	(1.5)	492	(3.3)	498	(3.2)	**-6**	(3.3)	364	(5.2)	393	(3.4)	441	(3.6)	550	(3.5)	598	(4.2)	626	(3.7)
	Liechtenstein	536	(3.7)	94	(3.2)	545	(5.7)	527	(5.9)	**18**	(9.1)	374	(10.8)	407	(9.9)	469	(7.4)	608	(5.5)	654	(8.9)	685	(11.8)
	Lithuania	482	(2.7)	86	(1.4)	481	(2.9)	483	(3.0)	-1	(2.3)	341	(4.2)	371	(3.5)	423	(3.8)	542	(3.3)	594	(3.9)	623	(4.0)
	Macao-China	536	(1.1)	90	(1.0)	537	(1.3)	535	(1.7)	2	(2.1)	386	(3.6)	421	(2.9)	478	(2.2)	598	(1.6)	646	(1.9)	672	(2.4)
	Malaysia	423	(3.3)	86	(1.7)	418	(3.9)	427	(3.8)	**-9**	(4.1)	286	(3.8)	314	(3.7)	362	(3.1)	481	(4.9)	538	(5.2)	571	(5.8)
	Montenegro	409	(1.1)	84	(1.0)	408	(1.8)	411	(1.7)	-3	(2.6)	277	(3.5)	304	(3.0)	351	(1.4)	465	(2.0)	520	(3.3)	552	(4.4)
	Peru	368	(3.9)	89	(2.4)	378	(3.9)	359	(5.0)	**19**	(4.0)	228	(4.9)	257	(4.2)	307	(3.6)	424	(5.2)	485	(7.0)	521	(8.8)
	Qatar	373	(0.8)	101	(0.7)	366	(1.1)	381	(1.0)	**-15**	(1.4)	224	(2.7)	252	(2.0)	302	(1.4)	437	(1.6)	513	(2.1)	560	(2.5)
	Romania	446	(4.1)	87	(2.3)	447	(4.6)	444	(4.4)	2	(3.7)	312	(4.2)	337	(4.1)	383	(4.4)	504	(5.2)	563	(7.0)	597	(7.2)
	Russian Federation	487	(3.1)	87	(1.6)	485	(3.5)	489	(3.3)	-4	(2.9)	343	(4.3)	374	(4.1)	428	(3.3)	546	(3.8)	599	(4.7)	628	(5.0)
	Serbia	451	(3.4)	92	(2.3)	456	(4.1)	446	(3.8)	**9**	(4.1)	305	(4.9)	335	(4.8)	387	(3.9)	512	(4.1)	572	(5.4)	609	(6.8)
	Shanghai-China	613	(3.0)	93	(2.2)	614	(3.6)	611	(3.2)	3	(3.1)	447	(6.5)	486	(6.5)	553	(4.7)	679	(2.7)	726	(2.8)	752	(3.6)
	Singapore	574	(1.2)	98	(1.0)	571	(1.8)	577	(1.7)	**-6**	(2.4)	404	(3.1)	441	(2.7)	507	(2.2)	645	(1.8)	696	(1.8)	724	(3.8)
	Chinese Taipei	549	(3.1)	110	(1.9)	551	(5.1)	547	(5.2)	4	(8.1)	359	(5.4)	398	(5.0)	473	(4.6)	630	(3.4)	683	(4.1)	715	(5.0)
	Thailand	426	(3.5)	83	(2.0)	416	(3.7)	433	(4.1)	**-17**	(3.6)	295	(4.1)	323	(3.5)	370	(3.2)	477	(4.7)	536	(6.4)	573	(7.6)
	Tunisia	390	(4.3)	84	(3.1)	401	(4.8)	381	(4.4)	**19**	(3.1)	257	(5.9)	284	(5.1)	333	(4.7)	445	(4.7)	498	(6.7)	532	(11.2)
	United Arab Emirates	440	(2.4)	92	(1.2)	437	(3.7)	443	(3.1)	-6	(4.9)	297	(3.4)	325	(2.8)	374	(2.7)	502	(3.1)	563	(3.7)	597	(3.5)
	Uruguay	408	(2.9)	93	(2.1)	413	(3.6)	403	(3.1)	**10**	(3.3)	257	(5.7)	289	(4.2)	343	(3.3)	472	(3.8)	531	(4.0)	564	(5.2)
	Viet Nam	523	(5.1)	88	(2.6)	527	(5.9)	519	(4.9)	**8**	(3.1)	377	(8.8)	409	(7.7)	464	(5.6)	583	(5.7)	637	(7.0)	668	(7.8)

Note: Values that are statistically significant are indicated in bold (see Annex A3).
* See notes at the beginning of this Annex.
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[Part 1/1]

Table I.2.11 **Percentage of students at each proficiency level on the mathematics subscale *interpreting***

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	6.0	(0.4)	11.8	(0.5)	20.2	(0.7)	23.5	(0.6)	20.4	(0.4)	11.9	(0.4)	6.3	(0.4)
	Austria	8.3	(0.8)	13.0	(0.8)	19.1	(0.8)	20.6	(0.8)	20.0	(0.8)	12.9	(0.7)	6.0	(0.6)
	Belgium	7.6	(0.5)	12.4	(0.6)	18.4	(0.6)	21.4	(0.6)	20.4	(0.6)	13.2	(0.5)	6.6	(0.4)
	Canada	4.2	(0.3)	9.8	(0.4)	19.7	(0.6)	26.0	(0.6)	22.2	(0.5)	12.8	(0.7)	5.3	(0.4)
	Chile	17.9	(1.2)	28.0	(0.9)	27.2	(1.0)	17.7	(0.9)	7.3	(0.7)	1.8	(0.3)	0.2	(0.1)
	Czech Republic	8.6	(0.8)	14.3	(0.8)	21.4	(0.9)	24.1	(1.0)	18.4	(1.0)	9.5	(0.7)	3.7	(0.3)
	Denmark	4.8	(0.5)	11.9	(0.7)	22.1	(0.8)	26.7	(0.8)	20.4	(0.9)	10.8	(0.7)	3.3	(0.4)
	Estonia	3.5	(0.4)	10.8	(0.7)	22.3	(0.8)	28.0	(0.9)	21.4	(1.0)	10.3	(0.6)	3.7	(0.4)
	Finland	3.2	(0.3)	7.7	(0.5)	18.2	(0.7)	27.8	(0.8)	24.5	(0.7)	13.6	(0.6)	5.0	(0.4)
	France	8.2	(0.7)	11.7	(0.9)	18.7	(0.9)	22.0	(0.9)	20.0	(1.1)	13.1	(0.9)	6.2	(0.6)
	Germany	7.1	(0.7)	11.6	(0.8)	17.6	(1.1)	21.8	(0.9)	21.7	(0.9)	13.5	(0.9)	6.7	(0.7)
	Greece	13.3	(1.0)	18.6	(0.8)	23.6	(0.9)	22.5	(0.9)	14.4	(0.9)	6.0	(0.6)	1.6	(0.2)
	Hungary	12.4	(0.9)	15.9	(0.9)	23.5	(0.9)	22.6	(0.9)	16.0	(0.8)	7.3	(0.7)	2.2	(0.4)
	Iceland	9.7	(0.5)	14.1	(0.8)	20.7	(1.0)	24.2	(1.2)	18.6	(0.8)	9.3	(0.7)	3.4	(0.3)
	Ireland	5.5	(0.6)	11.3	(0.8)	22.2	(1.0)	26.3	(0.9)	21.2	(0.8)	10.0	(0.6)	3.5	(0.3)
	Israel	19.3	(1.3)	17.1	(0.8)	19.9	(1.1)	19.2	(0.9)	13.9	(0.8)	7.4	(0.7)	3.2	(0.6)
	Italy	9.7	(0.5)	13.6	(0.5)	20.3	(0.5)	22.3	(0.5)	18.2	(0.5)	10.6	(0.4)	5.2	(0.3)
	Japan	3.4	(0.5)	8.5	(0.7)	17.6	(0.9)	25.1	(1.1)	24.3	(1.1)	15.0	(0.8)	6.1	(0.7)
	Korea	3.7	(0.5)	7.6	(0.6)	15.7	(0.8)	22.9	(0.9)	24.6	(0.9)	17.0	(0.9)	8.6	(1.0)
	Luxembourg	10.4	(0.5)	14.7	(0.7)	19.9	(0.7)	21.6	(0.6)	18.2	(0.6)	10.7	(0.5)	4.6	(0.3)
	Mexico	22.0	(0.7)	32.1	(0.6)	29.2	(0.5)	13.1	(0.5)	3.2	(0.2)	0.4	(0.1)	0.0	(0.0)
	Netherlands	5.1	(0.8)	11.1	(0.8)	17.2	(1.0)	21.8	(1.2)	22.8	(1.2)	15.2	(1.0)	6.9	(0.6)
	New Zealand	7.9	(0.6)	13.0	(0.6)	19.2	(1.0)	21.1	(0.9)	19.3	(0.7)	12.5	(0.8)	7.0	(0.5)
	Norway	7.6	(0.7)	13.3	(0.8)	21.7	(0.8)	24.8	(0.9)	19.2	(0.8)	9.3	(0.6)	3.9	(0.4)
	Poland	3.9	(0.4)	10.9	(0.7)	21.5	(0.9)	26.2	(0.8)	22.2	(0.8)	11.1	(0.7)	4.2	(0.7)
	Portugal	8.2	(0.9)	15.1	(1.0)	23.0	(0.9)	24.4	(1.0)	18.4	(0.9)	8.7	(0.6)	2.3	(0.3)
	Slovak Republic	13.6	(1.0)	16.8	(0.9)	22.3	(1.1)	22.0	(0.9)	15.4	(0.9)	7.3	(0.5)	2.5	(0.4)
	Slovenia	6.6	(0.5)	14.9	(0.6)	23.5	(1.0)	23.0	(1.0)	18.6	(0.7)	10.2	(0.6)	3.3	(0.4)
	Spain	8.5	(0.4)	13.6	(0.6)	21.8	(0.8)	24.4	(0.7)	18.9	(0.6)	9.6	(0.4)	3.1	(0.2)
	Sweden	10.1	(0.7)	15.7	(0.6)	22.7	(0.8)	23.6	(1.0)	17.0	(0.9)	8.2	(0.5)	2.8	(0.3)
	Switzerland	5.0	(0.4)	9.4	(0.6)	16.8	(0.8)	23.3	(0.8)	22.8	(0.6)	15.2	(0.8)	7.5	(0.8)
	Turkey	17.1	(1.1)	25.2	(1.3)	25.4	(1.1)	16.6	(1.0)	9.9	(1.2)	4.2	(0.7)	1.7	(0.5)
	United Kingdom	8.2	(0.8)	13.2	(0.8)	20.7	(0.8)	23.6	(1.0)	19.2	(0.8)	10.4	(0.6)	4.7	(0.4)
	United States	8.3	(0.9)	16.1	(0.9)	23.9	(0.9)	22.9	(0.8)	16.9	(1.0)	8.7	(0.6)	3.1	(0.4)
	OECD total	9.6	(0.3)	16.0	(0.3)	22.0	(0.3)	21.7	(0.3)	17.1	(0.4)	9.5	(0.2)	4.0	(0.1)
	OECD average	8.8	(0.1)	14.3	(0.1)	21.1	(0.1)	22.9	(0.1)	18.5	(0.1)	10.2	(0.1)	4.2	(0.1)
Partners	Albania	39.5	(1.2)	26.6	(1.3)	19.3	(1.1)	10.4	(1.0)	3.3	(0.5)	0.7	(0.2)	0.1	(0.1)
	Argentina	35.3	(2.0)	28.9	(1.4)	22.4	(1.3)	10.2	(0.9)	2.6	(0.4)	0.5	(0.2)	0.0	(0.0)
	Brazil	30.0	(0.9)	31.0	(0.7)	23.3	(0.8)	11.3	(0.6)	3.6	(0.4)	0.7	(0.2)	0.1	(0.0)
	Bulgaria	20.6	(1.5)	21.7	(1.0)	23.1	(1.0)	19.3	(0.8)	10.6	(0.8)	3.9	(0.5)	0.8	(0.2)
	Colombia	34.7	(1.4)	33.4	(1.1)	22.3	(1.0)	7.4	(0.6)	1.9	(0.3)	0.2	(0.1)	0.0	(0.0)
	Costa Rica	19.7	(1.4)	32.3	(1.1)	30.5	(1.2)	13.7	(1.0)	3.3	(0.5)	0.5	(0.1)	0.0	(0.0)
	Croatia	9.9	(0.8)	18.1	(1.0)	25.1	(1.0)	23.1	(1.0)	14.9	(0.8)	6.8	(0.7)	2.1	(0.5)
	Cyprus*	22.4	(0.6)	21.2	(0.8)	23.4	(0.7)	18.8	(0.7)	9.8	(0.5)	3.5	(0.3)	0.9	(0.2)
	Hong Kong-China	2.7	(0.4)	6.4	(0.7)	13.2	(0.8)	21.7	(0.9)	27.4	(1.1)	19.2	(0.9)	9.4	(0.9)
	Indonesia	39.3	(2.1)	34.0	(1.4)	19.2	(1.3)	6.0	(0.9)	1.3	(0.5)	0.2	(0.2)	0.0	c
	Jordan	36.6	(1.5)	32.3	(0.8)	21.8	(1.1)	7.3	(0.6)	1.7	(0.4)	0.3	(0.2)	0.0	c
	Kazakhstan	16.1	(1.0)	34.7	(1.3)	32.3	(1.0)	14.0	(1.3)	2.7	(0.5)	0.2	(0.1)	0.0	c
	Latvia	7.0	(0.7)	16.0	(0.9)	25.2	(1.1)	26.0	(1.0)	17.1	(0.8)	6.9	(0.6)	1.8	(0.4)
	Liechtenstein	5.2	(1.5)	9.4	(2.0)	15.1	(2.7)	19.3	(3.4)	21.2	(2.8)	19.1	(2.5)	10.6	(1.7)
	Lithuania	10.7	(0.7)	18.6	(0.9)	26.1	(1.0)	23.3	(0.8)	14.3	(0.8)	5.7	(0.5)	1.3	(0.3)
	Macao-China	3.6	(0.4)	8.4	(0.6)	17.7	(0.7)	25.1	(0.9)	25.0	(0.7)	14.7	(0.7)	5.6	(0.4)
	Malaysia	21.5	(1.3)	30.2	(1.1)	28.6	(1.0)	14.8	(0.9)	4.4	(0.6)	0.5	(0.2)	0.0	c
	Montenegro	27.7	(0.9)	26.6	(1.1)	23.5	(1.2)	14.4	(0.9)	5.9	(0.6)	1.5	(0.4)	0.3	(0.1)
	Peru	46.6	(1.8)	27.4	(1.0)	16.2	(1.1)	7.1	(0.8)	2.1	(0.4)	0.5	(0.2)	0.1	(0.1)
	Qatar	46.7	(0.4)	22.0	(0.5)	15.3	(0.5)	9.2	(0.3)	4.6	(0.2)	1.8	(0.1)	0.4	(0.1)
	Romania	13.9	(1.3)	27.3	(1.4)	31.8	(1.1)	19.1	(1.1)	6.6	(0.8)	1.2	(0.3)	0.1	(0.1)
	Russian Federation	10.1	(0.8)	18.1	(0.9)	26.9	(1.0)	24.2	(1.0)	14.2	(0.8)	5.2	(0.5)	1.2	(0.2)
	Serbia	17.0	(1.3)	22.7	(1.1)	26.4	(1.0)	19.6	(1.1)	10.3	(0.8)	3.3	(0.5)	0.8	(0.2)
	Shanghai-China	1.5	(0.3)	4.3	(0.5)	10.9	(0.6)	18.4	(1.0)	24.4	(1.4)	22.8	(1.0)	17.7	(1.0)
	Singapore	3.3	(0.3)	7.7	(0.5)	14.0	(0.6)	19.8	(0.7)	22.7	(1.0)	18.6	(1.0)	14.0	(0.5)
	Chinese Taipei	4.2	(0.5)	7.9	(0.6)	14.2	(0.7)	19.6	(0.7)	22.9	(0.8)	18.9	(0.9)	12.3	(0.9)
	Thailand	16.9	(1.1)	28.5	(1.1)	30.0	(1.0)	16.3	(1.0)	6.0	(0.7)	1.9	(0.4)	0.4	(0.2)
	Tunisia	36.8	(1.9)	31.5	(1.3)	21.3	(1.4)	7.7	(0.8)	2.2	(0.6)	0.5	(0.3)	0.1	(0.1)
	United Arab Emirates	22.3	(0.9)	26.3	(0.8)	24.7	(0.6)	16.2	(0.7)	7.5	(0.5)	2.5	(0.3)	0.5	(0.1)
	Uruguay	28.5	(1.2)	27.4	(0.8)	24.0	(1.1)	13.2	(0.7)	5.6	(0.6)	1.3	(0.3)	0.1	(0.1)
	Viet Nam	4.5	(0.8)	13.0	(1.3)	25.3	(1.2)	29.7	(1.2)	18.8	(1.2)	7.0	(0.8)	1.8	(0.4)

* See notes at the beginning of this Annex.

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[Part 1/2]

Table I.2.12 **Percentage of students at each proficiency level on the mathematics subscale *interpreting*, by gender**

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	6.2	(0.5)	11.0	(0.6)	19.4	(0.8)	22.8	(0.7)	20.4	(0.6)	12.8	(0.6)	7.5	(0.6)
	Austria	7.7	(1.1)	12.0	(1.4)	18.6	(1.1)	19.8	(1.2)	20.2	(1.1)	14.2	(1.1)	7.5	(0.9)
	Belgium	7.9	(0.8)	11.9	(0.9)	17.2	(0.8)	20.5	(0.9)	20.4	(1.0)	14.1	(0.8)	8.0	(0.6)
	Canada	4.4	(0.4)	9.5	(0.6)	18.5	(0.7)	24.6	(0.7)	22.2	(0.7)	14.3	(1.0)	6.4	(0.6)
	Chile	14.5	(1.4)	26.2	(1.4)	26.8	(1.3)	20.5	(1.3)	9.4	(1.0)	2.4	(0.4)	0.2	(0.1)
	Czech Republic	8.5	(1.0)	13.0	(1.3)	20.9	(1.2)	23.8	(1.2)	19.7	(1.2)	9.9	(1.0)	4.3	(0.6)
	Denmark	4.4	(0.6)	11.1	(1.0)	20.9	(1.0)	25.8	(1.1)	21.4	(1.3)	12.4	(1.2)	3.9	(0.5)
	Estonia	3.7	(0.5)	11.2	(0.9)	20.8	(1.3)	27.6	(1.5)	21.6	(1.3)	10.9	(0.8)	4.2	(0.5)
	Finland	4.1	(0.5)	9.4	(0.6)	19.0	(1.0)	26.0	(1.2)	23.1	(1.0)	13.1	(0.8)	5.3	(0.7)
	France	8.8	(0.9)	11.8	(1.1)	18.0	(1.2)	20.6	(1.1)	19.5	(1.3)	14.1	(1.3)	7.3	(0.9)
	Germany	7.1	(0.9)	11.2	(0.9)	16.2	(1.1)	20.8	(1.0)	22.2	(1.3)	14.1	(1.1)	8.4	(0.9)
	Greece	14.7	(1.3)	16.8	(0.9)	21.2	(1.2)	22.1	(1.0)	15.4	(1.3)	7.6	(1.0)	2.3	(0.4)
	Hungary	13.3	(1.4)	15.3	(1.5)	22.2	(1.6)	21.7	(1.4)	16.1	(1.1)	8.5	(0.9)	2.9	(0.5)
	Iceland	11.8	(0.9)	14.7	(0.9)	20.0	(1.2)	23.0	(1.2)	18.4	(1.2)	8.7	(0.9)	3.4	(0.5)
	Ireland	4.8	(0.8)	10.1	(1.0)	20.6	(1.2)	26.1	(1.4)	22.5	(1.4)	11.4	(1.1)	4.5	(0.5)
	Israel	21.1	(2.1)	14.7	(1.3)	16.7	(1.4)	16.9	(1.1)	15.4	(1.3)	10.1	(1.2)	5.0	(1.2)
	Italy	9.6	(0.5)	12.7	(0.6)	18.5	(0.6)	21.1	(0.6)	18.5	(0.6)	12.5	(0.5)	7.0	(0.5)
	Japan	3.5	(0.6)	7.8	(0.8)	16.0	(1.2)	22.9	(1.3)	24.6	(1.4)	17.2	(1.2)	8.0	(1.0)
	Korea	4.1	(0.7)	7.6	(1.0)	15.0	(1.2)	20.6	(1.1)	24.1	(1.2)	17.9	(1.0)	10.7	(1.3)
	Luxembourg	9.2	(0.7)	13.1	(0.7)	18.4	(1.0)	22.4	(0.8)	18.9	(1.0)	11.7	(1.0)	6.2	(0.4)
	Mexico	20.6	(0.8)	30.7	(0.8)	29.3	(0.7)	14.7	(0.6)	4.0	(0.3)	0.6	(0.1)	0.1	(0.0)
	Netherlands	4.7	(0.9)	10.8	(1.1)	16.8	(1.3)	20.9	(1.5)	22.8	(1.3)	15.9	(1.1)	8.2	(0.8)
	New Zealand	8.6	(0.8)	12.4	(1.1)	17.5	(1.1)	19.6	(1.1)	19.6	(1.0)	13.6	(1.2)	8.6	(0.8)
	Norway	8.0	(0.8)	13.5	(0.9)	21.0	(1.4)	23.6	(1.4)	19.8	(1.0)	9.8	(0.7)	4.4	(0.6)
	Poland	4.3	(0.6)	11.2	(1.2)	20.6	(1.2)	26.1	(1.3)	20.9	(1.1)	11.8	(1.0)	5.1	(1.1)
	Portugal	8.7	(1.1)	13.6	(1.0)	21.1	(1.2)	24.2	(1.2)	19.1	(1.1)	10.1	(0.8)	3.3	(0.5)
	Slovak Republic	13.6	(1.2)	17.0	(1.1)	21.2	(1.2)	20.4	(1.1)	15.6	(1.0)	8.7	(0.8)	3.4	(0.6)
	Slovenia	6.9	(0.6)	15.3	(1.1)	22.6	(1.4)	22.5	(1.2)	18.2	(1.0)	11.0	(0.9)	3.5	(0.6)
	Spain	7.7	(0.5)	12.3	(0.8)	20.1	(1.1)	23.4	(1.0)	20.3	(0.7)	11.8	(0.7)	4.3	(0.4)
	Sweden	11.7	(0.9)	15.4	(0.9)	21.7	(1.1)	22.1	(1.2)	17.0	(0.9)	8.8	(0.8)	3.3	(0.6)
	Switzerland	5.0	(0.5)	8.6	(0.6)	15.7	(1.1)	22.1	(1.1)	23.4	(0.9)	16.3	(1.1)	8.8	(1.0)
	Turkey	16.3	(1.4)	24.2	(1.3)	25.5	(1.3)	17.0	(1.3)	10.6	(1.3)	4.6	(0.8)	1.9	(0.6)
	United Kingdom	7.7	(1.1)	12.0	(1.1)	19.6	(1.1)	23.5	(1.2)	20.0	(1.2)	11.9	(1.0)	5.5	(0.7)
	United States	9.2	(1.3)	15.6	(1.0)	22.1	(1.2)	21.6	(1.2)	18.0	(1.2)	9.7	(0.8)	3.8	(0.5)
	OECD total	9.5	(0.4)	15.2	(0.3)	20.8	(0.4)	21.0	(0.4)	17.8	(0.4)	10.6	(0.3)	5.0	(0.2)
	OECD average	8.9	(0.2)	13.6	(0.2)	20.0	(0.2)	22.1	(0.2)	18.9	(0.2)	11.3	(0.2)	5.2	(0.1)
Partners	Albania	38.9	(1.4)	26.5	(1.5)	19.3	(1.7)	10.9	(1.4)	3.6	(0.7)	0.8	(0.3)	0.0	c
	Argentina	33.8	(2.4)	27.9	(1.8)	23.1	(1.7)	11.2	(1.2)	3.3	(0.7)	0.6	(0.2)	0.0	(0.1)
	Brazil	27.7	(1.1)	29.9	(0.9)	24.2	(1.0)	12.6	(0.8)	4.5	(0.5)	1.1	(0.2)	0.1	(0.0)
	Bulgaria	23.2	(1.9)	21.4	(1.2)	21.4	(1.2)	17.9	(1.0)	10.9	(0.9)	4.3	(0.6)	0.9	(0.3)
	Colombia	30.1	(1.6)	31.9	(1.6)	24.7	(1.4)	9.8	(1.1)	3.0	(0.6)	0.4	(0.2)	0.1	(0.1)
	Costa Rica	16.3	(1.4)	29.1	(1.6)	31.4	(1.5)	17.4	(1.4)	4.9	(0.8)	0.8	(0.3)	0.1	c
	Croatia	9.6	(0.9)	16.7	(1.2)	23.8	(1.3)	22.8	(1.2)	16.0	(1.1)	8.2	(0.8)	2.9	(0.7)
	Cyprus*	25.6	(0.8)	19.4	(1.2)	20.6	(0.9)	17.8	(1.2)	10.4	(0.9)	4.9	(0.5)	1.3	(0.3)
	Hong Kong-China	2.9	(0.5)	6.4	(0.9)	12.7	(1.2)	19.9	(1.2)	26.4	(1.4)	20.0	(1.6)	11.8	(1.5)
	Indonesia	39.4	(2.4)	33.0	(1.8)	19.2	(1.5)	6.7	(1.2)	1.5	(0.5)	0.2	(0.2)	0.0	c
	Jordan	44.0	(2.5)	29.8	(1.4)	17.6	(1.6)	6.0	(0.9)	1.9	(0.6)	0.5	(0.4)	0.0	c
	Kazakhstan	17.9	(1.3)	34.6	(1.7)	31.0	(1.4)	13.8	(1.5)	2.5	(0.5)	0.1	(0.1)	0.0	c
	Latvia	7.3	(1.0)	16.5	(1.2)	25.1	(1.5)	24.9	(1.2)	16.5	(1.2)	7.4	(0.8)	2.2	(0.6)
	Liechtenstein	2.9	(1.5)	8.5	(2.9)	14.2	(4.1)	20.2	(3.6)	21.3	(5.2)	19.8	(3.4)	13.1	(2.9)
	Lithuania	11.8	(1.0)	18.8	(1.5)	24.7	(1.4)	22.5	(1.1)	14.3	(1.1)	6.3	(0.6)	1.6	(0.3)
	Macao-China	4.3	(0.5)	8.3	(0.8)	17.1	(0.9)	23.8	(1.0)	24.9	(0.9)	15.5	(1.1)	6.1	(0.7)
	Malaysia	24.8	(1.7)	30.4	(1.4)	26.9	(1.4)	13.3	(1.2)	4.1	(0.8)	0.5	(0.3)	0.0	c
	Montenegro	29.2	(1.3)	25.8	(1.4)	22.1	(1.6)	14.6	(1.1)	6.1	(0.7)	1.8	(0.5)	0.3	(0.1)
	Peru	43.5	(1.9)	28.0	(1.3)	17.2	(1.1)	8.1	(1.0)	2.5	(0.4)	0.6	(0.2)	0.1	(0.1)
	Qatar	51.7	(0.7)	19.0	(0.7)	13.7	(0.5)	8.5	(0.4)	4.8	(0.3)	1.9	(0.2)	0.4	(0.1)
	Romania	13.9	(1.6)	26.2	(2.0)	31.2	(1.4)	19.7	(1.4)	7.2	(0.9)	1.6	(0.4)	0.2	(0.2)
	Russian Federation	10.8	(1.0)	18.9	(1.1)	26.0	(1.3)	23.5	(1.4)	14.3	(1.1)	5.2	(0.6)	1.2	(0.3)
	Serbia	16.8	(1.7)	21.8	(1.1)	26.8	(1.6)	18.8	(1.4)	10.8	(1.1)	3.8	(0.6)	1.1	(0.4)
	Shanghai-China	1.9	(0.4)	4.2	(0.5)	10.4	(0.8)	17.5	(1.3)	23.3	(1.7)	23.3	(1.2)	19.4	(1.2)
	Singapore	4.3	(0.5)	8.4	(0.6)	13.7	(0.9)	18.6	(1.0)	22.2	(1.1)	18.3	(1.1)	14.4	(0.8)
	Chinese Taipei	5.1	(0.7)	8.4	(0.8)	13.3	(0.8)	17.6	(0.9)	22.2	(1.1)	20.0	(1.1)	13.5	(1.3)
	Thailand	20.2	(1.5)	29.3	(1.4)	28.4	(1.5)	14.6	(1.1)	5.5	(0.9)	1.5	(0.4)	0.4	(0.2)
	Tunisia	36.1	(2.4)	30.6	(1.4)	22.2	(2.2)	8.0	(1.1)	2.4	(0.6)	0.6	(0.4)	0.1	(0.1)
	United Arab Emirates	25.9	(1.5)	24.6	(1.1)	22.5	(0.9)	15.1	(1.0)	8.1	(0.8)	2.9	(0.5)	0.8	(0.2)
	Uruguay	28.1	(1.7)	25.3	(1.1)	23.8	(1.5)	14.2	(1.2)	6.6	(0.7)	1.8	(0.5)	0.1	c
	Viet Nam	4.7	(1.0)	13.4	(1.7)	24.0	(1.5)	27.6	(1.4)	19.9	(1.5)	8.0	(0.9)	2.3	(0.6)

* See notes at the beginning of this Annex.

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[Part 2/2]

Table I.2.12 **Percentage of students at each proficiency level on the mathematics subscale *interpreting*, by gender**

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	5.8	(0.5)	12.6	(0.7)	20.9	(0.8)	24.2	(0.9)	20.4	(0.7)	11.0	(0.6)	5.0	(0.5)
	Austria	9.0	(1.0)	14.1	(1.2)	19.7	(1.5)	21.4	(1.1)	19.8	(1.1)	11.5	(0.9)	4.5	(0.7)
	Belgium	7.3	(0.6)	12.9	(0.7)	19.6	(0.8)	22.3	(0.9)	20.5	(1.0)	12.3	(0.7)	5.1	(0.5)
	Canada	3.9	(0.4)	10.0	(0.6)	20.9	(0.8)	27.3	(0.9)	22.3	(0.8)	11.4	(0.7)	4.3	(0.4)
	Chile	21.1	(1.5)	29.7	(1.1)	27.5	(1.3)	15.1	(1.0)	5.4	(0.6)	1.2	(0.2)	0.1	(0.0)
	Czech Republic	8.6	(1.0)	15.7	(1.3)	21.9	(1.4)	24.4	(1.9)	17.1	(1.5)	9.2	(0.8)	3.1	(0.5)
	Denmark	5.3	(0.6)	12.7	(0.9)	23.4	(1.1)	27.6	(1.1)	19.5	(1.2)	9.1	(0.8)	2.6	(0.5)
	Estonia	3.4	(0.5)	10.4	(0.8)	23.7	(1.3)	28.4	(1.1)	21.2	(1.3)	9.6	(0.9)	3.3	(0.5)
	Finland	2.2	(0.4)	6.0	(0.9)	17.4	(0.9)	29.7	(1.2)	26.1	(1.0)	14.0	(0.8)	4.7	(0.6)
	France	7.7	(1.0)	11.7	(1.1)	19.4	(1.2)	23.4	(1.3)	20.4	(1.4)	12.3	(0.8)	5.1	(0.6)
	Germany	7.2	(0.8)	12.0	(1.0)	19.0	(1.4)	22.8	(1.2)	21.2	(1.1)	12.9	(1.0)	4.9	(0.7)
	Greece	11.9	(1.1)	20.3	(1.1)	26.0	(0.9)	22.9	(1.4)	13.4	(1.0)	4.4	(0.6)	1.0	(0.2)
	Hungary	11.5	(1.2)	16.5	(1.4)	24.8	(1.3)	23.4	(1.5)	16.0	(1.1)	6.2	(0.7)	1.6	(0.4)
	Iceland	7.5	(0.6)	13.6	(1.1)	21.5	(1.5)	25.4	(1.9)	18.7	(1.1)	9.9	(1.1)	3.3	(0.4)
	Ireland	6.2	(0.8)	12.5	(1.1)	24.0	(1.3)	26.5	(1.2)	20.0	(1.2)	8.5	(0.7)	2.4	(0.4)
	Israel	17.5	(1.2)	19.5	(1.0)	23.0	(1.6)	21.5	(1.5)	12.4	(1.2)	4.7	(0.6)	1.4	(0.3)
	Italy	9.8	(0.6)	14.6	(0.6)	22.1	(0.6)	23.7	(0.8)	17.9	(0.6)	8.6	(0.5)	3.3	(0.3)
	Japan	3.3	(0.6)	9.2	(1.0)	19.2	(1.3)	27.6	(1.2)	24.1	(1.2)	12.6	(1.0)	4.0	(0.7)
	Korea	3.3	(0.6)	7.5	(1.0)	16.5	(1.3)	25.6	(1.2)	25.1	(1.2)	15.9	(1.4)	6.1	(0.9)
	Luxembourg	11.6	(0.8)	16.4	(1.0)	21.3	(1.2)	20.7	(1.1)	17.5	(1.0)	9.6	(0.9)	2.9	(0.4)
	Mexico	23.4	(0.8)	33.4	(0.7)	29.1	(0.6)	11.5	(0.5)	2.4	(0.3)	0.2	(0.1)	0.0	c
	Netherlands	5.4	(1.0)	11.4	(1.2)	17.7	(1.3)	22.7	(1.6)	22.8	(1.6)	14.4	(1.3)	5.5	(0.6)
	New Zealand	7.2	(0.8)	13.5	(0.9)	20.9	(1.2)	22.7	(1.3)	19.0	(1.0)	11.4	(0.8)	5.2	(0.7)
	Norway	7.2	(1.0)	13.2	(1.4)	22.5	(1.0)	26.1	(1.3)	18.7	(1.1)	8.9	(1.0)	3.4	(0.5)
	Poland	3.5	(0.5)	10.7	(0.9)	22.4	(1.2)	26.4	(1.1)	23.4	(1.3)	10.5	(1.1)	3.2	(0.6)
	Portugal	7.6	(1.0)	16.6	(1.3)	25.0	(1.4)	24.5	(1.5)	17.7	(1.1)	7.2	(0.7)	1.4	(0.3)
	Slovak Republic	13.7	(1.2)	16.6	(1.4)	23.5	(1.6)	23.8	(1.4)	15.1	(1.6)	5.8	(0.7)	1.5	(0.4)
	Slovenia	6.2	(0.7)	14.4	(1.1)	24.6	(1.2)	23.6	(1.2)	18.9	(1.3)	9.2	(0.8)	3.1	(0.5)
	Spain	9.3	(0.6)	14.9	(0.7)	23.6	(0.9)	25.5	(0.9)	17.5	(0.8)	7.3	(0.5)	2.0	(0.2)
	Sweden	8.4	(0.8)	15.9	(0.8)	23.7	(1.1)	25.2	(1.2)	16.9	(1.4)	7.5	(0.7)	2.3	(0.4)
	Switzerland	5.1	(0.5)	10.2	(0.7)	18.0	(1.0)	24.4	(1.0)	22.2	(0.9)	14.0	(1.1)	6.2	(0.9)
	Turkey	17.9	(1.5)	26.3	(1.7)	25.3	(1.5)	16.3	(1.2)	9.2	(1.4)	3.8	(0.8)	1.4	(0.6)
	United Kingdom	8.8	(0.8)	14.3	(1.0)	21.7	(1.0)	23.8	(1.3)	18.5	(1.2)	9.0	(0.7)	3.9	(0.6)
	United States	7.4	(0.9)	16.7	(1.2)	25.8	(1.1)	24.3	(1.0)	15.8	(1.2)	7.6	(0.9)	2.4	(0.5)
	OECD total	9.6	(0.3)	16.8	(0.4)	23.3	(0.4)	22.5	(0.4)	16.5	(0.4)	8.4	(0.3)	3.0	(0.2)
	OECD average	8.7	(0.1)	14.9	(0.2)	22.2	(0.2)	23.7	(0.2)	18.1	(0.2)	9.2	(0.1)	3.2	(0.1)
Partners	Albania	40.2	(1.6)	26.7	(2.0)	19.3	(1.0)	9.9	(1.0)	3.1	(0.5)	0.7	(0.3)	0.1	(0.1)
	Argentina	36.8	(2.2)	29.9	(1.7)	21.8	(1.3)	9.3	(0.9)	1.9	(0.4)	0.3	(0.2)	0.0	(0.0)
	Brazil	32.1	(1.2)	32.0	(1.0)	22.5	(0.9)	10.1	(0.6)	2.8	(0.4)	0.5	(0.1)	0.0	(0.0)
	Bulgaria	17.9	(1.5)	21.9	(1.3)	24.8	(1.3)	20.8	(1.1)	10.4	(1.1)	3.5	(0.6)	0.7	(0.3)
	Colombia	38.7	(1.7)	34.7	(1.3)	20.1	(1.1)	5.3	(0.6)	1.0	(0.2)	0.1	(0.1)	0.0	c
	Costa Rica	22.7	(1.7)	35.0	(1.4)	29.7	(1.4)	10.5	(1.1)	2.0	(0.6)	0.1	(0.1)	0.0	c
	Croatia	10.3	(1.0)	19.5	(1.4)	26.6	(1.4)	23.4	(1.3)	13.7	(1.3)	5.2	(0.8)	1.2	(0.4)
	Cyprus*	18.9	(0.9)	23.1	(1.2)	26.3	(1.2)	19.9	(1.0)	9.1	(0.6)	2.1	(0.3)	0.5	(0.2)
	Hong Kong-China	2.5	(0.5)	6.4	(0.8)	13.9	(1.0)	23.7	(1.4)	28.6	(1.9)	18.4	(1.7)	6.5	(0.8)
	Indonesia	39.3	(2.3)	35.0	(1.9)	19.1	(1.6)	5.3	(0.9)	1.1	(0.6)	0.2	(0.2)	0.0	c
	Jordan	29.3	(1.7)	34.8	(1.5)	25.8	(1.5)	8.6	(0.9)	1.5	(0.4)	0.1	(0.1)	0.0	c
	Kazakhstan	14.4	(1.1)	34.9	(1.4)	33.6	(1.3)	14.1	(1.6)	2.8	(0.8)	0.2	(0.1)	0.0	c
	Latvia	6.7	(0.8)	15.5	(1.1)	25.2	(1.4)	27.1	(1.3)	17.6	(1.1)	6.4	(0.8)	1.4	(0.4)
	Liechtenstein	7.9	(2.9)	10.5	(3.0)	16.1	(3.0)	18.2	(5.1)	21.0	(4.6)	18.4	(3.7)	7.8	(2.4)
	Lithuania	9.5	(0.9)	18.5	(1.4)	27.5	(1.3)	24.2	(1.4)	14.3	(1.1)	5.0	(0.6)	1.0	(0.4)
	Macao-China	2.8	(0.5)	8.4	(0.7)	18.3	(1.1)	26.5	(1.2)	25.1	(1.0)	13.9	(1.1)	5.0	(0.5)
	Malaysia	18.4	(1.3)	30.1	(1.4)	30.3	(1.2)	16.1	(1.1)	4.6	(0.8)	0.5	(0.2)	0.0	c
	Montenegro	26.2	(0.9)	27.4	(1.3)	25.0	(1.6)	14.2	(1.3)	5.7	(0.7)	1.3	(0.4)	0.3	(0.2)
	Peru	49.6	(2.4)	26.7	(1.4)	15.3	(1.3)	6.3	(1.0)	1.8	(0.4)	0.3	(0.2)	0.0	c
	Qatar	41.5	(0.7)	25.1	(0.7)	17.0	(0.8)	9.8	(0.5)	4.5	(0.3)	1.7	(0.2)	0.4	(0.1)
	Romania	13.9	(1.4)	28.3	(1.3)	32.4	(1.3)	18.4	(1.3)	6.1	(0.9)	0.8	(0.3)	0.0	c
	Russian Federation	9.4	(0.9)	17.3	(1.0)	27.8	(1.1)	25.0	(1.1)	14.1	(0.9)	5.2	(0.6)	1.2	(0.2)
	Serbia	17.2	(1.5)	23.5	(1.9)	26.0	(1.1)	20.3	(1.3)	9.7	(1.0)	2.9	(0.6)	0.4	(0.2)
	Shanghai-China	1.2	(0.3)	4.4	(0.6)	11.4	(0.9)	19.2	(1.1)	25.5	(1.5)	22.3	(1.1)	16.1	(1.2)
	Singapore	2.3	(0.3)	6.8	(0.6)	14.3	(0.9)	20.9	(1.0)	23.2	(1.2)	18.8	(1.3)	13.6	(0.9)
	Chinese Taipei	3.3	(0.4)	7.4	(0.9)	15.2	(1.1)	21.5	(1.1)	23.5	(1.1)	17.9	(1.3)	11.1	(1.7)
	Thailand	14.4	(1.1)	27.9	(1.4)	31.2	(1.2)	17.6	(1.1)	6.4	(0.8)	2.1	(0.5)	0.5	(0.2)
	Tunisia	37.5	(2.0)	32.2	(1.8)	20.5	(1.3)	7.4	(0.9)	2.0	(0.7)	0.4	(0.3)	0.0	c
	United Arab Emirates	18.9	(1.2)	27.9	(1.2)	26.7	(1.0)	17.2	(1.0)	7.0	(0.6)	2.1	(0.3)	0.2	(0.1)
	Uruguay	28.8	(1.3)	29.3	(1.2)	24.1	(1.2)	12.4	(0.8)	4.6	(0.7)	0.8	(0.3)	0.1	(0.1)
	Viet Nam	4.3	(0.8)	12.6	(1.3)	26.4	(1.4)	31.5	(1.4)	17.8	(1.3)	6.1	(1.0)	1.3	(0.4)

* See notes at the beginning of this Annex.

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[Part 1/1]

Mean score, variation and gender differences in student performance on the mathematics subscale *interpreting*

Table I.2.13

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	Australia	514	(1.7)	101	(1.1)	519	(2.4)	509	(2.0)	**9**	(2.9)	348	(3.3)	384	(2.3)	445	(2.0)	584	(2.2)	645	(2.8)	680	(3.3)
	Austria	509	(3.3)	106	(2.0)	517	(4.5)	501	(4.1)	**16**	(5.6)	331	(5.8)	368	(4.9)	433	(4.6)	587	(3.9)	644	(4.6)	677	(5.2)
	Belgium	513	(2.4)	106	(1.5)	518	(3.2)	508	(2.6)	**10**	(3.5)	335	(4.6)	374	(3.5)	439	(3.6)	590	(2.8)	649	(3.2)	681	(2.9)
	Canada	521	(2.0)	93	(0.9)	526	(2.3)	517	(2.3)	**9**	(2.2)	366	(2.9)	401	(2.7)	459	(2.5)	585	(2.6)	641	(2.8)	672	(3.2)
	Chile	433	(3.1)	82	(1.7)	444	(3.9)	422	(3.0)	**22**	(3.3)	305	(5.1)	331	(3.9)	376	(3.7)	488	(3.9)	540	(4.6)	572	(4.7)
	Czech Republic	494	(3.0)	103	(2.5)	498	(3.9)	490	(3.7)	9	(4.6)	327	(7.0)	367	(5.6)	427	(4.1)	564	(3.0)	622	(3.7)	656	(3.5)
	Denmark	508	(2.5)	90	(1.3)	515	(3.0)	501	(2.7)	**14**	(2.5)	359	(4.6)	391	(3.9)	447	(3.1)	570	(3.1)	624	(3.5)	653	(4.0)
	Estonia	513	(2.1)	87	(1.1)	515	(2.8)	511	(2.3)	4	(3.0)	372	(3.2)	401	(3.4)	454	(2.9)	571	(2.8)	625	(3.2)	656	(3.6)
	Finland	528	(2.2)	88	(1.1)	523	(3.0)	534	(2.1)	**-11**	(2.9)	379	(3.8)	415	(3.7)	471	(2.6)	588	(2.3)	639	(3.0)	669	(4.1)
	France	511	(2.5)	107	(2.0)	513	(3.7)	509	(2.8)	4	(4.0)	329	(5.9)	370	(4.9)	438	(3.6)	588	(3.7)	646	(3.8)	678	(4.4)
	Germany	517	(3.2)	105	(2.2)	522	(3.4)	511	(3.6)	**12**	(3.0)	338	(6.5)	376	(4.6)	445	(4.2)	592	(3.5)	650	(4.2)	680	(4.0)
	Greece	467	(3.1)	98	(1.8)	471	(4.0)	463	(3.1)	**8**	(3.7)	304	(5.6)	340	(4.6)	400	(4.1)	536	(3.6)	593	(4.3)	626	(4.4)
	Hungary	477	(3.1)	100	(2.2)	479	(3.7)	475	(3.6)	4	(4.0)	307	(5.9)	344	(5.2)	410	(3.7)	547	(4.4)	605	(4.9)	638	(6.4)
	Iceland	492	(1.9)	101	(1.2)	487	(2.6)	498	(2.5)	**-11**	(3.4)	321	(5.4)	360	(3.8)	424	(2.9)	563	(3.0)	619	(2.7)	653	(3.6)
	Ireland	507	(2.5)	91	(1.4)	515	(3.5)	498	(3.3)	**17**	(4.5)	353	(5.3)	389	(4.6)	446	(3.5)	569	(2.6)	622	(2.5)	654	(4.2)
	Israel	462	(5.2)	114	(2.2)	470	(9.1)	453	(3.4)	**17**	(8.9)	272	(7.5)	312	(6.1)	381	(6.0)	542	(6.1)	610	(6.5)	648	(7.5)
	Italy	498	(2.1)	107	(1.2)	507	(2.7)	489	(2.5)	**18**	(3.0)	321	(3.1)	360	(3.1)	426	(2.6)	573	(2.7)	636	(3.1)	671	(3.0)
	Japan	531	(3.5)	92	(2.0)	539	(4.5)	522	(3.4)	**17**	(4.2)	375	(6.1)	411	(4.7)	469	(4.3)	595	(3.9)	648	(4.6)	677	(5.1)
	Korea	540	(4.2)	98	(1.8)	545	(5.4)	535	(4.9)	10	(6.0)	373	(6.9)	412	(5.7)	476	(4.5)	609	(4.4)	662	(4.8)	693	(5.8)
	Luxembourg	495	(1.1)	106	(0.9)	505	(1.6)	485	(1.5)	**20**	(2.3)	322	(4.3)	355	(3.0)	420	(1.9)	571	(1.6)	631	(2.2)	665	(3.0)
	Mexico	413	(1.3)	73	(0.8)	418	(1.5)	408	(1.4)	**10**	(1.3)	294	(2.1)	321	(1.8)	365	(1.7)	461	(1.7)	506	(1.9)	533	(2.3)
	Netherlands	526	(3.6)	100	(2.5)	530	(3.8)	521	(4.0)	**10**	(2.9)	357	(7.4)	389	(5.6)	455	(5.6)	599	(4.1)	653	(3.6)	682	(4.9)
	New Zealand	511	(2.5)	108	(1.4)	516	(3.7)	505	(3.1)	**11**	(4.7)	334	(4.7)	370	(4.0)	434	(3.5)	587	(3.3)	650	(3.6)	684	(4.1)
	Norway	499	(3.1)	98	(1.6)	500	(3.2)	498	(3.7)	2	(3.1)	336	(5.8)	373	(4.1)	433	(3.6)	565	(3.1)	623	(3.9)	658	(4.3)
	Poland	515	(3.5)	89	(1.9)	517	(4.2)	513	(3.7)	3	(3.6)	368	(4.3)	400	(4.0)	452	(3.5)	577	(4.2)	630	(5.4)	662	(7.7)
	Portugal	490	(4.0)	94	(1.8)	496	(4.5)	484	(4.0)	**12**	(2.9)	333	(6.8)	369	(5.3)	425	(5.2)	557	(3.8)	612	(3.7)	642	(3.5)
	Slovak Republic	473	(3.3)	103	(2.1)	478	(4.1)	468	(3.7)	**9**	(4.2)	304	(5.7)	339	(5.0)	402	(4.6)	545	(4.4)	606	(4.1)	639	(5.1)
	Slovenia	498	(1.4)	95	(0.9)	498	(2.1)	497	(2.1)	1	(3.2)	347	(3.5)	378	(2.6)	431	(2.6)	566	(2.5)	623	(2.2)	654	(4.2)
	Spain	495	(2.2)	98	(0.8)	505	(2.5)	485	(2.5)	**21**	(2.3)	330	(3.3)	367	(3.4)	429	(2.8)	564	(2.6)	619	(2.3)	652	(2.5)
	Sweden	485	(2.4)	99	(1.3)	484	(3.3)	486	(2.5)	-2	(3.4)	320	(5.1)	357	(3.8)	418	(3.1)	553	(3.2)	612	(3.1)	646	(3.1)
	Switzerland	529	(3.4)	101	(1.5)	535	(3.9)	523	(3.5)	**12**	(2.8)	357	(4.9)	396	(3.9)	462	(3.5)	600	(4.3)	655	(4.9)	687	(5.3)
	Turkey	446	(4.6)	95	(3.0)	451	(5.1)	442	(5.5)	9	(5.0)	304	(4.2)	332	(3.8)	380	(3.1)	506	(7.3)	576	(9.5)	616	(10.3)
	United Kingdom	501	(3.5)	102	(2.0)	508	(4.6)	494	(3.8)	**14**	(4.7)	333	(6.5)	370	(5.2)	432	(4.4)	571	(3.3)	632	(4.0)	666	(4.8)
	United States	489	(3.9)	96	(1.6)	493	(4.4)	486	(3.9)	**7**	(3.0)	336	(5.1)	367	(5.1)	422	(4.3)	556	(4.6)	615	(4.0)	649	(5.3)
	OECD total	491	(1.2)	102	(0.5)	496	(1.4)	485	(1.2)	**11**	(1.1)	327	(1.6)	360	(1.5)	418	(1.3)	563	(1.5)	624	(1.4)	659	(1.6)
	OECD average	497	(0.5)	98	(0.3)	502	(0.7)	492	(0.6)	**9**	(0.7)	335	(0.9)	370	(0.7)	430	(0.6)	565	(0.6)	622	(0.7)	655	(0.8)
Partners	Albania	379	(2.4)	101	(1.7)	381	(3.0)	377	(3.1)	4	(3.6)	202	(7.2)	254	(5.3)	318	(3.0)	445	(2.8)	504	(3.1)	538	(4.1)
	Argentina	390	(4.1)	83	(2.1)	395	(5.0)	385	(3.6)	**10**	(3.2)	253	(6.1)	283	(5.2)	334	(4.7)	447	(4.9)	496	(5.2)	526	(6.0)
	Brazil	401	(2.1)	81	(1.4)	407	(2.2)	395	(2.3)	**12**	(1.7)	273	(3.1)	300	(2.5)	346	(2.1)	453	(2.6)	507	(3.8)	540	(5.1)
	Bulgaria	441	(4.2)	99	(2.4)	437	(5.1)	445	(4.4)	-8	(4.8)	282	(6.6)	314	(6.1)	372	(5.1)	510	(4.8)	570	(5.4)	604	(6.0)
	Colombia	387	(2.5)	74	(1.6)	399	(3.2)	377	(2.6)	**21**	(2.9)	269	(4.6)	295	(3.6)	337	(2.8)	435	(2.9)	481	(3.8)	512	(4.8)
	Costa Rica	418	(2.9)	70	(1.4)	429	(3.4)	408	(2.9)	**21**	(2.4)	305	(3.7)	330	(3.5)	370	(3.3)	464	(3.3)	508	(4.2)	535	(5.6)
	Croatia	477	(3.5)	93	(2.1)	484	(4.2)	470	(3.8)	**15**	(4.0)	328	(4.1)	358	(4.2)	412	(3.5)	541	(4.5)	600	(6.1)	636	(6.8)
	Cyprus*	436	(1.3)	101	(1.1)	434	(1.8)	438	(1.8)	-4	(2.5)	269	(3.1)	305	(2.7)	367	(2.1)	505	(2.3)	565	(2.8)	601	(4.1)
	Hong Kong-China	551	(3.4)	93	(1.9)	557	(4.8)	545	(3.8)	**12**	(5.5)	385	(5.9)	425	(5.7)	492	(4.9)	616	(3.9)	666	(4.8)	696	(5.1)
	Indonesia	379	(4.0)	70	(3.1)	380	(4.5)	378	(4.2)	2	(3.3)	270	(5.9)	293	(4.4)	331	(3.6)	424	(4.8)	469	(7.1)	500	(9.8)
	Jordan	383	(3.0)	77	(2.2)	370	(5.2)	395	(2.9)	**-25**	(6.1)	255	(6.0)	286	(3.8)	333	(3.2)	434	(3.1)	479	(4.2)	508	(6.3)
	Kazakhstan	420	(2.6)	64	(1.3)	418	(3.1)	423	(2.8)	-5	(2.8)	317	(3.1)	339	(2.5)	377	(2.5)	463	(3.6)	504	(4.8)	528	(4.4)
	Latvia	486	(3.0)	89	(1.6)	486	(3.6)	487	(3.6)	-1	(3.8)	340	(5.7)	373	(4.2)	426	(3.2)	547	(3.6)	600	(3.9)	632	(4.7)
	Liechtenstein	540	(4.1)	107	(3.6)	553	(6.4)	526	(6.4)	**27**	(10.1)	355	(18.4)	393	(9.7)	466	(10.1)	620	(7.0)	672	(10.5)	706	(16.9)
	Lithuania	471	(2.8)	91	(1.5)	470	(3.0)	471	(3.2)	-1	(2.6)	322	(3.7)	354	(4.2)	408	(3.4)	533	(3.8)	591	(4.0)	622	(4.7)
	Macao-China	530	(1.0)	92	(0.9)	530	(1.4)	529	(1.5)	2	(2.0)	374	(3.7)	409	(2.4)	469	(2.0)	594	(2.0)	645	(2.5)	674	(3.0)
	Malaysia	418	(3.1)	75	(1.5)	412	(3.6)	423	(3.3)	**-11**	(3.4)	296	(4.0)	322	(3.6)	366	(3.4)	468	(3.7)	516	(4.7)	544	(6.0)
	Montenegro	413	(1.4)	90	(1.0)	412	(1.9)	415	(1.8)	-3	(2.4)	271	(2.8)	299	(3.0)	350	(2.3)	474	(2.5)	532	(2.7)	565	(3.6)
	Peru	368	(3.8)	86	(2.2)	376	(3.8)	361	(4.8)	**15**	(4.0)	233	(4.8)	262	(3.7)	310	(3.5)	423	(5.0)	481	(6.4)	516	(7.6)
	Qatar	375	(0.8)	105	(0.7)	364	(1.1)	387	(1.1)	**-23**	(1.5)	216	(2.8)	248	(1.8)	301	(1.4)	442	(1.7)	519	(2.3)	564	(2.8)
	Romania	438	(3.1)	74	(1.9)	441	(3.8)	435	(3.4)	5	(3.4)	321	(4.4)	345	(3.8)	387	(3.4)	487	(3.8)	535	(4.6)	563	(6.4)
	Russian Federation	471	(2.9)	89	(1.6)	469	(3.8)	473	(3.0)	-4	(3.4)	324	(4.8)	357	(4.0)	411	(3.7)	531	(3.5)	586	(3.9)	618	(4.6)
	Serbia	445	(3.4)	92	(2.2)	448	(4.3)	443	(3.5)	6	(4.1)	297	(6.2)	328	(5.6)	383	(3.9)	506	(4.4)	566	(5.0)	599	(6.7)
	Shanghai-China	579	(2.9)	98	(2.0)	582	(3.5)	576	(3.2)	**7**	(3.3)	412	(6.2)	448	(4.8)	514	(4.2)	647	(3.4)	700	(4.1)	732	(6.0)
	Singapore	555	(1.4)	106	(0.9)	553	(1.9)	557	(2.0)	-5	(2.9)	377	(3.5)	414	(2.3)	482	(2.1)	629	(2.4)	688	(2.1)	721	(3.4)
	Chinese Taipei	549	(3.0)	105	(1.8)	550	(4.7)	548	(4.9)	3	(7.4)	366	(5.3)	407	(5.1)	478	(4.0)	625	(3.4)	680	(3.8)	710	(4.8)
	Thailand	432	(3.4)	80	(2.0)	424	(3.7)	438	(3.9)	**-15**	(3.7)	305	(4.6)	333	(3.6)	379	(3.2)	481	(4.0)	535	(5.7)	571	(7.6)
	Tunisia	385	(3.9)	78	(2.9)	387	(4.4)	384	(3.9)	4	(2.7)	261	(5.6)	288	(4.6)	332	(4.3)	435	(4.6)	484	(6.8)	518	(8.9)
	United Arab Emirates	428	(2.4)	90	(1.2)	424	(4.1)	431	(3.0)	-7	(5.3)	286	(3.4)	315	(2.7)	365	(2.5)	487	(3.1)	548	(3.8)	583	(4.4)
	Uruguay	409	(2.7)	88	(1.8)	414	(3.5)	406	(2.9)	**8**	(3.3)	268	(4.6)	299	(3.5)	349	(3.1)	468	(3.3)	525	(4.9)	559	(5.7)
	Viet Nam	497	(4.5)	81	(2.3)	500	(5.2)	494	(4.3)	**5**	(2.7)	361	(6.9)	391	(6.4)	442	(5.6)	551	(4.9)	600	(5.9)	631	(6.6)

Note: Values that are statistically significant are indicated in bold (see Annex A3).
* See notes at the beginning of this Annex.
StatLink http://dx.doi.org/10.1787/888932935667



[Part 1/1]

Table I.2.14 **Percentage of students at each proficiency level on the mathematics subscale *change and relationships***

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	7.3	(0.3)	12.8	(0.5)	20.3	(0.5)	22.8	(0.6)	18.9	(0.6)	11.7	(0.4)	6.2	(0.4)
	Austria	8.8	(0.8)	12.6	(0.8)	19.2	(0.8)	21.3	(0.9)	19.8	(1.1)	12.3	(0.9)	5.9	(0.7)
	Belgium	9.5	(0.7)	10.2	(0.5)	16.7	(0.6)	21.1	(0.6)	21.0	(0.7)	14.6	(0.6)	7.0	(0.5)
	Canada	4.1	(0.3)	9.4	(0.6)	18.9	(0.7)	25.6	(0.6)	22.1	(0.6)	13.7	(0.5)	6.2	(0.4)
	Chile	29.7	(1.5)	26.0	(1.0)	21.6	(0.9)	14.0	(0.9)	6.5	(0.6)	2.0	(0.3)	0.3	(0.1)
	Czech Republic	9.1	(0.8)	12.6	(1.0)	20.4	(1.1)	22.9	(1.0)	18.8	(0.9)	10.7	(0.8)	5.5	(0.4)
	Denmark	6.6	(0.6)	14.5	(0.7)	23.9	(0.7)	25.8	(0.9)	18.0	(0.7)	8.7	(0.7)	2.5	(0.3)
	Estonia	1.9	(0.3)	7.5	(0.6)	19.6	(0.9)	28.0	(0.8)	24.7	(1.0)	13.2	(0.7)	5.1	(0.5)
	Finland	4.5	(0.5)	9.7	(0.7)	19.6	(0.8)	26.2	(0.8)	21.9	(0.8)	12.1	(0.6)	6.0	(0.5)
	France	10.4	(0.9)	13.1	(0.7)	19.6	(0.9)	22.8	(0.8)	18.9	(0.7)	10.4	(0.7)	4.7	(0.5)
	Germany	8.6	(0.8)	10.6	(0.7)	17.2	(0.7)	21.4	(0.9)	20.3	(1.0)	14.4	(0.9)	7.6	(0.8)
	Greece	18.9	(1.2)	20.9	(0.8)	23.7	(0.8)	19.8	(1.0)	11.4	(0.7)	4.2	(0.4)	1.0	(0.2)
	Hungary	11.1	(1.1)	16.7	(1.0)	22.9	(1.2)	22.6	(1.0)	15.4	(0.9)	8.1	(0.8)	3.2	(0.7)
	Iceland	10.5	(0.7)	14.5	(0.7)	22.7	(1.1)	23.4	(1.2)	17.4	(1.0)	8.6	(0.7)	2.9	(0.3)
	Ireland	5.3	(0.6)	12.3	(0.7)	23.2	(1.0)	28.0	(0.9)	19.8	(0.8)	9.0	(0.5)	2.4	(0.3)
	Israel	19.2	(1.4)	16.8	(0.9)	19.7	(1.1)	19.2	(0.9)	14.1	(0.9)	7.5	(0.7)	3.5	(0.5)
	Italy	11.8	(0.5)	16.4	(0.5)	23.3	(0.5)	23.1	(0.5)	15.9	(0.5)	7.2	(0.4)	2.3	(0.2)
	Japan	4.7	(0.6)	8.1	(0.6)	15.9	(0.7)	21.7	(1.0)	21.3	(0.8)	16.4	(0.8)	11.9	(1.1)
	Korea	3.2	(0.5)	6.4	(0.7)	13.8	(0.8)	20.9	(0.9)	22.3	(1.0)	18.6	(1.0)	14.8	(1.4)
	Luxembourg	11.2	(0.5)	15.3	(0.6)	21.1	(0.8)	21.8	(0.8)	18.1	(0.7)	9.4	(0.5)	3.2	(0.3)
	Mexico	29.4	(0.8)	28.1	(0.5)	24.2	(0.5)	12.7	(0.4)	4.4	(0.2)	1.0	(0.1)	0.1	(0.0)
	Netherlands	6.0	(0.8)	10.4	(0.9)	18.0	(1.1)	22.6	(1.1)	23.0	(1.2)	15.0	(1.0)	5.0	(0.6)
	New Zealand	10.3	(0.7)	14.1	(0.7)	19.5	(0.7)	20.7	(0.8)	17.6	(0.8)	11.1	(0.8)	6.7	(0.5)
	Norway	12.1	(0.8)	16.5	(0.9)	22.3	(0.9)	23.4	(0.8)	15.6	(0.8)	7.2	(0.5)	3.0	(0.3)
	Poland	6.4	(0.6)	12.8	(0.8)	21.1	(0.9)	23.8	(0.9)	19.0	(0.9)	11.2	(0.8)	5.7	(0.9)
	Portugal	10.3	(0.9)	15.5	(1.0)	22.6	(0.8)	22.7	(1.0)	17.2	(1.0)	9.1	(0.7)	2.6	(0.4)
	Slovak Republic	15.2	(1.1)	15.0	(0.9)	21.3	(1.0)	21.3	(1.1)	15.5	(1.0)	8.1	(0.6)	3.6	(0.6)
	Slovenia	7.4	(0.5)	14.8	(1.0)	22.3	(1.1)	22.6	(0.9)	17.7	(0.7)	10.4	(0.6)	4.8	(0.4)
	Spain	9.4	(0.5)	15.8	(0.7)	24.2	(0.6)	24.8	(0.5)	17.3	(0.5)	6.9	(0.3)	1.6	(0.2)
	Sweden	14.9	(0.8)	17.5	(0.7)	22.3	(1.1)	20.6	(0.8)	14.8	(0.7)	7.3	(0.6)	2.6	(0.3)
	Switzerland	4.9	(0.4)	9.9	(0.6)	17.5	(0.8)	22.7	(0.6)	21.7	(0.8)	14.9	(0.9)	8.5	(0.9)
	Turkey	16.2	(1.3)	25.0	(1.2)	25.6	(1.2)	17.3	(1.1)	10.4	(1.1)	4.3	(0.8)	1.2	(0.5)
	United Kingdom	8.4	(0.9)	13.9	(0.8)	22.2	(0.7)	23.9	(0.8)	17.7	(0.7)	9.9	(0.7)	3.9	(0.5)
	United States	8.0	(0.7)	16.8	(1.0)	24.2	(0.9)	23.9	(0.8)	15.8	(0.8)	8.1	(0.7)	3.3	(0.4)
	OECD total	11.0	(0.3)	16.0	(0.3)	21.5	(0.3)	21.5	(0.3)	16.0	(0.3)	9.3	(0.2)	4.6	(0.2)
	OECD average	10.4	(0.1)	14.5	(0.1)	20.9	(0.1)	22.2	(0.1)	17.5	(0.1)	9.9	(0.1)	4.5	(0.1)
Partners	Albania	36.0	(1.0)	26.6	(0.7)	21.2	(0.8)	11.4	(0.6)	3.8	(0.3)	0.9	(0.3)	0.1	(0.1)
	Argentina	40.8	(2.1)	26.9	(0.9)	19.5	(1.2)	9.8	(0.8)	2.5	(0.4)	0.5	(0.1)	0.0	(0.0)
	Brazil	46.3	(1.1)	24.0	(0.7)	16.5	(0.8)	8.4	(0.6)	3.3	(0.4)	1.1	(0.2)	0.3	(0.1)
	Bulgaria	24.9	(1.5)	21.8	(0.9)	21.1	(0.8)	15.9	(0.8)	9.7	(0.8)	4.7	(0.6)	1.8	(0.4)
	Colombia	52.2	(1.7)	24.7	(0.9)	14.4	(0.9)	6.1	(0.6)	2.0	(0.3)	0.6	(0.2)	0.1	(0.0)
	Costa Rica	29.3	(1.8)	31.0	(1.4)	24.1	(1.4)	11.3	(1.0)	3.6	(0.5)	0.7	(0.2)	0.1	(0.1)
	Croatia	14.7	(1.1)	18.4	(0.8)	22.7	(0.9)	20.9	(1.0)	14.1	(0.9)	6.7	(0.9)	2.5	(0.7)
	Cyprus*	21.0	(0.6)	21.6	(0.9)	23.4	(0.7)	18.1	(0.7)	10.8	(0.7)	4.0	(0.3)	1.1	(0.2)
	Hong Kong-China	3.3	(0.5)	5.9	(0.7)	11.9	(0.8)	18.8	(0.9)	24.1	(0.9)	21.0	(0.9)	15.0	(0.9)
	Indonesia	48.1	(2.1)	29.0	(1.5)	15.5	(1.2)	5.8	(1.0)	1.4	(0.5)	0.2	(0.2)	0.0	c
	Jordan	37.2	(1.7)	27.8	(0.8)	21.4	(1.0)	10.4	(0.7)	2.5	(0.4)	0.6	(0.3)	0.2	(0.2)
	Kazakhstan	18.4	(1.0)	26.5	(1.1)	27.6	(1.0)	18.2	(1.0)	7.1	(0.8)	1.8	(0.3)	0.4	(0.1)
	Latvia	6.2	(0.8)	13.9	(1.1)	23.7	(1.0)	25.9	(1.0)	19.1	(1.0)	8.8	(0.7)	2.4	(0.4)
	Liechtenstein	4.7	(1.2)	9.2	(2.1)	15.0	(2.2)	19.9	(2.7)	20.3	(2.9)	20.1	(2.6)	10.8	(1.9)
	Lithuania	8.9	(0.7)	17.2	(0.9)	25.5	(0.9)	24.3	(1.1)	15.6	(0.8)	6.7	(0.6)	1.8	(0.3)
	Macao-China	3.5	(0.2)	7.6	(0.4)	15.4	(0.6)	22.9	(0.7)	23.8	(0.9)	17.3	(0.7)	9.5	(0.5)
	Malaysia	33.3	(1.7)	26.3	(1.0)	21.4	(1.0)	12.0	(0.8)	5.4	(0.6)	1.4	(0.3)	0.2	(0.1)
	Montenegro	34.7	(0.7)	25.4	(0.8)	20.5	(0.8)	12.9	(0.5)	4.9	(0.5)	1.3	(0.3)	0.2	(0.1)
	Peru	55.3	(1.9)	21.0	(0.8)	13.6	(0.9)	6.5	(0.8)	2.6	(0.4)	0.8	(0.3)	0.1	(0.1)
	Qatar	52.0	(0.5)	19.6	(0.5)	13.7	(0.3)	8.2	(0.3)	4.5	(0.3)	1.7	(0.1)	0.4	(0.1)
	Romania	16.1	(1.2)	25.3	(1.1)	26.0	(1.0)	18.7	(1.0)	9.5	(0.9)	3.4	(0.6)	1.1	(0.3)
	Russian Federation	7.6	(0.7)	14.7	(0.9)	23.2	(0.9)	26.3	(1.0)	17.5	(0.9)	8.0	(0.6)	2.7	(0.4)
	Serbia	21.1	(1.4)	21.4	(0.9)	23.3	(0.9)	17.9	(1.0)	10.2	(0.7)	4.4	(0.6)	1.7	(0.4)
	Shanghai-China	1.0	(0.2)	3.0	(0.4)	7.4	(0.5)	12.8	(0.6)	17.7	(0.8)	21.8	(0.8)	36.2	(1.3)
	Singapore	2.7	(0.3)	6.3	(0.5)	11.4	(0.5)	16.5	(0.6)	20.7	(0.7)	19.5	(0.6)	22.9	(0.6)
	Chinese Taipei	5.2	(0.5)	8.5	(0.6)	12.8	(0.6)	17.3	(0.7)	18.8	(0.8)	18.1	(1.2)	19.4	(1.1)
	Thailand	27.7	(1.4)	27.1	(1.0)	23.5	(0.8)	13.2	(0.9)	5.7	(0.6)	2.2	(0.4)	0.7	(0.2)
	Tunisia	41.6	(2.1)	26.8	(1.1)	19.1	(1.0)	8.7	(0.8)	2.8	(0.6)	0.9	(0.4)	0.2	(0.1)
	United Arab Emirates	18.6	(0.9)	24.0	(0.9)	24.9	(0.6)	18.3	(0.8)	9.3	(0.6)	3.9	(0.4)	1.1	(0.2)
	Uruguay	33.9	(1.3)	23.5	(0.8)	20.4	(0.9)	13.2	(0.7)	6.5	(0.6)	1.9	(0.3)	0.5	(0.2)
	Viet Nam	5.3	(1.0)	11.7	(1.1)	21.7	(1.3)	26.2	(1.2)	20.1	(1.1)	10.7	(0.9)	4.4	(0.7)

* See notes at the beginning of this Annex.

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[Part 1/2]

Table I.2.15 Percentage of students at each proficiency level on the mathematics subscale *change and relationships*, by gender

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	7.1	(0.5)	12.0	(0.7)	19.5	(0.7)	22.2	(0.7)	19.1	(0.8)	12.7	(0.7)	7.5	(0.6)
	Austria	8.0	(1.1)	11.4	(0.9)	17.9	(1.1)	20.3	(1.2)	20.4	(1.5)	13.8	(1.3)	8.2	(1.0)
	Belgium	10.0	(1.1)	10.0	(0.6)	15.3	(0.7)	19.7	(0.9)	20.7	(1.1)	15.4	(0.8)	8.8	(0.6)
	Canada	3.9	(0.4)	9.1	(0.7)	17.7	(0.9)	24.2	(0.8)	22.2	(0.8)	15.1	(0.6)	7.9	(0.5)
	Chile	24.1	(1.7)	24.7	(1.3)	22.6	(1.2)	16.6	(1.2)	8.6	(0.9)	2.9	(0.5)	0.5	(0.2)
	Czech Republic	9.8	(1.0)	11.4	(1.2)	19.5	(1.8)	21.9	(1.5)	19.9	(1.2)	11.5	(1.0)	6.0	(0.6)
	Denmark	5.8	(0.7)	13.3	(0.9)	21.8	(1.1)	26.4	(1.2)	19.9	(1.0)	10.0	(0.8)	2.9	(0.4)
	Estonia	2.0	(0.4)	7.6	(0.8)	18.8	(1.5)	27.1	(1.1)	24.8	(1.5)	13.9	(1.0)	5.8	(0.6)
	Finland	5.3	(0.7)	10.5	(0.9)	18.8	(1.0)	24.6	(1.0)	21.0	(1.0)	12.7	(0.8)	7.1	(0.7)
	France	10.5	(1.1)	12.8	(1.0)	18.0	(1.1)	21.9	(1.2)	18.9	(0.9)	11.8	(1.0)	6.2	(0.7)
	Germany	8.6	(0.8)	9.9	(0.8)	16.5	(1.1)	20.8	(0.9)	19.8	(1.0)	15.1	(0.9)	9.2	(0.9)
	Greece	20.5	(1.5)	18.6	(1.0)	21.8	(1.4)	20.1	(1.3)	12.4	(1.0)	5.3	(0.6)	1.4	(0.3)
	Hungary	11.0	(1.4)	16.8	(1.3)	22.1	(1.5)	21.6	(1.3)	15.3	(1.0)	9.0	(0.8)	4.1	(0.9)
	Iceland	11.6	(1.0)	14.7	(1.3)	22.0	(1.7)	22.5	(1.7)	16.8	(1.6)	8.7	(1.3)	3.6	(0.6)
	Ireland	5.0	(0.9)	11.2	(1.1)	20.5	(1.3)	29.1	(1.5)	21.4	(1.2)	10.0	(0.9)	2.8	(0.4)
	Israel	20.9	(2.2)	14.8	(1.1)	16.6	(1.5)	17.6	(1.2)	15.2	(1.2)	9.6	(1.2)	5.2	(0.9)
	Italy	11.4	(0.6)	14.9	(0.6)	21.1	(0.6)	22.5	(0.6)	17.6	(0.6)	9.3	(0.5)	3.2	(0.3)
	Japan	4.6	(0.7)	7.6	(0.8)	13.9	(1.0)	19.8	(1.2)	21.3	(1.0)	17.7	(1.0)	15.0	(1.5)
	Korea	3.6	(0.7)	6.0	(0.9)	12.5	(1.1)	18.7	(1.2)	21.0	(1.1)	19.9	(1.2)	18.4	(1.9)
	Luxembourg	9.3	(0.6)	13.5	(0.7)	20.1	(0.9)	22.2	(1.1)	19.7	(0.8)	10.8	(0.7)	4.3	(0.5)
	Mexico	28.0	(1.0)	26.9	(0.7)	24.2	(0.8)	14.0	(0.6)	5.4	(0.3)	1.3	(0.1)	0.2	(0.1)
	Netherlands	6.0	(1.0)	9.4	(0.9)	17.6	(1.3)	21.9	(1.4)	23.0	(1.7)	16.0	(1.2)	6.1	(0.8)
	New Zealand	10.5	(0.9)	12.7	(1.1)	17.6	(1.0)	19.7	(1.0)	18.4	(1.2)	12.5	(1.1)	8.6	(0.7)
	Norway	12.4	(0.9)	16.2	(1.1)	21.2	(1.3)	23.3	(1.5)	16.2	(1.1)	7.5	(0.6)	3.1	(0.4)
	Poland	7.1	(0.8)	12.7	(1.0)	20.5	(1.2)	23.4	(1.3)	18.1	(1.1)	11.2	(1.0)	6.9	(1.3)
	Portugal	10.8	(1.2)	14.3	(1.1)	21.4	(1.0)	22.4	(1.3)	17.7	(1.4)	10.1	(1.0)	3.4	(0.5)
	Slovak Republic	15.7	(1.3)	15.4	(1.0)	20.6	(1.1)	19.9	(1.3)	14.7	(1.0)	9.0	(0.8)	4.7	(0.8)
	Slovenia	8.1	(0.8)	14.3	(1.5)	21.3	(1.4)	22.5	(1.1)	17.1	(1.0)	11.2	(0.9)	5.6	(0.7)
	Spain	8.8	(0.7)	15.1	(1.0)	22.3	(0.9)	23.9	(0.8)	18.9	(0.6)	8.6	(0.5)	2.4	(0.3)
	Sweden	16.4	(1.1)	17.8	(0.9)	21.2	(1.6)	19.8	(1.3)	14.3	(1.0)	7.3	(0.7)	3.2	(0.5)
	Switzerland	4.6	(0.5)	9.8	(0.9)	16.0	(1.0)	22.0	(0.9)	21.7	(0.8)	16.1	(1.2)	9.8	(1.0)
	Turkey	17.3	(1.8)	24.8	(1.6)	24.5	(1.3)	17.1	(1.3)	10.1	(1.2)	4.9	(1.0)	1.3	(0.5)
	United Kingdom	7.4	(1.1)	13.0	(1.1)	20.9	(1.2)	24.1	(1.1)	19.0	(1.2)	11.1	(1.2)	4.6	(0.8)
	United States	8.5	(0.9)	16.6	(1.3)	23.2	(1.2)	22.8	(1.0)	16.3	(1.1)	8.8	(1.0)	3.8	(0.6)
	OECD total	10.9	(0.3)	15.3	(0.4)	20.4	(0.4)	20.8	(0.3)	16.5	(0.4)	10.3	(0.3)	5.8	(0.2)
	OECD average	10.4	(0.2)	13.8	(0.2)	19.7	(0.2)	21.7	(0.2)	17.9	(0.2)	10.9	(0.2)	5.6	(0.1)
Partners	Albania	36.4	(1.2)	26.7	(1.1)	20.8	(1.2)	11.4	(0.9)	3.7	(0.5)	0.9	(0.3)	0.1	(0.1)
	Argentina	37.2	(2.6)	27.3	(1.4)	20.6	(1.5)	10.9	(1.0)	3.1	(0.7)	0.8	(0.2)	0.1	c
	Brazil	42.4	(1.2)	24.1	(0.8)	17.7	(0.8)	9.7	(0.7)	4.2	(0.4)	1.6	(0.3)	0.4	(0.1)
	Bulgaria	26.5	(1.9)	21.5	(1.0)	19.9	(1.2)	15.0	(1.0)	9.9	(0.9)	5.2	(0.7)	2.1	(0.5)
	Colombia	46.4	(1.8)	24.9	(1.1)	16.3	(1.1)	8.0	(0.8)	3.2	(0.6)	1.0	(0.3)	0.1	(0.1)
	Costa Rica	25.9	(2.0)	28.2	(1.7)	26.0	(1.4)	13.7	(1.3)	4.8	(0.7)	1.2	(0.4)	0.1	(0.1)
	Croatia	15.6	(1.4)	17.8	(1.2)	21.1	(1.3)	20.1	(1.2)	14.6	(1.3)	7.6	(1.0)	3.1	(0.7)
	Cyprus*	23.8	(0.9)	20.3	(1.0)	20.4	(0.9)	17.4	(0.9)	11.7	(0.9)	4.9	(0.5)	1.6	(0.4)
	Hong Kong-China	3.6	(0.5)	5.9	(0.9)	11.0	(1.1)	16.9	(1.0)	23.1	(1.2)	21.4	(1.3)	18.2	(1.5)
	Indonesia	49.0	(2.3)	27.9	(1.6)	15.3	(1.4)	6.1	(1.2)	1.5	(0.5)	0.2	(0.2)	0.0	c
	Jordan	45.2	(2.8)	25.5	(1.1)	17.2	(1.5)	8.5	(1.1)	2.4	(0.6)	0.8	(0.6)	0.3	(0.4)
	Kazakhstan	20.7	(1.2)	26.1	(1.4)	26.4	(1.4)	17.6	(1.3)	7.0	(1.0)	1.6	(0.4)	0.4	(0.2)
	Latvia	7.7	(1.2)	15.0	(1.4)	23.8	(1.3)	24.1	(1.2)	17.8	(1.3)	8.9	(0.9)	2.8	(0.5)
	Liechtenstein	3.3	(1.8)	8.5	(2.8)	13.7	(3.0)	21.4	(4.0)	20.1	(4.7)	18.4	(3.9)	14.6	(2.6)
	Lithuania	9.7	(0.9)	17.5	(1.1)	24.5	(1.1)	23.1	(1.4)	15.3	(1.1)	7.7	(0.8)	2.2	(0.4)
	Macao-China	4.1	(0.4)	8.1	(0.6)	15.0	(0.8)	22.4	(1.2)	22.3	(1.1)	17.7	(0.8)	10.4	(0.8)
	Malaysia	37.1	(2.2)	25.9	(1.2)	19.3	(1.3)	11.2	(1.1)	5.0	(0.7)	1.2	(0.4)	0.3	(0.1)
	Montenegro	36.3	(1.0)	24.8	(1.1)	19.0	(1.2)	13.0	(0.8)	5.2	(0.7)	1.4	(0.4)	0.2	(0.2)
	Peru	52.4	(2.0)	21.6	(1.1)	14.5	(1.1)	7.2	(1.1)	3.2	(0.5)	0.9	(0.4)	0.2	(0.1)
	Qatar	55.3	(0.6)	17.6	(0.6)	12.5	(0.5)	7.7	(0.3)	4.7	(0.4)	1.9	(0.2)	0.3	(0.1)
	Romania	16.5	(1.5)	25.1	(1.4)	25.7	(1.2)	18.2	(1.3)	9.4	(0.9)	3.6	(0.7)	1.5	(0.5)
	Russian Federation	8.2	(0.8)	15.3	(1.5)	23.0	(1.5)	25.8	(1.2)	17.2	(1.0)	8.0	(0.8)	2.6	(0.5)
	Serbia	20.3	(1.8)	21.8	(1.2)	23.2	(1.5)	17.5	(1.4)	10.3	(0.9)	4.9	(0.6)	2.1	(0.6)
	Shanghai-China	1.1	(0.3)	3.2	(0.5)	6.9	(0.7)	12.3	(0.9)	16.8	(1.0)	21.1	(1.0)	38.6	(1.7)
	Singapore	3.2	(0.4)	7.0	(0.7)	11.6	(0.6)	15.4	(0.8)	19.6	(1.0)	18.6	(0.8)	24.5	(0.8)
	Chinese Taipei	6.2	(0.8)	8.8	(0.8)	11.9	(0.8)	15.6	(1.0)	17.9	(1.1)	18.1	(1.5)	21.6	(1.9)
	Thailand	32.6	(1.7)	27.3	(1.3)	21.1	(1.3)	11.6	(1.0)	5.0	(0.7)	1.9	(0.5)	0.5	(0.2)
	Tunisia	37.6	(2.3)	26.7	(1.4)	20.5	(1.4)	10.3	(1.1)	3.3	(0.7)	1.3	(0.5)	0.3	(0.2)
	United Arab Emirates	21.7	(1.4)	23.4	(1.2)	22.4	(0.9)	16.7	(0.9)	9.5	(0.9)	4.7	(0.5)	1.7	(0.3)
	Uruguay	33.0	(1.7)	21.7	(1.3)	20.7	(1.3)	13.9	(1.1)	7.5	(0.8)	2.4	(0.5)	0.8	(0.3)
	Viet Nam	6.0	(1.3)	11.3	(1.4)	20.2	(1.3)	24.8	(1.4)	20.0	(1.4)	12.0	(1.2)	5.8	(1.0)

* See notes at the beginning of this Annex.

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[Part 2/2]

Table I.2.15 Percentage of students at each proficiency level on the mathematics subscale *change and relationships*, by gender

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	7.4	(0.5)	13.7	(0.6)	21.1	(0.7)	23.5	(0.7)	18.6	(0.8)	10.7	(0.5)	4.8	(0.5)
	Austria	9.5	(1.1)	13.9	(1.4)	20.6	(1.1)	22.4	(1.1)	19.2	(1.3)	10.8	(1.0)	3.6	(0.7)
	Belgium	9.0	(0.7)	10.5	(0.7)	18.0	(0.8)	22.4	(0.9)	21.2	(1.1)	13.7	(1.0)	5.2	(0.5)
	Canada	4.4	(0.4)	9.7	(0.7)	20.1	(0.9)	27.0	(1.0)	21.9	(0.8)	12.3	(0.6)	4.6	(0.4)
	Chile	34.9	(1.7)	27.2	(1.2)	20.7	(1.0)	11.5	(0.9)	4.5	(0.5)	1.1	(0.2)	0.1	(0.1)
	Czech Republic	8.4	(1.1)	13.9	(1.3)	21.4	(1.5)	24.0	(1.4)	17.6	(1.2)	9.8	(1.0)	4.9	(0.6)
	Denmark	7.4	(0.8)	15.7	(0.9)	26.0	(1.1)	25.3	(1.3)	16.1	(1.0)	7.4	(0.9)	2.1	(0.5)
	Estonia	1.8	(0.4)	7.5	(0.7)	20.3	(1.1)	28.9	(1.2)	24.7	(1.2)	12.5	(0.8)	4.3	(0.6)
	Finland	3.6	(0.6)	8.9	(0.8)	20.5	(1.0)	27.9	(1.2)	22.8	(1.3)	11.5	(0.7)	4.8	(0.5)
	France	10.3	(1.1)	13.5	(1.1)	21.1	(1.1)	23.6	(1.0)	19.0	(1.1)	9.1	(1.0)	3.4	(0.5)
	Germany	8.7	(0.9)	11.2	(1.0)	17.8	(1.1)	22.0	(1.2)	20.7	(1.5)	13.7	(1.3)	5.9	(0.8)
	Greece	17.4	(1.3)	23.1	(1.2)	25.5	(1.3)	19.6	(1.3)	10.5	(0.7)	3.2	(0.4)	0.6	(0.2)
	Hungary	11.1	(1.2)	16.7	(1.3)	23.6	(1.5)	23.6	(1.4)	15.5	(1.2)	7.3	(0.9)	2.3	(0.7)
	Iceland	9.3	(1.1)	14.3	(1.0)	23.3	(1.1)	24.2	(1.1)	18.1	(1.0)	8.5	(0.9)	2.3	(0.4)
	Ireland	5.6	(0.8)	13.5	(1.0)	26.1	(1.4)	26.9	(1.2)	18.1	(0.9)	8.0	(0.7)	1.9	(0.4)
	Israel	17.6	(1.3)	18.7	(1.1)	22.6	(1.3)	20.8	(1.3)	13.0	(1.0)	5.6	(0.7)	1.8	(0.3)
	Italy	12.3	(0.7)	18.0	(0.7)	25.6	(0.8)	23.8	(0.7)	14.1	(0.6)	5.0	(0.4)	1.2	(0.2)
	Japan	4.7	(0.7)	8.7	(0.7)	18.1	(1.2)	23.9	(1.2)	21.3	(1.1)	14.9	(1.1)	8.4	(1.1)
	Korea	2.9	(0.5)	6.8	(1.0)	15.3	(1.3)	23.5	(1.1)	23.8	(1.5)	17.0	(1.4)	10.8	(1.3)
	Luxembourg	13.2	(0.7)	17.1	(0.8)	22.0	(1.2)	21.4	(1.0)	16.4	(1.1)	7.9	(0.7)	2.0	(0.3)
	Mexico	30.9	(0.9)	29.2	(0.8)	24.2	(0.8)	11.5	(0.6)	3.5	(0.3)	0.7	(0.1)	0.1	(0.0)
	Netherlands	6.0	(0.9)	11.5	(1.1)	18.5	(1.6)	23.2	(1.8)	22.9	(1.5)	14.1	(1.3)	3.9	(0.6)
	New Zealand	10.1	(1.0)	15.6	(1.1)	21.4	(1.0)	21.7	(0.9)	16.8	(1.0)	9.7	(0.9)	4.8	(0.7)
	Norway	11.8	(1.0)	16.7	(1.6)	23.5	(1.4)	23.4	(1.0)	15.1	(1.0)	6.8	(0.7)	2.8	(0.4)
	Poland	5.6	(0.7)	12.8	(1.0)	21.7	(1.1)	24.2	(1.2)	19.8	(1.6)	11.2	(1.1)	4.7	(0.8)
	Portugal	9.9	(1.1)	16.7	(1.3)	23.8	(1.1)	23.0	(1.2)	16.7	(1.1)	8.1	(0.9)	1.7	(0.3)
	Slovak Republic	14.5	(1.3)	14.6	(1.3)	22.1	(1.4)	22.8	(1.4)	16.4	(1.5)	7.2	(0.9)	2.4	(0.5)
	Slovenia	6.8	(0.6)	15.3	(1.2)	23.3	(1.2)	22.8	(1.1)	18.3	(1.2)	9.6	(1.0)	3.9	(0.6)
	Spain	10.0	(0.6)	16.6	(0.7)	26.2	(0.8)	25.7	(0.8)	15.7	(0.8)	5.1	(0.4)	0.8	(0.1)
	Sweden	13.4	(0.9)	17.1	(1.0)	23.3	(1.1)	21.4	(1.2)	15.4	(1.0)	7.3	(0.8)	2.0	(0.4)
	Switzerland	5.1	(0.5)	10.0	(0.8)	19.1	(1.1)	23.4	(0.9)	21.6	(1.1)	13.6	(0.9)	7.2	(0.9)
	Turkey	15.1	(1.5)	25.2	(1.4)	26.8	(1.7)	17.5	(1.5)	10.7	(1.5)	3.7	(0.8)	1.0	(0.6)
	United Kingdom	9.5	(1.0)	14.7	(1.0)	23.5	(1.0)	23.8	(1.1)	16.5	(1.1)	8.8	(1.1)	3.2	(0.6)
	United States	7.4	(0.9)	17.1	(1.2)	25.2	(1.2)	25.1	(1.1)	15.2	(1.0)	7.4	(0.7)	2.7	(0.5)
	OECD total	11.2	(0.3)	16.6	(0.4)	22.7	(0.4)	22.2	(0.4)	15.6	(0.3)	8.3	(0.3)	3.4	(0.2)
	OECD average	10.5	(0.2)	15.2	(0.2)	22.1	(0.2)	22.8	(0.2)	17.1	(0.2)	8.9	(0.1)	3.4	(0.1)
Partners	Albania	35.6	(1.6)	26.4	(1.4)	21.7	(1.2)	11.3	(0.9)	3.9	(0.6)	0.9	(0.3)	0.2	(0.1)
	Argentina	44.1	(2.1)	26.5	(1.3)	18.5	(1.2)	8.7	(1.0)	1.9	(0.3)	0.3	(0.1)	0.0	c
	Brazil	49.8	(1.3)	24.0	(0.9)	15.5	(0.9)	7.2	(0.7)	2.6	(0.5)	0.7	(0.2)	0.2	(0.1)
	Bulgaria	23.3	(1.7)	22.1	(1.4)	22.4	(1.3)	16.8	(1.0)	9.5	(1.1)	4.3	(0.7)	1.5	(0.4)
	Colombia	57.3	(2.1)	24.5	(1.3)	12.7	(1.0)	4.3	(0.7)	0.9	(0.3)	0.2	(0.1)	0.1	(0.0)
	Costa Rica	32.3	(2.0)	33.5	(1.7)	22.5	(1.9)	9.1	(1.1)	2.5	(0.6)	0.2	(0.1)	0.0	c
	Croatia	13.8	(1.3)	18.9	(1.1)	24.4	(1.3)	21.6	(1.4)	13.6	(1.1)	5.7	(0.9)	1.9	(0.7)
	Cyprus*	18.2	(1.0)	23.1	(1.2)	26.5	(1.1)	18.9	(1.0)	9.8	(0.7)	3.0	(0.4)	0.6	(0.2)
	Hong Kong-China	3.1	(0.6)	5.8	(0.8)	12.9	(1.1)	21.1	(1.3)	25.2	(1.4)	20.5	(1.5)	11.3	(1.1)
	Indonesia	47.2	(2.5)	30.1	(1.8)	15.7	(1.4)	5.5	(1.3)	1.4	(0.7)	0.2	(0.2)	0.0	c
	Jordan	29.4	(1.5)	30.0	(1.1)	25.4	(1.1)	12.3	(1.0)	2.6	(0.5)	0.4	(0.2)	0.0	c
	Kazakhstan	16.1	(1.1)	26.8	(1.3)	28.8	(1.1)	18.8	(1.1)	7.2	(0.9)	1.9	(0.5)	0.3	(0.2)
	Latvia	4.6	(0.7)	12.9	(1.2)	23.5	(1.5)	27.8	(1.4)	20.4	(1.2)	8.7	(0.9)	2.0	(0.5)
	Liechtenstein	6.2	(2.5)	10.0	(3.6)	16.5	(3.2)	18.2	(4.4)	20.6	(4.7)	22.0	(5.3)	6.5	(2.4)
	Lithuania	8.2	(0.9)	16.8	(1.2)	26.5	(1.2)	25.6	(1.8)	15.9	(1.4)	5.7	(0.7)	1.4	(0.3)
	Macao-China	2.9	(0.3)	7.2	(0.6)	15.8	(0.9)	23.3	(1.0)	25.3	(1.4)	17.0	(0.9)	8.5	(0.6)
	Malaysia	29.7	(1.7)	26.8	(1.3)	23.4	(1.5)	12.7	(1.1)	5.7	(0.8)	1.6	(0.4)	0.2	(0.1)
	Montenegro	33.1	(1.2)	26.0	(1.3)	22.1	(1.0)	12.8	(0.8)	4.6	(0.9)	1.1	(0.4)	0.1	(0.1)
	Peru	58.1	(2.4)	20.5	(1.1)	12.8	(1.2)	5.8	(0.9)	2.1	(0.5)	0.6	(0.3)	0.1	(0.1)
	Qatar	48.4	(0.7)	21.7	(0.7)	15.0	(0.5)	8.7	(0.5)	4.3	(0.3)	1.5	(0.2)	0.4	(0.1)
	Romania	15.8	(1.4)	25.5	(1.2)	26.2	(1.2)	19.1	(1.3)	9.6	(1.1)	3.2	(0.7)	0.7	(0.2)
	Russian Federation	7.1	(0.9)	14.1	(0.8)	23.4	(0.9)	26.8	(1.4)	17.7	(1.3)	8.0	(0.8)	2.8	(0.5)
	Serbia	21.9	(1.6)	21.0	(1.2)	23.4	(1.5)	18.4	(1.4)	10.0	(0.9)	3.9	(0.7)	1.4	(0.4)
	Shanghai-China	1.0	(0.2)	2.8	(0.5)	7.9	(0.8)	13.3	(0.9)	18.6	(1.2)	22.5	(1.2)	34.0	(1.5)
	Singapore	2.2	(0.3)	5.5	(0.5)	11.1	(0.8)	17.6	(0.9)	21.8	(1.0)	20.4	(1.0)	21.2	(0.8)
	Chinese Taipei	4.1	(0.5)	8.1	(0.8)	13.6	(0.8)	19.0	(0.9)	19.6	(1.0)	18.1	(1.3)	17.4	(2.0)
	Thailand	23.9	(1.6)	26.9	(1.2)	25.3	(1.1)	14.4	(1.2)	6.3	(0.9)	2.3	(0.5)	0.8	(0.3)
	Tunisia	45.1	(2.2)	26.8	(1.5)	17.8	(1.2)	7.4	(0.9)	2.3	(0.8)	0.6	(0.3)	0.1	c
	United Arab Emirates	15.7	(1.1)	24.5	(1.3)	27.2	(0.9)	19.8	(1.0)	9.1	(0.7)	3.1	(0.5)	0.6	(0.2)
	Uruguay	34.7	(1.4)	25.1	(1.1)	20.2	(1.1)	12.6	(0.9)	5.7	(0.6)	1.4	(0.4)	0.3	(0.2)
	Viet Nam	4.7	(0.9)	11.9	(1.2)	23.0	(1.6)	27.4	(1.7)	20.2	(1.3)	9.5	(1.1)	3.2	(0.7)

* See notes at the beginning of this Annex.

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[Part 1/1]

Mean score, variation and gender differences in student performance on the mathematics subscale *change and relationships*

Table I.2.16

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	Australia	509	(1.7)	104	(1.2)	515	(2.5)	503	(2.2)	**12**	(3.2)	339	(2.8)	375	(2.4)	437	(2.1)	581	(2.4)	645	(2.9)	680	(3.7)
	Austria	506	(3.4)	109	(2.7)	518	(4.8)	495	(4.1)	**23**	(5.8)	326	(7.2)	365	(5.2)	433	(4.6)	584	(4.7)	643	(4.6)	677	(6.7)
	Belgium	513	(2.6)	116	(3.2)	517	(3.6)	509	(2.9)	**8**	(4.1)	312	(7.9)	362	(5.6)	443	(3.5)	596	(2.5)	653	(2.6)	684	(2.9)
	Canada	525	(2.0)	94	(0.9)	532	(2.2)	518	(2.2)	**14**	(2.0)	367	(3.1)	403	(2.7)	461	(2.2)	591	(2.8)	647	(2.5)	679	(2.9)
	Chile	411	(3.5)	95	(1.6)	428	(4.5)	396	(3.4)	**32**	(4.1)	263	(5.2)	293	(3.8)	345	(3.5)	475	(4.6)	537	(4.7)	574	(5.5)
	Czech Republic	499	(3.5)	112	(3.3)	503	(4.5)	496	(4.2)	7	(5.3)	317	(11.2)	364	(6.5)	430	(4.5)	576	(3.6)	636	(3.5)	674	(4.2)
	Denmark	494	(2.7)	91	(1.3)	502	(3.3)	486	(2.7)	**16**	(2.8)	345	(4.7)	377	(3.7)	432	(3.1)	557	(3.1)	613	(3.5)	643	(4.0)
	Estonia	530	(2.3)	84	(1.1)	533	(2.8)	527	(2.4)	**6**	(2.7)	394	(4.4)	422	(2.6)	472	(2.8)	587	(2.6)	639	(3.7)	669	(4.1)
	Finland	520	(2.6)	97	(2.3)	521	(3.2)	520	(2.8)	1	(3.0)	363	(5.9)	400	(3.5)	458	(2.7)	584	(2.5)	643	(3.4)	677	(4.4)
	France	497	(2.7)	107	(2.4)	503	(3.7)	491	(2.8)	**11**	(3.6)	313	(9.6)	355	(6.3)	425	(3.6)	572	(3.2)	632	(4.2)	667	(4.9)
	Germany	516	(3.8)	114	(3.4)	521	(3.9)	510	(4.2)	**11**	(3.0)	321	(8.4)	368	(6.6)	443	(4.4)	597	(3.7)	656	(4.2)	688	(5.4)
	Greece	446	(3.2)	101	(1.6)	448	(4.3)	444	(3.1)	4	(3.7)	278	(5.6)	317	(5.4)	378	(4.1)	515	(3.7)	574	(3.9)	609	(4.7)
	Hungary	481	(3.5)	100	(2.7)	485	(4.0)	479	(4.0)	6	(3.8)	320	(6.9)	352	(5.5)	411	(3.9)	550	(4.9)	614	(7.0)	651	(7.3)
	Iceland	487	(1.9)	100	(1.5)	485	(2.5)	488	(2.5)	-3	(3.4)	318	(5.0)	355	(4.4)	420	(3.0)	557	(2.7)	614	(3.2)	647	(3.6)
	Ireland	501	(2.6)	87	(1.5)	508	(3.6)	494	(3.1)	**13**	(4.3)	355	(6.1)	389	(4.8)	443	(3.3)	561	(2.6)	613	(2.5)	642	(3.5)
	Israel	462	(5.3)	117	(2.4)	469	(8.9)	456	(4.0)	13	(8.6)	266	(9.1)	308	(7.4)	382	(6.3)	545	(5.5)	613	(6.0)	651	(6.6)
	Italy	477	(2.1)	100	(1.3)	486	(2.4)	467	(2.3)	**19**	(2.6)	310	(3.3)	348	(2.9)	410	(2.5)	546	(2.5)	604	(2.9)	638	(3.4)
	Japan	542	(4.0)	107	(2.4)	553	(5.0)	531	(4.2)	**22**	(4.8)	362	(7.0)	404	(5.8)	470	(4.5)	618	(5.0)	680	(6.0)	715	(7.1)
	Korea	559	(5.2)	107	(2.7)	569	(6.6)	548	(5.4)	**21**	(6.5)	382	(8.4)	422	(6.2)	488	(5.1)	633	(5.7)	692	(7.0)	727	(9.0)
	Luxembourg	488	(1.0)	102	(1.0)	500	(1.5)	475	(1.3)	**25**	(1.9)	317	(3.4)	352	(2.6)	415	(2.0)	562	(1.9)	619	(2.3)	652	(3.0)
	Mexico	405	(1.6)	87	(0.8)	410	(1.9)	399	(1.7)	**11**	(1.5)	264	(2.6)	295	(2.3)	347	(1.9)	462	(1.9)	516	(2.1)	549	(2.4)
	Netherlands	518	(3.9)	103	(3.2)	522	(4.3)	514	(4.2)	**8**	(3.4)	345	(10.0)	388	(6.5)	453	(5.2)	593	(4.0)	642	(3.7)	669	(3.7)
	New Zealand	501	(2.5)	112	(1.6)	509	(3.6)	492	(3.5)	**17**	(5.0)	319	(5.1)	356	(4.1)	422	(3.5)	578	(3.7)	646	(4.1)	686	(4.7)
	Norway	478	(3.1)	102	(1.3)	479	(3.2)	476	(3.8)	3	(3.4)	306	(5.2)	346	(4.7)	409	(3.4)	547	(3.4)	608	(4.1)	644	(4.7)
	Poland	509	(4.1)	100	(2.1)	510	(4.7)	509	(4.3)	1	(3.6)	347	(4.4)	380	(4.0)	440	(4.1)	578	(5.2)	641	(6.8)	677	(9.3)
	Portugal	486	(4.1)	98	(1.4)	490	(4.4)	482	(4.1)	**9**	(2.6)	323	(5.6)	356	(4.7)	417	(5.4)	556	(4.0)	615	(4.0)	645	(3.9)
	Slovak Republic	474	(4.0)	114	(2.9)	476	(4.9)	472	(4.5)	4	(4.9)	282	(9.2)	327	(6.9)	401	(5.5)	553	(4.6)	617	(4.8)	655	(6.7)
	Slovenia	499	(1.1)	100	(1.0)	501	(1.7)	497	(2.2)	4	(3.1)	338	(2.9)	372	(2.7)	429	(2.3)	570	(2.2)	632	(3.8)	667	(3.7)
	Spain	482	(2.0)	93	(0.8)	490	(2.5)	473	(2.1)	**17**	(2.2)	326	(3.0)	361	(3.1)	420	(2.9)	547	(2.1)	600	(1.9)	630	(1.9)
	Sweden	469	(2.8)	107	(1.6)	466	(3.6)	472	(3.1)	-5	(3.8)	291	(5.4)	331	(4.1)	397	(4.0)	544	(3.4)	606	(3.8)	641	(4.0)
	Switzerland	530	(3.4)	103	(1.6)	536	(3.9)	524	(3.6)	**12**	(3.0)	359	(4.1)	396	(3.4)	459	(3.7)	602	(4.0)	661	(4.8)	695	(5.3)
	Turkey	448	(5.0)	92	(3.1)	448	(5.4)	449	(5.7)	-1	(4.7)	310	(4.7)	336	(4.9)	383	(3.9)	508	(7.3)	575	(9.1)	612	(10.6)
	United Kingdom	496	(3.4)	99	(1.8)	504	(4.4)	489	(3.9)	**15**	(4.8)	333	(5.3)	368	(5.2)	429	(4.4)	565	(3.9)	626	(4.4)	659	(5.2)
	United States	488	(3.5)	95	(1.4)	490	(3.9)	486	(3.9)	4	(3.2)	339	(4.2)	368	(4.0)	421	(4.1)	552	(4.2)	614	(4.3)	649	(5.1)
	OECD total	488	(1.2)	107	(0.6)	494	(1.3)	482	(1.3)	**12**	(1.1)	316	(1.4)	352	(1.2)	414	(1.5)	562	(1.5)	628	(1.5)	665	(2.1)
	OECD average	493	(0.6)	101	(0.4)	498	(0.7)	487	(0.6)	**11**	(0.7)	325	(1.1)	362	(0.8)	424	(0.7)	563	(0.7)	622	(0.8)	657	(0.9)
Partners	Albania	388	(2.1)	98	(1.4)	387	(2.6)	389	(3.3)	-2	(4.0)	217	(5.1)	263	(4.1)	327	(2.9)	453	(2.9)	510	(3.1)	543	(4.7)
	Argentina	379	(4.2)	90	(1.9)	387	(4.9)	371	(3.8)	**15**	(3.0)	231	(4.9)	263	(4.5)	318	(4.8)	440	(5.5)	495	(5.1)	525	(5.2)
	Brazil	372	(2.7)	99	(1.9)	382	(2.8)	362	(3.0)	**20**	(2.2)	217	(3.5)	250	(3.7)	304	(2.9)	435	(3.3)	500	(5.1)	542	(6.6)
	Bulgaria	434	(4.5)	109	(2.5)	433	(5.3)	436	(4.9)	-2	(5.0)	263	(6.7)	299	(5.4)	358	(4.7)	507	(5.7)	579	(6.7)	620	(7.7)
	Colombia	357	(3.7)	91	(1.8)	372	(4.4)	343	(4.0)	**29**	(3.8)	214	(6.5)	244	(4.6)	295	(3.8)	415	(4.2)	475	(5.4)	513	(5.3)
	Costa Rica	402	(3.5)	81	(1.9)	413	(4.1)	392	(3.5)	**21**	(2.9)	273	(5.0)	300	(4.9)	348	(4.1)	454	(4.1)	506	(5.2)	538	(5.6)
	Croatia	468	(4.2)	103	(2.8)	470	(5.1)	465	(4.6)	5	(4.9)	301	(5.9)	336	(5.5)	395	(4.5)	539	(5.5)	602	(7.3)	640	(9.0)
	Cyprus*	440	(1.2)	102	(1.0)	439	(1.9)	441	(1.8)	-2	(2.8)	272	(3.4)	310	(2.8)	371	(1.9)	509	(2.5)	572	(2.7)	608	(3.5)
	Hong Kong-China	564	(3.6)	103	(2.2)	572	(5.0)	556	(4.3)	**16**	(5.9)	380	(7.9)	426	(7.1)	497	(4.9)	636	(3.6)	691	(4.0)	723	(5.3)
	Indonesia	364	(4.3)	79	(3.4)	364	(4.7)	365	(4.7)	-1	(3.8)	240	(5.8)	267	(4.9)	311	(4.1)	414	(5.6)	468	(8.7)	501	(11.3)
	Jordan	387	(3.7)	87	(2.7)	373	(6.5)	402	(3.0)	**-29**	(7.2)	246	(6.4)	279	(5.0)	330	(4.0)	447	(3.8)	499	(4.5)	529	(5.9)
	Kazakhstan	433	(3.2)	84	(1.9)	429	(3.7)	437	(3.6)	**-8**	(3.6)	298	(3.0)	327	(3.3)	375	(2.7)	489	(4.4)	541	(6.1)	573	(6.4)
	Latvia	496	(3.4)	90	(1.8)	492	(4.0)	501	(3.6)	**-9**	(3.7)	347	(6.4)	381	(4.4)	434	(3.9)	558	(4.2)	613	(3.9)	642	(4.5)
	Liechtenstein	542	(4.0)	104	(3.6)	552	(6.3)	531	(6.5)	**21**	(10.0)	363	(17.8)	400	(11.4)	469	(8.2)	621	(6.4)	675	(11.8)	703	(11.6)
	Lithuania	479	(3.2)	92	(1.6)	480	(3.5)	479	(3.3)	1	(2.5)	330	(5.0)	364	(4.2)	417	(3.5)	542	(3.6)	599	(4.1)	632	(4.9)
	Macao-China	542	(1.2)	100	(1.1)	542	(1.7)	543	(1.5)	0	(2.0)	375	(3.5)	413	(2.5)	478	(1.7)	612	(2.1)	667	(2.8)	700	(3.5)
	Malaysia	401	(4.0)	92	(2.1)	394	(4.9)	408	(4.3)	**-15**	(4.5)	258	(5.1)	287	(4.2)	337	(4.2)	461	(5.1)	524	(6.5)	561	(6.6)
	Montenegro	399	(1.3)	93	(1.0)	397	(1.7)	401	(1.9)	-4	(2.7)	253	(2.5)	282	(2.1)	333	(1.9)	462	(2.3)	521	(3.1)	556	(3.6)
	Peru	349	(4.5)	101	(2.6)	357	(4.6)	342	(5.6)	**15**	(4.5)	191	(5.3)	224	(4.8)	280	(4.2)	415	(6.0)	482	(7.4)	525	(9.1)
	Qatar	363	(0.9)	110	(0.7)	354	(1.2)	372	(1.2)	**-18**	(1.6)	197	(2.2)	230	(1.9)	285	(1.4)	434	(1.5)	514	(2.2)	562	(2.9)
	Romania	446	(3.9)	89	(2.4)	446	(4.7)	445	(4.1)	1	(3.9)	307	(4.4)	336	(4.6)	382	(3.9)	504	(5.0)	566	(6.8)	602	(7.1)
	Russian Federation	491	(3.4)	93	(1.8)	489	(4.0)	493	(3.5)	-5	(3.1)	338	(5.5)	371	(4.7)	428	(4.0)	553	(3.8)	611	(5.0)	644	(6.3)
	Serbia	442	(4.1)	104	(2.7)	445	(4.9)	439	(4.6)	5	(4.7)	274	(7.6)	311	(5.7)	371	(4.9)	512	(4.4)	578	(6.3)	618	(6.5)
	Shanghai-China	624	(3.6)	112	(2.4)	629	(4.4)	619	(3.9)	**10**	(3.9)	431	(6.7)	473	(6.5)	547	(5.4)	704	(3.6)	764	(4.1)	797	(5.3)
	Singapore	580	(1.5)	114	(0.9)	581	(2.2)	580	(1.9)	1	(2.6)	387	(4.4)	428	(3.9)	502	(2.7)	662	(2.1)	725	(2.8)	759	(2.8)
	Chinese Taipei	561	(3.5)	121	(2.2)	563	(5.7)	559	(5.8)	4	(9.0)	355	(6.4)	398	(5.7)	476	(5.0)	648	(3.7)	714	(5.2)	752	(5.4)
	Thailand	414	(3.9)	93	(2.3)	403	(4.1)	422	(4.6)	**-20**	(3.9)	269	(4.6)	300	(3.7)	350	(3.9)	471	(5.0)	535	(7.0)	576	(9.3)
	Tunisia	379	(4.5)	91	(3.0)	389	(5.1)	371	(4.6)	**18**	(3.2)	234	(5.7)	264	(5.1)	318	(4.4)	438	(5.0)	496	(7.0)	531	(11.7)
	United Arab Emirates	442	(2.6)	95	(1.2)	440	(4.2)	445	(3.0)	-4	(5.0)	294	(3.9)	325	(3.0)	376	(2.8)	505	(3.4)	570	(3.8)	607	(4.2)
	Uruguay	401	(3.2)	105	(2.2)	407	(4.1)	397	(3.4)	**10**	(3.8)	230	(5.7)	267	(5.0)	331	(4.0)	472	(3.7)	537	(5.4)	576	(5.7)
	Viet Nam	509	(5.1)	94	(2.7)	514	(5.9)	506	(4.9)	**8**	(3.2)	355	(8.0)	389	(7.1)	445	(6.1)	572	(5.7)	631	(6.6)	664	(6.7)

Note: Values that are statistically significant are indicated in bold (see Annex A3).
* See notes at the beginning of this Annex.
StatLink http://dx.doi.org/10.1787/888932935667



[Part 1/1]

Table I.2.17 **Percentage of students at each proficiency level on the mathematics subscale *space and shape***

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	8.1	(0.4)	15.3	(0.5)	21.9	(0.6)	23.5	(0.5)	16.9	(0.5)	9.3	(0.5)	5.0	(0.4)
	Austria	7.3	(0.7)	13.7	(0.8)	21.8	(0.9)	23.7	(1.0)	19.0	(0.9)	10.2	(0.7)	4.3	(0.7)
	Belgium	8.4	(0.7)	12.7	(0.7)	19.4	(0.9)	21.7	(1.0)	18.4	(0.7)	12.4	(0.5)	6.9	(0.4)
	Canada	5.3	(0.3)	12.0	(0.5)	22.0	(0.6)	24.7	(0.6)	19.9	(0.6)	11.0	(0.5)	5.1	(0.4)
	Chile	25.0	(1.4)	28.4	(0.9)	24.1	(1.0)	14.3	(0.8)	6.2	(0.5)	1.7	(0.2)	0.3	(0.1)
	Czech Republic	8.3	(0.8)	14.2	(1.0)	21.4	(1.1)	23.2	(1.0)	18.1	(0.9)	10.2	(0.8)	4.7	(0.5)
	Denmark	5.0	(0.5)	13.1	(0.7)	24.3	(0.7)	29.2	(0.8)	19.1	(0.7)	7.5	(0.7)	1.8	(0.3)
	Estonia	4.3	(0.4)	11.6	(0.8)	22.0	(0.9)	25.9	(1.0)	20.1	(1.1)	10.8	(0.8)	5.2	(0.5)
	Finland	4.7	(0.4)	12.0	(0.6)	23.1	(0.7)	27.1	(0.8)	19.5	(0.6)	10.0	(0.5)	3.8	(0.3)
	France	9.5	(0.7)	15.9	(1.0)	22.1	(0.9)	23.1	(0.9)	17.0	(0.9)	8.8	(0.6)	3.4	(0.5)
	Germany	6.5	(0.7)	12.6	(0.7)	20.8	(1.0)	24.2	(1.0)	20.1	(0.8)	11.2	(0.7)	4.7	(0.5)
	Greece	18.9	(1.0)	24.2	(1.0)	26.6	(0.8)	18.7	(0.7)	8.7	(0.6)	2.5	(0.3)	0.4	(0.1)
	Hungary	10.8	(0.9)	19.2	(1.3)	25.7	(1.2)	21.9	(1.1)	13.0	(0.8)	6.5	(0.8)	2.9	(0.7)
	Iceland	7.4	(0.5)	14.4	(0.8)	24.8	(0.9)	26.9	(1.0)	17.3	(0.9)	7.7	(0.7)	1.6	(0.3)
	Ireland	10.2	(0.8)	16.5	(0.7)	24.7	(1.0)	24.5	(1.0)	15.7	(0.7)	6.5	(0.5)	1.8	(0.3)
	Israel	19.4	(1.4)	20.1	(0.9)	22.4	(0.8)	19.5	(0.8)	11.8	(0.9)	5.1	(0.5)	1.6	(0.3)
	Italy	10.7	(0.5)	15.9	(0.5)	22.4	(0.6)	21.7	(0.7)	15.7	(0.5)	9.0	(0.4)	4.6	(0.4)
	Japan	2.3	(0.4)	6.1	(0.6)	14.4	(0.9)	22.4	(0.9)	23.1	(0.9)	17.9	(0.9)	13.8	(1.1)
	Korea	2.8	(0.5)	5.9	(0.5)	12.7	(0.8)	18.6	(1.0)	20.9	(0.9)	18.5	(0.9)	20.6	(1.6)
	Luxembourg	8.7	(0.5)	16.9	(0.5)	23.5	(0.8)	22.9	(0.8)	17.0	(0.6)	8.2	(0.4)	2.7	(0.2)
	Mexico	25.0	(0.7)	29.4	(0.5)	26.2	(0.5)	13.7	(0.5)	4.6	(0.3)	1.0	(0.1)	0.1	(0.0)
	Netherlands	5.8	(0.8)	12.5	(0.8)	20.9	(1.1)	25.1	(1.4)	21.1	(1.4)	10.6	(0.9)	4.1	(0.7)
	New Zealand	8.5	(0.7)	16.3	(0.8)	23.4	(1.0)	22.8	(1.1)	15.8	(1.1)	8.6	(0.9)	4.4	(0.4)
	Norway	11.1	(0.8)	16.5	(0.7)	23.4	(0.7)	23.0	(1.1)	15.4	(0.9)	7.5	(0.5)	3.2	(0.4)
	Poland	3.7	(0.5)	11.7	(0.8)	21.1	(0.9)	23.2	(0.8)	19.0	(0.7)	12.9	(0.9)	8.5	(1.1)
	Portugal	11.1	(1.0)	15.9	(0.9)	20.7	(0.8)	20.2	(1.1)	17.2	(0.8)	10.0	(0.7)	5.0	(0.5)
	Slovak Republic	11.2	(1.0)	15.1	(0.9)	21.6	(1.0)	21.4	(0.9)	16.0	(1.0)	9.6	(0.7)	5.1	(0.7)
	Slovenia	6.5	(0.4)	14.0	(0.7)	22.8	(1.0)	22.8	(1.0)	17.9	(0.8)	10.7	(0.6)	5.2	(0.4)
	Spain	10.1	(0.5)	17.7	(0.6)	24.7	(0.8)	23.4	(0.8)	15.6	(0.5)	6.6	(0.4)	2.0	(0.2)
	Sweden	12.0	(0.7)	18.4	(0.9)	25.4	(1.0)	22.8	(0.7)	14.3	(0.8)	5.4	(0.5)	1.6	(0.2)
	Switzerland	3.5	(0.4)	7.9	(0.6)	16.0	(0.8)	22.3	(0.8)	23.1	(0.8)	16.1	(0.8)	11.1	(0.9)
	Turkey	22.5	(1.3)	23.0	(1.2)	21.6	(1.2)	14.9	(1.0)	9.4	(0.8)	5.7	(0.8)	2.9	(0.7)
	United Kingdom	12.0	(1.0)	17.5	(0.7)	23.8	(0.6)	22.5	(1.0)	14.5	(0.8)	7.0	(0.6)	2.7	(0.4)
	United States	13.5	(1.0)	20.9	(1.0)	25.1	(1.0)	20.5	(1.0)	12.4	(0.8)	5.4	(0.5)	2.2	(0.3)
	OECD total	12.1	(0.3)	17.7	(0.3)	22.3	(0.4)	20.5	(0.3)	14.6	(0.3)	8.2	(0.2)	4.6	(0.2)
	OECD average	10.0	(0.1)	15.8	(0.1)	22.3	(0.2)	22.2	(0.2)	16.3	(0.1)	8.9	(0.1)	4.5	(0.1)
Partners	Albania	27.0	(1.0)	23.9	(1.1)	22.8	(0.9)	15.3	(0.9)	7.3	(0.5)	2.6	(0.3)	1.0	(0.2)
	Argentina	36.5	(2.0)	31.6	(1.1)	21.4	(1.3)	8.4	(0.7)	1.9	(0.3)	0.3	(0.1)	0.0	(0.0)
	Brazil	40.3	(1.0)	30.6	(0.7)	18.8	(0.6)	7.3	(0.4)	2.4	(0.3)	0.6	(0.2)	0.1	(0.1)
	Bulgaria	19.1	(1.5)	23.2	(1.0)	24.9	(1.0)	18.0	(1.0)	10.1	(0.8)	3.8	(0.5)	0.9	(0.2)
	Colombia	45.7	(1.8)	29.3	(0.9)	16.5	(1.1)	6.3	(0.7)	1.8	(0.3)	0.2	(0.1)	0.0	(0.0)
	Costa Rica	29.9	(1.7)	34.9	(1.0)	23.4	(1.2)	8.5	(0.9)	2.5	(0.6)	0.6	(0.2)	0.1	(0.1)
	Croatia	11.2	(0.8)	23.2	(1.0)	28.2	(1.0)	20.8	(1.0)	10.9	(0.7)	4.1	(0.7)	1.7	(0.7)
	Cyprus*	19.8	(0.9)	24.4	(1.0)	25.8	(0.7)	17.9	(0.7)	8.7	(0.7)	2.9	(0.3)	0.6	(0.1)
	Hong Kong-China	3.2	(0.5)	6.4	(0.6)	12.2	(0.8)	18.1	(1.1)	22.6	(1.0)	20.3	(0.9)	17.1	(1.2)
	Indonesia	38.8	(1.9)	30.4	(1.3)	19.8	(1.0)	7.8	(0.9)	2.8	(0.7)	0.4	(0.2)	0.1	(0.0)
	Jordan	37.4	(1.4)	30.8	(0.9)	20.6	(1.0)	8.5	(0.7)	2.1	(0.4)	0.6	(0.4)	0.1	(0.1)
	Kazakhstan	13.6	(1.0)	24.2	(1.3)	28.6	(1.2)	19.8	(1.0)	10.0	(1.1)	3.1	(0.6)	0.7	(0.3)
	Latvia	5.2	(0.6)	13.7	(0.9)	25.4	(1.2)	26.7	(0.9)	18.2	(1.1)	8.0	(0.7)	2.8	(0.4)
	Liechtenstein	3.9	(1.2)	7.6	(1.8)	16.2	(2.1)	23.9	(2.7)	21.7	(2.7)	16.9	(2.3)	9.8	(2.4)
	Lithuania	12.2	(0.8)	18.3	(0.9)	24.1	(1.1)	22.0	(0.9)	14.6	(0.8)	6.5	(0.5)	2.2	(0.4)
	Macao-China	3.7	(0.3)	7.0	(0.3)	13.8	(0.6)	19.9	(0.8)	21.8	(0.7)	18.2	(0.6)	15.6	(0.6)
	Malaysia	19.1	(1.3)	26.4	(1.0)	26.1	(0.9)	17.5	(0.9)	8.2	(0.7)	2.4	(0.4)	0.3	(0.1)
	Montenegro	25.2	(0.7)	30.8	(1.0)	25.2	(0.9)	13.0	(0.7)	4.8	(0.5)	0.9	(0.2)	0.1	(0.1)
	Peru	45.4	(1.9)	26.5	(1.0)	17.0	(1.0)	7.5	(0.7)	2.7	(0.5)	0.8	(0.3)	0.1	(0.1)
	Qatar	44.7	(0.5)	23.4	(0.4)	16.0	(0.5)	9.2	(0.4)	4.5	(0.2)	1.8	(0.1)	0.3	(0.1)
	Romania	16.2	(1.2)	24.0	(1.1)	26.9	(1.0)	18.5	(1.1)	9.4	(0.9)	3.8	(0.6)	1.2	(0.4)
	Russian Federation	6.9	(0.6)	14.8	(0.9)	23.9	(0.8)	24.2	(1.2)	17.3	(1.0)	9.0	(0.7)	3.8	(0.7)
	Serbia	18.6	(1.3)	22.7	(1.1)	24.4	(1.1)	18.3	(1.0)	10.1	(1.1)	4.2	(0.6)	1.7	(0.4)
	Shanghai-China	0.7	(0.2)	2.4	(0.4)	5.5	(0.5)	9.8	(0.7)	14.9	(0.8)	20.8	(0.9)	45.9	(1.4)
	Singapore	3.2	(0.3)	6.4	(0.4)	11.2	(0.5)	16.7	(0.6)	19.7	(0.6)	19.4	(0.9)	23.4	(0.7)
	Chinese Taipei	4.6	(0.5)	7.2	(0.5)	10.9	(0.6)	13.3	(0.7)	16.0	(0.7)	16.9	(0.7)	31.1	(1.1)
	Thailand	21.7	(1.2)	25.8	(1.1)	25.1	(1.1)	15.5	(1.0)	7.4	(0.8)	3.3	(0.5)	1.4	(0.4)
	Tunisia	40.8	(1.8)	28.4	(1.2)	18.9	(1.0)	8.2	(0.7)	2.6	(0.6)	0.8	(0.3)	0.2	(0.1)
	United Arab Emirates	25.5	(1.0)	24.7	(0.6)	22.5	(0.7)	15.9	(0.7)	7.9	(0.5)	2.8	(0.3)	0.7	(0.1)
	Uruguay	28.5	(1.2)	25.5	(1.1)	22.6	(0.9)	14.8	(0.8)	6.7	(0.6)	1.6	(0.3)	0.3	(0.2)
	Viet Nam	6.4	(0.9)	12.8	(1.0)	21.8	(1.1)	24.2	(1.1)	18.6	(1.0)	10.7	(0.9)	5.5	(0.9)

* See notes at the beginning of this Annex.

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[Part 1/2]

Table I.2.18 Percentage of students at each proficiency level on the mathematics subscale *space and shape*, by gender

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	6.7	(0.4)	14.1	(0.6)	21.4	(0.8)	23.5	(0.7)	17.8	(0.6)	10.4	(0.6)	6.2	(0.7)
	Austria	5.6	(0.9)	10.9	(1.0)	18.9	(1.1)	23.5	(1.3)	21.7	(1.3)	13.0	(1.2)	6.5	(1.1)
	Belgium	7.6	(0.7)	11.7	(0.8)	18.2	(0.8)	21.0	(1.1)	19.1	(1.0)	14.0	(0.8)	8.4	(0.6)
	Canada	5.1	(0.4)	11.8	(0.6)	20.9	(0.9)	24.2	(1.0)	19.8	(0.9)	12.1	(0.6)	6.2	(0.5)
	Chile	18.9	(1.4)	26.9	(1.2)	26.1	(1.2)	17.2	(1.2)	8.0	(0.8)	2.3	(0.4)	0.5	(0.1)
	Czech Republic	7.3	(1.0)	12.4	(1.2)	20.2	(1.2)	22.4	(1.2)	20.3	(1.2)	11.7	(1.0)	5.7	(0.8)
	Denmark	4.3	(0.6)	11.8	(0.8)	22.5	(1.0)	29.4	(1.0)	21.2	(1.2)	8.6	(1.0)	2.0	(0.4)
	Estonia	4.2	(0.6)	11.7	(0.9)	21.8	(1.3)	25.4	(1.3)	19.9	(1.4)	11.1	(1.1)	5.9	(0.6)
	Finland	5.5	(0.6)	12.6	(0.8)	22.2	(0.9)	25.8	(1.0)	19.5	(1.1)	10.1	(0.8)	4.4	(0.5)
	France	8.8	(0.9)	15.0	(1.2)	20.2	(1.3)	23.2	(1.2)	17.8	(1.1)	10.4	(0.8)	4.5	(0.7)
	Germany	5.8	(0.7)	11.6	(0.9)	19.2	(1.2)	24.3	(1.2)	21.1	(1.1)	12.1	(0.9)	5.9	(0.7)
	Greece	18.2	(1.4)	22.2	(1.8)	25.9	(1.3)	19.9	(1.1)	9.9	(0.8)	3.3	(0.6)	0.6	(0.2)
	Hungary	9.3	(1.1)	18.1	(1.5)	24.7	(1.4)	22.3	(1.4)	14.0	(1.0)	7.5	(1.0)	4.1	(0.9)
	Iceland	8.2	(0.8)	15.1	(1.2)	25.4	(1.2)	26.2	(1.1)	15.9	(1.4)	7.3	(0.9)	1.8	(0.4)
	Ireland	8.5	(1.1)	14.5	(1.0)	23.1	(1.0)	25.5	(1.5)	17.7	(1.2)	8.0	(0.7)	2.8	(0.5)
	Israel	20.6	(2.1)	17.9	(1.3)	19.7	(1.2)	19.2	(1.2)	13.3	(1.4)	6.8	(0.9)	2.6	(0.6)
	Italy	9.8	(0.5)	14.4	(0.7)	20.6	(0.6)	21.3	(0.8)	16.9	(0.6)	10.8	(0.6)	6.2	(0.5)
	Japan	2.5	(0.5)	6.0	(0.7)	12.7	(1.0)	20.0	(1.0)	23.0	(1.0)	19.4	(1.1)	16.5	(1.5)
	Korea	2.8	(0.6)	6.0	(0.7)	12.2	(1.0)	16.6	(1.3)	19.2	(1.4)	18.4	(1.3)	24.7	(2.2)
	Luxembourg	6.2	(0.6)	13.5	(0.7)	22.1	(1.1)	24.4	(1.0)	19.4	(0.8)	10.3	(0.6)	4.0	(0.4)
	Mexico	21.4	(0.9)	27.5	(0.7)	27.6	(0.7)	16.0	(0.5)	6.0	(0.3)	1.4	(0.2)	0.1	(0.0)
	Netherlands	4.9	(0.8)	11.3	(1.1)	19.7	(1.3)	25.4	(1.8)	21.8	(1.7)	12.0	(1.2)	4.9	(0.8)
	New Zealand	7.4	(0.8)	13.8	(1.0)	21.4	(1.4)	22.9	(1.4)	18.0	(1.3)	10.6	(1.3)	5.9	(0.8)
	Norway	11.2	(0.9)	16.2	(0.9)	23.3	(1.0)	22.1	(1.4)	15.9	(1.0)	7.9	(0.8)	3.5	(0.5)
	Poland	3.3	(0.6)	11.2	(1.0)	21.0	(1.3)	23.1	(1.2)	18.6	(1.1)	13.1	(1.1)	9.7	(1.4)
	Portugal	10.8	(1.1)	14.4	(1.1)	19.6	(1.2)	20.1	(1.7)	18.0	(1.2)	10.9	(0.9)	6.2	(0.7)
	Slovak Republic	10.1	(1.1)	14.9	(1.4)	21.3	(1.2)	20.7	(1.1)	16.0	(1.1)	10.4	(1.1)	6.5	(1.0)
	Slovenia	5.7	(0.5)	13.7	(1.0)	23.3	(1.3)	22.4	(1.3)	18.3	(1.0)	11.0	(0.8)	5.7	(0.6)
	Spain	9.2	(0.7)	16.1	(1.0)	23.7	(1.0)	23.2	(0.9)	16.8	(0.8)	8.2	(0.6)	2.8	(0.3)
	Sweden	12.0	(0.9)	18.6	(1.2)	24.6	(1.4)	22.8	(1.2)	14.4	(1.0)	5.7	(0.6)	1.9	(0.4)
	Switzerland	3.0	(0.5)	7.0	(0.6)	14.6	(0.9)	21.2	(1.1)	23.9	(1.1)	17.1	(1.0)	13.3	(1.0)
	Turkey	20.6	(1.7)	22.6	(1.4)	22.6	(1.7)	15.2	(1.3)	9.2	(1.0)	6.2	(0.9)	3.5	(0.9)
	United Kingdom	10.8	(1.2)	16.0	(1.0)	23.7	(1.0)	22.8	(1.2)	15.9	(1.1)	8.1	(1.0)	2.7	(0.6)
	United States	13.7	(1.2)	20.0	(1.3)	23.5	(1.1)	21.2	(1.1)	13.1	(1.1)	6.1	(0.7)	2.4	(0.5)
	OECD total	11.2	(0.4)	16.6	(0.4)	21.4	(0.4)	20.7	(0.3)	15.3	(0.3)	9.2	(0.2)	5.7	(0.2)
	OECD average	9.1	(0.2)	14.8	(0.2)	21.4	(0.2)	22.2	(0.2)	17.1	(0.2)	9.9	(0.2)	5.5	(0.1)
Partners	Albania	28.3	(1.5)	24.6	(1.8)	22.1	(1.0)	14.4	(1.1)	7.3	(0.9)	2.5	(0.4)	0.7	(0.2)
	Argentina	33.3	(2.3)	31.4	(1.6)	22.4	(1.6)	9.9	(1.0)	2.6	(0.5)	0.5	(0.1)	0.0	c
	Brazil	34.6	(1.1)	30.5	(0.9)	21.6	(0.8)	8.8	(0.6)	3.3	(0.4)	0.9	(0.3)	0.2	(0.1)
	Bulgaria	20.2	(1.7)	22.9	(1.2)	23.8	(1.1)	17.4	(1.1)	10.6	(0.9)	4.0	(0.6)	1.2	(0.3)
	Colombia	37.2	(1.9)	30.1	(1.2)	20.5	(1.4)	8.9	(1.0)	2.9	(0.5)	0.4	(0.2)	0.0	(0.0)
	Costa Rica	23.3	(2.0)	33.3	(1.6)	27.7	(1.5)	10.8	(1.3)	3.6	(0.9)	1.1	(0.4)	0.2	(0.2)
	Croatia	10.3	(0.8)	21.6	(1.3)	27.1	(1.1)	21.4	(1.2)	12.3	(1.0)	5.1	(0.7)	2.2	(0.8)
	Cyprus*	21.1	(1.1)	22.1	(1.5)	23.8	(1.0)	18.5	(0.9)	9.7	(1.1)	3.8	(0.5)	1.0	(0.2)
	Hong Kong-China	3.3	(0.5)	6.3	(0.8)	11.2	(0.9)	16.5	(1.2)	20.6	(1.0)	20.8	(1.2)	21.4	(1.8)
	Indonesia	33.2	(2.1)	31.3	(1.5)	22.4	(1.4)	8.8	(1.2)	3.5	(0.9)	0.6	(0.3)	0.1	(0.1)
	Jordan	41.9	(2.3)	29.1	(1.3)	18.4	(1.3)	7.5	(1.1)	2.1	(0.6)	0.8	(0.6)	0.2	(0.2)
	Kazakhstan	12.7	(1.3)	23.7	(1.5)	27.9	(1.5)	20.7	(1.3)	10.6	(1.5)	3.7	(0.8)	0.8	(0.4)
	Latvia	5.7	(1.0)	14.0	(1.1)	25.3	(2.0)	26.2	(1.5)	17.1	(1.6)	8.4	(0.8)	3.2	(0.6)
	Liechtenstein	3.2	(2.2)	5.6	(2.8)	15.6	(2.9)	23.7	(4.0)	22.9	(3.7)	17.7	(3.8)	11.4	(3.7)
	Lithuania	13.1	(1.0)	18.5	(1.1)	23.5	(1.3)	21.6	(1.3)	14.0	(1.0)	6.7	(0.6)	2.6	(0.5)
	Macao-China	3.9	(0.4)	7.0	(0.5)	13.4	(0.9)	18.7	(1.1)	21.0	(0.9)	18.8	(0.8)	17.2	(0.7)
	Malaysia	19.5	(1.6)	25.9	(1.3)	25.6	(1.2)	17.5	(1.1)	8.5	(0.9)	2.6	(0.5)	0.4	(0.2)
	Montenegro	24.7	(0.9)	30.0	(1.3)	25.0	(1.2)	13.9	(0.9)	5.2	(0.6)	0.9	(0.2)	0.2	(0.2)
	Peru	39.0	(1.9)	27.2	(1.6)	19.6	(1.2)	9.1	(0.9)	3.7	(0.8)	1.2	(0.4)	0.2	(0.1)
	Qatar	48.5	(0.6)	20.9	(0.5)	14.8	(0.8)	8.8	(0.5)	4.6	(0.3)	2.1	(0.2)	0.4	(0.1)
	Romania	14.7	(1.4)	23.7	(1.6)	27.3	(1.6)	18.9	(1.3)	9.6	(1.0)	4.4	(0.8)	1.4	(0.5)
	Russian Federation	6.8	(0.7)	14.4	(1.3)	23.6	(1.1)	24.5	(1.5)	17.0	(1.2)	9.4	(1.0)	4.2	(0.9)
	Serbia	16.7	(1.6)	22.9	(1.6)	25.3	(1.6)	17.9	(1.2)	10.4	(1.2)	4.7	(0.6)	2.2	(0.5)
	Shanghai-China	0.9	(0.3)	2.8	(0.6)	5.8	(0.7)	9.9	(0.9)	14.4	(1.1)	19.8	(1.2)	46.5	(1.6)
	Singapore	4.1	(0.4)	7.2	(0.6)	11.4	(0.7)	15.7	(0.9)	18.8	(0.8)	18.9	(1.0)	24.0	(1.1)
	Chinese Taipei	5.3	(0.7)	7.5	(0.7)	10.5	(0.7)	12.1	(0.9)	14.2	(0.9)	17.0	(1.0)	33.4	(1.8)
	Thailand	21.6	(1.4)	26.1	(1.4)	25.7	(1.4)	14.7	(1.1)	7.3	(0.9)	3.3	(0.6)	1.4	(0.4)
	Tunisia	33.7	(2.1)	29.5	(1.5)	22.2	(1.5)	9.9	(1.0)	3.1	(0.6)	1.1	(0.4)	0.4	(0.2)
	United Arab Emirates	26.9	(1.3)	23.8	(1.2)	21.5	(0.9)	15.3	(1.0)	8.4	(0.7)	3.1	(0.5)	1.0	(0.3)
	Uruguay	25.8	(1.5)	24.5	(1.5)	22.6	(1.1)	16.7	(1.2)	7.8	(0.9)	2.1	(0.4)	0.5	(0.3)
	Viet Nam	5.2	(1.1)	11.3	(1.3)	20.5	(1.5)	23.9	(1.7)	18.7	(1.2)	12.7	(1.2)	7.7	(1.2)

* See notes at the beginning of this Annex.

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[Part 2/2]

Table I.2.18 Percentage of students at each proficiency level on the mathematics subscale *space and shape*, by gender

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	9.6	(0.6)	16.5	(0.8)	22.5	(0.8)	23.6	(0.7)	16.0	(0.8)	8.2	(0.6)	3.6	(0.4)
	Austria	9.1	(0.9)	16.4	(1.2)	24.7	(1.3)	24.0	(1.2)	16.2	(1.0)	7.4	(0.7)	2.1	(0.5)
	Belgium	9.2	(0.9)	13.8	(0.9)	20.6	(1.3)	22.5	(1.2)	17.7	(1.0)	10.8	(0.6)	5.4	(0.4)
	Canada	5.5	(0.4)	12.3	(0.6)	23.1	(0.8)	25.2	(0.7)	20.0	(0.8)	9.9	(0.6)	4.0	(0.4)
	Chile	30.8	(1.7)	29.7	(1.3)	22.1	(1.3)	11.6	(1.0)	4.5	(0.5)	1.1	(0.2)	0.1	(0.0)
	Czech Republic	9.4	(1.0)	16.0	(1.5)	22.8	(1.4)	24.0	(1.6)	15.7	(1.1)	8.5	(1.0)	3.6	(0.4)
	Denmark	5.8	(0.6)	14.3	(0.9)	26.0	(1.1)	29.0	(1.3)	17.0	(1.0)	6.3	(0.6)	1.7	(0.3)
	Estonia	4.5	(0.6)	11.5	(1.2)	22.2	(1.5)	26.4	(1.2)	20.3	(1.3)	10.6	(0.8)	4.5	(0.6)
	Finland	3.8	(0.6)	11.3	(0.8)	24.0	(1.0)	28.3	(1.1)	19.5	(1.1)	9.9	(0.6)	3.1	(0.5)
	France	10.1	(1.1)	16.8	(1.2)	23.9	(1.2)	23.1	(1.0)	16.3	(1.2)	7.3	(0.6)	2.4	(0.4)
	Germany	7.2	(0.8)	13.6	(1.1)	22.4	(1.1)	24.1	(1.3)	19.1	(1.0)	10.2	(0.8)	3.4	(0.5)
	Greece	19.5	(1.2)	26.2	(1.1)	27.3	(1.5)	17.6	(1.0)	7.4	(0.7)	1.8	(0.3)	0.2	(0.1)
	Hungary	12.1	(1.2)	20.2	(1.4)	26.5	(1.5)	21.6	(1.4)	12.1	(1.1)	5.6	(0.8)	1.8	(0.6)
	Iceland	6.5	(0.7)	13.5	(0.9)	24.1	(1.3)	27.7	(1.6)	18.7	(1.2)	8.1	(0.8)	1.4	(0.4)
	Ireland	12.0	(1.0)	18.6	(1.0)	26.5	(1.5)	23.4	(1.2)	13.6	(0.9)	5.0	(0.6)	0.9	(0.2)
	Israel	18.2	(1.2)	22.2	(1.0)	25.1	(1.0)	19.8	(1.2)	10.4	(1.0)	3.6	(0.5)	0.7	(0.2)
	Italy	11.6	(0.6)	17.4	(0.6)	24.3	(0.7)	22.2	(0.8)	14.4	(0.6)	7.1	(0.4)	2.9	(0.3)
	Japan	2.2	(0.5)	6.2	(0.8)	16.4	(1.3)	25.0	(1.3)	23.2	(1.2)	16.2	(1.1)	10.8	(1.2)
	Korea	2.9	(0.5)	5.9	(0.8)	13.2	(1.2)	20.9	(1.4)	22.8	(1.6)	18.5	(1.3)	15.8	(1.6)
	Luxembourg	11.2	(0.8)	20.3	(0.8)	25.1	(1.2)	21.4	(1.0)	14.6	(0.9)	6.1	(0.7)	1.4	(0.2)
	Mexico	28.5	(0.8)	31.3	(0.7)	24.9	(0.7)	11.5	(0.7)	3.3	(0.3)	0.5	(0.1)	0.0	(0.0)
	Netherlands	6.8	(1.0)	13.7	(1.3)	22.1	(1.5)	24.8	(1.4)	20.3	(1.7)	9.1	(1.1)	3.2	(0.7)
	New Zealand	9.7	(1.0)	19.0	(1.1)	25.5	(1.1)	22.7	(1.2)	13.6	(1.4)	6.6	(1.0)	2.9	(0.5)
	Norway	11.0	(1.0)	16.9	(1.0)	23.5	(1.1)	23.9	(1.3)	14.9	(1.1)	7.0	(0.9)	2.8	(0.6)
	Poland	4.0	(0.7)	12.1	(1.1)	21.2	(1.3)	23.2	(1.1)	19.5	(1.0)	12.7	(1.1)	7.4	(0.9)
	Portugal	11.4	(1.1)	17.4	(1.2)	21.8	(1.0)	20.3	(1.3)	16.5	(1.2)	9.0	(0.9)	3.7	(0.5)
	Slovak Republic	12.4	(1.3)	15.4	(1.4)	21.9	(1.4)	22.2	(1.5)	15.9	(1.5)	8.7	(0.9)	3.5	(0.6)
	Slovenia	7.4	(0.9)	14.3	(1.0)	22.3	(1.2)	23.2	(1.4)	17.6	(1.1)	10.5	(1.0)	4.7	(0.6)
	Spain	11.0	(0.6)	19.3	(0.8)	25.8	(0.9)	23.5	(1.0)	14.3	(0.8)	5.0	(0.4)	1.1	(0.1)
	Sweden	12.0	(0.9)	18.2	(1.0)	26.3	(1.1)	22.9	(1.3)	14.2	(1.3)	5.1	(0.7)	1.3	(0.3)
	Switzerland	3.9	(0.5)	8.7	(0.9)	17.4	(1.1)	23.5	(0.9)	22.3	(1.1)	15.1	(1.2)	9.0	(1.0)
	Turkey	24.4	(1.9)	23.3	(1.5)	20.6	(1.2)	14.7	(1.4)	9.6	(1.1)	5.2	(1.0)	2.2	(0.7)
	United Kingdom	13.1	(1.1)	18.9	(1.1)	23.9	(1.1)	22.2	(1.1)	13.2	(1.0)	5.9	(0.8)	2.7	(0.6)
	United States	13.3	(1.3)	21.9	(1.4)	26.8	(1.3)	19.8	(1.3)	11.7	(1.1)	4.7	(0.8)	1.9	(0.4)
	OECD total	13.0	(0.4)	18.7	(0.4)	23.3	(0.4)	20.3	(0.5)	13.9	(0.4)	7.2	(0.3)	3.6	(0.2)
	OECD average	10.9	(0.2)	16.9	(0.2)	23.1	(0.2)	22.3	(0.2)	15.5	(0.2)	7.9	(0.1)	3.4	(0.1)
Partners	Albania	25.5	(1.3)	23.2	(1.2)	23.6	(1.5)	16.2	(1.3)	7.3	(0.7)	2.8	(0.5)	1.3	(0.3)
	Argentina	39.5	(2.2)	31.8	(1.3)	20.4	(1.3)	6.9	(0.9)	1.3	(0.3)	0.1	(0.1)	0.0	c
	Brazil	45.4	(1.3)	30.6	(1.0)	16.1	(0.7)	5.9	(0.5)	1.6	(0.3)	0.3	(0.2)	0.1	(0.1)
	Bulgaria	17.9	(1.6)	23.5	(1.3)	26.1	(1.5)	18.7	(1.3)	9.6	(1.1)	3.6	(0.6)	0.6	(0.2)
	Colombia	53.3	(2.2)	28.6	(1.2)	13.0	(1.3)	4.0	(0.7)	0.9	(0.2)	0.1	(0.1)	0.0	(0.0)
	Costa Rica	35.8	(2.0)	36.3	(1.3)	19.7	(1.4)	6.5	(0.9)	1.5	(0.4)	0.3	(0.2)	0.0	c
	Croatia	12.1	(1.2)	24.7	(1.5)	29.4	(1.5)	20.2	(1.4)	9.4	(0.9)	3.1	(0.8)	1.1	(0.6)
	Cyprus*	18.4	(1.3)	26.8	(1.2)	27.8	(1.2)	17.2	(1.0)	7.6	(0.7)	2.0	(0.4)	0.2	(0.1)
	Hong Kong-China	3.1	(0.6)	6.7	(0.8)	13.5	(1.2)	19.9	(1.4)	25.1	(1.7)	19.6	(1.6)	12.2	(1.4)
	Indonesia	44.5	(2.2)	29.5	(1.8)	17.0	(1.3)	6.7	(1.1)	2.0	(0.8)	0.2	(0.2)	0.0	c
	Jordan	32.9	(1.9)	32.5	(1.6)	22.8	(1.5)	9.4	(0.9)	2.1	(0.5)	0.3	(0.2)	0.0	c
	Kazakhstan	14.4	(1.2)	24.8	(1.5)	29.4	(1.5)	19.0	(1.2)	9.3	(1.2)	2.5	(0.6)	0.7	(0.4)
	Latvia	4.8	(0.7)	13.4	(1.3)	25.5	(1.4)	27.2	(1.2)	19.3	(1.2)	7.5	(1.0)	2.4	(0.4)
	Liechtenstein	4.8	(2.3)	10.0	(3.0)	16.9	(3.8)	24.1	(4.1)	20.3	(3.5)	15.9	(4.1)	7.9	(3.2)
	Lithuania	11.3	(1.0)	18.1	(1.1)	24.7	(1.5)	22.5	(1.2)	15.3	(1.0)	6.3	(0.7)	1.9	(0.4)
	Macao-China	3.5	(0.4)	7.0	(0.6)	14.1	(0.7)	21.1	(1.0)	22.7	(1.2)	17.6	(0.8)	14.0	(0.8)
	Malaysia	18.7	(1.3)	26.9	(1.5)	26.5	(1.2)	17.5	(1.2)	7.9	(0.9)	2.3	(0.5)	0.3	(0.1)
	Montenegro	25.7	(1.2)	31.5	(1.5)	25.4	(1.3)	12.1	(1.0)	4.3	(0.7)	0.9	(0.2)	0.1	c
	Peru	51.4	(2.5)	25.8	(1.3)	14.5	(1.3)	6.1	(0.8)	1.8	(0.4)	0.4	(0.2)	0.0	c
	Qatar	40.6	(0.7)	26.1	(0.7)	17.3	(0.7)	9.5	(0.5)	4.5	(0.3)	1.6	(0.2)	0.3	(0.1)
	Romania	17.7	(1.5)	24.2	(1.3)	26.6	(1.5)	18.1	(1.6)	9.2	(1.1)	3.2	(0.6)	0.9	(0.4)
	Russian Federation	7.0	(0.8)	15.2	(1.0)	24.2	(1.1)	24.0	(1.4)	17.5	(1.1)	8.7	(0.8)	3.4	(0.6)
	Serbia	20.4	(1.7)	22.6	(1.4)	23.6	(1.0)	18.6	(1.2)	9.9	(1.3)	3.7	(0.9)	1.1	(0.4)
	Shanghai-China	0.6	(0.2)	2.1	(0.4)	5.2	(0.7)	9.7	(0.8)	15.3	(0.9)	21.8	(1.0)	45.4	(1.6)
	Singapore	2.4	(0.3)	5.5	(0.4)	11.0	(0.6)	17.7	(0.9)	20.6	(1.1)	19.9	(1.4)	22.8	(1.0)
	Chinese Taipei	3.9	(0.5)	6.9	(0.6)	11.3	(1.0)	14.4	(1.0)	17.8	(1.1)	16.9	(1.1)	28.8	(2.2)
	Thailand	21.8	(1.5)	25.5	(1.6)	24.6	(1.4)	16.1	(1.4)	7.4	(0.9)	3.3	(0.6)	1.4	(0.4)
	Tunisia	47.0	(2.0)	27.5	(1.5)	16.0	(1.2)	6.7	(0.8)	2.2	(0.7)	0.6	(0.4)	0.1	(0.1)
	United Arab Emirates	24.1	(1.6)	25.6	(1.1)	23.4	(0.9)	16.5	(0.9)	7.5	(0.7)	2.5	(0.4)	0.5	(0.2)
	Uruguay	30.9	(1.4)	26.4	(1.3)	22.6	(1.0)	13.2	(1.0)	5.7	(0.8)	1.1	(0.3)	0.2	(0.1)
	Viet Nam	7.4	(1.1)	14.2	(1.2)	23.0	(1.5)	24.5	(1.1)	18.5	(1.3)	8.9	(1.0)	3.6	(0.8)

* See notes at the beginning of this Annex.

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[Part 1/1]

Mean score, variation and gender differences in student performance on the mathematics subscale *space and shape*

Table I.2.19

		All students				Gender differences						Percentiles									
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	Australia	497	(1.8)	102	(1.4)	506	(2.5)	486	(2.3)	**20**	(3.2)	334	(2.9)	368	(2.4)	425	(2.0)	564	(2.5)	630	(3.4)	669	(4.1)
	Austria	501	(3.1)	98	(2.2)	519	(4.5)	483	(3.4)	**37**	(5.4)	340	(4.6)	375	(4.1)	432	(3.7)	569	(3.8)	627	(5.2)	662	(7.1)
	Belgium	509	(2.4)	108	(1.5)	518	(3.0)	500	(2.8)	**18**	(3.5)	330	(4.5)	368	(4.2)	434	(3.6)	585	(2.9)	649	(3.1)	684	(3.1)
	Canada	510	(2.1)	95	(0.9)	515	(2.4)	505	(2.3)	**10**	(2.2)	355	(2.9)	388	(2.6)	444	(2.3)	576	(2.7)	636	(3.2)	670	(3.1)
	Chile	419	(3.2)	86	(1.5)	435	(3.8)	404	(3.2)	**31**	(3.5)	288	(4.3)	313	(3.7)	358	(3.3)	475	(4.3)	533	(4.5)	569	(4.7)
	Czech Republic	499	(3.4)	102	(1.9)	509	(4.2)	487	(3.7)	**22**	(4.4)	331	(7.1)	369	(4.8)	428	(4.7)	569	(4.0)	630	(4.2)	666	(4.8)
	Denmark	497	(2.5)	84	(1.2)	504	(3.0)	490	(2.5)	**14**	(2.3)	357	(4.6)	388	(3.8)	441	(3.3)	553	(2.9)	604	(3.7)	633	(4.1)
	Estonia	513	(2.5)	94	(1.1)	515	(3.0)	510	(3.0)	4	(3.1)	364	(4.2)	395	(3.8)	449	(3.4)	575	(2.7)	634	(3.2)	671	(4.8)
	Finland	507	(2.1)	90	(1.3)	506	(2.7)	507	(2.3)	-1	(2.8)	361	(4.2)	393	(2.7)	446	(2.5)	567	(2.7)	624	(3.1)	658	(3.8)
	France	489	(2.7)	99	(1.9)	497	(3.6)	481	(2.9)	**16**	(3.4)	326	(4.4)	360	(3.7)	418	(3.7)	558	(3.7)	619	(4.4)	652	(5.4)
	Germany	507	(3.2)	98	(1.9)	515	(3.4)	499	(3.7)	**16**	(2.8)	346	(5.6)	379	(5.1)	440	(4.2)	575	(3.8)	633	(4.5)	667	(5.2)
	Greece	436	(2.6)	90	(1.4)	442	(3.3)	431	(2.8)	**11**	(3.3)	290	(5.6)	324	(3.4)	375	(3.0)	497	(3.3)	552	(3.9)	585	(4.3)
	Hungary	474	(3.4)	96	(2.7)	482	(3.8)	465	(4.1)	**17**	(3.9)	325	(4.0)	354	(4.0)	406	(3.3)	536	(5.3)	604	(7.2)	643	(10.4)
	Iceland	489	(1.5)	88	(1.3)	485	(2.0)	493	(2.2)	**-8**	(3.0)	339	(3.7)	373	(3.1)	430	(2.6)	549	(2.4)	604	(2.4)	634	(3.3)
	Ireland	478	(2.6)	94	(1.4)	490	(3.7)	465	(3.0)	**25**	(4.3)	323	(4.9)	357	(4.2)	415	(3.4)	542	(2.8)	598	(2.8)	631	(3.9)
	Israel	449	(4.8)	105	(1.9)	456	(8.0)	443	(3.6)	13	(7.7)	278	(7.0)	314	(5.7)	376	(4.9)	522	(5.4)	586	(6.0)	622	(5.7)
	Italy	487	(2.5)	106	(1.4)	498	(2.8)	476	(2.7)	**23**	(2.6)	316	(2.8)	354	(2.8)	415	(2.5)	559	(3.5)	627	(3.9)	665	(4.2)
	Japan	558	(3.7)	100	(2.4)	566	(4.6)	548	(4.0)	**18**	(4.7)	393	(6.2)	429	(4.9)	489	(4.2)	627	(4.8)	688	(5.2)	723	(6.3)
	Korea	573	(5.2)	112	(2.4)	583	(6.6)	562	(5.9)	**20**	(7.0)	388	(7.1)	428	(5.6)	495	(5.3)	653	(6.2)	716	(7.5)	753	(8.6)
	Luxembourg	486	(1.0)	96	(1.1)	503	(1.4)	469	(1.5)	**34**	(2.1)	332	(3.1)	364	(2.6)	418	(2.2)	554	(2.1)	612	(3.0)	645	(3.2)
	Mexico	413	(1.6)	82	(0.9)	423	(1.9)	402	(1.7)	**21**	(1.4)	280	(3.1)	309	(2.4)	358	(1.9)	466	(1.9)	519	(2.4)	550	(2.3)
	Netherlands	507	(3.5)	94	(2.3)	515	(3.5)	499	(4.0)	**16**	(2.8)	350	(6.5)	385	(5.2)	442	(4.2)	573	(4.5)	628	(4.8)	660	(6.5)
	New Zealand	491	(2.4)	100	(1.7)	504	(3.5)	477	(3.1)	**27**	(4.6)	334	(5.5)	366	(4.3)	421	(3.2)	558	(2.9)	624	(4.7)	663	(5.5)
	Norway	480	(3.3)	102	(1.4)	481	(3.4)	478	(4.1)	3	(3.3)	312	(6.3)	351	(4.6)	412	(3.2)	548	(3.9)	610	(4.2)	647	(5.1)
	Poland	524	(4.2)	101	(2.2)	528	(4.9)	520	(4.4)	**8**	(3.8)	370	(4.0)	398	(3.4)	450	(3.6)	593	(6.0)	660	(6.8)	697	(7.8)
	Portugal	491	(4.2)	109	(1.9)	498	(4.6)	483	(4.4)	**15**	(2.9)	318	(6.7)	351	(5.5)	414	(4.5)	568	(4.7)	633	(4.6)	669	(5.1)
	Slovak Republic	490	(4.1)	109	(2.7)	496	(4.7)	482	(4.7)	**15**	(4.8)	311	(8.5)	351	(6.3)	416	(4.5)	564	(5.5)	632	(6.3)	670	(6.9)
	Slovenia	503	(1.4)	99	(1.2)	506	(2.0)	500	(2.2)	**6**	(3.1)	345	(3.8)	379	(2.8)	433	(2.1)	572	(3.2)	636	(4.2)	671	(3.1)
	Spain	477	(2.0)	94	(0.9)	486	(2.5)	468	(2.3)	**18**	(2.4)	324	(3.6)	357	(2.9)	412	(2.3)	542	(2.5)	599	(2.4)	631	(2.5)
	Sweden	469	(2.5)	94	(1.6)	470	(3.0)	467	(2.8)	3	(3.1)	313	(5.7)	348	(3.6)	405	(3.1)	533	(3.1)	590	(3.1)	623	(5.0)
	Switzerland	544	(3.1)	101	(1.7)	554	(3.5)	535	(3.4)	**19**	(3.1)	375	(4.7)	413	(3.9)	475	(3.4)	614	(4.5)	675	(4.4)	711	(5.4)
	Turkey	443	(5.5)	109	(3.8)	449	(5.8)	437	(6.8)	12	(6.1)	280	(5.3)	312	(3.9)	365	(4.1)	512	(9.2)	597	(12.2)	641	(12.1)
	United Kingdom	475	(3.5)	99	(1.8)	482	(4.3)	469	(4.2)	**13**	(5.0)	313	(5.5)	347	(4.6)	407	(4.1)	542	(4.1)	605	(4.3)	641	(4.9)
	United States	463	(4.0)	96	(1.5)	467	(4.3)	460	(4.4)	**7**	(3.3)	314	(4.4)	342	(4.4)	396	(3.9)	527	(5.2)	591	(5.2)	631	(6.2)
	OECD total	482	(1.3)	107	(0.6)	489	(1.4)	474	(1.3)	**16**	(1.2)	315	(1.6)	347	(1.5)	406	(1.5)	553	(1.5)	624	(1.6)	665	(1.8)
	OECD average	490	(0.5)	98	(0.3)	497	(0.7)	482	(0.6)	**15**	(0.7)	331	(0.9)	365	(0.7)	422	(0.6)	556	(0.7)	618	(0.8)	653	(1.0)
Partners	Albania	418	(2.6)	106	(1.4)	413	(3.1)	423	(3.5)	**-10**	(4.0)	240	(6.0)	283	(4.1)	351	(3.6)	486	(3.8)	551	(4.4)	590	(6.1)
	Argentina	385	(3.5)	78	(1.7)	393	(3.9)	378	(3.5)	**15**	(2.7)	259	(4.5)	287	(4.9)	334	(4.3)	436	(4.3)	485	(4.1)	514	(5.2)
	Brazil	381	(2.0)	81	(1.8)	393	(2.1)	369	(2.3)	**24**	(1.7)	255	(3.2)	282	(2.5)	327	(2.0)	431	(2.3)	485	(4.5)	521	(6.4)
	Bulgaria	442	(4.3)	95	(2.2)	442	(5.0)	442	(4.6)	0	(4.2)	291	(5.4)	321	(5.8)	376	(4.9)	506	(5.2)	569	(5.4)	604	(6.4)
	Colombia	369	(3.5)	81	(1.9)	387	(3.6)	353	(4.0)	**34**	(3.2)	241	(6.4)	269	(4.9)	315	(3.7)	420	(3.8)	474	(4.5)	508	(5.1)
	Costa Rica	397	(3.2)	72	(2.2)	412	(3.8)	385	(3.2)	**28**	(2.5)	289	(4.7)	310	(3.8)	348	(3.2)	442	(4.1)	489	(6.1)	524	(8.5)
	Croatia	460	(3.9)	88	(3.4)	468	(4.7)	452	(4.1)	**15**	(3.9)	328	(3.6)	354	(3.1)	399	(3.1)	516	(4.9)	575	(8.1)	615	(13.4)
	Cyprus*	436	(1.1)	92	(1.0)	439	(1.6)	433	(1.5)	**6**	(2.3)	289	(2.5)	320	(2.4)	373	(2.2)	498	(2.1)	555	(2.8)	592	(3.6)
	Hong Kong-China	567	(4.0)	107	(2.3)	576	(5.6)	555	(4.5)	**21**	(6.4)	382	(7.1)	422	(6.4)	495	(5.1)	642	(4.5)	701	(4.8)	734	(5.2)
	Indonesia	383	(4.2)	82	(2.8)	393	(4.6)	371	(4.7)	**22**	(4.0)	252	(5.7)	281	(4.9)	328	(4.6)	435	(4.9)	487	(7.6)	524	(11.1)
	Jordan	385	(3.1)	81	(2.9)	377	(5.3)	393	(3.2)	**-15**	(6.3)	258	(4.5)	286	(4.0)	332	(3.1)	437	(3.7)	488	(4.8)	520	(7.6)
	Kazakhstan	450	(3.9)	85	(2.3)	454	(4.2)	446	(4.3)	**8**	(3.5)	317	(4.3)	344	(3.9)	391	(3.3)	506	(5.4)	562	(6.6)	595	(8.2)
	Latvia	497	(3.3)	88	(1.5)	496	(3.8)	497	(3.6)	-1	(3.4)	356	(5.6)	386	(4.2)	437	(3.3)	556	(4.1)	611	(5.2)	645	(5.2)
	Liechtenstein	539	(4.5)	99	(4.3)	550	(6.2)	527	(7.5)	**23**	(10.4)	373	(18.5)	406	(13.5)	475	(10.8)	611	(8.4)	667	(11.0)	695	(13.2)
	Lithuania	472	(3.1)	98	(1.7)	471	(3.3)	473	(3.5)	-2	(2.8)	313	(4.6)	347	(4.1)	404	(4.2)	539	(3.5)	600	(4.7)	637	(5.0)
	Macao-China	558	(1.4)	109	(1.0)	561	(2.0)	554	(1.6)	**7**	(2.4)	375	(3.4)	416	(2.4)	485	(2.5)	635	(2.1)	697	(2.6)	732	(3.6)
	Malaysia	434	(3.4)	86	(1.8)	435	(3.9)	433	(4.0)	2	(3.9)	300	(4.4)	327	(3.8)	373	(3.5)	492	(4.6)	550	(5.7)	583	(5.4)
	Montenegro	412	(1.1)	80	(1.1)	414	(1.5)	410	(1.7)	**5**	(2.3)	287	(3.3)	313	(2.7)	357	(1.8)	464	(1.9)	518	(2.5)	552	(3.0)
	Peru	370	(4.1)	93	(2.4)	385	(4.3)	356	(5.1)	**29**	(4.1)	221	(6.0)	256	(4.5)	309	(4.5)	429	(5.2)	489	(6.8)	528	(7.9)
	Qatar	380	(1.0)	101	(0.7)	373	(1.1)	388	(1.4)	**-15**	(1.7)	229	(2.3)	259	(1.7)	310	(1.5)	443	(1.4)	517	(2.3)	563	(2.7)
	Romania	447	(4.1)	91	(2.6)	452	(4.7)	443	(4.4)	**10**	(4.1)	306	(4.4)	335	(3.9)	383	(3.6)	505	(5.3)	567	(7.6)	607	(7.8)
	Russian Federation	496	(3.9)	95	(2.1)	498	(4.6)	494	(3.8)	4	(3.1)	344	(3.9)	376	(3.7)	430	(4.2)	560	(5.1)	622	(6.2)	657	(7.9)
	Serbia	446	(3.9)	98	(2.5)	452	(4.5)	441	(4.2)	**11**	(3.9)	293	(5.4)	324	(5.0)	377	(4.3)	510	(4.6)	576	(6.8)	616	(9.0)
	Shanghai-China	649	(3.6)	114	(2.5)	649	(4.4)	649	(3.7)	0	(3.8)	445	(8.2)	493	(7.1)	575	(5.6)	728	(3.1)	787	(4.3)	822	(5.3)
	Singapore	580	(1.5)	117	(1.1)	577	(2.3)	582	(1.9)	-5	(3.0)	380	(4.1)	423	(3.6)	500	(2.1)	664	(2.5)	727	(2.8)	764	(3.5)
	Chinese Taipei	592	(3.8)	136	(2.3)	596	(6.2)	589	(6.4)	7	(10.0)	362	(5.3)	407	(5.5)	494	(5.5)	693	(4.1)	764	(5.4)	803	(5.9)
	Thailand	432	(4.1)	95	(2.5)	431	(4.0)	433	(4.8)	-2	(3.9)	287	(4.5)	316	(3.6)	367	(3.7)	490	(5.6)	558	(8.1)	603	(9.1)
	Tunisia	382	(3.9)	85	(3.0)	397	(4.3)	370	(4.1)	**27**	(2.9)	252	(5.0)	278	(3.9)	324	(3.4)	436	(4.4)	491	(7.4)	530	(10.2)
	United Arab Emirates	425	(2.4)	97	(1.4)	424	(3.5)	425	(3.5)	-1	(5.0)	274	(3.7)	304	(3.1)	356	(2.7)	490	(3.1)	553	(4.0)	591	(3.9)
	Uruguay	413	(3.1)	94	(2.1)	421	(3.6)	405	(3.4)	**17**	(3.4)	262	(5.8)	292	(4.4)	347	(3.4)	477	(3.8)	536	(5.2)	569	(6.2)
	Viet Nam	507	(5.1)	99	(2.8)	519	(5.9)	496	(5.0)	**23**	(3.2)	346	(7.6)	382	(6.3)	439	(5.3)	573	(6.6)	637	(7.4)	674	(8.4)

Note: Values that are statistically significant are indicated in bold (see Annex A3).
* See notes at the beginning of this Annex.
StatLink http://dx.doi.org/10.1787/888932935667



[Part 1/1]

Table I.2.20 **Percentage of students at each proficiency level on the mathematics subscale *quantity***

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	8.4	(0.3)	13.8	(0.4)	21.2	(0.6)	22.8	(0.6)	18.3	(0.5)	10.5	(0.5)	4.9	(0.4)
	Austria	5.0	(0.5)	12.4	(0.9)	20.9	(1.0)	24.6	(0.8)	22.3	(1.0)	11.3	(0.8)	3.5	(0.5)
	Belgium	6.9	(0.5)	11.2	(0.7)	17.9	(0.7)	21.8	(0.7)	21.2	(0.6)	14.5	(0.6)	6.6	(0.4)
	Canada	5.9	(0.3)	11.0	(0.4)	19.7	(0.7)	24.2	(0.6)	20.9	(0.6)	12.6	(0.5)	5.8	(0.4)
	Chile	24.6	(1.4)	26.7	(0.9)	23.9	(0.9)	15.5	(0.8)	7.1	(0.6)	1.9	(0.3)	0.3	(0.1)
	Czech Republic	7.7	(0.8)	12.4	(0.8)	20.6	(1.0)	23.5	(1.1)	19.8	(0.9)	11.0	(0.7)	4.9	(0.5)
	Denmark	5.5	(0.5)	13.0	(0.7)	22.8	(0.7)	25.9	(0.9)	20.2	(0.8)	9.8	(0.6)	2.8	(0.3)
	Estonia	2.7	(0.4)	8.5	(0.6)	19.8	(0.8)	27.8	(0.9)	24.0	(0.9)	12.4	(0.8)	4.7	(0.5)
	Finland	2.9	(0.4)	8.1	(0.5)	19.3	(0.9)	27.7	(0.7)	24.3	(0.7)	12.7	(0.7)	5.0	(0.5)
	France	9.4	(0.8)	14.1	(0.8)	20.7	(0.8)	22.3	(0.8)	18.9	(0.8)	10.7	(0.7)	4.0	(0.5)
	Germany	6.1	(0.7)	11.6	(0.7)	17.7	(0.8)	23.4	(1.0)	22.1	(0.8)	13.5	(0.8)	5.6	(0.6)
	Greece	16.4	(1.0)	19.3	(1.2)	24.4	(1.1)	21.5	(0.8)	12.7	(0.8)	4.5	(0.4)	1.1	(0.2)
	Hungary	11.7	(0.9)	18.1	(1.0)	23.5	(0.9)	21.6	(1.1)	15.3	(0.9)	7.5	(0.8)	2.4	(0.4)
	Iceland	9.3	(0.6)	13.3	(0.7)	20.8	(0.8)	24.1	(0.8)	18.5	(0.7)	10.2	(0.6)	3.9	(0.3)
	Ireland	5.9	(0.6)	12.0	(0.7)	21.8	(0.9)	26.0	(0.7)	20.6	(0.7)	10.4	(0.6)	3.3	(0.3)
	Israel	15.6	(1.2)	15.2	(0.9)	19.1	(1.0)	19.8	(0.8)	16.2	(0.8)	9.4	(0.8)	4.8	(0.6)
	Italy	9.6	(0.4)	14.6	(0.5)	21.7	(0.5)	23.6	(0.5)	18.0	(0.5)	9.2	(0.4)	3.3	(0.2)
	Japan	4.9	(0.6)	10.3	(0.7)	19.5	(0.8)	25.2	(1.0)	22.3	(0.9)	12.7	(0.8)	5.1	(0.6)
	Korea	3.4	(0.5)	7.4	(0.8)	16.2	(1.0)	23.9	(1.1)	25.1	(0.9)	17.1	(0.9)	6.8	(0.9)
	Luxembourg	9.2	(0.5)	14.5	(0.8)	20.8	(0.6)	22.8	(0.8)	19.3	(0.8)	9.8	(0.6)	3.6	(0.4)
	Mexico	25.9	(0.7)	27.5	(0.5)	25.3	(0.4)	14.5	(0.5)	5.4	(0.3)	1.3	(0.1)	0.2	(0.0)
	Netherlands	4.2	(0.7)	10.3	(0.8)	16.4	(1.0)	21.3	(1.3)	24.0	(1.1)	16.9	(1.1)	6.9	(0.7)
	New Zealand	8.8	(0.6)	14.6	(0.8)	21.0	(0.8)	21.9	(0.8)	18.0	(0.9)	10.8	(0.6)	4.8	(0.4)
	Norway	7.8	(0.7)	14.2	(0.6)	23.3	(0.8)	25.6	(0.8)	18.0	(0.7)	8.1	(0.5)	3.0	(0.4)
	Poland	3.1	(0.4)	10.5	(0.8)	21.1	(1.0)	26.9	(1.3)	21.6	(1.0)	12.2	(0.9)	4.4	(0.7)
	Portugal	10.4	(0.9)	16.4	(0.9)	23.0	(0.8)	23.5	(0.9)	17.2	(1.0)	7.5	(0.7)	2.0	(0.4)
	Slovak Republic	11.4	(1.1)	15.5	(1.1)	21.6	(1.0)	21.6	(1.0)	17.0	(0.9)	9.0	(0.6)	3.9	(0.4)
	Slovenia	6.0	(0.6)	13.3	(0.9)	22.7	(0.6)	24.1	(0.9)	19.2	(0.8)	10.7	(0.6)	4.1	(0.4)
	Spain	9.7	(0.6)	14.3	(0.6)	21.4	(0.6)	23.7	(0.6)	18.5	(0.7)	9.2	(0.4)	3.2	(0.2)
	Sweden	10.2	(0.7)	15.9	(0.8)	23.5	(0.8)	23.9	(0.9)	16.6	(0.8)	7.5	(0.6)	2.4	(0.3)
	Switzerland	4.0	(0.4)	8.9	(0.5)	17.3	(0.9)	23.7	(0.8)	23.9	(0.9)	15.0	(0.8)	7.1	(0.7)
	Turkey	19.6	(1.3)	24.8	(1.2)	23.3	(1.1)	16.4	(1.1)	10.1	(1.1)	4.8	(0.8)	1.0	(0.3)
	United Kingdom	9.4	(0.9)	14.3	(1.0)	21.2	(0.8)	23.0	(0.9)	18.4	(0.8)	9.8	(0.6)	3.8	(0.4)
	United States	10.7	(1.0)	18.5	(1.0)	24.1	(0.8)	21.6	(0.8)	14.6	(0.8)	7.5	(0.7)	3.0	(0.4)
	OECD total	11.1	(0.3)	16.6	(0.3)	21.9	(0.2)	21.6	(0.3)	16.5	(0.3)	8.9	(0.2)	3.4	(0.1)
	OECD average	9.2	(0.1)	14.3	(0.1)	21.1	(0.1)	22.9	(0.2)	18.5	(0.1)	10.1	(0.1)	3.9	(0.1)
Partners	Albania	36.4	(1.2)	26.2	(1.0)	21.2	(0.9)	11.4	(0.7)	3.9	(0.4)	0.8	(0.2)	0.1	(0.1)
	Argentina	34.0	(2.0)	29.4	(1.4)	22.9	(1.2)	10.5	(0.9)	2.6	(0.4)	0.5	(0.2)	0.0	(0.0)
	Brazil	36.5	(1.1)	27.0	(0.8)	20.2	(0.6)	10.5	(0.5)	4.3	(0.4)	1.3	(0.3)	0.2	(0.1)
	Bulgaria	20.2	(1.4)	21.7	(1.0)	23.4	(1.0)	18.2	(0.9)	10.9	(0.8)	4.3	(0.6)	1.2	(0.3)
	Colombia	43.1	(1.4)	27.2	(1.0)	18.0	(0.8)	8.3	(0.6)	2.7	(0.4)	0.6	(0.1)	0.1	(0.1)
	Costa Rica	27.2	(1.6)	30.8	(1.1)	25.8	(1.1)	11.3	(0.8)	3.9	(0.6)	0.9	(0.3)	0.2	(0.1)
	Croatia	9.1	(0.7)	18.0	(0.8)	24.9	(1.3)	23.4	(1.3)	15.3	(0.9)	7.0	(0.8)	2.3	(0.6)
	Cyprus*	21.6	(0.5)	21.2	(0.7)	23.8	(0.7)	18.5	(0.6)	10.3	(0.5)	3.7	(0.3)	0.9	(0.2)
	Hong Kong-China	3.3	(0.4)	5.3	(0.5)	11.4	(0.7)	18.6	(0.7)	24.6	(0.9)	22.1	(1.0)	14.6	(0.9)
	Indonesia	50.0	(2.1)	27.1	(1.6)	14.8	(1.2)	5.8	(0.9)	2.0	(0.6)	0.4	(0.2)	0.0	c
	Jordan	47.2	(1.6)	26.0	(0.8)	16.7	(1.0)	7.4	(0.6)	2.1	(0.4)	0.6	(0.3)	0.1	(0.1)
	Kazakhstan	18.5	(1.0)	29.5	(1.2)	28.1	(1.1)	16.1	(1.1)	6.2	(0.8)	1.4	(0.4)	0.2	(0.1)
	Latvia	5.9	(0.6)	15.4	(1.0)	26.5	(1.3)	26.6	(1.0)	17.8	(1.0)	6.5	(0.7)	1.2	(0.2)
	Liechtenstein	4.6	(1.2)	8.2	(1.7)	16.6	(2.5)	19.1	(2.8)	23.1	(2.6)	19.9	(2.1)	8.4	(1.5)
	Lithuania	9.1	(0.7)	16.1	(1.0)	25.1	(1.2)	24.1	(0.9)	16.0	(0.8)	7.4	(0.5)	2.2	(0.3)
	Macao-China	3.4	(0.2)	8.4	(0.4)	17.7	(0.6)	24.6	(0.6)	25.0	(0.8)	15.0	(0.8)	5.8	(0.4)
	Malaysia	30.4	(1.4)	26.0	(1.0)	21.9	(0.9)	13.1	(0.9)	6.4	(0.7)	1.9	(0.3)	0.3	(0.1)
	Montenegro	28.5	(0.7)	27.5	(0.8)	23.8	(1.0)	13.7	(0.8)	4.9	(0.5)	1.3	(0.3)	0.1	(0.1)
	Peru	47.9	(1.7)	24.8	(0.8)	15.9	(0.9)	7.5	(0.8)	2.9	(0.6)	0.9	(0.3)	0.1	(0.1)
	Qatar	48.5	(0.4)	21.6	(0.5)	14.8	(0.5)	8.8	(0.3)	4.4	(0.2)	1.6	(0.1)	0.3	(0.1)
	Romania	18.5	(1.4)	24.1	(1.1)	24.8	(0.9)	18.3	(1.0)	9.5	(0.9)	3.7	(0.6)	1.1	(0.4)
	Russian Federation	9.6	(0.7)	16.7	(1.0)	25.9	(1.2)	24.4	(0.9)	15.0	(0.9)	6.6	(0.7)	1.9	(0.4)
	Serbia	15.4	(1.3)	21.2	(1.0)	25.2	(1.1)	19.9	(1.1)	11.8	(0.7)	4.8	(0.5)	1.6	(0.4)
	Shanghai-China	1.3	(0.3)	3.7	(0.5)	8.8	(0.6)	16.3	(0.8)	23.7	(0.9)	25.3	(1.1)	20.9	(1.0)
	Singapore	2.5	(0.2)	6.3	(0.4)	11.9	(0.6)	18.5	(0.6)	23.3	(0.6)	20.5	(0.7)	16.9	(0.4)
	Chinese Taipei	5.1	(0.6)	9.2	(0.6)	14.0	(0.6)	19.3	(0.8)	22.1	(0.8)	18.7	(1.0)	11.6	(0.7)
	Thailand	24.6	(1.3)	28.5	(1.1)	24.9	(1.0)	13.8	(0.9)	5.8	(0.7)	2.0	(0.4)	0.4	(0.2)
	Tunisia	42.4	(2.1)	26.4	(1.1)	19.0	(1.2)	8.4	(0.7)	2.8	(0.7)	0.7	(0.3)	0.2	(0.1)
	United Arab Emirates	24.3	(1.0)	22.9	(0.8)	22.3	(0.7)	16.4	(0.6)	9.4	(0.7)	3.6	(0.3)	1.0	(0.2)
	Uruguay	29.9	(1.3)	24.0	(1.0)	22.3	(0.8)	14.7	(0.8)	6.8	(0.6)	2.0	(0.3)	0.3	(0.1)
	Viet Nam	5.4	(1.0)	11.2	(1.1)	22.4	(1.4)	26.1	(1.4)	20.3	(1.2)	10.5	(1.0)	4.2	(0.8)

* See notes at the beginning of this Annex.

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[Part 1/2]

Table I.2.21 **Percentage of students at each proficiency level on the mathematics subscale *quantity*, by gender**

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	8.3	(0.5)	12.8	(0.6)	20.5	(0.6)	22.3	(0.7)	19.0	(0.8)	11.2	(0.7)	5.9	(0.6)
	Austria	4.3	(0.7)	11.6	(1.1)	19.3	(1.4)	23.9	(1.2)	23.5	(1.3)	12.9	(1.1)	4.6	(0.7)
	Belgium	6.6	(0.7)	10.6	(0.8)	16.9	(0.7)	21.4	(1.0)	21.3	(0.8)	15.3	(0.8)	7.8	(0.6)
	Canada	6.0	(0.5)	10.4	(0.7)	18.7	(0.8)	23.6	(0.8)	20.6	(0.8)	13.8	(0.7)	6.9	(0.6)
	Chile	21.0	(1.7)	25.2	(1.2)	24.4	(1.1)	17.9	(1.2)	8.7	(0.8)	2.4	(0.4)	0.4	(0.1)
	Czech Republic	7.5	(0.9)	11.2	(1.1)	19.5	(1.6)	24.1	(1.5)	20.6	(1.3)	11.7	(0.9)	5.3	(0.7)
	Denmark	5.1	(0.7)	11.9	(1.0)	20.8	(1.3)	26.1	(1.6)	21.4	(1.1)	11.4	(0.9)	3.3	(0.5)
	Estonia	2.7	(0.5)	8.4	(0.9)	19.0	(1.1)	26.9	(1.3)	24.2	(1.6)	13.0	(1.2)	5.7	(0.6)
	Finland	3.4	(0.5)	9.2	(0.7)	19.2	(1.1)	26.4	(0.9)	23.3	(1.1)	12.7	(0.9)	5.8	(0.6)
	France	9.7	(1.1)	13.7	(1.0)	19.5	(1.0)	20.9	(1.0)	19.2	(1.3)	12.0	(1.1)	5.0	(0.7)
	Germany	5.8	(0.8)	10.5	(0.9)	16.6	(1.0)	22.8	(1.2)	22.5	(1.1)	14.9	(1.0)	6.9	(0.8)
	Greece	17.0	(1.3)	17.0	(1.3)	22.9	(1.3)	21.7	(1.2)	14.4	(1.1)	5.5	(0.6)	1.5	(0.3)
	Hungary	11.5	(1.2)	17.5	(1.3)	23.0	(1.6)	20.7	(1.5)	15.7	(1.1)	8.5	(0.9)	3.1	(0.7)
	Iceland	11.2	(0.9)	13.1	(0.9)	19.7	(1.2)	23.2	(1.5)	18.1	(1.3)	10.1	(0.9)	4.6	(0.6)
	Ireland	5.6	(0.8)	10.7	(1.1)	20.0	(1.2)	26.1	(1.2)	22.0	(1.2)	11.5	(0.9)	4.1	(0.5)
	Israel	17.2	(1.9)	14.3	(1.3)	16.1	(1.2)	17.6	(1.1)	16.3	(1.2)	11.5	(1.3)	7.1	(1.1)
	Italy	9.1	(0.5)	13.8	(0.6)	19.9	(0.7)	22.8	(0.7)	19.1	(0.6)	10.9	(0.5)	4.4	(0.3)
	Japan	5.0	(0.8)	9.3	(0.9)	17.2	(0.9)	23.8	(1.2)	23.1	(1.1)	14.5	(1.1)	7.1	(0.9)
	Korea	3.8	(0.7)	7.1	(1.0)	14.7	(1.1)	22.3	(1.3)	24.9	(1.0)	18.7	(1.3)	8.4	(1.2)
	Luxembourg	7.8	(0.6)	12.9	(0.8)	18.9	(0.9)	23.4	(1.0)	20.7	(1.1)	11.3	(1.0)	5.0	(0.6)
	Mexico	23.7	(0.7)	26.1	(0.6)	25.4	(0.7)	16.2	(0.8)	6.7	(0.4)	1.7	(0.2)	0.3	(0.1)
	Netherlands	3.7	(0.7)	9.3	(0.9)	16.7	(1.1)	20.9	(1.4)	23.4	(1.2)	17.8	(1.2)	8.2	(0.9)
	New Zealand	9.3	(0.9)	12.8	(1.0)	19.5	(1.3)	21.2	(1.0)	18.8	(1.1)	12.5	(1.1)	5.9	(0.6)
	Norway	8.3	(0.8)	13.8	(1.0)	22.6	(1.2)	24.8	(1.2)	18.7	(1.0)	8.4	(0.8)	3.3	(0.5)
	Poland	3.8	(0.6)	10.5	(0.9)	20.0	(1.3)	25.9	(1.3)	21.5	(1.3)	12.8	(1.2)	5.4	(0.9)
	Portugal	10.7	(1.1)	14.5	(1.0)	21.9	(1.0)	23.4	(1.1)	17.8	(1.2)	8.8	(1.0)	2.8	(0.6)
	Slovak Republic	10.8	(1.2)	15.5	(1.3)	21.5	(1.2)	20.5	(1.3)	16.3	(1.3)	10.3	(0.9)	5.1	(0.8)
	Slovenia	5.5	(0.8)	13.3	(1.2)	22.0	(1.1)	23.8	(1.2)	19.5	(1.2)	11.2	(0.8)	4.8	(0.6)
	Spain	9.0	(0.7)	13.1	(0.7)	19.8	(0.8)	22.7	(0.8)	19.7	(0.8)	11.2	(0.5)	4.5	(0.4)
	Sweden	12.2	(0.9)	15.5	(1.1)	23.1	(1.0)	23.2	(1.2)	15.6	(1.1)	7.8	(0.9)	2.6	(0.5)
	Switzerland	4.1	(0.5)	8.6	(1.0)	16.1	(1.1)	22.4	(0.9)	24.4	(1.1)	15.9	(1.0)	8.4	(0.9)
	Turkey	17.8	(1.6)	23.8	(1.4)	23.9	(1.5)	16.8	(1.1)	10.4	(1.2)	5.8	(1.0)	1.5	(0.5)
	United Kingdom	8.5	(1.0)	13.3	(1.2)	20.4	(1.1)	22.9	(1.2)	19.6	(1.3)	11.0	(0.9)	4.3	(0.6)
	United States	11.4	(1.3)	17.9	(1.1)	22.3	(1.1)	21.5	(1.0)	15.3	(1.0)	8.2	(0.8)	3.4	(0.5)
	OECD total	10.8	(0.4)	15.7	(0.4)	20.7	(0.4)	21.4	(0.3)	17.2	(0.3)	10.0	(0.3)	4.3	(0.2)
	OECD average	9.0	(0.2)	13.5	(0.2)	20.1	(0.2)	22.5	(0.2)	19.0	(0.2)	11.1	(0.2)	4.8	(0.1)
Partners	Albania	35.9	(1.6)	25.4	(1.5)	21.2	(1.6)	12.0	(1.1)	4.3	(0.5)	1.0	(0.3)	0.1	(0.1)
	Argentina	31.3	(2.2)	29.3	(1.6)	23.7	(1.5)	11.6	(1.0)	3.3	(0.5)	0.8	(0.3)	0.0	(0.1)
	Brazil	32.7	(1.3)	27.1	(1.1)	20.8	(0.8)	12.0	(0.7)	5.4	(0.5)	1.7	(0.4)	0.3	(0.1)
	Bulgaria	21.2	(1.8)	21.6	(1.3)	21.8	(1.2)	17.7	(1.2)	11.4	(1.0)	4.8	(0.7)	1.4	(0.4)
	Colombia	36.6	(1.7)	26.8	(1.3)	20.6	(1.0)	10.6	(0.9)	4.2	(0.7)	1.0	(0.3)	0.1	(0.1)
	Costa Rica	21.4	(1.8)	28.2	(1.6)	28.6	(1.5)	14.7	(1.4)	5.4	(0.9)	1.4	(0.5)	0.3	(0.2)
	Croatia	8.6	(1.0)	17.2	(1.2)	23.2	(1.4)	23.0	(1.7)	16.4	(1.4)	8.4	(1.1)	3.2	(0.7)
	Cyprus*	23.7	(0.8)	19.7	(0.8)	21.1	(1.1)	18.2	(1.0)	10.9	(0.7)	5.1	(0.5)	1.4	(0.3)
	Hong Kong-China	3.5	(0.5)	5.2	(0.7)	11.3	(0.9)	17.5	(0.9)	23.1	(1.1)	22.7	(1.2)	16.7	(1.2)
	Indonesia	49.7	(2.4)	26.0	(1.7)	15.6	(1.4)	6.1	(1.0)	2.1	(0.7)	0.4	(0.3)	0.0	c
	Jordan	50.2	(2.6)	24.3	(1.2)	15.2	(1.5)	7.3	(0.9)	2.2	(0.6)	0.7	(0.4)	0.2	(0.2)
	Kazakhstan	18.7	(1.3)	28.5	(1.5)	27.9	(1.3)	16.8	(1.3)	6.4	(0.9)	1.5	(0.4)	0.3	(0.1)
	Latvia	6.4	(0.9)	16.1	(1.5)	26.0	(2.1)	25.2	(1.7)	17.5	(1.2)	7.4	(0.9)	1.5	(0.3)
	Liechtenstein	2.8	(1.8)	7.6	(2.4)	17.1	(3.8)	19.5	(3.9)	20.6	(3.7)	20.8	(3.6)	11.5	(2.4)
	Lithuania	9.6	(0.8)	16.3	(1.2)	23.8	(1.6)	23.7	(1.2)	15.7	(1.1)	8.1	(0.8)	2.8	(0.4)
	Macao-China	3.7	(0.4)	8.4	(0.6)	17.1	(0.7)	23.6	(0.8)	24.4	(1.1)	16.2	(1.0)	6.6	(0.6)
	Malaysia	32.6	(1.7)	25.0	(1.3)	21.3	(1.3)	12.6	(1.1)	6.1	(0.9)	1.9	(0.5)	0.4	(0.2)
	Montenegro	29.5	(1.0)	26.1	(1.4)	23.2	(1.1)	14.2	(1.1)	5.3	(0.8)	1.5	(0.4)	0.3	(0.1)
	Peru	43.6	(1.7)	25.3	(1.0)	17.4	(1.0)	8.8	(0.8)	3.5	(0.7)	1.2	(0.4)	0.2	(0.1)
	Qatar	52.5	(0.6)	18.8	(0.6)	13.4	(0.6)	8.4	(0.4)	4.9	(0.4)	1.8	(0.2)	0.3	(0.1)
	Romania	18.7	(1.6)	24.1	(1.2)	24.3	(1.2)	17.8	(1.4)	9.6	(1.0)	4.0	(0.7)	1.5	(0.5)
	Russian Federation	10.3	(0.8)	16.0	(1.5)	25.3	(1.6)	24.2	(1.4)	15.5	(1.2)	6.7	(0.8)	1.9	(0.5)
	Serbia	14.6	(1.4)	20.7	(1.1)	25.6	(1.5)	19.5	(1.3)	12.2	(1.1)	5.3	(0.8)	2.0	(0.5)
	Shanghai-China	1.3	(0.3)	3.8	(0.5)	8.3	(0.7)	15.8	(1.0)	22.1	(1.3)	25.6	(1.3)	23.1	(1.4)
	Singapore	3.1	(0.4)	7.4	(0.5)	12.2	(0.7)	17.8	(0.8)	22.0	(0.7)	20.2	(0.9)	17.4	(0.6)
	Chinese Taipei	5.8	(0.8)	9.3	(0.8)	12.7	(0.9)	17.4	(1.0)	21.6	(1.1)	19.8	(1.5)	13.5	(1.4)
	Thailand	28.5	(1.7)	29.2	(1.3)	22.8	(1.2)	12.2	(1.2)	5.1	(0.8)	2.0	(0.5)	0.3	(0.1)
	Tunisia	38.8	(2.5)	26.4	(1.7)	20.7	(1.8)	9.5	(1.0)	3.4	(0.7)	0.8	(0.4)	0.4	(0.2)
	United Arab Emirates	27.3	(1.3)	21.7	(1.0)	20.6	(1.1)	15.2	(0.9)	9.6	(1.0)	4.0	(0.6)	1.4	(0.3)
	Uruguay	28.9	(1.5)	22.7	(1.2)	21.9	(1.1)	15.5	(1.4)	8.0	(0.8)	2.5	(0.5)	0.4	(0.2)
	Viet Nam	5.5	(1.2)	11.0	(1.4)	21.9	(1.5)	25.0	(1.5)	20.1	(1.5)	11.2	(1.3)	5.3	(1.0)

* See notes at the beginning of this Annex.

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[Part 2/2]

Table I.2.21 **Percentage of students at each proficiency level on the mathematics subscale *quantity*, by gender**

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	8.6	(0.5)	14.9	(0.7)	22.0	(1.0)	23.4	(1.1)	17.5	(0.8)	9.8	(0.6)	3.9	(0.5)
	Austria	5.6	(0.7)	13.3	(1.3)	22.5	(1.4)	25.3	(1.3)	21.1	(1.2)	9.8	(1.1)	2.4	(0.6)
	Belgium	7.1	(0.6)	11.7	(0.8)	18.9	(1.1)	22.1	(0.8)	21.1	(0.9)	13.7	(0.9)	5.4	(0.5)
	Canada	5.9	(0.5)	11.5	(0.6)	20.6	(1.0)	24.8	(0.7)	21.1	(0.7)	11.4	(0.6)	4.7	(0.4)
	Chile	27.9	(1.7)	28.1	(1.4)	23.5	(1.2)	13.2	(1.0)	5.7	(0.7)	1.4	(0.3)	0.1	(0.1)
	Czech Republic	7.9	(1.0)	13.7	(1.2)	21.9	(1.2)	22.9	(1.3)	19.0	(1.3)	10.3	(0.9)	4.4	(0.6)
	Denmark	6.0	(0.5)	14.2	(1.0)	24.8	(1.2)	25.6	(1.0)	19.0	(1.2)	8.1	(0.8)	2.3	(0.4)
	Estonia	2.7	(0.5)	8.7	(0.9)	20.6	(1.0)	28.7	(1.5)	23.8	(1.1)	11.8	(0.9)	3.7	(0.7)
	Finland	2.3	(0.3)	7.0	(0.5)	19.3	(1.1)	29.0	(1.2)	25.4	(1.2)	12.8	(0.8)	4.2	(0.6)
	France	9.1	(0.9)	14.4	(0.9)	21.9	(1.2)	23.6	(1.0)	18.6	(1.0)	9.4	(0.8)	3.0	(0.4)
	Germany	6.4	(0.9)	12.8	(0.8)	18.8	(1.0)	24.0	(1.4)	21.8	(1.3)	12.0	(1.0)	4.2	(0.7)
	Greece	15.9	(1.1)	21.6	(1.5)	25.9	(1.3)	21.3	(1.0)	11.1	(0.9)	3.5	(0.5)	0.7	(0.3)
	Hungary	11.8	(1.1)	18.6	(1.2)	24.0	(1.2)	22.5	(1.3)	14.8	(1.1)	6.6	(0.9)	1.7	(0.4)
	Iceland	7.3	(0.9)	13.5	(1.0)	21.8	(1.1)	25.0	(1.2)	19.0	(1.1)	10.2	(0.9)	3.2	(0.5)
	Ireland	6.2	(0.7)	13.3	(0.9)	23.6	(1.2)	25.9	(1.1)	19.1	(1.0)	9.4	(0.8)	2.5	(0.5)
	Israel	14.1	(1.2)	16.0	(0.9)	22.0	(1.3)	22.0	(1.0)	16.0	(1.0)	7.3	(0.7)	2.5	(0.4)
	Italy	10.1	(0.6)	15.4	(0.6)	23.7	(0.6)	24.5	(0.6)	16.8	(0.7)	7.4	(0.4)	2.0	(0.2)
	Japan	4.9	(0.7)	11.4	(0.9)	22.1	(1.2)	26.7	(1.5)	21.4	(1.3)	10.6	(1.0)	2.9	(0.6)
	Korea	3.0	(0.6)	7.7	(1.3)	17.9	(1.5)	25.8	(1.6)	25.4	(1.5)	15.4	(1.4)	4.9	(1.0)
	Luxembourg	10.6	(0.7)	16.2	(1.1)	22.8	(0.9)	22.2	(1.1)	17.8	(1.1)	8.2	(0.6)	2.2	(0.4)
	Mexico	28.0	(0.9)	28.9	(0.8)	25.2	(0.7)	12.8	(0.6)	4.1	(0.3)	0.8	(0.1)	0.1	(0.0)
	Netherlands	4.6	(1.0)	11.4	(1.2)	16.1	(1.3)	21.6	(1.6)	24.6	(1.5)	16.1	(1.3)	5.6	(0.9)
	New Zealand	8.3	(0.8)	16.4	(1.1)	22.6	(0.9)	22.8	(1.5)	17.2	(1.3)	9.1	(0.8)	3.6	(0.6)
	Norway	7.3	(1.0)	14.5	(1.2)	24.1	(1.1)	26.3	(1.0)	17.3	(0.9)	7.8	(0.7)	2.7	(0.5)
	Poland	2.5	(0.4)	10.5	(1.0)	22.2	(1.3)	27.8	(1.8)	21.7	(1.2)	11.7	(1.0)	3.5	(0.6)
	Portugal	10.1	(1.1)	18.4	(1.4)	24.1	(1.2)	23.5	(1.4)	16.5	(1.1)	6.2	(0.7)	1.2	(0.3)
	Slovak Republic	12.0	(1.3)	15.4	(1.4)	21.8	(1.3)	22.8	(1.5)	17.8	(1.1)	7.6	(0.7)	2.6	(0.4)
	Slovenia	6.5	(0.6)	13.3	(1.1)	23.4	(1.1)	24.4	(1.3)	18.9	(1.1)	10.3	(0.9)	3.3	(0.5)
	Spain	10.4	(0.8)	15.7	(0.8)	23.0	(0.7)	24.8	(0.7)	17.3	(0.9)	7.1	(0.4)	1.8	(0.2)
	Sweden	8.3	(0.8)	16.2	(1.0)	24.0	(1.0)	24.7	(1.4)	17.6	(1.1)	7.2	(0.6)	2.1	(0.4)
	Switzerland	3.9	(0.5)	9.2	(0.9)	18.5	(1.0)	25.1	(1.0)	23.3	(1.2)	14.1	(1.0)	5.8	(0.7)
	Turkey	21.5	(1.7)	25.8	(1.6)	22.6	(1.3)	16.1	(1.5)	9.8	(1.3)	3.8	(0.8)	0.5	(0.3)
	United Kingdom	10.3	(1.1)	15.3	(1.1)	21.9	(1.0)	23.2	(1.0)	17.2	(0.9)	8.6	(0.8)	3.5	(0.6)
	United States	10.1	(1.0)	19.2	(1.2)	25.9	(1.1)	21.7	(1.4)	13.9	(1.2)	6.8	(0.9)	2.4	(0.4)
	OECD total	11.5	(0.3)	17.5	(0.4)	23.1	(0.4)	21.8	(0.5)	15.7	(0.4)	7.8	(0.2)	2.5	(0.1)
	OECD average	9.3	(0.2)	15.1	(0.2)	22.2	(0.2)	23.4	(0.2)	18.0	(0.2)	9.0	(0.1)	2.9	(0.1)
Partners	Albania	36.8	(1.6)	27.0	(1.1)	21.2	(1.1)	10.7	(0.8)	3.5	(0.6)	0.6	(0.2)	0.1	(0.1)
	Argentina	36.5	(2.2)	29.6	(1.6)	22.1	(1.5)	9.6	(1.2)	2.0	(0.4)	0.2	(0.1)	0.0	c
	Brazil	39.9	(1.4)	27.0	(1.1)	19.6	(0.8)	9.2	(0.6)	3.3	(0.4)	0.9	(0.2)	0.1	(0.1)
	Bulgaria	19.1	(1.5)	21.8	(1.2)	25.1	(1.3)	18.8	(1.1)	10.3	(1.0)	3.9	(0.8)	0.9	(0.3)
	Colombia	48.9	(1.7)	27.5	(1.2)	15.6	(1.2)	6.3	(0.7)	1.3	(0.3)	0.3	(0.2)	0.1	(0.1)
	Costa Rica	32.3	(1.9)	33.1	(1.4)	23.4	(1.4)	8.2	(1.0)	2.5	(0.6)	0.5	(0.2)	0.1	c
	Croatia	9.6	(1.1)	18.8	(1.4)	26.7	(1.7)	24.0	(1.5)	14.1	(1.1)	5.6	(0.9)	1.3	(0.5)
	Cyprus*	19.4	(0.9)	22.7	(1.1)	26.6	(1.3)	18.7	(1.2)	9.7	(0.9)	2.3	(0.4)	0.5	(0.2)
	Hong Kong-China	3.0	(0.6)	5.4	(0.7)	11.6	(1.0)	19.9	(1.1)	26.4	(1.5)	21.5	(1.6)	12.2	(1.2)
	Indonesia	50.2	(2.5)	28.2	(1.8)	14.0	(1.4)	5.4	(1.0)	1.8	(0.9)	0.3	(0.2)	0.0	c
	Jordan	44.3	(1.9)	27.6	(1.2)	18.1	(1.1)	7.5	(0.9)	2.0	(0.5)	0.4	(0.2)	0.0	c
	Kazakhstan	18.3	(1.2)	30.4	(1.4)	28.3	(1.3)	15.5	(1.3)	6.0	(1.0)	1.3	(0.5)	0.2	(0.1)
	Latvia	5.4	(0.7)	14.8	(1.1)	27.0	(1.8)	28.0	(1.6)	18.2	(1.3)	5.7	(0.8)	0.9	(0.3)
	Liechtenstein	6.7	(2.3)	9.0	(2.3)	16.1	(3.2)	18.6	(3.9)	26.0	(4.7)	18.9	(4.1)	4.8	(2.2)
	Lithuania	8.5	(0.8)	15.9	(1.2)	26.4	(1.4)	24.5	(1.6)	16.4	(1.3)	6.6	(0.7)	1.7	(0.4)
	Macao-China	3.1	(0.3)	8.4	(0.5)	18.3	(1.0)	25.7	(0.9)	25.7	(1.0)	13.8	(1.0)	4.9	(0.5)
	Malaysia	28.2	(1.6)	26.9	(1.3)	22.5	(1.1)	13.5	(1.1)	6.6	(0.9)	1.9	(0.5)	0.2	(0.2)
	Montenegro	27.5	(1.1)	29.0	(1.5)	24.5	(1.6)	13.2	(1.0)	4.6	(0.6)	1.1	(0.3)	0.0	c
	Peru	51.8	(2.3)	24.4	(1.1)	14.5	(1.2)	6.3	(1.0)	2.3	(0.7)	0.6	(0.2)	0.1	(0.1)
	Qatar	44.2	(0.6)	24.6	(0.6)	16.2	(0.6)	9.2	(0.4)	4.0	(0.3)	1.5	(0.2)	0.3	(0.1)
	Romania	18.3	(1.6)	24.1	(1.5)	25.2	(1.3)	18.7	(1.3)	9.5	(1.1)	3.5	(0.7)	0.7	(0.3)
	Russian Federation	8.9	(0.8)	17.4	(1.0)	26.4	(1.2)	24.5	(1.1)	14.5	(1.0)	6.4	(0.9)	1.9	(0.4)
	Serbia	16.3	(1.5)	21.6	(1.5)	24.9	(1.4)	20.3	(1.6)	11.4	(1.0)	4.4	(0.8)	1.2	(0.5)
	Shanghai-China	1.3	(0.3)	3.7	(0.6)	9.3	(0.8)	16.7	(1.2)	25.2	(1.4)	25.0	(1.2)	18.8	(1.3)
	Singapore	1.8	(0.3)	5.1	(0.5)	11.7	(1.1)	19.4	(1.1)	24.7	(0.8)	20.9	(1.0)	16.5	(0.7)
	Chinese Taipei	4.3	(0.6)	9.1	(0.8)	15.3	(1.0)	21.2	(1.2)	22.5	(1.1)	17.7	(1.3)	9.8	(1.4)
	Thailand	21.5	(1.6)	27.9	(1.5)	26.5	(1.2)	15.1	(1.1)	6.4	(0.9)	2.1	(0.5)	0.5	(0.2)
	Tunisia	45.6	(2.2)	26.4	(1.5)	17.6	(1.2)	7.4	(0.8)	2.3	(0.8)	0.7	(0.4)	0.1	(0.1)
	United Arab Emirates	21.4	(1.4)	24.0	(1.3)	24.0	(1.0)	17.6	(1.0)	9.3	(0.8)	3.1	(0.3)	0.6	(0.2)
	Uruguay	30.8	(1.5)	25.1	(1.2)	22.6	(1.0)	14.1	(0.9)	5.7	(0.7)	1.5	(0.4)	0.2	(0.1)
	Viet Nam	5.2	(1.0)	11.3	(1.2)	22.8	(1.6)	27.0	(1.6)	20.5	(1.4)	9.8	(1.1)	3.3	(0.8)

* See notes at the beginning of this Annex.

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[Part 1/1]

Mean score, variation and gender differences in student performance on the mathematics subscale *quantity*

Table I.2.22

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	Australia	500	(1.9)	104	(1.3)	505	(2.7)	495	(2.2)	**10**	(3.1)	330	(2.8)	367	(2.2)	429	(2.0)	572	(2.7)	634	(3.1)	669	(3.5)
	Austria	510	(2.9)	91	(1.7)	519	(3.6)	502	(3.8)	**17**	(4.8)	358	(5.1)	391	(3.9)	446	(3.8)	576	(3.6)	627	(3.9)	656	(5.3)
	Belgium	519	(2.0)	104	(1.4)	524	(2.8)	513	(2.5)	**11**	(3.4)	341	(4.6)	381	(4.0)	447	(3.1)	594	(2.5)	650	(2.4)	681	(2.5)
	Canada	515	(2.2)	99	(1.0)	520	(2.5)	511	(2.4)	**9**	(2.3)	349	(3.0)	386	(3.1)	448	(2.3)	585	(2.6)	643	(3.1)	676	(3.2)
	Chile	421	(3.3)	90	(1.6)	433	(4.0)	411	(3.4)	**22**	(3.6)	280	(4.4)	310	(4.2)	359	(4.0)	482	(4.2)	541	(4.0)	575	(4.3)
	Czech Republic	505	(3.0)	101	(2.0)	510	(3.5)	500	(4.0)	**10**	(4.5)	336	(6.5)	373	(5.8)	438	(4.4)	576	(3.5)	633	(3.6)	668	(4.5)
	Denmark	502	(2.4)	91	(1.3)	510	(3.2)	495	(2.4)	**15**	(3.0)	354	(4.3)	387	(3.8)	441	(2.9)	565	(2.9)	619	(3.7)	648	(3.2)
	Estonia	525	(2.2)	86	(1.2)	528	(2.6)	521	(2.5)	**7**	(2.6)	382	(4.6)	415	(3.2)	466	(2.8)	583	(2.6)	636	(3.3)	667	(4.4)
	Finland	527	(1.9)	87	(1.0)	525	(2.6)	528	(2.1)	-3	(2.8)	382	(4.0)	415	(2.9)	469	(2.5)	586	(2.3)	638	(3.3)	669	(3.8)
	France	496	(2.6)	103	(1.8)	501	(3.7)	492	(2.7)	**9**	(3.8)	324	(6.0)	362	(4.9)	425	(2.9)	570	(3.1)	628	(3.6)	661	(4.5)
	Germany	517	(3.1)	100	(1.9)	524	(3.3)	510	(3.6)	**14**	(2.9)	348	(6.4)	384	(5.1)	449	(4.0)	588	(3.4)	643	(4.1)	674	(4.2)
	Greece	455	(3.0)	97	(1.6)	461	(4.0)	450	(3.1)	**10**	(3.8)	295	(5.0)	330	(4.4)	388	(4.0)	523	(3.4)	579	(3.7)	613	(4.6)
	Hungary	476	(3.4)	99	(2.2)	480	(3.8)	472	(3.9)	**8**	(3.8)	314	(5.9)	350	(4.3)	406	(4.0)	545	(5.0)	606	(6.5)	641	(5.9)
	Iceland	496	(1.9)	102	(1.5)	494	(2.6)	499	(2.5)	-5	(3.4)	322	(4.9)	362	(4.7)	429	(2.5)	567	(3.2)	627	(3.6)	661	(3.3)
	Ireland	505	(2.6)	92	(1.4)	512	(3.7)	498	(3.0)	**14**	(4.4)	350	(4.6)	386	(4.6)	443	(3.2)	569	(3.0)	624	(3.1)	653	(3.6)
	Israel	480	(5.2)	116	(2.1)	486	(8.6)	473	(3.8)	13	(8.2)	284	(9.1)	327	(6.2)	398	(6.1)	563	(5.9)	629	(6.1)	667	(6.5)
	Italy	491	(2.0)	101	(1.0)	499	(2.5)	482	(2.3)	**17**	(2.7)	321	(3.2)	360	(2.7)	423	(2.2)	561	(2.5)	619	(2.6)	652	(2.8)
	Japan	518	(3.6)	94	(2.2)	527	(4.5)	508	(3.5)	**19**	(4.0)	359	(7.4)	395	(5.2)	456	(4.2)	584	(4.0)	638	(4.2)	670	(4.7)
	Korea	537	(4.1)	94	(2.0)	543	(5.0)	531	(5.0)	**12**	(5.9)	377	(7.1)	416	(6.1)	477	(4.6)	604	(4.3)	654	(4.9)	682	(6.1)
	Luxembourg	495	(1.0)	100	(0.9)	506	(1.5)	483	(1.3)	**23**	(2.0)	326	(3.8)	362	(2.9)	424	(2.0)	567	(1.6)	623	(2.2)	656	(2.9)
	Mexico	414	(1.5)	87	(0.9)	422	(1.7)	406	(1.7)	**16**	(1.4)	271	(2.8)	304	(2.2)	355	(1.7)	472	(1.9)	526	(2.2)	559	(2.3)
	Netherlands	532	(3.6)	97	(2.3)	537	(3.8)	527	(4.0)	**10**	(3.1)	365	(7.0)	398	(6.0)	463	(5.0)	604	(3.7)	653	(3.1)	682	(3.4)
	New Zealand	499	(2.4)	103	(1.3)	506	(3.3)	492	(3.1)	**14**	(4.4)	331	(4.3)	365	(3.9)	426	(3.3)	572	(2.8)	634	(3.4)	667	(4.1)
	Norway	492	(2.9)	95	(1.6)	494	(3.0)	491	(3.5)	3	(3.2)	335	(6.1)	372	(4.5)	429	(3.5)	556	(3.2)	613	(3.5)	648	(4.4)
	Poland	519	(3.5)	89	(1.6)	521	(4.1)	516	(3.7)	5	(3.4)	375	(4.4)	406	(3.8)	457	(3.5)	579	(4.5)	634	(5.3)	664	(6.6)
	Portugal	481	(4.0)	96	(1.5)	487	(4.4)	475	(4.1)	**12**	(2.6)	321	(5.7)	355	(5.8)	415	(4.9)	550	(4.2)	604	(3.9)	636	(4.2)
	Slovak Republic	486	(3.5)	105	(2.2)	492	(4.1)	481	(4.2)	**11**	(4.5)	312	(7.9)	350	(5.8)	414	(4.8)	560	(4.3)	621	(4.2)	658	(5.3)
	Slovenia	504	(1.2)	94	(1.0)	508	(1.8)	500	(2.1)	**7**	(3.0)	351	(3.9)	382	(2.4)	438	(2.3)	570	(2.1)	629	(2.7)	661	(3.8)
	Spain	491	(2.3)	101	(1.0)	501	(2.7)	481	(2.4)	**20**	(2.3)	321	(3.8)	360	(4.0)	423	(3.3)	562	(2.2)	618	(2.0)	651	(2.9)
	Sweden	482	(2.5)	97	(1.3)	478	(3.1)	485	(2.9)	**-7**	(3.2)	320	(4.9)	357	(4.0)	417	(3.2)	549	(3.1)	607	(3.1)	639	(3.9)
	Switzerland	531	(3.1)	96	(1.4)	536	(3.8)	526	(3.0)	**10**	(3.0)	369	(4.5)	404	(3.3)	467	(3.3)	598	(3.8)	652	(4.8)	684	(4.5)
	Turkey	442	(5.0)	97	(3.0)	449	(5.5)	435	(5.7)	**14**	(5.1)	295	(5.0)	324	(4.0)	373	(4.0)	506	(8.0)	576	(9.3)	613	(8.6)
	United Kingdom	494	(3.8)	102	(1.9)	501	(4.8)	488	(4.1)	**13**	(4.7)	325	(7.2)	362	(6.4)	424	(5.5)	567	(3.9)	625	(3.7)	658	(4.3)
	United States	478	(3.9)	99	(1.7)	481	(4.3)	475	(4.1)	6	(3.1)	322	(5.5)	354	(5.5)	408	(4.0)	545	(4.9)	610	(5.1)	646	(5.5)
	OECD total	484	(1.2)	103	(0.5)	490	(1.3)	478	(1.3)	**12**	(1.1)	317	(1.4)	352	(1.5)	411	(1.5)	557	(1.4)	619	(1.3)	653	(1.4)
	OECD average	495	(0.5)	97	(0.3)	501	(0.6)	490	(0.6)	**11**	(0.7)	334	(0.9)	369	(0.8)	429	(0.6)	563	(0.6)	620	(0.7)	653	(0.8)
Partners	Albania	386	(2.7)	101	(1.7)	389	(3.2)	383	(3.3)	6	(3.7)	206	(7.0)	257	(5.0)	326	(3.7)	453	(3.0)	511	(3.6)	543	(4.2)
	Argentina	391	(3.7)	84	(2.2)	398	(4.1)	385	(3.9)	**13**	(2.9)	251	(6.7)	284	(5.2)	336	(4.7)	448	(4.4)	499	(4.2)	529	(4.6)
	Brazil	393	(2.5)	91	(1.6)	403	(2.7)	384	(2.8)	**19**	(2.3)	250	(3.4)	280	(3.3)	330	(2.6)	452	(3.1)	513	(4.2)	552	(5.9)
	Bulgaria	443	(4.3)	102	(2.8)	442	(5.1)	443	(4.7)	-1	(4.6)	280	(7.1)	313	(5.6)	373	(4.5)	513	(5.7)	576	(5.8)	612	(8.3)
	Colombia	375	(3.4)	90	(2.1)	392	(3.9)	360	(3.8)	**31**	(3.5)	232	(6.3)	264	(4.9)	315	(3.2)	434	(3.9)	491	(5.0)	527	(6.4)
	Costa Rica	406	(3.6)	81	(2.4)	422	(4.0)	393	(3.7)	**29**	(2.6)	278	(6.2)	306	(5.1)	353	(4.0)	457	(4.0)	509	(5.7)	544	(8.4)
	Croatia	480	(3.7)	93	(2.5)	488	(4.6)	472	(4.0)	**15**	(4.5)	332	(4.3)	363	(3.8)	414	(3.5)	543	(5.3)	603	(7.4)	637	(8.3)
	Cyprus*	439	(1.1)	100	(1.1)	439	(1.8)	438	(1.8)	1	(2.7)	276	(3.0)	310	(2.5)	370	(2.1)	508	(3.3)	568	(2.4)	604	(3.4)
	Hong Kong-China	566	(3.4)	101	(2.0)	570	(4.4)	561	(4.2)	9	(5.1)	383	(7.5)	430	(6.0)	501	(4.9)	637	(3.4)	688	(4.2)	718	(3.6)
	Indonesia	362	(4.7)	83	(3.5)	364	(5.1)	361	(5.1)	3	(4.0)	235	(5.6)	261	(4.9)	307	(4.3)	414	(5.6)	471	(9.3)	507	(12.5)
	Jordan	367	(3.4)	90	(2.3)	362	(5.7)	372	(3.7)	-10	(6.9)	223	(3.8)	255	(4.5)	307	(3.3)	425	(3.9)	483	(4.8)	518	(6.8)
	Kazakhstan	428	(3.5)	79	(2.1)	429	(3.7)	427	(4.1)	2	(3.5)	305	(3.4)	331	(3.0)	373	(2.8)	479	(5.0)	533	(6.3)	564	(6.9)
	Latvia	487	(2.9)	84	(1.5)	487	(3.5)	487	(3.3)	0	(3.5)	350	(6.3)	381	(4.3)	430	(3.2)	546	(3.5)	596	(4.0)	624	(4.3)
	Liechtenstein	538	(4.1)	100	(3.6)	548	(6.3)	527	(6.4)	**22**	(9.7)	364	(13.9)	398	(13.3)	467	(8.5)	615	(6.0)	660	(9.9)	686	(10.9)
	Lithuania	483	(2.8)	93	(1.4)	484	(3.1)	482	(3.2)	3	(2.8)	331	(4.5)	363	(4.2)	420	(3.6)	547	(3.4)	605	(3.7)	637	(4.6)
	Macao-China	531	(1.1)	92	(1.0)	533	(1.5)	528	(1.4)	**5**	(1.9)	375	(2.8)	411	(2.7)	469	(1.9)	595	(1.8)	646	(1.9)	675	(3.6)
	Malaysia	409	(3.6)	94	(1.9)	405	(4.3)	413	(4.3)	-8	(4.7)	263	(4.1)	291	(3.1)	343	(3.4)	471	(4.9)	536	(6.5)	572	(6.1)
	Montenegro	409	(1.2)	88	(1.1)	409	(1.6)	409	(1.8)	0	(2.5)	269	(3.0)	298	(2.3)	349	(1.7)	467	(2.0)	523	(2.7)	556	(4.4)
	Peru	365	(4.1)	97	(2.4)	377	(4.1)	355	(5.2)	**22**	(4.3)	211	(4.8)	245	(4.6)	301	(4.0)	427	(5.3)	490	(7.1)	532	(9.1)
	Qatar	371	(0.9)	105	(0.7)	362	(1.2)	381	(1.2)	**-19**	(1.8)	212	(3.5)	244	(2.0)	298	(1.1)	437	(1.6)	514	(2.0)	559	(2.7)
	Romania	443	(4.5)	94	(2.5)	444	(5.2)	442	(4.8)	2	(4.3)	298	(5.0)	327	(4.7)	376	(4.6)	505	(5.6)	567	(7.2)	605	(7.6)
	Russian Federation	478	(3.0)	93	(1.6)	478	(3.5)	478	(3.2)	0	(3.2)	326	(4.9)	360	(3.9)	417	(3.7)	540	(4.2)	598	(5.0)	632	(5.8)
	Serbia	456	(3.7)	97	(2.6)	460	(4.3)	452	(4.3)	8	(4.4)	303	(6.0)	334	(4.9)	390	(4.4)	521	(4.6)	582	(5.6)	619	(8.4)
	Shanghai-China	591	(3.2)	98	(2.4)	596	(3.8)	586	(3.5)	**9**	(3.3)	419	(7.2)	460	(5.8)	528	(4.5)	658	(3.2)	710	(4.2)	741	(6.3)
	Singapore	569	(1.2)	104	(0.9)	566	(1.8)	572	(1.7)	**-6**	(2.4)	390	(3.5)	428	(2.9)	500	(1.9)	642	(2.1)	699	(2.2)	731	(3.6)
	Chinese Taipei	543	(3.1)	108	(1.8)	548	(4.8)	540	(5.0)	8	(7.5)	357	(5.9)	396	(5.1)	470	(4.6)	622	(3.2)	677	(3.1)	707	(3.5)
	Thailand	419	(3.7)	88	(2.2)	409	(3.8)	426	(4.4)	**-16**	(3.9)	282	(4.3)	311	(3.8)	359	(3.1)	473	(4.8)	534	(7.1)	573	(8.6)
	Tunisia	378	(4.6)	91	(3.4)	386	(5.4)	371	(4.6)	**15**	(3.5)	233	(6.7)	264	(5.3)	316	(4.8)	437	(4.9)	493	(7.3)	530	(11.9)
	United Arab Emirates	431	(2.7)	101	(1.2)	428	(4.3)	434	(3.5)	-7	(5.5)	273	(2.8)	304	(3.2)	360	(3.0)	500	(3.6)	567	(4.0)	603	(3.9)
	Uruguay	411	(3.2)	98	(1.9)	416	(3.9)	407	(3.4)	**9**	(3.5)	250	(6.1)	284	(4.8)	344	(3.8)	478	(3.4)	539	(5.0)	572	(5.9)
	Viet Nam	509	(5.5)	93	(2.7)	512	(6.2)	506	(5.4)	**6**	(3.0)	354	(9.4)	391	(8.5)	446	(5.8)	571	(6.1)	629	(6.7)	662	(8.5)

Note: Values that are statistically significant are indicated in bold (see Annex A3).
* See notes at the beginning of this Annex.
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[Part 1/1]

Table I.2.23 **Percentage of students at each proficiency level on the mathematics subscale *uncertainty and data***

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	6.0	(0.3)	12.5	(0.4)	21.4	(0.5)	24.6	(0.7)	19.8	(0.6)	11.1	(0.4)	4.6	(0.3)
	Austria	7.3	(0.8)	13.8	(0.9)	21.4	(0.9)	24.1	(0.9)	20.9	(0.9)	9.7	(0.6)	2.8	(0.3)
	Belgium	8.8	(0.8)	12.0	(0.5)	19.1	(0.7)	21.8	(0.7)	19.2	(0.7)	12.5	(0.5)	6.5	(0.5)
	Canada	4.1	(0.3)	10.1	(0.5)	20.9	(0.7)	26.8	(0.6)	21.9	(0.6)	12.1	(0.5)	4.0	(0.3)
	Chile	16.8	(1.2)	29.4	(1.0)	29.3	(1.1)	17.1	(0.9)	6.2	(0.6)	1.1	(0.2)	0.1	(0.0)
	Czech Republic	7.7	(0.8)	15.1	(0.9)	24.5	(0.8)	25.2	(1.0)	17.5	(0.9)	7.7	(0.6)	2.2	(0.3)
	Denmark	4.4	(0.5)	11.6	(0.8)	23.2	(0.8)	28.2	(0.9)	21.2	(0.8)	9.3	(0.7)	2.2	(0.3)
	Estonia	2.9	(0.3)	10.1	(0.6)	23.8	(1.1)	29.7	(0.9)	21.7	(1.0)	9.3	(0.6)	2.5	(0.4)
	Finland	4.2	(0.5)	9.5	(0.5)	19.7	(0.7)	27.4	(0.7)	22.9	(0.8)	11.9	(0.6)	4.4	(0.4)
	France	10.5	(0.7)	14.1	(0.8)	20.3	(0.9)	22.6	(0.9)	19.5	(0.7)	9.8	(0.6)	3.2	(0.4)
	Germany	7.2	(0.6)	12.3	(0.7)	19.9	(0.9)	22.9	(0.9)	20.4	(0.8)	12.4	(0.9)	5.0	(0.6)
	Greece	12.3	(0.9)	19.4	(0.8)	27.5	(0.9)	24.2	(0.9)	12.2	(0.7)	3.8	(0.4)	0.7	(0.1)
	Hungary	10.9	(0.9)	16.9	(1.0)	25.2	(1.1)	23.1	(1.3)	15.4	(0.9)	6.9	(0.8)	1.7	(0.4)
	Iceland	8.8	(0.6)	13.2	(0.7)	21.2	(0.7)	24.5	(0.9)	19.5	(0.8)	9.8	(0.6)	3.1	(0.4)
	Ireland	4.7	(0.5)	11.1	(0.6)	21.3	(0.9)	27.7	(0.9)	22.2	(0.8)	10.1	(0.6)	2.8	(0.3)
	Israel	16.7	(1.2)	16.9	(0.9)	21.4	(0.9)	20.9	(0.8)	14.3	(1.1)	7.1	(0.8)	2.6	(0.4)
	Italy	9.8	(0.5)	15.9	(0.6)	23.5	(0.6)	24.3	(0.6)	16.8	(0.5)	7.5	(0.4)	2.1	(0.2)
	Japan	3.2	(0.5)	8.7	(0.7)	18.0	(0.9)	26.2	(1.0)	24.2	(1.0)	14.5	(1.0)	5.2	(0.7)
	Korea	3.6	(0.5)	7.6	(0.7)	16.7	(0.8)	23.6	(1.0)	23.8	(0.9)	16.4	(0.9)	8.3	(0.9)
	Luxembourg	11.2	(0.5)	16.7	(0.5)	21.6	(0.7)	22.0	(1.0)	17.4	(0.7)	8.4	(0.5)	2.7	(0.3)
	Mexico	20.2	(0.6)	34.4	(0.6)	30.4	(0.6)	12.3	(0.4)	2.4	(0.2)	0.2	(0.0)	0.0	(0.0)
	Netherlands	4.1	(0.7)	10.2	(0.8)	17.3	(1.1)	21.7	(1.5)	22.0	(1.0)	16.7	(1.2)	8.0	(0.8)
	New Zealand	8.0	(0.6)	13.5	(0.8)	20.5	(0.8)	21.8	(0.8)	18.6	(0.9)	11.4	(0.7)	6.2	(0.5)
	Norway	6.5	(0.6)	12.8	(0.7)	23.7	(1.0)	26.7	(1.0)	19.3	(0.9)	8.5	(0.6)	2.6	(0.3)
	Poland	3.3	(0.4)	10.7	(0.9)	21.4	(0.9)	26.9	(1.0)	22.2	(0.9)	11.6	(0.9)	4.0	(0.7)
	Portugal	8.4	(0.7)	15.9	(1.0)	23.5	(0.9)	25.1	(0.9)	17.7	(1.0)	7.9	(0.7)	1.5	(0.3)
	Slovak Republic	12.7	(1.1)	17.1	(1.0)	24.3	(1.0)	22.2	(1.0)	15.0	(0.8)	6.6	(0.6)	2.1	(0.4)
	Slovenia	6.4	(0.4)	15.2	(0.6)	23.4	(0.8)	24.2	(0.7)	18.3	(0.8)	9.9	(0.6)	2.6	(0.4)
	Spain	8.5	(0.5)	15.0	(0.6)	23.3	(0.6)	25.4	(0.6)	18.3	(0.6)	7.7	(0.4)	1.9	(0.2)
	Sweden	9.1	(0.6)	15.8	(0.7)	24.9	(1.0)	24.6	(0.8)	16.5	(0.8)	7.0	(0.5)	2.1	(0.3)
	Switzerland	5.0	(0.5)	9.9	(0.6)	18.9	(0.9)	24.4	(0.7)	22.4	(1.0)	13.4	(0.9)	6.0	(0.6)
	Turkey	15.8	(1.0)	25.0	(1.2)	26.3	(1.0)	17.8	(1.2)	9.6	(1.2)	4.5	(0.8)	0.9	(0.3)
	United Kingdom	6.9	(0.6)	13.1	(0.8)	21.4	(1.0)	24.6	(0.9)	19.9	(0.7)	10.2	(0.7)	3.8	(0.4)
	United States	7.0	(0.7)	16.2	(1.0)	24.9	(0.8)	25.0	(0.9)	17.6	(1.0)	7.4	(0.7)	2.0	(0.3)
	OECD total	8.9	(0.2)	16.6	(0.3)	23.2	(0.3)	22.8	(0.3)	17.0	(0.3)	8.6	(0.2)	2.9	(0.1)
	OECD average	8.3	(0.1)	14.8	(0.1)	22.5	(0.1)	23.8	(0.2)	18.1	(0.1)	9.2	(0.1)	3.2	(0.1)
Partners	Albania	36.3	(1.1)	27.0	(1.0)	21.6	(1.0)	10.9	(0.6)	3.5	(0.4)	0.7	(0.2)	0.1	(0.1)
	Argentina	35.0	(1.9)	30.0	(1.2)	22.8	(1.3)	9.7	(0.9)	2.2	(0.4)	0.4	(0.1)	0.0	c
	Brazil	26.5	(1.0)	35.1	(1.0)	25.5	(0.8)	10.0	(0.5)	2.5	(0.4)	0.3	(0.1)	0.0	c
	Bulgaria	20.7	(1.5)	24.8	(1.0)	25.8	(1.0)	18.0	(0.9)	8.1	(0.7)	2.3	(0.4)	0.3	(0.1)
	Colombia	32.4	(1.4)	36.8	(1.1)	23.0	(1.2)	6.6	(0.7)	1.2	(0.2)	0.1	(0.1)	0.0	(0.0)
	Costa Rica	17.8	(1.5)	37.1	(1.3)	31.1	(1.4)	11.8	(1.1)	2.1	(0.4)	0.2	(0.1)	0.0	c
	Croatia	10.8	(0.8)	19.8	(0.9)	26.4	(1.0)	22.6	(1.0)	13.6	(0.9)	5.3	(0.7)	1.4	(0.4)
	Cyprus*	17.5	(0.6)	22.2	(0.8)	26.9	(0.9)	20.8	(0.7)	9.5	(0.5)	2.7	(0.3)	0.4	(0.2)
	Hong Kong-China	2.3	(0.3)	6.0	(0.6)	13.2	(0.7)	22.5	(0.9)	26.9	(1.0)	20.0	(0.9)	9.2	(0.8)
	Indonesia	35.7	(2.1)	36.1	(1.6)	20.4	(1.3)	6.2	(0.9)	1.3	(0.6)	0.3	(0.2)	0.0	c
	Jordan	30.3	(1.5)	33.6	(0.9)	24.3	(1.1)	9.4	(0.6)	1.8	(0.3)	0.5	(0.4)	0.1	(0.1)
	Kazakhstan	17.1	(1.3)	37.4	(1.5)	33.1	(1.2)	11.1	(1.2)	1.3	(0.3)	0.0	c	0.0	c
	Latvia	6.1	(0.6)	17.5	(1.0)	28.3	(1.3)	27.6	(1.0)	15.4	(1.2)	4.3	(0.5)	0.7	(0.2)
	Liechtenstein	5.0	(1.3)	9.9	(2.2)	18.1	(2.1)	22.2	(3.1)	22.7	(2.7)	15.4	(2.3)	6.7	(1.4)
	Lithuania	10.1	(0.7)	17.9	(0.9)	26.2	(0.8)	23.8	(1.0)	14.6	(0.7)	6.1	(0.5)	1.4	(0.3)
	Macao-China	3.5	(0.3)	8.5	(0.5)	18.7	(0.5)	26.3	(0.7)	24.8	(0.8)	13.7	(0.6)	4.5	(0.3)
	Malaysia	21.6	(1.2)	27.6	(1.0)	28.4	(1.0)	15.8	(0.7)	5.5	(0.7)	1.1	(0.3)	0.1	(0.1)
	Montenegro	25.3	(0.8)	28.3	(1.0)	25.5	(0.9)	14.0	(0.9)	5.5	(0.6)	1.2	(0.2)	0.1	(0.1)
	Peru	42.2	(1.7)	32.1	(1.0)	18.1	(1.0)	5.9	(0.7)	1.4	(0.4)	0.2	(0.1)	0.0	c
	Qatar	44.4	(0.6)	23.3	(0.8)	16.0	(0.4)	9.4	(0.4)	4.7	(0.2)	1.9	(0.2)	0.3	(0.1)
	Romania	15.0	(1.2)	27.3	(1.3)	30.6	(1.3)	18.9	(1.0)	6.7	(0.8)	1.4	(0.3)	0.2	(0.1)
	Russian Federation	10.5	(0.9)	20.2	(0.9)	28.4	(0.8)	24.0	(1.1)	12.6	(0.8)	3.9	(0.5)	0.5	(0.2)
	Serbia	14.3	(1.3)	23.2	(1.3)	28.6	(1.3)	20.6	(1.0)	9.8	(0.7)	2.9	(0.4)	0.6	(0.2)
	Shanghai-China	1.0	(0.2)	3.4	(0.4)	9.0	(0.7)	17.0	(0.7)	23.6	(0.8)	24.3	(0.9)	21.7	(1.1)
	Singapore	2.7	(0.2)	7.0	(0.5)	14.2	(0.6)	19.4	(0.7)	22.7	(0.7)	18.9	(0.8)	15.1	(0.6)
	Chinese Taipei	4.4	(0.5)	8.6	(0.6)	14.4	(0.6)	19.2	(0.9)	21.5	(0.8)	18.7	(0.9)	13.1	(1.0)
	Thailand	15.3	(0.9)	29.1	(1.3)	31.4	(0.8)	16.5	(0.9)	5.8	(0.7)	1.6	(0.4)	0.3	(0.1)
	Tunisia	27.8	(1.8)	35.3	(1.3)	25.2	(1.3)	8.8	(0.8)	2.4	(0.7)	0.4	(0.2)	0.0	(0.0)
	United Arab Emirates	19.6	(0.9)	26.9	(0.9)	26.0	(0.7)	17.3	(0.7)	7.5	(0.5)	2.2	(0.3)	0.5	(0.1)
	Uruguay	27.8	(1.3)	30.3	(0.9)	24.1	(1.0)	12.4	(0.9)	4.5	(0.6)	0.8	(0.2)	0.0	c
	Viet Nam	2.5	(0.6)	8.4	(1.1)	20.4	(1.3)	29.8	(1.3)	25.9	(1.4)	10.5	(1.1)	2.5	(0.5)

* See notes at the beginning of this Annex.

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[Part 1/2]

Table I.2.24 Percentage of students at each proficiency level on the mathematics subscale *uncertainty and data*, by gender

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	6.2	(0.4)	12.0	(0.6)	20.7	(0.9)	23.8	(1.0)	20.1	(0.9)	11.8	(0.7)	5.4	(0.6)
	Austria	6.4	(0.9)	13.1	(1.1)	20.1	(1.3)	23.1	(1.2)	21.6	(1.0)	11.6	(0.9)	4.1	(0.5)
	Belgium	9.4	(1.0)	11.8	(0.8)	17.7	(0.8)	20.6	(0.9)	19.1	(1.0)	13.6	(0.7)	7.8	(0.7)
	Canada	4.2	(0.4)	10.0	(0.7)	19.6	(1.1)	25.8	(1.0)	21.9	(0.9)	13.5	(0.8)	5.0	(0.4)
	Chile	14.6	(1.4)	26.7	(1.5)	29.6	(1.6)	19.8	(1.2)	7.7	(0.8)	1.5	(0.3)	0.2	(0.1)
	Czech Republic	7.6	(1.0)	13.4	(1.2)	23.7	(1.6)	25.4	(1.5)	18.5	(1.3)	8.4	(0.8)	2.9	(0.5)
	Denmark	4.0	(0.6)	10.4	(1.0)	21.8	(1.2)	27.8	(1.1)	22.4	(1.2)	10.9	(1.0)	2.8	(0.5)
	Estonia	3.1	(0.5)	10.2	(0.9)	22.8	(1.4)	28.5	(1.2)	22.0	(1.2)	10.3	(0.8)	3.2	(0.4)
	Finland	5.0	(0.6)	10.8	(0.9)	19.5	(0.9)	25.9	(1.0)	21.8	(1.1)	12.1	(0.8)	4.9	(0.6)
	France	11.5	(1.0)	14.6	(1.1)	19.0	(1.1)	20.6	(1.1)	19.9	(1.1)	10.6	(0.8)	3.8	(0.5)
	Germany	6.9	(0.7)	11.7	(0.8)	18.6	(0.9)	22.3	(1.1)	20.6	(1.1)	13.5	(1.0)	6.5	(0.7)
	Greece	14.1	(1.3)	17.5	(1.2)	25.0	(1.4)	24.2	(1.1)	13.7	(0.9)	4.6	(0.6)	1.0	(0.3)
	Hungary	11.1	(1.2)	16.5	(1.3)	23.9	(1.5)	22.1	(1.6)	15.9	(1.0)	8.2	(1.0)	2.4	(0.6)
	Iceland	11.0	(1.0)	13.2	(1.2)	21.0	(1.3)	23.7	(1.2)	18.7	(1.4)	9.2	(0.7)	3.2	(0.5)
	Ireland	4.4	(0.8)	10.3	(0.9)	19.0	(1.2)	27.6	(1.2)	23.6	(1.4)	11.6	(1.0)	3.5	(0.5)
	Israel	19.0	(1.8)	15.1	(1.3)	17.8	(1.3)	18.7	(1.1)	15.8	(1.5)	9.6	(1.4)	4.0	(0.8)
	Italy	9.7	(0.5)	14.4	(0.6)	22.1	(0.7)	23.5	(0.7)	17.8	(0.7)	9.4	(0.5)	3.1	(0.3)
	Japan	3.6	(0.7)	8.4	(0.8)	16.3	(1.1)	24.1	(1.2)	25.0	(1.1)	16.0	(1.3)	6.6	(0.9)
	Korea	3.8	(0.6)	7.0	(0.8)	15.1	(1.1)	21.4	(1.3)	23.9	(1.0)	17.9	(1.1)	10.9	(1.5)
	Luxembourg	9.3	(0.7)	15.1	(0.7)	20.7	(0.8)	22.6	(1.7)	18.6	(1.2)	9.7	(0.6)	4.0	(0.4)
	Mexico	19.1	(0.8)	33.0	(0.9)	30.7	(0.8)	13.8	(0.5)	3.1	(0.2)	0.4	(0.1)	0.0	(0.0)
	Netherlands	3.9	(0.9)	9.5	(1.2)	16.6	(1.4)	21.8	(1.6)	22.1	(1.1)	16.8	(1.2)	9.3	(1.2)
	New Zealand	9.1	(0.9)	12.8	(1.0)	18.7	(1.0)	21.1	(1.0)	18.0	(1.1)	12.6	(1.0)	7.7	(0.9)
	Norway	7.2	(0.7)	13.1	(0.9)	22.7	(1.2)	25.9	(1.0)	19.5	(1.0)	8.8	(0.8)	2.8	(0.4)
	Poland	3.9	(0.6)	11.1	(1.3)	20.3	(1.1)	26.0	(1.5)	21.5	(1.4)	12.2	(1.1)	4.9	(1.1)
	Portugal	8.5	(0.9)	15.0	(1.2)	21.2	(1.3)	25.1	(1.2)	18.5	(1.1)	9.5	(1.0)	2.1	(0.5)
	Slovak Republic	12.7	(1.2)	17.1	(1.2)	22.7	(1.2)	21.0	(1.3)	15.4	(1.1)	8.3	(0.8)	2.8	(0.7)
	Slovenia	7.0	(0.6)	15.5	(1.0)	23.3	(1.3)	23.5	(1.2)	17.7	(1.1)	10.4	(0.8)	2.6	(0.4)
	Spain	8.3	(0.6)	13.3	(0.7)	21.6	(0.8)	24.7	(0.8)	19.8	(0.8)	9.6	(0.7)	2.6	(0.3)
	Sweden	10.6	(0.9)	15.1	(0.8)	24.4	(1.4)	23.4	(1.3)	16.1	(1.1)	7.9	(0.7)	2.5	(0.5)
	Switzerland	4.8	(0.5)	9.1	(0.8)	17.6	(1.0)	23.3	(1.1)	23.1	(1.1)	14.7	(1.0)	7.4	(0.7)
	Turkey	15.1	(1.2)	24.0	(1.4)	26.3	(1.4)	17.6	(1.3)	10.4	(1.3)	5.3	(1.0)	1.3	(0.4)
	United Kingdom	6.3	(0.8)	12.4	(1.0)	19.9	(1.5)	24.9	(1.2)	20.4	(1.2)	11.6	(1.0)	4.6	(0.7)
	United States	7.9	(0.9)	16.3	(1.1)	23.0	(1.2)	24.2	(1.1)	18.2	(1.3)	8.3	(0.9)	2.1	(0.4)
	OECD total	8.9	(0.3)	16.0	(0.3)	21.9	(0.4)	22.2	(0.4)	17.6	(0.4)	9.7	(0.3)	3.7	(0.2)
	OECD average	8.5	(0.2)	14.1	(0.2)	21.3	(0.2)	23.2	(0.2)	18.6	(0.2)	10.3	(0.2)	4.1	(0.1)
Partners	Albania	37.0	(1.4)	27.0	(1.2)	20.9	(1.3)	10.9	(0.9)	3.4	(0.6)	0.7	(0.3)	0.1	(0.1)
	Argentina	32.4	(2.2)	29.7	(1.6)	23.9	(1.6)	10.5	(1.0)	2.8	(0.6)	0.6	(0.2)	0.0	c
	Brazil	24.1	(1.0)	33.9	(1.1)	26.5	(1.1)	11.8	(0.7)	3.3	(0.5)	0.4	(0.2)	0.0	c
	Bulgaria	22.7	(1.9)	24.4	(1.2)	24.0	(1.4)	16.7	(1.1)	9.2	(0.9)	2.6	(0.5)	0.4	(0.2)
	Colombia	30.1	(1.7)	34.9	(1.8)	24.5	(1.7)	8.5	(1.1)	1.9	(0.4)	0.2	(0.1)	0.0	(0.0)
	Costa Rica	14.1	(1.6)	33.6	(1.9)	33.5	(1.6)	15.2	(1.5)	3.2	(0.6)	0.3	(0.2)		c
	Croatia	10.7	(1.0)	19.0	(1.2)	25.2	(1.4)	22.1	(1.3)	14.4	(1.2)	6.5	(0.9)	1.9	(0.5)
	Cyprus*	20.6	(0.7)	20.9	(1.2)	23.6	(1.0)	20.1	(0.8)	10.7	(0.6)	3.5	(0.4)	0.6	(0.2)
	Hong Kong-China	2.5	(0.4)	5.9	(0.8)	12.4	(1.2)	21.1	(1.1)	25.5	(1.6)	20.9	(1.5)	11.7	(1.3)
	Indonesia	36.8	(2.5)	35.3	(2.1)	19.6	(1.4)	6.6	(1.1)	1.3	(0.5)	0.4	(0.2)	0.0	c
	Jordan	39.2	(2.5)	32.1	(1.5)	18.8	(1.6)	7.2	(1.1)	1.7	(0.4)	0.8	(0.7)	0.1	(0.2)
	Kazakhstan	17.6	(1.6)	36.9	(2.1)	32.8	(1.6)	11.3	(1.4)	1.4	(0.4)	0.0	c	0.0	c
	Latvia	6.7	(0.9)	18.4	(1.1)	28.3	(1.6)	25.7	(1.5)	15.2	(1.4)	4.8	(0.6)	1.0	(0.3)
	Liechtenstein	4.1	(2.1)	8.1	(4.1)	17.5	(3.4)	22.9	(4.0)	21.7	(3.6)	16.3	(3.7)	9.5	(2.2)
	Lithuania	11.3	(0.8)	18.7	(1.1)	24.6	(1.2)	22.8	(1.1)	14.0	(0.9)	6.9	(0.7)	1.6	(0.4)
	Macao-China	4.1	(0.5)	8.7	(0.7)	18.0	(0.8)	25.1	(1.0)	24.4	(1.1)	14.8	(1.0)	5.0	(0.4)
	Malaysia	25.1	(1.5)	28.6	(1.1)	26.0	(1.1)	14.1	(0.9)	5.0	(0.8)	1.1	(0.3)	0.1	(0.1)
	Montenegro	26.6	(1.0)	27.4	(1.2)	24.1	(1.4)	14.7	(1.2)	5.7	(0.7)	1.3	(0.3)	0.2	(0.2)
	Peru	39.7	(1.8)	32.4	(1.3)	19.3	(1.2)	6.7	(0.8)	1.6	(0.5)	0.3	(0.2)	0.0	c
	Qatar	47.7	(0.8)	21.1	(0.9)	15.1	(0.6)	8.8	(0.5)	4.9	(0.3)	2.1	(0.2)	0.3	(0.1)
	Romania	15.5	(1.4)	26.6	(1.5)	30.4	(1.5)	18.3	(1.3)	7.1	(0.9)	1.8	(0.5)	0.2	(0.2)
	Russian Federation	11.6	(1.1)	20.3	(1.2)	28.0	(1.1)	23.1	(1.2)	12.7	(1.0)	3.6	(0.5)	0.6	(0.3)
	Serbia	13.4	(1.5)	22.1	(1.4)	28.3	(1.7)	20.8	(1.3)	10.9	(1.0)	3.7	(0.5)	0.9	(0.3)
	Shanghai-China	1.2	(0.3)	3.7	(0.5)	8.6	(0.9)	16.5	(1.1)	22.6	(1.0)	24.2	(1.4)	23.2	(1.3)
	Singapore	3.5	(0.4)	7.7	(0.6)	14.0	(0.9)	18.2	(1.0)	22.1	(0.9)	19.0	(0.9)	15.4	(0.7)
	Chinese Taipei	5.2	(0.7)	8.9	(0.8)	13.5	(0.9)	17.2	(1.3)	21.3	(1.2)	19.8	(1.2)	14.1	(1.7)
	Thailand	18.6	(1.3)	30.9	(1.3)	29.5	(1.3)	14.5	(1.1)	5.0	(0.8)	1.3	(0.4)	0.2	(0.1)
	Tunisia	27.7	(2.1)	33.8	(1.6)	26.0	(1.8)	9.2	(1.1)	2.7	(0.8)	0.6	(0.3)	0.0	c
	United Arab Emirates	23.2	(1.3)	26.1	(1.1)	23.3	(1.1)	16.1	(1.0)	8.0	(0.8)	2.6	(0.5)	0.7	(0.2)
	Uruguay	26.7	(1.7)	28.4	(1.3)	24.5	(1.3)	13.5	(1.0)	5.6	(0.7)	1.2	(0.4)	0.1	c
	Viet Nam	2.8	(0.8)	8.9	(1.4)	20.4	(1.5)	28.1	(1.5)	25.6	(1.8)	10.9	(1.2)	3.2	(0.7)

* See notes at the beginning of this Annex.

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[Part 2/2]

Table I.2.24 Percentage of students at each proficiency level on the mathematics subscale *uncertainty and data*, by gender

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	5.8	(0.4)	13.0	(0.5)	22.1	(0.6)	25.4	(0.7)	19.5	(0.7)	10.4	(0.5)	3.7	(0.4)
	Austria	8.2	(1.1)	14.5	(1.2)	22.8	(1.1)	25.0	(1.3)	20.3	(1.2)	7.8	(0.7)	1.5	(0.4)
	Belgium	8.3	(0.9)	12.3	(0.9)	20.4	(1.0)	23.0	(1.1)	19.4	(0.8)	11.4	(0.7)	5.3	(0.5)
	Canada	3.9	(0.3)	10.2	(0.6)	22.2	(0.9)	27.9	(0.9)	22.0	(0.7)	10.7	(0.6)	3.1	(0.3)
	Chile	18.9	(1.3)	32.0	(1.2)	29.0	(1.4)	14.6	(1.1)	4.8	(0.6)	0.6	(0.2)	0.1	(0.0)
	Czech Republic	7.7	(1.0)	16.9	(1.2)	25.4	(1.2)	25.0	(1.7)	16.6	(1.2)	6.9	(0.7)	1.5	(0.3)
	Denmark	4.8	(0.6)	12.8	(0.9)	24.5	(0.9)	28.6	(1.2)	20.0	(1.0)	7.6	(0.7)	1.6	(0.4)
	Estonia	2.7	(0.4)	10.0	(0.7)	24.8	(1.4)	30.8	(1.4)	21.5	(1.3)	8.4	(0.9)	1.9	(0.4)
	Finland	3.3	(0.5)	8.1	(0.6)	20.0	(1.0)	28.9	(1.3)	24.1	(1.2)	11.8	(1.0)	3.8	(0.4)
	France	9.5	(0.7)	13.6	(1.0)	21.7	(1.4)	24.4	(1.2)	19.1	(0.9)	9.0	(0.7)	2.6	(0.4)
	Germany	7.4	(0.8)	12.9	(0.9)	21.3	(1.1)	23.4	(1.4)	20.2	(1.1)	11.2	(1.1)	3.4	(0.7)
	Greece	10.4	(1.0)	21.2	(1.3)	30.0	(1.3)	24.3	(1.2)	10.8	(0.9)	2.9	(0.5)	0.4	(0.1)
	Hungary	10.7	(1.1)	17.3	(1.3)	26.3	(1.3)	24.1	(1.5)	14.9	(1.3)	5.7	(0.9)	1.1	(0.4)
	Iceland	6.6	(0.7)	13.1	(1.1)	21.4	(1.2)	25.3	(1.5)	20.2	(1.3)	10.3	(0.8)	3.0	(0.5)
	Ireland	5.0	(0.7)	11.9	(0.9)	23.7	(1.2)	27.9	(1.3)	20.8	(0.9)	8.6	(0.6)	2.2	(0.4)
	Israel	14.5	(1.2)	18.7	(0.9)	25.0	(1.2)	23.0	(1.1)	12.9	(1.1)	4.7	(0.6)	1.2	(0.2)
	Italy	10.0	(0.7)	17.4	(0.9)	25.2	(0.8)	25.1	(0.8)	15.7	(0.6)	5.5	(0.4)	1.1	(0.2)
	Japan	2.8	(0.5)	9.0	(0.9)	19.9	(1.1)	28.5	(1.3)	23.3	(1.5)	12.8	(1.2)	3.7	(0.7)
	Korea	3.4	(0.6)	8.2	(1.1)	18.6	(1.1)	26.2	(1.2)	23.6	(1.3)	14.8	(1.2)	5.2	(0.7)
	Luxembourg	13.1	(0.7)	18.3	(0.8)	22.5	(1.1)	21.5	(1.1)	16.2	(1.3)	7.0	(0.7)	1.4	(0.3)
	Mexico	21.3	(0.8)	35.7	(0.7)	30.2	(0.7)	10.9	(0.5)	1.8	(0.2)	0.1	(0.0)	0.0	c
	Netherlands	4.4	(0.8)	10.8	(1.1)	18.2	(1.4)	21.7	(1.7)	21.9	(1.4)	16.5	(1.7)	6.6	(1.0)
	New Zealand	6.9	(0.8)	14.1	(1.1)	22.4	(1.2)	22.5	(1.4)	19.3	(1.2)	10.1	(0.9)	4.6	(0.5)
	Norway	5.7	(0.8)	12.5	(0.9)	24.9	(1.2)	27.4	(1.6)	19.0	(1.2)	8.2	(0.9)	2.4	(0.4)
	Poland	2.6	(0.4)	10.3	(0.9)	22.4	(1.1)	27.7	(1.2)	22.9	(1.2)	11.0	(1.1)	3.0	(0.6)
	Portugal	8.3	(0.8)	16.9	(1.3)	25.8	(1.2)	25.1	(1.3)	16.8	(1.3)	6.3	(0.7)	0.8	(0.3)
	Slovak Republic	12.8	(1.3)	17.2	(1.3)	26.0	(1.4)	23.5	(1.3)	14.5	(1.2)	4.8	(0.7)	1.3	(0.3)
	Slovenia	5.7	(0.5)	15.0	(0.9)	23.4	(1.0)	24.9	(1.0)	19.0	(1.1)	9.3	(0.8)	2.6	(0.6)
	Spain	8.7	(0.6)	16.8	(0.8)	25.0	(0.9)	26.1	(0.9)	16.7	(0.7)	5.7	(0.4)	1.2	(0.2)
	Sweden	7.5	(0.7)	16.6	(0.9)	25.3	(1.3)	25.9	(1.3)	16.8	(1.3)	6.1	(0.9)	1.7	(0.3)
	Switzerland	5.3	(0.6)	10.7	(0.7)	20.2	(1.1)	25.5	(0.9)	21.8	(1.2)	12.0	(1.0)	4.6	(0.7)
	Turkey	16.5	(1.4)	26.0	(1.7)	26.4	(1.5)	18.1	(1.7)	8.8	(1.3)	3.7	(0.8)	0.5	(0.3)
	United Kingdom	7.6	(0.8)	13.9	(1.0)	22.8	(1.0)	24.2	(1.2)	19.4	(1.0)	9.0	(1.0)	3.2	(0.5)
	United States	6.0	(0.7)	16.0	(1.2)	26.8	(1.4)	25.8	(1.1)	17.1	(1.2)	6.4	(0.8)	1.8	(0.4)
	OECD total	8.8	(0.3)	17.2	(0.4)	24.6	(0.4)	23.5	(0.4)	16.3	(0.4)	7.4	(0.3)	2.2	(0.1)
	OECD average	8.1	(0.1)	15.4	(0.2)	23.7	(0.2)	24.5	(0.2)	17.7	(0.2)	8.2	(0.1)	2.4	(0.1)
Partners	Albania	35.5	(1.4)	27.0	(1.5)	22.4	(1.4)	10.8	(0.8)	3.5	(0.5)	0.7	(0.2)	0.1	(0.1)
	Argentina	37.5	(1.9)	30.2	(1.5)	21.7	(1.6)	8.9	(1.1)	1.6	(0.4)	0.1	(0.1)	0.0	c
	Brazil	28.7	(1.3)	36.3	(1.2)	24.5	(0.9)	8.3	(0.6)	1.9	(0.3)	0.2	(0.1)	0.0	c
	Bulgaria	18.5	(1.5)	25.2	(1.5)	27.6	(1.4)	19.3	(1.3)	7.0	(0.8)	2.1	(0.5)	0.2	(0.1)
	Colombia	34.4	(1.7)	38.4	(1.2)	21.6	(1.3)	5.0	(0.7)	0.6	(0.2)	0.1	(0.0)	0.0	c
	Costa Rica	21.1	(1.9)	40.1	(1.4)	28.9	(1.7)	8.8	(1.1)	1.0	(0.3)	0.0	(0.0)	0.0	c
	Croatia	10.9	(1.1)	20.6	(1.2)	27.7	(1.2)	23.1	(1.3)	12.8	(1.0)	4.0	(0.8)	0.8	(0.4)
	Cyprus*	14.3	(0.9)	23.6	(0.9)	30.2	(1.4)	21.4	(1.1)	8.3	(0.7)	1.9	(0.3)	0.2	(0.2)
	Hong Kong-China	2.1	(0.5)	6.0	(0.7)	14.1	(1.1)	24.0	(1.5)	28.5	(1.3)	18.9	(1.2)	6.4	(0.8)
	Indonesia	34.5	(2.2)	36.9	(1.7)	21.2	(1.5)	5.8	(0.9)	1.4	(0.7)	0.2	(0.2)	0.0	c
	Jordan	21.7	(1.6)	35.1	(1.5)	29.6	(1.3)	11.5	(1.1)	1.9	(0.5)	0.2	(0.1)	0.0	c
	Kazakhstan	16.5	(1.3)	38.0	(1.6)	33.5	(1.5)	10.8	(1.4)	1.1	(0.4)	0.0	c	0.0	c
	Latvia	5.5	(0.8)	16.6	(1.5)	28.4	(1.7)	29.5	(1.2)	15.7	(1.4)	3.8	(0.7)	0.5	(0.2)
	Liechtenstein	5.9	(2.1)	12.0	(3.8)	18.8	(3.5)	21.4	(4.3)	24.0	(4.0)	14.3	(3.3)	3.5	(1.8)
	Lithuania	8.9	(0.9)	17.1	(1.3)	27.7	(1.1)	24.8	(1.3)	15.1	(1.1)	5.3	(0.6)	1.1	(0.3)
	Macao-China	2.9	(0.3)	8.4	(0.6)	19.5	(0.8)	27.5	(1.3)	25.3	(1.3)	12.4	(0.8)	4.1	(0.5)
	Malaysia	18.3	(1.2)	26.6	(1.2)	30.6	(1.4)	17.4	(1.0)	5.9	(0.9)	1.1	(0.3)	0.1	c
	Montenegro	24.0	(1.0)	29.2	(1.3)	26.9	(1.3)	13.4	(1.0)	5.2	(0.8)	1.2	(0.3)	0.1	(0.1)
	Peru	44.6	(2.3)	31.9	(1.5)	17.0	(1.2)	5.1	(0.9)	1.2	(0.5)	0.1	(0.1)	0.0	c
	Qatar	40.8	(0.8)	25.7	(0.9)	16.9	(0.8)	10.1	(0.6)	4.5	(0.3)	1.7	(0.3)	0.3	(0.1)
	Romania	14.5	(1.4)	28.0	(1.8)	30.7	(1.5)	19.4	(1.1)	6.3	(0.9)	0.9	(0.3)	0.1	c
	Russian Federation	9.4	(1.0)	20.0	(1.1)	28.7	(1.4)	24.8	(1.4)	12.5	(0.9)	4.1	(0.6)	0.5	(0.2)
	Serbia	15.3	(1.5)	24.4	(1.7)	28.8	(1.5)	20.5	(1.3)	8.7	(1.0)	2.1	(0.5)	0.3	(0.2)
	Shanghai-China	0.9	(0.2)	3.1	(0.5)	9.3	(0.8)	17.4	(0.9)	24.6	(1.0)	24.4	(1.0)	20.3	(1.3)
	Singapore	1.9	(0.4)	6.3	(0.6)	14.4	(1.1)	20.7	(1.5)	23.3	(1.0)	18.8	(1.1)	14.7	(0.9)
	Chinese Taipei	3.7	(0.5)	8.3	(0.7)	15.2	(1.0)	21.2	(1.2)	21.7	(1.1)	17.7	(1.1)	12.2	(1.9)
	Thailand	12.7	(1.0)	27.7	(1.7)	33.0	(1.3)	18.1	(1.1)	6.3	(0.9)	1.8	(0.5)	0.4	(0.2)
	Tunisia	27.9	(1.9)	36.6	(1.7)	24.5	(1.3)	8.4	(1.0)	2.2	(0.8)	0.3	(0.2)	0.0	c
	United Arab Emirates	16.2	(1.2)	27.7	(1.3)	28.6	(1.0)	18.3	(1.0)	7.0	(0.5)	1.9	(0.3)	0.3	(0.1)
	Uruguay	28.8	(1.5)	31.8	(1.1)	23.9	(1.1)	11.5	(1.0)	3.5	(0.7)	0.5	(0.2)	0.0	c
	Viet Nam	2.2	(0.5)	7.9	(1.1)	20.4	(1.6)	31.4	(1.8)	26.1	(1.5)	10.1	(1.2)	1.9	(0.5)

* See notes at the beginning of this Annex.

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[Part 1/1]

Mean score, variation and gender differences in student performance on the mathematics subscale *uncertainty and data*

Table I.2.25

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	Australia	508	(1.5)	97	(1.1)	511	(2.3)	504	(1.9)	**7**	(3.0)	349	(2.5)	384	(2.2)	441	(1.8)	575	(2.0)	633	(2.7)	666	(3.1)
	Austria	499	(2.7)	95	(1.9)	508	(3.6)	489	(3.6)	**18**	(4.7)	339	(7.0)	374	(4.8)	433	(3.8)	567	(3.0)	618	(3.1)	647	(3.9)
	Belgium	508	(2.5)	110	(2.3)	511	(3.2)	504	(2.9)	**7**	(3.5)	323	(7.8)	366	(5.4)	435	(3.3)	585	(2.8)	647	(3.4)	681	(3.2)
	Canada	516	(1.8)	90	(0.9)	521	(2.2)	512	(2.0)	**9**	(2.1)	367	(2.9)	401	(2.4)	456	(2.4)	579	(2.3)	632	(2.5)	661	(2.6)
	Chile	430	(2.9)	76	(1.4)	440	(3.6)	421	(2.8)	**19**	(3.1)	309	(3.9)	335	(3.4)	378	(3.1)	481	(3.6)	531	(4.0)	561	(4.1)
	Czech Republic	488	(2.8)	92	(2.0)	493	(3.4)	483	(3.3)	**11**	(3.9)	338	(6.3)	371	(4.3)	426	(3.5)	551	(3.2)	606	(3.5)	638	(3.5)
	Denmark	505	(2.4)	84	(1.3)	512	(2.9)	498	(2.5)	**14**	(2.5)	363	(4.4)	396	(3.8)	448	(3.2)	564	(2.7)	613	(3.5)	641	(4.6)
	Estonia	510	(2.0)	81	(1.1)	513	(2.5)	507	(2.2)	**6**	(2.5)	378	(4.0)	408	(2.9)	456	(2.5)	565	(2.4)	615	(2.7)	645	(4.1)
	Finland	519	(2.4)	91	(1.4)	516	(2.9)	521	(2.6)	**-5**	(2.8)	367	(4.6)	403	(3.3)	460	(2.6)	580	(2.8)	634	(3.0)	664	(3.8)
	France	492	(2.7)	103	(1.8)	492	(3.7)	492	(2.8)	1	(3.7)	317	(6.7)	355	(4.2)	421	(3.7)	567	(3.3)	622	(4.0)	653	(3.4)
	Germany	509	(3.0)	101	(1.8)	516	(3.2)	502	(3.6)	**14**	(3.0)	340	(4.6)	376	(4.2)	439	(3.7)	581	(3.9)	639	(4.4)	669	(5.0)
	Greece	460	(2.6)	87	(1.4)	463	(3.5)	458	(2.7)	5	(3.6)	312	(4.4)	347	(4.3)	402	(3.5)	519	(3.1)	572	(3.3)	602	(3.5)
	Hungary	476	(3.3)	94	(2.5)	479	(3.5)	472	(4.0)	7	(3.7)	318	(6.2)	353	(4.8)	412	(3.8)	541	(4.6)	599	(6.7)	632	(7.2)
	Iceland	496	(1.8)	98	(1.7)	491	(2.4)	501	(2.5)	**-11**	(3.3)	329	(4.0)	365	(3.9)	430	(3.1)	565	(2.6)	620	(3.0)	652	(3.6)
	Ireland	509	(2.5)	88	(1.4)	516	(3.7)	501	(2.9)	**14**	(4.3)	361	(5.9)	395	(4.4)	450	(3.5)	569	(2.7)	619	(2.5)	648	(3.2)
	Israel	465	(4.7)	108	(2.0)	471	(7.9)	459	(3.4)	11	(7.7)	283	(8.0)	323	(6.3)	391	(5.5)	542	(5.4)	605	(6.2)	641	(5.8)
	Italy	482	(2.0)	96	(1.1)	490	(2.4)	475	(2.2)	**15**	(2.5)	321	(2.9)	359	(2.7)	418	(2.4)	549	(2.4)	605	(2.6)	637	(2.8)
	Japan	528	(3.5)	90	(2.0)	534	(4.6)	522	(3.4)	**12**	(4.2)	376	(6.3)	410	(5.1)	468	(4.4)	591	(4.1)	642	(4.6)	671	(4.9)
	Korea	538	(4.2)	97	(1.9)	546	(5.3)	528	(4.8)	**18**	(5.8)	374	(7.0)	413	(5.7)	473	(4.1)	606	(4.8)	661	(4.8)	690	(5.6)
	Luxembourg	483	(1.0)	100	(1.0)	494	(1.5)	471	(1.4)	**23**	(2.1)	319	(3.4)	352	(2.5)	411	(2.0)	555	(1.6)	613	(2.2)	645	(2.6)
	Mexico	413	(1.2)	67	(0.7)	417	(1.4)	409	(1.3)	**9**	(1.1)	303	(1.8)	328	(2.0)	368	(1.5)	457	(1.4)	499	(1.8)	524	(2.1)
	Netherlands	532	(3.8)	99	(2.6)	536	(4.0)	527	(4.4)	**9**	(3.3)	367	(7.4)	399	(6.3)	461	(5.2)	606	(4.7)	659	(4.2)	687	(4.1)
	New Zealand	506	(2.6)	106	(1.6)	509	(3.9)	502	(3.1)	8	(4.7)	332	(5.3)	370	(4.5)	432	(3.2)	580	(3.3)	644	(3.8)	680	(4.5)
	Norway	497	(3.0)	91	(2.1)	496	(3.2)	497	(3.5)	-1	(3.0)	345	(5.6)	381	(4.4)	437	(3.1)	558	(2.8)	613	(3.6)	644	(4.3)
	Poland	517	(3.5)	87	(1.9)	518	(4.0)	516	(3.8)	2	(3.4)	374	(3.6)	403	(3.7)	456	(3.4)	578	(3.8)	630	(5.8)	660	(6.8)
	Portugal	486	(3.8)	91	(1.5)	492	(4.1)	480	(3.8)	**12**	(2.4)	334	(5.2)	366	(4.4)	422	(5.5)	550	(4.0)	604	(3.7)	632	(3.9)
	Slovak Republic	472	(3.6)	100	(2.5)	477	(4.2)	466	(4.0)	**11**	(4.2)	305	(7.7)	343	(5.9)	405	(4.8)	541	(4.4)	599	(4.7)	633	(5.8)
	Slovenia	496	(1.2)	92	(0.9)	495	(1.7)	497	(2.1)	-3	(2.9)	347	(3.1)	378	(2.3)	430	(2.0)	562	(2.2)	619	(2.4)	648	(3.2)
	Spain	487	(2.3)	94	(1.1)	495	(2.8)	478	(2.3)	**16**	(2.3)	329	(4.6)	367	(3.5)	425	(2.8)	552	(2.5)	605	(2.4)	635	(2.6)
	Sweden	483	(2.5)	93	(1.3)	482	(3.2)	483	(2.7)	-1	(3.1)	327	(5.8)	363	(3.4)	420	(3.2)	547	(3.4)	603	(3.2)	634	(4.1)
	Switzerland	522	(3.2)	97	(1.6)	529	(3.6)	514	(3.3)	**14**	(2.8)	357	(4.7)	396	(3.6)	457	(3.4)	589	(3.9)	644	(4.3)	677	(4.4)
	Turkey	447	(4.6)	91	(2.7)	452	(5.0)	443	(5.3)	9	(4.6)	307	(3.8)	336	(3.3)	383	(3.6)	506	(7.2)	573	(9.0)	610	(8.4)
	United Kingdom	502	(3.0)	97	(1.6)	509	(4.1)	496	(3.5)	**13**	(4.7)	341	(5.0)	378	(4.0)	436	(3.7)	570	(3.3)	626	(3.7)	659	(4.3)
	United States	488	(3.5)	89	(1.5)	489	(3.8)	487	(3.8)	2	(2.8)	344	(4.9)	374	(3.9)	426	(4.1)	551	(4.2)	604	(4.3)	635	(4.6)
	OECD total	487	(1.1)	97	(0.5)	492	(1.2)	483	(1.2)	**9**	(1.1)	332	(1.2)	364	(1.2)	419	(1.3)	556	(1.4)	615	(1.4)	648	(1.5)
	OECD average	493	(0.5)	93	(0.3)	497	(0.6)	489	(0.5)	**9**	(0.6)	338	(0.9)	373	(0.7)	430	(0.6)	558	(0.6)	613	(0.7)	644	(0.8)
Partners	Albania	386	(2.4)	96	(1.7)	385	(2.9)	388	(3.0)	-3	(3.4)	219	(5.5)	264	(4.6)	327	(3.4)	450	(2.7)	505	(3.0)	537	(4.7)
	Argentina	389	(3.5)	81	(1.9)	395	(4.2)	383	(3.3)	**12**	(2.8)	258	(7.5)	287	(4.5)	335	(4.3)	443	(3.9)	492	(4.1)	521	(4.4)
	Brazil	402	(2.0)	71	(1.4)	408	(2.1)	396	(2.2)	**12**	(1.6)	289	(2.4)	314	(2.4)	355	(2.1)	447	(2.4)	495	(3.7)	524	(4.7)
	Bulgaria	432	(3.9)	90	(2.4)	430	(4.7)	433	(4.2)	-3	(4.4)	285	(6.7)	318	(5.4)	370	(4.3)	493	(4.7)	549	(5.5)	581	(6.3)
	Colombia	388	(2.4)	67	(1.5)	395	(3.1)	382	(2.6)	**12**	(2.8)	280	(4.4)	303	(3.2)	344	(3.0)	431	(2.9)	473	(3.8)	501	(4.7)
	Costa Rica	414	(2.9)	63	(1.5)	425	(3.3)	405	(2.9)	**20**	(2.2)	315	(4.3)	336	(3.5)	372	(3.2)	455	(3.6)	496	(3.9)	521	(4.6)
	Croatia	468	(3.5)	90	(2.2)	473	(4.3)	463	(3.8)	**10**	(4.2)	324	(4.3)	354	(3.4)	405	(3.4)	529	(4.7)	587	(6.4)	619	(7.0)
	Cyprus*	442	(1.1)	90	(1.1)	440	(1.7)	444	(1.8)	-4	(2.8)	292	(2.8)	326	(2.9)	381	(1.8)	504	(2.1)	557	(2.4)	589	(3.4)
	Hong Kong-China	553	(3.0)	91	(1.8)	559	(4.4)	547	(3.5)	**12**	(5.3)	392	(5.6)	430	(4.8)	494	(4.0)	617	(3.3)	666	(3.5)	694	(4.9)
	Indonesia	384	(3.9)	68	(3.0)	383	(4.3)	385	(4.1)	-3	(3.0)	276	(4.7)	300	(4.5)	339	(3.8)	427	(4.6)	470	(7.2)	501	(9.6)
	Jordan	394	(3.2)	77	(2.8)	378	(5.6)	409	(3.2)	**-30**	(6.5)	266	(5.9)	297	(4.7)	346	(3.4)	443	(3.2)	489	(4.5)	517	(6.3)
	Kazakhstan	414	(2.6)	58	(1.3)	413	(3.0)	414	(2.9)	-1	(2.5)	318	(2.8)	339	(2.9)	374	(2.7)	453	(3.4)	490	(3.9)	511	(5.3)
	Latvia	478	(2.8)	79	(1.2)	477	(3.2)	480	(3.2)	-3	(3.1)	350	(5.4)	378	(3.4)	424	(2.9)	533	(3.5)	581	(2.9)	607	(5.1)
	Liechtenstein	526	(3.9)	97	(3.3)	536	(6.1)	514	(5.7)	**22**	(9.0)	359	(11.8)	390	(12.6)	456	(9.1)	599	(5.9)	648	(8.6)	679	(11.4)
	Lithuania	474	(2.7)	91	(1.3)	472	(3.0)	475	(3.0)	-2	(2.6)	324	(4.0)	357	(3.7)	412	(3.4)	536	(3.2)	593	(4.4)	624	(4.5)
	Macao-China	525	(1.1)	89	(0.9)	526	(1.6)	524	(1.5)	2	(2.2)	374	(2.7)	409	(2.3)	467	(1.6)	587	(1.9)	637	(2.1)	666	(2.3)
	Malaysia	422	(3.0)	81	(1.6)	414	(3.6)	429	(3.2)	**-15**	(3.4)	287	(4.4)	318	(4.2)	367	(3.3)	476	(3.3)	526	(4.8)	557	(6.2)
	Montenegro	415	(1.0)	85	(1.0)	414	(1.6)	416	(1.6)	-2	(2.4)	279	(3.8)	308	(2.4)	357	(1.8)	470	(2.0)	526	(2.6)	559	(3.9)
	Peru	373	(3.3)	75	(2.0)	379	(3.2)	368	(4.0)	**10**	(3.3)	252	(4.4)	279	(3.8)	323	(3.2)	422	(3.7)	470	(5.3)	501	(6.8)
	Qatar	382	(0.8)	100	(0.7)	375	(1.2)	389	(1.2)	**-13**	(1.7)	234	(2.2)	263	(1.9)	311	(1.2)	445	(1.6)	518	(2.0)	565	(2.7)
	Romania	437	(3.3)	76	(1.8)	437	(3.9)	436	(3.6)	1	(3.5)	314	(4.6)	340	(4.1)	384	(3.4)	487	(3.7)	536	(4.9)	567	(5.9)
	Russian Federation	463	(3.3)	85	(1.5)	461	(3.8)	465	(3.4)	-5	(3.0)	323	(5.9)	355	(4.8)	406	(3.5)	521	(3.4)	572	(4.0)	601	(4.8)
	Serbia	448	(3.3)	86	(1.9)	454	(4.1)	443	(3.4)	**12**	(3.8)	310	(5.7)	341	(4.1)	391	(3.9)	505	(4.5)	559	(4.7)	592	(5.4)
	Shanghai-China	592	(3.0)	96	(1.9)	594	(3.7)	590	(3.1)	4	(3.2)	427	(5.9)	464	(5.1)	528	(4.1)	660	(3.2)	712	(3.6)	741	(5.7)
	Singapore	559	(1.5)	104	(0.8)	558	(2.0)	561	(2.0)	-4	(2.7)	384	(3.4)	421	(2.8)	487	(2.8)	634	(2.0)	692	(2.4)	725	(2.6)
	Chinese Taipei	549	(3.2)	108	(2.1)	550	(5.0)	547	(5.6)	4	(8.5)	364	(6.6)	403	(4.7)	474	(4.4)	627	(3.9)	684	(4.6)	716	(4.7)
	Thailand	433	(3.1)	77	(2.1)	424	(3.4)	440	(3.7)	**-16**	(3.3)	312	(4.4)	339	(3.5)	383	(3.0)	480	(4.2)	531	(6.0)	565	(7.2)
	Tunisia	399	(3.6)	71	(2.7)	402	(4.0)	397	(3.7)	4	(2.7)	287	(4.1)	311	(4.3)	352	(3.6)	444	(4.3)	489	(6.6)	520	(10.3)
	United Arab Emirates	432	(2.4)	86	(1.1)	428	(3.7)	435	(3.1)	-7	(4.7)	296	(3.3)	324	(2.7)	372	(2.4)	489	(3.2)	546	(3.5)	581	(4.0)
	Uruguay	407	(2.7)	81	(1.9)	412	(3.5)	402	(2.8)	**10**	(3.1)	279	(5.2)	305	(3.8)	351	(3.4)	460	(3.2)	515	(4.4)	548	(6.1)
	Viet Nam	519	(4.5)	79	(2.4)	520	(5.1)	519	(4.1)	1	(2.6)	385	(8.4)	416	(6.8)	466	(5.9)	574	(3.9)	619	(4.8)	646	(6.7)

Note: Values that are statistically significant are indicated in bold (see Annex A3).
* See notes at the beginning of this Annex.
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[Part 1/1]

Table I.2.26 Gender differences in performance in mathematics after taking student programmes into account

		Gender differences in mathematics performance (boys - girls)					
		Observed		Within school		After accounting for the programme level and programme designation in which students are enrolled[1]	
		Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.
OECD	Australia	**12**	(3.1)	**14**	(2.0)	**15**	(2.0)
	Austria	**22**	(4.9)	**27**	(2.8)	**29**	(2.7)
	Belgium	**11**	(3.4)	**20**	(1.9)	**21**	(1.8)
	Canada	**10**	(2.0)	**11**	(1.5)	**13**	(1.5)
	Chile	**25**	(3.6)	**26**	(2.4)	**27**	(2.3)
	Czech Republic	**12**	(4.6)	**24**	(2.5)	**25**	(2.5)
	Denmark	**14**	(2.3)	**16**	(2.1)	**16**	(2.1)
	Estonia	**5**	(2.6)	**8**	(2.5)	**8**	(2.5)
	Finland	-3	(2.9)	-2	(2.5)	-2	(2.5)
	France	**9**	(3.4)	**19**	(2.8)	**21**	(2.8)
	Germany	**14**	(2.8)	**25**	(2.2)	**25**	(2.2)
	Greece	**8**	(3.2)	**21**	(2.7)	**22**	(2.7)
	Hungary	**9**	(3.7)	**29**	(2.3)	**29**	(2.3)
	Iceland	**-6**	(3.0)	-7	(4.1)	-7	(4.1)
	Ireland	**15**	(3.8)	**18**	(3.5)	**20**	(3.5)
	Israel	12	(7.6)	**15**	(4.2)	**16**	(4.1)
	Italy	**18**	(2.5)	**25**	(1.4)	**26**	(1.4)
	Japan	**18**	(4.3)	**14**	(2.4)	**14**	(2.4)
	Korea	**18**	(6.2)	**10**	(3.6)	**12**	(3.5)
	Luxembourg	**25**	(2.0)	**20**	(4.2)	**24**	(3.4)
	Mexico	**14**	(1.2)	**17**	(1.1)	**18**	(1.1)
	Netherlands	**10**	(2.8)	**17**	(2.1)	**18**	(2.1)
	New Zealand	**15**	(4.3)	**18**	(3.4)	**19**	(3.4)
	Norway	2	(3.0)	2	(2.9)	2	(2.9)
	Poland	4	(3.4)	**7**	(2.9)	**7**	(2.9)
	Portugal	**11**	(2.5)	**14**	(2.7)	**24**	(2.5)
	Slovak Republic	**9**	(4.5)	**27**	(3.5)	**27**	(3.5)
	Slovenia	3	(3.1)	**26**	(2.9)	**28**	(2.8)
	Spain	**16**	(2.2)	**17**	(1.6)	**17**	(1.6)
	Sweden	-3	(3.0)	0	(3.1)	0	(3.1)
	Switzerland	**13**	(2.7)	**22**	(3.2)	**21**	(3.0)
	Turkey	8	(4.7)	**22**	(2.3)	**22**	(2.3)
	United Kingdom	**12**	(4.7)	**13**	(2.5)	**13**	(2.5)
	United States	5	(2.8)	**10**	(2.9)	**14**	(2.9)
	OECD total	**12**	(1.1)	**17**	(1.0)	**19**	(0.6)
	OECD average	**11**	(0.6)	**16**	(0.5)	**17**	(0.5)
Partners	Albania	-1	(3.3)	2	(3.3)	2	(3.3)
	Argentina	**14**	(2.9)	**16**	(2.3)	**20**	(2.3)
	Brazil	**18**	(1.8)	**22**	(1.5)	**24**	(1.6)
	Bulgaria	-2	(4.1)	**15**	(2.3)	**16**	(2.2)
	Colombia	**25**	(3.2)	**26**	(2.1)	**30**	(1.8)
	Costa Rica	**24**	(2.4)	**25**	(1.9)	**27**	(1.9)
	Croatia	**12**	(4.1)	**28**	(2.8)	**32**	(2.7)
	Cyprus*	0	(2.2)	**13**	(2.6)	**15**	(2.5)
	Hong Kong-China	**15**	(5.7)	**24**	(3.0)	**26**	(3.0)
	Indonesia	5	(3.4)	**7**	(1.8)	**7**	(1.8)
	Jordan	**-21**	(6.3)	0	(9.4)	0	(9.4)
	Kazakhstan	0	(2.9)	4	(2.0)	**5**	(2.1)
	Latvia	-4	(3.6)	3	(3.0)	4	(3.0)
	Liechtenstein	**23**	(8.8)	**17**	(7.2)	**21**	(6.5)
	Lithuania	0	(2.4)	**10**	(2.7)	**10**	(2.7)
	Macao-China	3	(1.9)	**17**	(3.9)	**22**	(2.7)
	Malaysia	**-8**	(3.8)	0	(2.5)	2	(2.4)
	Montenegro	0	(2.4)	**15**	(3.5)	**18**	(3.0)
	Peru	**19**	(3.9)	**28**	(2.2)	**30**	(2.1)
	Qatar	**-16**	(1.4)	-6	(7.3)	-4	(6.7)
	Romania	4	(3.6)	**15**	(2.5)	**15**	(2.5)
	Russian Federation	-2	(3.0)	3	(2.7)	4	(2.6)
	Serbia	**9**	(3.9)	**24**	(2.8)	**27**	(2.7)
	Shanghai-China	6	(3.3)	**17**	(2.8)	**18**	(2.7)
	Singapore	-3	(2.5)	-1	(2.7)	-1	(2.7)
	Chinese Taipei	5	(8.9)	2	(2.9)	2	(2.9)
	Thailand	**-14**	(3.6)	3	(2.3)	4	(2.4)
	Tunisia	**15**	(2.7)	**25**	(1.9)	**26**	(1.9)
	United Arab Emirates	-5	(4.7)	4	(5.1)	6	(4.6)
	Uruguay	**11**	(3.1)	**21**	(2.0)	**25**	(1.9)
	Viet Nam	**10**	(3.0)	**25**	(2.2)	**25**	(2.2)

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. Programme level indicates whether the student is in on the lower (ISCED level 2) or upper (ISCED level 3) secondary programme. Programme designation indicates the destination of the study programme: A, B or C (see Annex A1).

* See notes at the beginning of this Annex.

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[Part 1/2]

Table I.2.27 Socio-economic indicators and the relationship with performance in mathematics

		Socio-economic indicators							
		Mean performance on the mathematics scale	GDP per capita *(in equivalent USD converted using PPPs)*[1]	Cumulative expenditure per student between 6 and 15 years *(in equivalent USD converted using PPPs)*[1]	Percentage of 35-44 year-olds with tertiary education[1]	Proportion of 15-year-olds with an immigrant background	Share of students in their own country whose PISA index of economic, social and cultural status is below -1	Size of the 15-year-old student population	Average index
OECD	Australia	504	40 801	98 025	41	22.2	6.8	288 159	0.22
	Austria	506	40 411	116 603	21	16.5	8.3	89 073	0.07
	Belgium	515	37 878	97 126	39	15.4	10.5	121 493	0.22
	Canada	518	40 136	80 397	58	29.6	5.6	409 453	0.27
	Chile	423	17 312	32 250	30	0.9	37.9	252 733	-0.74
	Czech Republic	499	25 364	54 519	18	3.1	9.1	93 214	-0.34
	Denmark	500	40 600	109 746	37	9.3	4.3	70 854	0.51
	Estonia	521	20 093	55 520	35	7.9	7.8	12 438	-0.20
	Finland	519	36 030	86 233	47	3.4	4.0	62 195	0.57
	France	495	34 395	83 582	36	15.0	11.8	755 447	0.01
	Germany	514	37 661	80 796	29	13.1	9.9	798 136	-0.01
	Greece	453	27 539	m	28	10.5	18.6	105 096	m
	Hungary	477	20 625	46 598	21	1.7	23.7	108 816	-0.57
	Iceland	493	35 509	93 986	39	3.5	1.9	4 491	0.51
	Ireland	501	41 000	93 117	43	10.7	9.2	57 979	0.42
	Israel	466	26 552	57 013	50	18.5	8.9	113 278	-0.05
	Italy	485	32 110	84 416	17	7.4	18.4	566 973	-0.29
	Japan	536	35 238	89 724	51	0.3	10.0	1 214 756	0.64
	Korea	554	28 829	69 037	49	0.0	9.5	672 101	0.40
	Luxembourg	490	84 672	197 598	40	47.0	18.7	6 082	0.83
	Mexico	413	15 195	23 913	15	1.3	56.0	1 472 875	-1.32
	Netherlands	523	41 682	95 072	34	10.8	5.9	193 190	0.33
	New Zealand	500	29 629	70 650	41	27.2	11.5	59 118	-0.28
	Norway	489	44 825	123 591	42	9.7	2.6	64 777	0.74
	Poland	518	20 034	57 644	24	0.2	19.2	410 700	-0.37
	Portugal	487	25 519	70 370	19	6.9	39.8	127 537	-0.72
	Slovak Republic	482	23 194	53 160	17	0.7	15.0	59 367	-0.42
	Slovenia	501	26 649	91 785	28	8.6	11.2	18 935	-0.06
	Spain	484	31 574	82 178	37	9.9	23.1	404 374	-0.07
	Sweden	478	39 251	95 831	39	15.1	5.7	102 027	0.30
	Switzerland	531	48 962	127 322	39	24.8	10.4	85 239	0.39
	Turkey	448	15 775	19 821	13	0.9	68.7	965 736	-1.53
	United Kingdom	494	35 299	98 023	43	12.9	5.6	745 581	0.36
	United States	481	46 548	115 961	45	21.4	13.4	4 074 457	0.40
	OECD average	494	33 732	83 382	34	11.4	15.4	429 020	0.00
Partners	Albania	394	8 631	m	m	0.3	m	50 157	m
	Argentina	388	15 868	m	m	3.8	41.2	637 603	m
	Brazil	391	12 537	26 765	12	0.6	58.8	2 786 064	-1.43
	Bulgaria	439	14 203	31 944	m	0.3	24.3	59 684	m
	Colombia	376	9 555	20 362	m	0.3	56.4	620 422	m
	Costa Rica	407	11 579	m	m	5.4	49.2	64 326	m
	Croatia	471	19 026	38 992	m	12.2	21.7	46 550	m
	Cyprus*	440	30 307	109 575	m	8.7	m	9 956	m
	Hong Kong-China	561	47 274	m	m	37.7	45.2	77 864	m
	Indonesia	375	4 638	m	m	0.2	76.7	3 599 844	m
	Jordan	386	5 752	7 125	m	13.5	27.9	125 333	m
	Kazakhstan	432	12 092	m	m	16.0	20.1	247 048	m
	Latvia	491	16 902	45 342	m	4.5	24.3	18 389	m
	Liechtenstein	535	m	m	m	37.2	9.4	383	m
	Lithuania	479	18 022	44 963	m	1.5	21.5	35 567	m
	Macao-China	538	60 397	m	m	67.4	48.6	5 416	m
	Malaysia	421	15 077	16 816	m	1.7	40.5	457 999	m
	Montenegro	410	13 147	23 913	m	5.9	21.4	8 600	m
	Peru	368	9 350	12 431	m	0.5	59.9	508 969	m
	Qatar	376	77 265	m	m	52.7	7.0	11 532	m
	Romania	445	14 531	m	m	0.1	26.0	146 243	m
	Russian Federation	482	19 811	m	55	10.6	12.3	1 268 814	m
	Serbia	449	11 421	m	m	8.5	24.0	75 870	m
	Shanghai-China	613	18 805	49 006	m	0.9	27.2	90 796	m
	Singapore	573	57 799	85 284	m	18.7	21.3	52 163	m
	Chinese Taipei	560	29 255	m	m	0.5	24.7	328 336	m
	Thailand	427	9 748	13 964	m	0.7	64.4	784 897	m
	Tunisia	388	9 410	21 504	m	0.4	54.4	132 313	m
	United Arab Emirates	434	46 916	m	m	55.3	7.3	48 446	m
	Uruguay	409	14 004	19 068	m	0.4	50.4	46 442	m
	Viet Nam	511	4 098	6 969	m	0.1	78.9	1 091 462	m

1. OECD, *Education at a Glance 2013: OECD Indicators*.
* See notes at the beginning of this Annex.

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[Part 2/2]

Table I.2.27 Socio-economic indicators and the relationship with performance in mathematics

		Adjusted performance on the mathematics scale					
		Mathematical performance adjusted by GPD per capita	Mathematical performance adjusted by cumulative expenditure per student between 6 and 15 years	Mathematical performance adjusted by GDP per capita and the percentage of 35-44 year-olds with tertiary education	Mathematical performance adjusted by the proportion of 15-year-olds with an immigrant background	Mathematical performance adjusted by the share of students in their own country whose PISA index of economic, social and cultural status is below -1	Mathematical performance adjusted by the size of the 15-year-old student population
OECD	Australia	499	499	496	500	493	503
	Austria	500	494	521	503	496	504
	Belgium	511	510	508	513	508	513
	Canada	513	519	489	511	505	518
	Chile	436	440	428	427	453	422
	Czech Republic	506	509	519	502	491	497
	Denmark	495	491	496	501	485	498
	Estonia	531	530	520	522	510	518
	Finland	517	518	504	522	504	517
	France	494	495	493	493	490	497
	Germany	510	514	520	513	506	516
	Greece	458	m	461	453	457	451
	Hungary	487	490	493	481	488	475
	Iceland	491	489	487	496	475	490
	Ireland	496	498	490	502	493	499
	Israel	472	476	448	464	458	465
	Italy	487	485	507	487	489	486
	Japan	535	534	516	541	529	541
	Korea	558	559	535	558	546	555
	Luxembourg	450	450	483	475	494	487
	Mexico	428	434	436	417	468	419
	Netherlands	517	519	523	523	510	522
	New Zealand	503	504	492	493	495	498
	Norway	481	475	481	490	472	487
	Poland	528	526	530	522	523	517
	Portugal	494	492	506	489	520	485
	Slovak Republic	490	492	502	486	481	479
	Slovenia	507	498	509	502	495	499
	Spain	486	485	481	485	495	484
	Sweden	474	474	473	477	465	476
	Switzerland	519	516	525	525	524	529
	Turkey	462	470	473	452	520	451
	United Kingdom	493	489	484	493	481	496
	United States	471	470	469	477	479	503
	OECD average	494	494	494	494	494	494
Partners	Albania	414	m	m	399	m	392
	Argentina	403	m	m	392	423	390
	Brazil	408	411	419	396	450	406
	Bulgaria	454	457	m	443	451	437
	Colombia	396	398	m	381	431	378
	Costa Rica	424	m	m	409	452	405
	Croatia	483	487	m	471	480	469
	Cyprus*	442	431	m	441	m	437
	Hong Kong-China	551	m	m	550	601	559
	Indonesia	398	m	m	380	457	394
	Jordan	408	412	m	385	402	384
	Kazakhstan	449	m	m	430	438	431
	Latvia	504	504	m	493	502	488
	Liechtenstein	m	m	m	524	527	532
	Lithuania	491	492	m	483	487	476
	Macao-China	517	m	m	515	583	536
	Malaysia	435	444	m	425	454	421
	Montenegro	426	430	m	412	418	407
	Peru	387	393	m	373	428	369
	Qatar	342	m	m	359	365	374
	Romania	460	m	m	449	459	443
	Russian Federation	493	m	457	482	478	487
	Serbia	466	m	m	450	460	447
	Shanghai-China	624	625	m	617	629	611
	Singapore	555	573	m	570	581	571
	Chinese Taipei	563	m	m	564	572	559
	Thailand	446	451	m	431	492	429
	Tunisia	407	409	m	392	440	386
	United Arab Emirates	424	m	m	416	423	432
	Uruguay	425	432	m	414	456	407
	Viet Nam	535	538	m	516	597	515

1. OECD, *Education at a Glance 2013: OECD Indicators*.
* See notes at the beginning of this Annex.

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[Part 1/1]

Table I.2.28 **Country rankings on preferred questions**

		PISA 2009 initial report reading performance rank	Percent-correct rank based on all PISA 2009 items	Rank on own preferred new PISA 2009 items and link items from previous cycles	Percent-correct rank based on new PISA 2009 items	Rank on own preferred new PISA 2009 items
OECD	Australia	8	8	7	7	8
	Austria	33	35	26	26	36
	Belgium	10	10	16	16	10
	Canada	5	5	5	5	5
	Chile	38	30	25	25	24
	Czech Republic	29	31	30	30	33
	Denmark	m	m	m	m	m
	Estonia	12	14	12	12	16
	Finland	3	3	2	2	3
	France	19	20	17	17	18
	Germany	17	15	10	10	19
	Greece	27	29	32	32	29
	Hungary	22	21	23	23	21
	Iceland	m	m	m	m	m
	Ireland	18	16	19	19	12
	Israel	31	33	31	31	32
	Italy	25	25	27	27	27
	Japan	7	7	6	6	6
	Korea	2	2	3	3	2
	Luxembourg	32	34	35	35	34
	Mexico	41	40	39	39	41
	Netherlands	9	9	11	11	9
	New Zealand	6	6	8	8	7
	Norway	11	12	13	13	11
	Poland	14	11	21	21	13
	Portugal	23	23	20	20	26
	Slovak Republic	m	m	m	m	m
	Slovenia	26	27	28	28	30
	Spain	28	28	34	34	28
	Sweden	16	18	18	18	23
	Switzerland	13	13	14	14	14
	Turkey	35	37	36	36	38
	United Kingdom	21	22	15	15	22
	United States	15	17	9	9	17
Partners	Albania	51	49	48	48	48
	Argentina	m	m	m	m	m
	Azerbaijan	m	m	m	m	m
	Brazil	45	45	44	44	44
	Bulgaria	39	39	42	42	35
	Colombia	44	44	45	45	45
	Croatia	30	32	33	33	31
	Dubai (UAE)	36	26	29	29	15
	Hong Kong-China	4	4	4	4	4
	Indonesia	49	54	50	50	54
	Jordan	47	46	46	46	46
	Kazakhstan	50	48	49	49	49
	Kyrgyzstan	55	55	55	55	55
	Latvia	m	m	m	m	m
	Liechtenstein	m	m	m	m	m
	Lithuania	34	36	38	38	37
	Macao-China	24	24	24	24	25
	Montenegro	46	50	51	51	51
	Panama	53	53	54	54	52
	Peru	54	52	52	52	53
	Qatar	52	51	53	53	50
	Romania	42	42	40	40	39
	Russian Federation	37	38	37	37	43
	Serbia	m	m	m	m	m
	Shanghai-China	1	1	1	1	1
	Singapore	m	m	m	m	m
	Chinese Taipei	20	19	22	22	20
	Thailand	m	m	m	m	m
	Trinidad and Tobago	43	43	43	43	42
	Tunisia	48	47	47	47	47
	Uruguay	40	41	41	41	40

Source: OECD, PISA 2009 Database.

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[Part 1/1]

Table I.2.29 Top performers in mathematics, reading and science

		15-year-old students who are:																Percentage of top performers in mathematics who are also top performers in reading and science	
		not top performers in any of the three domains		top performers only in mathematics		top performers only in reading		top performers only in science		top performers in mathematics and reading but not in science		top performers in mathematics and science but not in reading		top performers in reading and science but not in mathematics		top performers in all three domains			
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	80.3	(0.7)	3.3	(0.3)	1.8	(0.2)	1.9	(0.2)	1.1	(0.1)	2.8	(0.3)	1.2	(0.1)	7.6	(0.4)	51.4	(1.8)
	Austria	83.8	(1.0)	6.5	(0.7)	0.8	(0.2)	0.7	(0.2)	1.1	(0.3)	3.5	(0.5)	0.4	(0.1)	3.2	(0.5)	22.4	(3.1)
	Belgium	77.7	(0.7)	7.9	(0.5)	2.1	(0.3)	0.4	(0.1)	3.3	(0.3)	2.2	(0.2)	0.3	(0.1)	6.1	(0.4)	31.4	(1.8)
	Canada	78.1	(0.8)	5.4	(0.3)	2.9	(0.2)	1.4	(0.2)	2.3	(0.3)	2.2	(0.2)	1.2	(0.2)	6.5	(0.4)	39.7	(1.8)
	Chile	97.8	(0.3)	0.9	(0.2)	0.2	(0.1)	0.3	(0.1)	0.1	(0.1)	0.4	(0.1)	0.1	(0.0)	0.2	(0.1)	13.6	(3.4)
	Czech Republic	84.8	(0.8)	5.3	(0.6)	1.0	(0.2)	1.0	(0.2)	1.3	(0.2)	2.9	(0.4)	0.3	(0.1)	3.4	(0.4)	26.7	(2.8)
	Denmark	87.5	(0.8)	3.8	(0.4)	1.1	(0.2)	1.1	(0.3)	0.9	(0.2)	2.2	(0.3)	0.4	(0.1)	3.1	(0.4)	31.1	(3.4)
	Estonia	80.8	(0.9)	4.2	(0.4)	1.2	(0.2)	2.6	(0.4)	1.0	(0.3)	4.1	(0.5)	0.8	(0.2)	5.3	(0.6)	36.5	(3.0)
	Finland	76.0	(0.8)	3.1	(0.3)	2.9	(0.5)	3.5	(0.4)	0.9	(0.1)	3.9	(0.4)	2.3	(0.3)	7.4	(0.4)	48.3	(1.9)
	France	81.3	(0.9)	3.7	(0.4)	4.3	(0.5)	0.7	(0.2)	2.8	(0.4)	1.5	(0.2)	0.8	(0.2)	5.0	(0.5)	38.4	(3.0)
	Germany	79.5	(1.0)	5.7	(0.6)	1.1	(0.2)	1.4	(0.2)	1.4	(0.2)	4.4	(0.5)	0.4	(0.2)	5.9	(0.5)	34.0	(2.3)
	Greece	92.2	(0.7)	1.6	(0.2)	3.0	(0.4)	0.6	(0.2)	0.7	(0.2)	0.5	(0.1)	0.4	(0.1)	1.0	(0.2)	26.3	(4.9)
	Hungary	88.4	(1.1)	3.2	(0.4)	1.5	(0.3)	0.6	(0.2)	1.0	(0.3)	2.1	(0.4)	0.3	(0.1)	2.9	(0.6)	31.1	(4.3)
	Iceland	86.7	(0.9)	4.9	(0.5)	1.4	(0.3)	0.6	(0.2)	1.8	(0.3)	2.0	(0.3)	0.2	(0.1)	2.4	(0.3)	21.7	(2.6)
	Ireland	83.1	(0.7)	2.0	(0.3)	3.0	(0.3)	1.7	(0.2)	1.1	(0.2)	1.8	(0.3)	1.5	(0.3)	5.7	(0.4)	53.9	(2.5)
	Israel	85.8	(1.2)	2.9	(0.4)	3.8	(0.4)	0.5	(0.1)	1.8	(0.4)	1.2	(0.2)	0.6	(0.2)	3.5	(0.5)	37.7	(3.4)
	Italy	86.6	(0.6)	3.8	(0.3)	2.0	(0.2)	1.0	(0.1)	1.4	(0.2)	1.9	(0.2)	0.5	(0.1)	2.8	(0.2)	27.9	(1.6)
	Japan	70.0	(1.5)	6.0	(0.6)	3.1	(0.3)	1.9	(0.2)	2.8	(0.3)	3.7	(0.4)	1.4	(0.3)	11.3	(1.0)	47.7	(2.3)
	Korea	67.8	(1.8)	14.7	(0.9)	0.9	(0.2)	0.3	(0.1)	5.0	(0.5)	3.1	(0.4)	0.1	(0.1)	8.1	(0.9)	26.3	(2.1)
	Luxembourg	84.2	(0.5)	3.6	(0.3)	2.5	(0.3)	1.3	(0.3)	1.5	(0.2)	1.9	(0.3)	0.8	(0.2)	4.2	(0.4)	37.2	(2.9)
	Mexico	99.1	(0.1)	0.4	(0.1)	0.2	(0.1)	0.0	(0.0)	0.1	(0.0)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	7.5	(3.5)
	Netherlands	77.6	(1.3)	7.4	(0.6)	1.4	(0.3)	1.3	(0.3)	1.8	(0.3)	4.0	(0.6)	0.5	(0.1)	6.0	(0.6)	31.1	(2.6)
	New Zealand	79.0	(0.9)	3.1	(0.4)	2.9	(0.3)	1.6	(0.4)	1.6	(0.3)	2.3	(0.3)	1.4	(0.3)	8.0	(0.6)	53.5	(2.7)
	Norway	85.1	(0.8)	2.3	(0.3)	3.6	(0.4)	1.1	(0.2)	1.5	(0.3)	1.3	(0.2)	0.8	(0.2)	4.3	(0.4)	46.2	(3.1)
	Poland	79.8	(1.4)	6.1	(0.5)	1.6	(0.3)	1.1	(0.3)	1.6	(0.4)	2.9	(0.4)	0.6	(0.2)	6.1	(0.7)	36.7	(2.5)
	Portugal	87.1	(0.9)	5.0	(0.5)	1.7	(0.3)	0.4	(0.2)	1.7	(0.3)	1.7	(0.2)	0.2	(0.1)	2.3	(0.4)	21.5	(3.3)
	Slovak Republic	87.9	(1.0)	5.4	(0.6)	0.8	(0.2)	0.3	(0.1)	1.0	(0.2)	2.1	(0.3)	0.1	(0.1)	2.4	(0.5)	22.1	(4.3)
	Slovenia	84.0	(0.6)	5.5	(0.5)	0.6	(0.2)	1.2	(0.3)	0.4	(0.2)	4.3	(0.5)	0.5	(0.2)	3.5	(0.4)	25.8	(3.0)
	Spain	88.8	(0.4)	3.3	(0.3)	1.9	(0.2)	0.9	(0.1)	1.2	(0.1)	1.5	(0.1)	0.4	(0.1)	2.1	(0.2)	26.0	(2.4)
	Sweden	87.6	(0.8)	2.3	(0.4)	2.5	(0.4)	0.9	(0.2)	1.2	(0.2)	1.3	(0.3)	0.9	(0.2)	3.2	(0.3)	40.3	(3.5)
	Switzerland	77.0	(1.2)	10.0	(0.6)	0.9	(0.1)	0.6	(0.2)	2.8	(0.3)	3.3	(0.5)	0.1	(0.1)	5.3	(0.5)	24.6	(1.9)
	Turkey	92.1	(1.4)	2.9	(0.6)	1.7	(0.3)	0.2	(0.1)	1.5	(0.4)	0.5	(0.2)	0.2	(0.1)	1.0	(0.3)	16.3	(4.1)
	United Kingdom	84.0	(0.9)	2.6	(0.3)	1.3	(0.2)	2.0	(0.3)	1.0	(0.2)	2.6	(0.4)	0.9	(0.2)	5.7	(0.6)	47.8	(3.4)
	United States	88.0	(0.9)	2.0	(0.3)	1.7	(0.3)	0.8	(0.2)	0.8	(0.3)	1.3	(0.3)	0.7	(0.2)	4.7	(0.5)	53.2	(3.2)
	OECD total	84.8	(0.3)	3.8	(0.1)	1.8	(0.1)	0.9	(0.1)	1.5	(0.1)	1.9	(0.1)	0.6	(0.1)	4.7	(0.2)	39.7	(0.8)
	OECD average	83.8	(0.2)	4.4	(0.1)	1.9	(0.0)	1.1	(0.0)	1.5	(0.0)	2.3	(0.1)	0.6	(0.0)	4.4	(0.1)	33.4	(0.5)
Partners	Albania	98.1	(0.3)	0.5	(0.2)	0.9	(0.2)	0.2	(0.1)	0.1	(0.1)	0.1	(0.1)	0.1	(0.0)	0.1	(0.0)	10.0	(6.8)
	Argentina	99.2	(0.2)	0.1	(0.1)	0.4	(0.1)	0.1	(0.1)	0.0	(0.0)	0.0	(0.0)	0.1	(0.0)	0.0	(0.0)	18.1	(17.5)
	Brazil	98.8	(0.2)	0.4	(0.1)	0.3	(0.1)	0.1	(0.0)	0.1	(0.1)	0.1	(0.0)	0.0	(0.0)	0.1	(0.1)	13.6	(7.5)
	Bulgaria	92.9	(0.9)	1.5	(0.3)	1.8	(0.3)	0.7	(0.3)	0.7	(0.2)	0.6	(0.2)	0.5	(0.2)	1.3	(0.3)	32.5	(4.7)
	Colombia	99.4	(0.2)	0.2	(0.1)	0.2	(0.1)	0.1	(0.1)	0.1	(0.0)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	14.3	(8.9)
	Costa Rica	99.0	(0.3)	0.3	(0.1)	0.3	(0.1)	0.1	(0.1)	0.1	(0.1)	0.1	(0.1)	0.0	c	0.1	(0.1)	16.6	(9.6)
	Croatia	90.6	(1.2)	2.8	(0.5)	1.2	(0.3)	0.9	(0.2)	0.9	(0.3)	1.3	(0.3)	0.3	(0.1)	2.0	(0.5)	29.2	(4.7)
	Cyprus*	93.8	(0.4)	1.5	(0.2)	2.1	(0.2)	0.3	(0.1)	0.7	(0.2)	0.5	(0.1)	0.2	(0.1)	1.0	(0.2)	26.0	(4.2)
	Hong Kong-China	63.7	(1.4)	14.2	(0.8)	1.4	(0.2)	0.8	(0.2)	4.1	(0.5)	4.6	(0.6)	0.4	(0.1)	10.9	(0.9)	32.3	(2.2)
	Indonesia	99.7	(0.2)	0.2	(0.2)	0.0	(0.1)	0.0	c	0.0	(0.0)	0.0	c	0.0	c	0.0	c	0.0	c
	Jordan	99.3	(0.5)	0.4	(0.3)	0.1	(0.1)	0.1	(0.0)	0.0	(0.1)	0.1	(0.1)	0.0	c	0.0	c	0.0	c
	Kazakhstan	98.9	(0.3)	0.8	(0.3)	0.0	c	0.1	(0.1)	0.0	c	0.1	(0.1)	0.0	c	0.0	c	0.0	c
	Latvia	89.8	(0.9)	3.7	(0.4)	1.3	(0.3)	0.7	(0.2)	0.9	(0.2)	1.6	(0.3)	0.2	(0.1)	1.8	(0.3)	22.4	(3.6)
	Liechtenstein	73.5	(2.4)	11.5	(2.4)	1.2	(0.9)	0.5	c	3.7	(1.5)	3.9	(1.2)	0.0	c	5.7	(1.9)	23.2	(8.1)
	Lithuania	89.9	(0.7)	3.7	(0.4)	0.6	(0.1)	1.1	(0.2)	0.7	(0.2)	2.0	(0.3)	0.3	(0.1)	1.7	(0.3)	21.4	(3.3)
	Macao-China	74.7	(0.6)	15.3	(0.5)	0.6	(0.2)	0.3	(0.1)	2.6	(0.3)	2.7	(0.3)	0.1	(0.0)	3.7	(0.3)	15.1	(1.3)
	Malaysia	98.5	(0.3)	1.1	(0.3)	0.1	c	0.1	(0.0)	0.0	c	0.2	(0.1)	0.0	c	0.0	c	0.0	c
	Montenegro	98.2	(0.2)	0.6	(0.1)	0.6	(0.2)	0.1	(0.1)	0.2	(0.1)	0.1	(0.1)	0.0	c	0.1	(0.1)	12.8	(7.1)
	Peru	99.2	(0.3)	0.3	(0.1)	0.2	(0.1)	0.0	c	0.2	(0.1)	0.0	c	0.0	c	0.0	c	0.0	c
	Qatar	96.9	(0.2)	0.7	(0.1)	0.6	(0.1)	0.4	(0.1)	0.3	(0.1)	0.4	(0.1)	0.1	(0.1)	0.6	(0.1)	29.1	(3.9)
	Romania	96.0	(0.7)	1.9	(0.4)	0.7	(0.2)	0.1	(0.1)	0.5	(0.2)	0.4	(0.2)	0.0	c	0.4	(0.2)	13.1	(3.8)
	Russian Federation	89.8	(0.9)	3.7	(0.5)	1.3	(0.3)	0.7	(0.2)	1.0	(0.2)	1.1	(0.2)	0.4	(0.1)	2.0	(0.3)	26.0	(3.2)
	Serbia	94.5	(0.8)	2.5	(0.4)	0.7	(0.2)	0.2	(0.1)	0.7	(0.2)	0.7	(0.2)	0.1	(0.0)	0.8	(0.2)	17.2	(2.8)
	Shanghai-China	44.0	(1.4)	23.3	(1.0)	0.3	(0.1)	0.3	(0.1)	5.2	(0.5)	7.3	(0.6)	0.0	(0.0)	19.6	(1.2)	35.3	(1.7)
	Singapore	58.5	(0.7)	14.2	(0.6)	0.8	(0.2)	0.4	(0.1)	3.8	(0.4)	5.7	(0.5)	0.2	(0.1)	16.4	(0.6)	41.0	(1.3)
	Chinese Taipei	62.5	(1.2)	23.5	(0.9)	0.3	(0.1)	0.0	c	5.4	(0.5)	2.2	(0.3)	0.0	c	6.1	(0.5)	16.5	(1.3)
	Thailand	97.1	(0.6)	1.5	(0.3)	0.2	(0.1)	0.1	(0.1)	0.3	(0.1)	0.4	(0.2)	0.0	(0.0)	0.3	(0.1)	13.3	(4.2)
	Tunisia	99.0	(0.4)	0.7	(0.3)	0.1	(0.1)	0.0	(0.0)	0.1	(0.1)	0.0	(0.0)	0.0	c	0.0	c	0.0	c
	United Arab Emirates	95.1	(0.4)	1.4	(0.2)	0.6	(0.1)	0.5	(0.1)	0.3	(0.1)	0.7	(0.2)	0.3	(0.1)	1.1	(0.2)	30.5	(4.3)
	Uruguay	97.7	(0.4)	0.7	(0.2)	0.4	(0.2)	0.4	(0.1)	0.2	(0.1)	0.3	(0.1)	0.1	(0.1)	0.2	(0.1)	16.9	(5.6)
	Viet Nam	84.5	(1.6)	5.7	(0.7)	0.8	(0.2)	1.3	(0.3)	0.9	(0.2)	3.9	(0.5)	0.2	(0.1)	2.7	(0.6)	20.6	(3.1)

* See notes at the beginning of this Annex.

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[Part 1/2]

Table I.2.30 Top performers in mathematics, reading and science, by gender

		Boys who are:																Percentage of boys who are top performers in mathematics and are also top performers in reading and science	
		not top performers in any of the three domains		top performers only in mathematics		top performers only in reading		top performers only in science		top performers in mathematics and reading but not in science		top performers in mathematics and science but not in reading		top performers in reading and science but not in mathematics		top performers in all three domains			
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	79.7	(1.0)	4.5	(0.4)	0.4	(0.1)	2.3	(0.3)	0.6	(0.1)	4.4	(0.4)	0.6	(0.1)	7.5	(0.7)	44.2	(2.5)
	Austria	81.1	(1.5)	8.7	(1.0)	0.1	(0.1)	0.7	(0.2)	0.4	(0.1)	5.7	(0.8)	0.1	(0.1)	3.2	(0.6)	17.6	(2.4)
	Belgium	76.5	(1.0)	10.3	(0.8)	0.7	(0.2)	0.4	(0.1)	2.0	(0.4)	3.6	(0.4)	0.1	(0.1)	6.4	(0.5)	28.5	(2.0)
	Canada	77.7	(0.9)	7.4	(0.5)	0.9	(0.2)	1.7	(0.3)	1.5	(0.3)	3.5	(0.4)	0.7	(0.2)	6.7	(0.5)	35.1	(2.0)
	Chile	97.2	(0.4)	1.4	(0.3)	0.1	(0.1)	0.4	(0.1)	0.1	(0.1)	0.6	(0.2)	0.0	(0.0)	0.2	(0.1)	10.1	(3.1)
	Czech Republic	84.3	(1.2)	6.9	(1.0)	0.2	(0.1)	1.1	(0.3)	0.6	(0.2)	4.0	(0.5)	0.1	(0.1)	2.8	(0.5)	19.6	(3.5)
	Denmark	86.7	(1.1)	4.6	(0.6)	0.2	(0.2)	1.4	(0.4)	0.4	(0.2)	3.6	(0.5)	0.2	(0.1)	2.9	(0.5)	24.9	(3.9)
	Estonia	80.6	(1.0)	5.6	(0.6)	0.2	(0.2)	2.8	(0.5)	0.3	(0.2)	6.3	(0.7)	0.2	(0.1)	4.1	(0.7)	25.3	(3.7)
	Finland	79.0	(1.1)	4.2	(0.5)	0.4	(0.1)	3.7	(0.5)	0.4	(0.2)	5.9	(0.6)	0.6	(0.2)	5.8	(0.6)	35.4	(2.6)
	France	82.0	(1.2)	5.6	(0.6)	1.4	(0.3)	0.9	(0.3)	2.2	(0.4)	2.3	(0.4)	0.4	(0.2)	5.2	(0.7)	33.9	(3.2)
	Germany	78.4	(1.3)	8.2	(0.8)	0.1	c	1.5	(0.3)	0.5	(0.2)	6.7	(0.9)	0.0	c	4.6	(0.6)	22.9	(2.5)
	Greece	92.9	(0.7)	2.3	(0.4)	1.3	(0.3)	0.4	(0.2)	0.8	(0.3)	0.8	(0.2)	0.2	(0.1)	1.2	(0.4)	22.9	(6.1)
	Hungary	87.8	(1.3)	4.4	(0.6)	0.2	(0.1)	0.7	(0.2)	0.5	(0.2)	3.4	(0.6)	0.1	(0.1)	2.9	(0.7)	25.5	(4.5)
	Iceland	87.4	(1.0)	5.6	(0.8)	0.2	(0.2)	0.8	(0.4)	0.9	(0.3)	2.9	(0.5)	0.1	c	2.1	(0.4)	18.2	(3.0)
	Ireland	83.4	(0.9)	3.0	(0.5)	1.1	(0.3)	2.1	(0.4)	0.9	(0.4)	3.0	(0.5)	0.8	(0.2)	5.8	(0.6)	45.7	(3.2)
	Israel	83.9	(2.0)	4.7	(0.8)	1.8	(0.5)	0.7	(0.2)	2.0	(0.5)	2.0	(0.4)	0.4	(0.2)	4.5	(0.9)	34.0	(4.3)
	Italy	85.0	(0.8)	5.8	(0.5)	0.6	(0.1)	1.2	(0.1)	1.3	(0.2)	3.0	(0.3)	0.2	(0.1)	2.9	(0.3)	22.4	(2.2)
	Japan	67.8	(2.0)	7.7	(0.8)	1.2	(0.3)	2.4	(0.4)	2.0	(0.4)	5.7	(0.6)	0.8	(0.3)	12.5	(1.3)	44.8	(3.0)
	Korea	64.2	(2.4)	18.5	(1.3)	0.3	(0.1)	0.2	(0.1)	3.8	(0.7)	4.5	(0.6)	0.0	c	8.5	(1.3)	24.0	(2.7)
	Luxembourg	83.1	(0.9)	5.0	(0.6)	0.8	(0.2)	1.6	(0.4)	1.1	(0.2)	3.2	(0.4)	0.5	(0.2)	4.7	(0.5)	33.7	(2.9)
	Mexico	98.9	(0.1)	0.7	(0.1)	0.1	(0.1)	0.0	(0.0)	0.1	(0.1)	0.1	(0.1)	0.0	c	0.1	(0.1)	8.0	(4.6)
	Netherlands	76.4	(1.5)	9.1	(0.9)	0.7	(0.3)	1.2	(0.4)	1.2	(0.4)	5.9	(0.9)	0.2	(0.2)	5.3	(0.7)	24.5	(2.8)
	New Zealand	78.4	(1.2)	4.8	(0.7)	1.0	(0.3)	2.0	(0.6)	1.1	(0.3)	3.8	(0.5)	0.7	(0.3)	8.2	(0.7)	45.9	(3.3)
	Norway	86.8	(1.0)	3.1	(0.5)	1.3	(0.3)	1.5	(0.4)	0.9	(0.3)	2.0	(0.4)	0.5	(0.2)	3.9	(0.5)	39.2	(4.0)
	Poland	79.9	(1.7)	7.2	(0.7)	0.4	(0.2)	1.3	(0.3)	1.0	(0.4)	4.4	(0.7)	0.2	(0.2)	5.5	(0.9)	30.4	(3.4)
	Portugal	86.6	(1.1)	6.7	(0.8)	0.3	(0.2)	0.4	(0.2)	1.2	(0.4)	2.5	(0.5)	0.0	c	2.2	(0.6)	17.6	(4.4)
	Slovak Republic	85.9	(1.3)	7.2	(0.8)	0.1	(0.1)	0.4	(0.2)	0.5	(0.2)	3.4	(0.6)	0.0	c	2.6	(0.6)	19.0	(4.2)
	Slovenia	83.6	(0.9)	6.6	(1.0)	0.0	c	1.5	(0.3)	0.1	(0.1)	6.1	(0.8)	0.1	c	2.1	(0.4)	14.0	(3.1)
	Spain	87.1	(0.7)	4.9	(0.6)	0.8	(0.2)	1.2	(0.2)	1.2	(0.2)	2.3	(0.3)	0.2	(0.1)	2.3	(0.3)	21.5	(2.7)
	Sweden	88.6	(0.9)	2.9	(0.7)	0.8	(0.3)	1.1	(0.3)	0.8	(0.2)	2.0	(0.5)	0.6	(0.2)	3.1	(0.5)	35.7	(4.8)
	Switzerland	75.1	(1.5)	12.8	(1.1)	0.2	(0.1)	0.7	(0.3)	1.2	(0.3)	5.0	(0.8)	0.1	c	4.9	(0.6)	20.5	(2.0)
	Turkey	92.2	(1.4)	4.3	(0.9)	0.5	(0.2)	0.2	(0.1)	1.1	(0.4)	0.8	(0.2)	0.1	(0.1)	0.9	(0.3)	13.0	(3.9)
	United Kingdom	83.1	(1.5)	3.4	(0.5)	0.3	(0.1)	2.8	(0.6)	0.6	(0.2)	4.3	(0.7)	0.4	(0.2)	5.1	(0.7)	38.1	(4.0)
	United States	88.1	(1.0)	2.6	(0.4)	0.7	(0.2)	1.1	(0.3)	0.5	(0.2)	2.0	(0.4)	0.4	(0.2)	4.6	(0.6)	48.1	(4.4)
	OECD total	84.1	(0.4)	5.1	(0.2)	0.6	(0.1)	1.2	(0.1)	1.0	(0.1)	2.9	(0.2)	0.3	(0.1)	4.7	(0.2)	34.3	(1.1)
	OECD average	83.2	(0.2)	5.9	(0.1)	0.6	(0.0)	1.3	(0.1)	1.0	(0.1)	3.5	(0.1)	0.3	(0.0)	4.3	(0.1)	27.8	(0.6)
Partners	Albania	98.1	(0.4)	0.5	(0.2)	0.8	(0.3)	0.2	(0.1)	0.2	(0.1)	0.1	(0.1)	0.1	(0.1)	0.1	c	0.0	c
	Argentina	99.3	(0.2)	0.2	(0.1)	0.2	(0.1)	0.1	(0.1)	0.1	(0.1)	0.1	(0.1)	0.0	c	0.1	(0.1)	17.7	(22.6)
	Brazil	98.6	(0.3)	0.7	(0.2)	0.2	(0.1)	0.1	(0.1)	0.1	(0.1)	0.1	(0.1)	0.0	c	0.1	(0.1)	9.8	(6.4)
	Bulgaria	94.1	(0.9)	2.1	(0.4)	0.5	(0.2)	0.6	(0.3)	0.5	(0.2)	0.8	(0.3)	0.2	(0.1)	1.1	(0.3)	23.7	(4.3)
	Colombia	99.2	(0.3)	0.3	(0.2)	0.2	(0.2)	0.1	(0.1)	0.1	(0.0)	0.1	(0.1)	0.0	c	0.1	(0.0)	11.2	(9.4)
	Costa Rica	98.7	(0.4)	0.4	(0.3)	0.2	(0.1)	0.1	(0.1)	0.2	(0.2)	0.1	(0.1)	0.0	c	0.2	(0.1)	19.4	(12.2)
	Croatia	90.0	(1.4)	4.0	(0.8)	0.2	(0.1)	1.0	(0.3)	0.5	(0.2)	2.3	(0.4)	0.1	(0.1)	1.9	(0.5)	22.4	(4.4)
	Cyprus*	93.8	(0.6)	2.4	(0.4)	0.6	(0.2)	0.3	(0.2)	0.7	(0.2)	0.9	(0.3)	0.1	(0.1)	1.2	(0.2)	22.7	(4.1)
	Hong Kong-China	60.8	(2.0)	17.7	(1.3)	0.3	(0.1)	0.8	(0.3)	2.3	(0.5)	6.8	(0.8)	0.2	(0.1)	11.1	(1.2)	29.3	(2.6)
	Indonesia	99.7	(0.2)	0.3	(0.2)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Jordan	99.0	(0.9)	0.7	(0.6)	0.1	c	0.1	(0.1)	0.0	c	0.2	(0.2)	0.0	c	0.0	c	0.0	c
	Kazakhstan	98.8	(0.4)	1.0	(0.3)	0.0	c	0.1	(0.1)	0.0	c	0.1	(0.1)	0.0	c	0.0	c	0.0	c
	Latvia	90.1	(1.0)	4.9	(0.6)	0.2	(0.1)	0.9	(0.3)	0.4	(0.2)	2.1	(0.6)	0.1	(0.1)	1.3	(0.3)	14.5	(3.1)
	Liechtenstein	72.2	(3.3)	13.3	(2.5)	0.5	c	0.0	c	1.4	(1.3)	6.0	(2.5)	0.0	c	6.6	(3.1)	23.9	(9.9)
	Lithuania	89.2	(0.7)	5.1	(0.7)	0.1	c	1.1	(0.3)	0.3	(0.2)	3.0	(0.5)	0.0	c	1.2	(0.3)	12.5	(2.7)
	Macao-China	73.4	(0.9)	17.7	(0.8)	0.2	(0.1)	0.3	(0.1)	1.3	(0.4)	3.9	(0.4)	0.0	c	3.2	(0.5)	12.3	(1.8)
	Malaysia	98.5	(0.4)	1.1	(0.3)	0.1	c	0.1	(0.1)	0.0	c	0.3	(0.1)	0.0	c	0.0	c	0.0	c
	Montenegro	98.5	(0.4)	0.8	(0.3)	0.1	(0.1)	0.0	c	0.2	(0.1)	0.2	(0.2)	0.1	c	0.1	(0.1)	7.9	(8.2)
	Peru	99.2	(0.3)	0.5	(0.2)	0.1	(0.1)	0.0	c	0.2	(0.2)	0.0	c	0.0	c	0.0	c	0.0	c
	Qatar	97.1	(0.3)	1.0	(0.2)	0.2	(0.1)	0.4	(0.1)	0.3	(0.2)	0.5	(0.2)	0.1	(0.0)	0.4	(0.1)	19.6	(4.3)
	Romania	95.9	(0.9)	2.2	(0.5)	0.3	(0.2)	0.1	(0.1)	0.3	(0.2)	0.6	(0.3)	0.0	c	0.6	(0.3)	14.9	(6.3)
	Russian Federation	90.5	(1.1)	4.2	(0.9)	0.5	(0.2)	0.9	(0.3)	0.5	(0.2)	1.5	(0.3)	0.3	(0.1)	1.7	(0.4)	21.5	(4.1)
	Serbia	93.9	(0.8)	3.6	(0.6)	0.2	(0.1)	0.1	(0.1)	0.5	(0.2)	1.0	(0.3)	0.0	c	0.7	(0.2)	12.3	(3.9)
	Shanghai-China	42.9	(1.8)	25.4	(1.4)	0.0	(0.1)	0.3	(0.2)	2.2	(0.5)	10.9	(0.9)	0.0	c	18.2	(1.3)	32.2	(1.9)
	Singapore	58.7	(0.9)	15.5	(0.9)	0.3	(0.1)	0.6	(0.2)	1.8	(0.3)	8.1	(0.9)	0.1	(0.1)	15.0	(0.8)	37.1	(1.8)
	Chinese Taipei	59.9	(1.9)	28.0	(1.5)	0.1	(0.1)	0.0	c	2.9	(0.5)	3.3	(0.7)	0.0	c	5.8	(0.9)	14.5	(2.0)
	Thailand	97.6	(0.6)	1.5	(0.4)	0.0	(0.1)	0.1	(0.1)	0.1	(0.1)	0.5	(0.2)	0.0	c	0.2	(0.1)	7.3	(4.3)
	Tunisia	98.7	(0.5)	1.0	(0.4)	0.2	c	0.0	c	0.1	(0.1)	0.0	c	0.0	c	0.0	c	0.0	c
	United Arab Emirates	95.1	(0.6)	2.1	(0.3)	0.1	(0.1)	0.5	(0.1)	0.2	(0.1)	0.9	(0.2)	0.1	(0.0)	1.1	(0.2)	25.3	(4.1)
	Uruguay	97.3	(0.6)	1.0	(0.3)	0.2	(0.2)	0.4	(0.2)	0.2	(0.1)	0.6	(0.2)	0.1	c	0.3	(0.1)	13.3	(5.0)
	Viet Nam	82.5	(1.7)	7.2	(1.0)	0.2	(0.2)	1.3	(0.4)	0.4	(0.2)	5.6	(0.8)	0.1	c	2.6	(0.6)	16.2	(3.1)

* See notes at the beginning of this Annex.

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[Part 2/2]

Table I.2.30 **Top performers in mathematics, reading and science, by gender**

		Girls who are:																Percentage of girls who are top performers in mathematics and are also top performers in reading and science	
		not top performers in any of the three domains		top performers only in mathematics		top performers only in reading		top performers only in science		top performers in mathematics and reading but not in science		top performers in mathematics and science but not in reading		top performers in reading and science but not in mathematics		top performers in all three domains			
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	80.9	(0.8)	2.0	(0.3)	3.2	(0.4)	1.5	(0.3)	1.6	(0.3)	1.1	(0.2)	1.9	(0.3)	7.7	(0.5)	61.8	(2.4)
	Austria	86.4	(1.1)	4.2	(0.6)	1.5	(0.4)	0.7	(0.2)	1.8	(0.5)	1.3	(0.4)	0.8	(0.3)	3.2	(0.7)	30.6	(5.6)
	Belgium	78.9	(0.9)	5.5	(0.5)	3.5	(0.5)	0.4	(0.1)	4.6	(0.4)	0.8	(0.2)	0.4	(0.1)	5.9	(0.4)	35.3	(2.4)
	Canada	78.6	(0.9)	3.5	(0.4)	4.8	(0.4)	1.1	(0.3)	3.1	(0.3)	0.9	(0.2)	1.7	(0.3)	6.3	(0.6)	45.9	(3.7)
	Chile	98.4	(0.3)	0.4	(0.1)	0.3	(0.1)	0.3	(0.1)	0.1	(0.1)	0.2	(0.1)	0.1	(0.1)	0.2	(0.1)	21.7	(9.0)
	Czech Republic	85.3	(1.0)	3.6	(0.5)	1.9	(0.4)	0.9	(0.3)	2.0	(0.4)	1.7	(0.5)	0.5	(0.2)	4.1	(0.5)	36.4	(3.5)
	Denmark	88.4	(1.0)	3.0	(0.6)	1.9	(0.5)	0.8	(0.3)	1.4	(0.4)	0.7	(0.2)	0.6	(0.2)	3.3	(0.6)	39.6	(5.8)
	Estonia	81.1	(1.2)	2.8	(0.5)	2.1	(0.4)	2.5	(0.5)	1.8	(0.5)	1.9	(0.4)	1.4	(0.3)	6.5	(0.7)	50.4	(4.4)
	Finland	72.9	(1.1)	1.9	(0.4)	5.5	(0.9)	3.3	(0.6)	1.6	(0.3)	1.7	(0.4)	4.1	(0.5)	9.0	(0.7)	63.9	(3.0)
	France	80.7	(1.1)	1.9	(0.5)	7.1	(0.8)	0.4	(0.2)	3.3	(0.6)	0.7	(0.3)	1.2	(0.3)	4.7	(0.6)	44.6	(4.6)
	Germany	80.7	(1.2)	3.2	(0.6)	2.3	(0.4)	1.3	(0.4)	2.4	(0.4)	1.9	(0.4)	0.8	(0.3)	7.4	(0.8)	49.5	(3.9)
	Greece	91.4	(1.0)	0.9	(0.2)	4.7	(0.6)	0.7	(0.3)	0.7	(0.3)	0.3	(0.1)	0.5	(0.2)	0.9	(0.2)	32.6	(8.1)
	Hungary	88.9	(1.2)	2.1	(0.4)	2.6	(0.5)	0.6	(0.3)	1.5	(0.4)	0.9	(0.3)	0.4	(0.2)	2.9	(0.6)	38.9	(5.4)
	Iceland	85.9	(1.4)	4.2	(0.7)	2.6	(0.5)	0.4	(0.3)	2.7	(0.4)	1.1	(0.4)	0.3	(0.2)	2.8	(0.6)	25.4	(4.1)
	Ireland	82.9	(1.0)	0.9	(0.3)	5.1	(0.7)	1.2	(0.4)	1.4	(0.3)	0.5	(0.2)	2.3	(0.5)	5.7	(0.7)	66.5	(4.6)
	Israel	87.6	(0.9)	1.1	(0.2)	5.7	(0.7)	0.4	(0.2)	1.5	(0.4)	0.4	(0.1)	0.7	(0.2)	2.6	(0.4)	46.2	(5.9)
	Italy	88.3	(0.6)	1.7	(0.2)	3.5	(0.3)	0.8	(0.2)	1.6	(0.2)	0.7	(0.1)	0.7	(0.1)	2.6	(0.2)	39.6	(3.7)
	Japan	72.4	(1.7)	4.0	(0.7)	5.1	(0.6)	1.4	(0.3)	3.6	(0.5)	1.4	(0.5)	2.0	(0.4)	10.0	(1.1)	52.3	(4.0)
	Korea	71.9	(2.0)	10.2	(1.2)	1.7	(0.4)	0.4	(0.2)	6.3	(0.8)	1.6	(0.5)	0.2	(0.1)	7.8	(1.1)	30.0	(3.1)
	Luxembourg	85.4	(0.6)	2.2	(0.5)	4.2	(0.6)	1.0	(0.4)	1.9	(0.3)	0.6	(0.2)	1.1	(0.3)	3.6	(0.5)	43.4	(6.0)
	Mexico	99.3	(0.1)	0.2	(0.1)	0.3	(0.1)	0.0	(0.0)	0.1	(0.0)	0.0	(0.0)	0.0	c	0.0	(0.0)	5.9	(4.0)
	Netherlands	78.8	(1.5)	5.6	(0.9)	2.2	(0.6)	1.3	(0.4)	2.5	(0.6)	2.1	(0.6)	0.8	(0.2)	6.8	(1.0)	39.9	(4.8)
	New Zealand	79.7	(1.4)	1.3	(0.4)	5.0	(0.6)	1.1	(0.3)	2.1	(0.5)	0.7	(0.2)	2.2	(0.6)	7.8	(0.9)	65.4	(5.0)
	Norway	83.3	(1.3)	1.4	(0.3)	6.0	(0.9)	0.8	(0.2)	2.1	(0.4)	0.6	(0.2)	1.1	(0.4)	4.8	(0.7)	54.4	(4.5)
	Poland	79.8	(1.5)	5.0	(0.6)	2.8	(0.5)	1.0	(0.5)	2.2	(0.5)	1.5	(0.4)	1.0	(0.3)	6.7	(0.8)	43.7	(3.2)
	Portugal	87.6	(0.9)	3.3	(0.5)	3.0	(0.5)	0.4	(0.2)	2.1	(0.4)	0.8	(0.3)	0.3	(0.1)	2.4	(0.4)	27.3	(4.5)
	Slovak Republic	90.0	(1.1)	3.5	(0.7)	1.5	(0.4)	0.2	(0.1)	1.7	(0.4)	0.7	(0.3)	0.2	(0.1)	2.2	(0.6)	27.9	(7.0)
	Slovenia	84.4	(0.9)	4.3	(0.7)	1.2	(0.4)	0.9	(0.3)	0.7	(0.3)	2.4	(0.6)	1.0	(0.5)	5.1	(0.8)	40.7	(5.9)
	Spain	90.5	(0.5)	1.7	(0.2)	3.0	(0.3)	0.6	(0.1)	1.1	(0.2)	0.6	(0.1)	0.5	(0.1)	1.9	(0.2)	35.0	(3.5)
	Sweden	86.6	(1.0)	1.6	(0.3)	4.3	(0.6)	0.7	(0.2)	1.7	(0.4)	0.5	(0.2)	1.3	(0.3)	3.3	(0.4)	46.2	(4.7)
	Switzerland	78.8	(1.3)	7.2	(0.8)	1.7	(0.3)	0.5	(0.2)	4.4	(0.5)	1.6	(0.4)	0.2	(0.1)	5.6	(0.7)	29.9	(2.8)
	Turkey	91.9	(1.5)	1.5	(0.5)	3.0	(0.6)	0.1	(0.1)	1.9	(0.6)	0.3	(0.2)	0.2	(0.2)	1.0	(0.3)	21.6	(6.3)
	United Kingdom	84.8	(1.2)	1.8	(0.3)	2.2	(0.4)	1.3	(0.4)	1.4	(0.4)	1.0	(0.4)	1.4	(0.5)	6.2	(0.8)	59.9	(4.2)
	United States	87.8	(1.1)	1.4	(0.4)	2.8	(0.5)	0.5	(0.2)	1.2	(0.5)	0.6	(0.2)	1.0	(0.4)	4.7	(0.7)	59.7	(3.8)
	OECD total	85.6	(0.4)	2.4	(0.1)	3.0	(0.2)	0.7	(0.1)	1.9	(0.2)	0.8	(0.1)	0.9	(0.1)	4.7	(0.2)	47.5	(1.4)
	OECD average	84.4	(0.2)	2.9	(0.1)	3.2	(0.1)	0.9	(0.1)	2.1	(0.1)	1.0	(0.1)	1.0	(0.1)	4.6	(0.1)	41.5	(0.8)
Partners	Albania	98.1	(0.4)	0.5	(0.2)	0.9	(0.3)	0.2	c	0.1	(0.1)	0.1	(0.1)	0.0	c	0.1	(0.1)	11.1	(8.8)
	Argentina	99.1	(0.2)	0.1	(0.1)	0.6	(0.2)	0.1	(0.1)	0.1	c	0.0	c	0.1	(0.1)	0.0	c	0.0	c
	Brazil	99.0	(0.3)	0.2	(0.1)	0.4	(0.1)	0.1	(0.1)	0.1	(0.1)	0.1	(0.1)	0.0	(0.0)	0.1	(0.1)	21.6	(15.2)
	Bulgaria	91.7	(1.1)	0.8	(0.3)	3.2	(0.6)	0.7	(0.3)	0.9	(0.2)	0.3	(0.1)	0.8	(0.3)	1.6	(0.4)	44.2	(7.4)
	Colombia	99.6	(0.2)	0.1	c	0.2	(0.1)	0.0	c	0.1	(0.1)	0.0	c	0.0	(0.0)	0.0	(0.0)	21.9	(20.0)
	Costa Rica	99.3	(0.2)	0.1	(0.1)	0.5	(0.2)	0.1	c	0.1	(0.1)	0.0	c	0.0	c	0.0	c	0.0	c
	Croatia	91.2	(1.3)	1.4	(0.4)	2.2	(0.6)	0.8	(0.2)	1.3	(0.4)	0.4	(0.2)	0.5	(0.2)	2.1	(0.7)	41.2	(7.1)
	Cyprus*	93.7	(0.6)	0.6	(0.2)	3.6	(0.4)	0.2	(0.2)	0.8	(0.3)	0.1	(0.1)	0.3	(0.1)	0.7	(0.3)	34.0	(10.6)
	Hong Kong-China	67.0	(2.0)	10.1	(1.0)	2.7	(0.4)	0.8	(0.3)	6.1	(0.9)	1.9	(0.5)	0.7	(0.2)	10.7	(1.2)	37.1	(3.0)
	Indonesia	99.7	(0.2)	0.2	(0.1)	0.1	(0.1)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Jordan	99.6	(0.3)	0.1	(0.1)	0.1	(0.1)	0.1	(0.1)	0.2	c	0.0	c	0.0	c	0.0	c	0.0	c
	Kazakhstan	99.1	(0.4)	0.7	(0.3)	0.0	c	0.1	(0.1)	0.0	c	0.1	(0.1)	0.0	c	0.0	c	0.0	c
	Latvia	89.4	(1.2)	2.5	(0.5)	2.3	(0.6)	0.6	(0.2)	1.3	(0.3)	1.1	(0.3)	0.4	(0.1)	2.3	(0.5)	32.1	(5.6)
	Liechtenstein	74.8	(3.6)	9.5	(4.8)	2.2	(1.9)	0.9	c	6.4	(2.9)	1.4	(1.4)	0.0	c	4.8	(2.7)	21.8	(12.9)
	Lithuania	90.7	(0.9)	2.2	(0.4)	1.1	(0.3)	1.1	(0.3)	1.1	(0.4)	0.9	(0.3)	0.5	(0.3)	2.3	(0.5)	34.6	(6.9)
	Macao-China	76.2	(0.8)	12.9	(0.9)	1.1	(0.3)	0.2	(0.2)	4.0	(0.5)	1.4	(0.4)	0.1	c	4.1	(0.5)	18.4	(2.3)
	Malaysia	98.5	(0.4)	1.1	(0.4)	0.2	c	0.1	(0.1)	0.0	c	0.1	(0.1)	0.0	c	0.0	c	0.0	c
	Montenegro	98.0	(0.5)	0.3	(0.2)	1.1	(0.3)	0.1	(0.1)	0.3	(0.2)	0.1	c	0.0	c	0.2	(0.1)	21.9	(14.5)
	Peru	99.2	(0.3)	0.2	(0.1)	0.4	(0.2)	0.0	c	0.2	(0.2)	0.0	c	0.0	c	0.0	c	0.0	c
	Qatar	96.7	(0.2)	0.4	(0.1)	1.0	(0.2)	0.3	(0.1)	0.4	(0.1)	0.3	(0.1)	0.2	(0.1)	0.8	(0.1)	41.3	(6.6)
	Romania	96.2	(0.7)	1.6	(0.4)	1.0	(0.3)	0.1	(0.1)	0.6	(0.2)	0.2	(0.2)	0.0	c	0.3	(0.2)	10.5	(5.2)
	Russian Federation	89.1	(1.1)	3.2	(0.5)	2.1	(0.5)	0.5	(0.3)	1.5	(0.4)	0.8	(0.2)	0.5	(0.2)	2.4	(0.4)	30.5	(4.5)
	Serbia	95.0	(0.9)	1.3	(0.4)	1.2	(0.4)	0.3	(0.2)	0.9	(0.3)	0.3	(0.2)	0.1	(0.1)	0.9	(0.3)	25.4	(5.9)
	Shanghai-China	45.0	(1.5)	21.4	(1.2)	0.5	(0.2)	0.2	(0.1)	7.9	(0.9)	4.0	(0.7)	0.1	(0.1)	20.9	(1.5)	38.5	(2.2)
	Singapore	58.3	(1.0)	12.9	(0.8)	1.4	(0.3)	0.2	(0.1)	5.8	(0.7)	3.1	(0.4)	0.4	(0.1)	17.9	(0.9)	45.0	(2.1)
	Chinese Taipei	65.0	(2.3)	19.1	(1.1)	0.5	(0.2)	0.0	c	7.7	(0.8)	1.2	(0.3)	0.0	c	6.4	(1.3)	18.7	(3.2)
	Thailand	96.7	(0.7)	1.6	(0.4)	0.3	(0.2)	0.1	(0.1)	0.4	(0.2)	0.4	(0.2)	0.1	(0.1)	0.5	(0.2)	17.1	(5.9)
	Tunisia	99.3	(0.3)	0.4	(0.3)	0.1	(0.1)	0.2	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	United Arab Emirates	95.2	(0.5)	0.8	(0.2)	1.1	(0.3)	0.6	(0.2)	0.4	(0.1)	0.5	(0.2)	0.4	(0.1)	1.0	(0.2)	38.5	(7.0)
	Uruguay	98.1	(0.5)	0.4	(0.2)	0.6	(0.2)	0.3	(0.1)	0.2	(0.1)	0.1	(0.1)	0.2	(0.1)	0.2	(0.1)	24.6	(13.0)
	Viet Nam	86.3	(1.6)	4.4	(0.7)	1.2	(0.3)	1.2	(0.4)	1.2	(0.3)	2.5	(0.5)	0.3	(0.1)	2.9	(0.7)	26.1	(4.0)

* See notes at the beginning of this Annex.

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Table I.3.1 **Index of opportunity to learn variables**

		Opportunity to learn variables					
		Word problems		Formal mathematics		Applied mathematics	
		Mean	S.E.	Mean	S.E.	Mean	S.E.
OECD	Australia	1.81	(0.01)	1.69	(0.01)	2.03	(0.01)
	Austria	2.09	(0.02)	1.54	(0.02)	1.80	(0.02)
	Belgium	1.94	(0.02)	1.83	(0.01)	1.88	(0.01)
	Canada	1.99	(0.01)	1.98	(0.01)	2.07	(0.01)
	Chile	2.05	(0.02)	1.70	(0.02)	2.09	(0.01)
	Czech Republic	1.65	(0.02)	1.80	(0.02)	1.57	(0.02)
	Denmark	1.95	(0.02)	1.62	(0.02)	1.97	(0.01)
	Estonia	1.79	(0.02)	2.00	(0.01)	1.80	(0.01)
	Finland	2.06	(0.02)	1.72	(0.01)	1.71	(0.01)
	France	2.14	(0.02)	1.87	(0.01)	2.03	(0.01)
	Germany	2.02	(0.02)	1.66	(0.02)	1.96	(0.01)
	Greece	1.33	(0.02)	1.91	(0.01)	1.87	(0.01)
	Hungary	2.01	(0.03)	1.96	(0.02)	1.93	(0.02)
	Iceland	2.37	(0.02)	1.14	(0.01)	2.00	(0.02)
	Ireland	1.81	(0.02)	1.47	(0.01)	1.87	(0.01)
	Israel	1.66	(0.02)	1.81	(0.02)	1.77	(0.02)
	Italy	1.75	(0.01)	1.83	(0.01)	1.77	(0.01)
	Japan	1.59	(0.02)	2.05	(0.02)	1.73	(0.01)
	Korea	1.68	(0.02)	2.07	(0.02)	1.82	(0.02)
	Luxembourg	2.03	(0.02)	1.45	(0.01)	1.88	(0.01)
	Mexico	1.82	(0.01)	1.78	(0.01)	2.24	(0.01)
	Netherlands	1.58	(0.02)	1.50	(0.02)	2.13	(0.02)
	New Zealand	1.64	(0.02)	1.51	(0.02)	1.95	(0.01)
	Norway	1.82	(0.02)	m	m	1.78	(0.02)
	Poland	2.05	(0.02)	1.83	(0.02)	2.02	(0.01)
	Portugal	1.48	(0.02)	1.73	(0.02)	2.16	(0.01)
	Slovak Republic	1.99	(0.02)	1.70	(0.01)	1.87	(0.01)
	Slovenia	2.13	(0.02)	1.93	(0.01)	1.91	(0.01)
	Spain	2.16	(0.02)	1.87	(0.01)	2.01	(0.01)
	Sweden	1.92	(0.02)	0.77	(0.01)	1.73	(0.01)
	Switzerland	2.14	(0.02)	1.41	(0.02)	1.95	(0.01)
	Turkey	1.31	(0.02)	1.92	(0.01)	1.96	(0.02)
	United Kingdom	1.86	(0.02)	1.63	(0.02)	1.87	(0.02)
	United States	1.75	(0.02)	2.00	(0.02)	2.00	(0.01)
	OECD average	1.87	(0.00)	1.70	(0.00)	1.92	(0.00)
Partners	Albania	1.88	(0.02)	2.09	(0.01)	2.18	(0.01)
	Argentina	1.60	(0.02)	1.35	(0.03)	1.89	(0.02)
	Brazil	1.50	(0.01)	1.43	(0.02)	2.03	(0.01)
	Bulgaria	1.55	(0.02)	1.96	(0.02)	1.91	(0.02)
	Colombia	1.88	(0.03)	1.76	(0.02)	2.17	(0.02)
	Costa Rica	1.60	(0.03)	1.53	(0.03)	1.72	(0.02)
	Croatia	2.03	(0.02)	2.07	(0.01)	1.83	(0.01)
	Cyprus*	1.68	(0.02)	1.87	(0.01)	1.86	(0.01)
	Hong Kong-China	1.35	(0.02)	1.83	(0.02)	1.80	(0.01)
	Indonesia	1.89	(0.02)	1.60	(0.02)	2.35	(0.02)
	Jordan	2.15	(0.02)	2.15	(0.02)	2.23	(0.01)
	Kazakhstan	1.85	(0.02)	1.97	(0.02)	2.22	(0.01)
	Latvia	1.73	(0.02)	2.03	(0.01)	1.85	(0.02)
	Liechtenstein	2.15	(0.08)	1.55	(0.05)	2.02	(0.05)
	Lithuania	1.63	(0.02)	1.65	(0.01)	1.92	(0.01)
	Macao-China	1.23	(0.01)	2.20	(0.01)	1.62	(0.01)
	Malaysia	1.84	(0.02)	1.59	(0.02)	2.03	(0.01)
	Montenegro	2.03	(0.02)	1.90	(0.01)	1.88	(0.01)
	Peru	1.94	(0.03)	1.79	(0.02)	2.06	(0.02)
	Qatar	1.74	(0.01)	1.72	(0.01)	2.02	(0.01)
	Romania	1.86	(0.02)	2.02	(0.02)	2.11	(0.01)
	Russian Federation	1.99	(0.02)	2.10	(0.01)	1.98	(0.02)
	Serbia	1.54	(0.02)	2.04	(0.01)	1.81	(0.02)
	Shanghai-China	1.30	(0.02)	2.30	(0.01)	1.62	(0.02)
	Singapore	1.56	(0.02)	2.23	(0.01)	2.00	(0.01)
	Chinese Taipei	1.48	(0.02)	1.98	(0.01)	1.75	(0.01)
	Thailand	1.95	(0.02)	1.70	(0.01)	2.37	(0.01)
	Tunisia	1.64	(0.02)	1.23	(0.01)	2.13	(0.02)
	United Arab Emirates	1.82	(0.02)	2.13	(0.02)	2.10	(0.01)
	Uruguay	1.32	(0.02)	1.64	(0.02)	1.70	(0.02)
	Viet Nam	1.21	(0.02)	1.96	(0.02)	1.65	(0.02)

* See notes at the beginning of this Annex.

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Table I.3.2 Estimated regression coefficients for student and school opportunity to learn variables related to achievement

		Student level								School level							
		Word problems		Applied mathematics		Applied mathematics squared		Formal mathematics		Word problems		Applied mathematics		Applied mathematics squared		Formal mathematics	
		Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
OECD	Australia	**5.1**	(0.8)	-4.2	(5.0)	-1.8	(1.3)	**72.2**	(1.2)	**16.1**	(4.1)	-17.8	(25.8)	-0.4	(6.7)	**118.8**	(3.7)
	Austria	1.8	(1.2)	2.8	(6.5)	-0.2	(1.9)	**35.5**	(2.4)	**22.5**	(8.4)	75.8	(44.5)	**-28.1**	(13.3)	**120.5**	(7.5)
	Belgium	-0.1	(1.0)	-9.1	(5.0)	0.9	(1.4)	**30.3**	(1.7)	4.2	(10.1)	51.2	(53.6)	-13.5	(14.8)	**122.1**	(9.7)
	Canada	**4.5**	(0.6)	4.7	(3.9)	**-3.4**	(1.0)	**61.3**	(1.1)	**30.0**	(3.4)	**75.6**	(27.8)	**-20.1**	(7.2)	**91.3**	(4.8)
	Chile	**7.1**	(0.9)	2.2	(5.9)	**-4.9**	(1.5)	**40.7**	(1.8)	**34.6**	(6.0)	53.2	(50.8)	**-27.8**	(12.4)	**143.8**	(6.4)
	Czech Republic	1.8	(1.2)	3.7	(6.0)	-3.6	(1.9)	**49.5**	(2.5)	**15.5**	(7.1)	45.4	(36.8)	-22.3	(12.2)	**155.1**	(8.2)
	Denmark	**3.5**	(1.0)	-0.9	(7.1)	**-3.9**	(1.9)	**53.4**	(1.9)	5.8	(5.7)	66.6	(41.8)	**-25.0**	(10.8)	**85.9**	(6.5)
	Estonia	**5.6**	(1.3)	-0.9	(8.4)	-4.0	(2.4)	**58.1**	(3.0)	**33.4**	(6.5)	53.9	(47.5)	**-33.5**	(13.1)	**68.6**	(13.3)
	Finland	**8.1**	(1.0)	1.9	(5.1)	**-3.8**	(1.5)	**72.1**	(1.8)	**15.8**	(5.5)	**71.1**	(31.9)	-15.0	(9.8)	**36.8**	(5.9)
	France	1.3	(1.2)	**20.9**	(8.0)	**-7.1**	(2.1)	**45.9**	(2.7)	3.2	(8.0)	42.2	(53.9)	-15.6	(14.2)	**177.5**	(7.8)
	Germany	1.9	(1.3)	9.8	(8.3)	-2.1	(2.2)	**44.4**	(2.5)	**18.7**	(6.9)	64.0	(42.1)	-15.1	(11.8)	**138.3**	(6.1)
	Greece	**-3.4**	(1.4)	-12.2	(6.6)	-0.3	(1.9)	**31.7**	(2.3)	**-22.0**	(8.9)	6.8	(54.5)	-19.5	(15.2)	**135.7**	(12.1)
	Hungary	1.1	(1.1)	-0.2	(6.2)	-1.2	(1.7)	**35.8**	(2.4)	12.5	(8.2)	-17.6	(57.8)	0.8	(15.3)	**167.5**	(9.8)
	Iceland	**18.6**	(2.0)	**48.6**	(10.8)	**-14.5**	(2.8)	**23.8**	(3.1)	**36.2**	(9.1)	**156.0**	(55.5)	**-42.7**	(14.4)	**30.3**	(14.8)
	Ireland	**3.6**	(1.2)	0.8	(6.8)	**-4.3**	(1.9)	**62.9**	(2.1)	8.2	(7.2)	**-107.3**	(41.9)	15.9	(11.9)	**124.8**	(8.5)
	Israel	1.0	(1.3)	-4.7	(5.7)	-2.3	(1.7)	**61.8**	(2.4)	10.3	(12.5)	17.7	(66.0)	**-45.2**	(19.2)	**130.9**	(13.6)
	Italy	**2.0**	(0.5)	**7.5**	(2.1)	**-4.4**	(0.6)	**32.3**	(0.9)	**27.0**	(3.7)	19.3	(21.0)	**-21.8**	(6.1)	**130.1**	(3.5)
	Japan	**5.7**	(1.0)	6.6	(4.9)	**-3.1**	(1.5)	**50.9**	(2.5)	**44.6**	(11.0)	-9.1	(53.6)	1.3	(17.1)	**188.7**	(12.6)
	Korea	**4.7**	(1.3)	-1.2	(6.3)	-2.7	(1.8)	**73.9**	(2.9)	5.3	(10.4)	-18.7	(53.1)	-2.3	(15.5)	**208.2**	(10.6)
	Luxembourg	**9.0**	(1.3)	**22.5**	(6.8)	**-7.8**	(1.9)	**36.1**	(2.0)	**92.8**	(20.0)	19.2	(127.0)	-29.6	(36.8)	**148.3**	(14.5)
	Mexico	**7.2**	(0.4)	**8.6**	(3.0)	**-4.3**	(0.7)	**29.5**	(0.7)	**24.5**	(2.9)	**63.8**	(18.5)	**-24.3**	(4.6)	**87.9**	(3.0)
	Netherlands	**-4.0**	(1.0)	10.2	(6.3)	**-4.4**	(1.6)	**49.9**	(1.8)	-7.0	(10.1)	40.8	(61.0)	-13.4	(15.7)	**155.8**	(7.1)
	New Zealand	**6.5**	(1.6)	**21.4**	(9.0)	**-7.0**	(2.4)	**73.2**	(2.3)	16.0	(9.9)	73.3	(62.0)	-27.6	(17.1)	**112.6**	(9.0)
	Norway	**6.3**	(1.6)	**17.8**	(8.8)	**-10.7**	(2.5)	m	m	**19.6**	(8.5)	19.8	(51.7)	-4.3	(14.5)	m	m
	Poland	**11.5**	(1.4)	-8.8	(9.8)	-1.5	(2.6)	**52.8**	(2.7)	**23.0**	(9.5)	-13.3	(80.6)	-11.2	(20.7)	**144.6**	(14.3)
	Portugal	2.2	(1.4)	2.1	(7.9)	-2.1	(2.0)	**57.3**	(2.2)	-19.9	(11.8)	-27.0	(67.4)	1.8	(17.8)	**166.4**	(12.7)
	Slovak Republic	**4.8**	(1.3)	13.4	(8.0)	**-5.1**	(2.2)	**54.5**	(2.9)	**33.2**	(7.9)	**180.5**	(45.3)	**-57.3**	(12.5)	**153.3**	(9.1)
	Slovenia	1.9	(1.1)	3.5	(6.8)	-2.9	(1.8)	**18.7**	(2.1)	**30.4**	(6.7)	-15.5	(54.4)	-12.2	(14.4)	**137.9**	(9.9)
	Spain	**3.8**	(0.6)	**13.3**	(3.7)	**-7.0**	(1.0)	**64.5**	(0.9)	**11.4**	(3.5)	-32.6	(25.5)	4.3	(6.9)	**109.1**	(4.1)
	Sweden	**12.4**	(1.6)	**46.6**	(8.6)	**-15.3**	(2.5)	**11.4**	(3.0)	**34.2**	(7.5)	68.2	(46.8)	-25.4	(13.4)	**40.1**	(9.5)
	Switzerland	**3.9**	(0.9)	**41.9**	(5.6)	**-10.9**	(1.5)	**49.7**	(1.6)	**25.3**	(7.9)	**195.1**	(52.9)	**-57.3**	(14.3)	**56.5**	(6.0)
	Turkey	-0.5	(1.2)	**-15.4**	(5.2)	1.5	(1.5)	**27.0**	(2.1)	-8.4	(12.5)	47.5	(59.1)	-21.8	(16.5)	**156.1**	(13.9)
	United Kingdom	**4.3**	(0.8)	4.4	(4.7)	**-3.8**	(1.3)	**74.5**	(1.3)	**12.1**	(6.2)	**79.3**	(38.8)	**-32.7**	(11.0)	**115.7**	(5.7)
	United States	**3.7**	(1.3)	4.9	(7.3)	-3.4	(2.0)	**67.6**	(2.1)	**24.2**	(10.3)	27.8	(64.2)	-13.3	(17.4)	**128.9**	(10.7)
	OECD average	**4.3**	(0.2)	**7.7**	(1.2)	**-4.5**	(0.3)	**48.9**	(0.4)	**18.6**	(1.5)	**39.9**	(9.3)	**-19.2**	(2.6)	**124.1**	(2.1)
Partners	Albania	2.7	(1.8)	0.9	(10.6)	-1.3	(2.7)	-4.8	(3.0)	4.9	(7.8)	-5.2	(50.2)	5.9	(12.3)	-8.5	(10.7)
	Argentina	**4.5**	(1.0)	-0.5	(4.6)	-1.8	(1.3)	**24.1**	(1.6)	**19.5**	(7.8)	70.3	(45.7)	-24.3	(13.1)	**93.0**	(7.0)
	Brazil	-0.1	(0.6)	3.4	(3.0)	**-3.0**	(0.8)	**27.5**	(0.9)	**-11.9**	(4.1)	20.1	(21.5)	-9.7	(5.9)	**109.5**	(3.3)
	Bulgaria	0.4	(1.2)	4.0	(5.8)	**-3.7**	(1.6)	**31.2**	(1.9)	-5.1	(10.1)	**287.8**	(54.1)	**-91.3**	(15.2)	**119.5**	(9.1)
	Colombia	**3.4**	(0.8)	**15.7**	(4.7)	**-5.7**	(1.2)	**36.8**	(1.4)	**16.6**	(5.8)	**67.1**	(31.9)	**-27.3**	(8.4)	**96.9**	(5.7)
	Costa Rica	**2.6**	(1.0)	6.6	(4.7)	**-4.6**	(1.4)	**25.2**	(1.6)	**13.2**	(6.3)	**83.3**	(35.9)	**-32.0**	(10.8)	**92.6**	(6.2)
	Croatia	1.6	(1.2)	12.7	(6.8)	**-5.6**	(1.9)	**44.0**	(2.2)	16.7	(9.5)	76.6	(55.0)	-28.7	(16.1)	**191.1**	(13.1)
	Cyprus*	**3.5**	(1.3)	2.0	(6.4)	**-4.1**	(1.8)	**44.8**	(2.2)	**36.0**	(12.1)	83.4	(61.1)	-23.9	(16.8)	**148.6**	(12.5)
	Hong Kong-China	-3.0	(1.6)	2.5	(7.6)	-3.8	(2.2)	**46.1**	(2.0)	-40.7	(20.9)	157.9	(108.5)	-47.8	(30.2)	**188.3**	(18.0)
	Indonesia	-0.3	(0.9)	3.2	(5.7)	-1.7	(1.4)	**12.6**	(1.7)	-6.0	(9.3)	**199.3**	(61.7)	**-49.5**	(14.8)	**106.2**	(10.3)
	Jordan	**7.7**	(0.9)	**20.8**	(5.7)	**-6.9**	(1.4)	**27.2**	(1.3)	3.5	(10.7)	63.8	(65.8)	-11.6	(16.6)	**72.4**	(8.8)
	Kazakhstan	1.7	(1.0)	-9.8	(6.6)	0.8	(1.7)	**20.5**	(1.8)	0.3	(8.2)	**133.4**	(57.5)	**-41.6**	(14.4)	**93.4**	(12.6)
	Latvia	**5.9**	(1.4)	-2.7	(7.8)	-3.1	(2.2)	**61.4**	(2.9)	13.3	(7.2)	-7.7	(47.7)	-9.7	(13.8)	**100.2**	(11.1)
	Liechtenstein	-0.5	(4.1)	35.6	(24.6)	-8.4	(6.8)	**25.0**	(7.4)	59.2	(55.0)	269.4	(539.0)	-65.9	(145.3)	93.9	(51.8)
	Lithuania	**7.7**	(1.4)	5.6	(7.7)	**-6.0**	(2.1)	**46.0**	(2.7)	**44.5**	(10.0)	-3.2	(57.6)	-13.3	(15.6)	**138.3**	(13.7)
	Macao-China	**-5.0**	(1.7)	**11.9**	(5.7)	**-5.9**	(1.8)	**69.1**	(2.3)	**54.5**	(27.0)	186.0	(115.3)	-47.0	(36.2)	**195.7**	(16.7)
	Malaysia	**6.6**	(1.1)	**19.5**	(6.5)	**-6.3**	(1.7)	**48.7**	(2.0)	5.9	(8.4)	41.8	(56.2)	-22.9	(14.9)	**156.4**	(10.1)
	Montenegro	**3.9**	(1.2)	**19.3**	(5.9)	**-8.0**	(1.6)	**30.9**	(1.9)	11.2	(19.6)	-222.4	(139.7)	35.8	(36.2)	**172.9**	(23.8)
	Peru	**2.9**	(1.1)	10.8	(5.8)	**-5.8**	(1.5)	**36.0**	(1.7)	**23.9**	(6.6)	**67.8**	(32.7)	**-23.3**	(9.1)	**108.5**	(8.1)
	Qatar	**2.4**	(0.9)	**10.2**	(4.6)	**-3.0**	(1.3)	**31.6**	(1.3)	**29.5**	(10.2)	**188.3**	(64.0)	**-54.6**	(16.9)	**124.9**	(7.2)
	Romania	**3.5**	(1.1)	**28.3**	(7.4)	**-8.7**	(1.9)	**24.9**	(1.9)	**44.6**	(8.8)	**144.4**	(60.9)	**-39.5**	(15.1)	**93.1**	(9.3)
	Russian Federation	**4.4**	(1.3)	-9.9	(7.1)	-0.5	(1.9)	**48.6**	(3.3)	17.6	(9.1)	-29.6	(58.5)	-2.0	(15.2)	**93.5**	(20.8)
	Serbia	**-3.0**	(1.3)	12.7	(6.7)	**-4.3**	(1.9)	**37.7**	(2.5)	21.2	(12.8)	-29.6	(51.1)	-12.6	(16.3)	**188.1**	(17.0)
	Shanghai-China	**-5.6**	(1.5)	**-10.0**	(5.0)	-0.5	(1.5)	**53.9**	(3.0)	**-44.2**	(16.2)	**-129.7**	(61.3)	22.1	(18.9)	**225.1**	(17.5)
	Singapore	**-4.8**	(1.3)	**15.7**	(7.9)	**-5.8**	(2.1)	**84.2**	(2.1)	**-31.5**	(10.1)	16.6	(80.2)	-4.7	(20.9)	**190.4**	(9.0)
	Chinese Taipei	2.7	(1.5)	**18.8**	(7.0)	**-9.3**	(2.0)	**70.5**	(2.6)	-4.5	(15.4)	114.4	(79.1)	-30.4	(22.9)	**246.4**	(12.9)
	Thailand	**9.5**	(1.0)	**28.2**	(8.0)	**-7.1**	(1.8)	**32.0**	(2.0)	**29.6**	(11.0)	177.2	(98.0)	**-49.2**	(22.9)	**112.9**	(13.4)
	Tunisia	**2.7**	(1.1)	7.8	(5.9)	-1.8	(1.5)	**5.2**	(1.9)	**52.4**	(13.9)	**187.1**	(85.7)	-41.7	(23.0)	**87.6**	(22.5)
	United Arab Emirates	0.0	(0.8)	2.0	(4.7)	-1.6	(1.2)	**46.2**	(1.2)	**38.7**	(5.6)	**104.0**	(46.1)	**-41.8**	(12.1)	**95.3**	(6.1)
	Uruguay	**-3.1**	(1.3)	**-11.2**	(5.0)	-0.1	(1.5)	**45.1**	(2.0)	-3.1	(8.6)	42.9	(36.4)	**-23.2**	(11.4)	**125.3**	(6.4)
	Viet Nam	-0.1	(1.4)	-4.9	(5.0)	-2.3	(1.5)	**40.2**	(2.4)	-10.8	(12.6)	8.3	(60.7)	-20.2	(19.3)	**209.4**	(13.0)

Note: Values that are statistically significant are indicated in bold (see Annex A3).
* See notes at the beginning of this Annex.
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[Part 1/1]

Students' exposure to the mathematics task "using a train timetable"

Table I.3.3 *Percentage of students who answered how often they have encountered the following types of mathematics tasks during their time in school*

		Using a train timetable to calculate how long it would take to get from one place to another							
		Frequently		Sometimes		Rarely		Never	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	15.7	(0.5)	45.6	(0.6)	28.3	(0.6)	10.3	(0.4)
	Austria	19.0	(0.8)	33.9	(0.8)	29.5	(0.8)	17.5	(0.8)
	Belgium	12.6	(0.5)	33.0	(0.7)	31.5	(0.7)	22.9	(0.6)
	Canada	13.7	(0.6)	36.3	(0.6)	26.2	(0.5)	23.9	(0.6)
	Chile	28.1	(0.8)	41.1	(0.8)	16.9	(0.6)	14.0	(0.7)
	Czech Republic	11.0	(0.7)	25.7	(0.9)	36.8	(1.1)	26.5	(0.8)
	Denmark	25.0	(0.9)	43.7	(1.0)	21.1	(0.8)	10.3	(0.6)
	Estonia	18.1	(0.8)	42.2	(0.9)	31.2	(0.9)	8.4	(0.5)
	Finland	21.1	(0.8)	59.9	(0.8)	15.7	(0.6)	3.3	(0.3)
	France	15.9	(0.7)	41.1	(0.9)	28.2	(0.8)	14.8	(0.6)
	Germany	15.4	(0.8)	38.8	(0.9)	31.6	(1.0)	14.2	(0.7)
	Greece	12.8	(0.7)	20.0	(0.6)	31.7	(0.9)	35.6	(0.9)
	Hungary	19.9	(0.7)	38.4	(1.0)	29.1	(1.0)	12.7	(0.6)
	Iceland	23.6	(1.0)	35.8	(1.1)	23.2	(0.8)	17.4	(0.8)
	Ireland	20.0	(0.8)	49.5	(1.0)	24.0	(0.9)	6.5	(0.6)
	Israel	15.2	(0.7)	27.2	(0.9)	23.4	(0.9)	34.2	(1.0)
	Italy	11.7	(0.4)	30.7	(0.4)	31.1	(0.5)	26.5	(0.5)
	Japan	17.5	(0.7)	38.7	(0.9)	26.6	(0.7)	17.2	(0.7)
	Korea	24.3	(0.8)	51.6	(1.0)	17.5	(0.7)	6.7	(0.5)
	Luxembourg	20.0	(0.6)	32.1	(0.7)	26.0	(0.7)	21.9	(0.7)
	Mexico	17.7	(0.4)	48.8	(0.5)	19.5	(0.4)	14.0	(0.3)
	Netherlands	6.8	(0.5)	32.8	(0.8)	29.4	(0.9)	30.9	(0.9)
	New Zealand	13.4	(0.7)	46.6	(1.1)	26.0	(0.9)	14.0	(0.7)
	Norway	17.8	(0.7)	50.7	(1.0)	23.7	(0.8)	7.8	(0.6)
	Poland	21.2	(0.9)	48.8	(0.9)	25.8	(0.9)	4.2	(0.4)
	Portugal	7.3	(0.5)	25.6	(0.9)	31.4	(0.9)	35.6	(1.0)
	Slovak Republic	15.4	(1.1)	38.2	(1.0)	30.3	(0.9)	16.1	(0.7)
	Slovenia	17.7	(0.8)	39.0	(1.1)	28.1	(0.9)	15.2	(0.6)
	Spain	17.7	(0.6)	49.5	(0.7)	24.2	(0.5)	8.5	(0.5)
	Sweden	22.1	(0.7)	53.2	(1.0)	19.8	(0.8)	4.9	(0.4)
	Switzerland	17.7	(0.7)	44.2	(0.8)	29.1	(0.7)	9.0	(0.5)
	Turkey	17.0	(0.6)	31.5	(0.9)	25.7	(0.9)	25.8	(0.9)
	United Kingdom	18.8	(0.7)	46.7	(0.8)	25.6	(0.8)	9.0	(0.5)
	United States	11.4	(0.6)	38.9	(0.9)	29.5	(1.1)	20.2	(0.8)
	OECD average	17.1	(0.1)	40.0	(0.1)	26.4	(0.1)	16.5	(0.1)
Partners	Albania	16.6	(0.8)	34.4	(1.1)	26.8	(0.9)	22.2	(1.1)
	Argentina	15.7	(0.7)	38.1	(1.2)	21.1	(0.9)	25.1	(0.8)
	Brazil	25.7	(0.6)	41.9	(0.7)	18.1	(0.5)	14.3	(0.5)
	Bulgaria	19.3	(0.8)	36.8	(0.8)	31.0	(0.8)	12.9	(0.7)
	Colombia	21.5	(0.7)	41.0	(1.1)	17.0	(0.7)	20.4	(0.8)
	Costa Rica	23.3	(1.1)	38.4	(1.2)	20.9	(0.9)	17.5	(0.9)
	Croatia	17.6	(0.7)	32.1	(0.8)	28.9	(1.0)	21.4	(0.9)
	Cyprus*	22.5	(0.8)	35.6	(0.9)	24.4	(0.8)	17.5	(0.7)
	Hong Kong-China	6.5	(0.4)	37.4	(1.0)	47.0	(1.1)	9.0	(0.6)
	Indonesia	20.2	(0.9)	35.6	(1.1)	22.0	(0.9)	22.3	(1.1)
	Jordan	24.6	(0.9)	33.0	(0.8)	18.7	(0.7)	23.7	(0.8)
	Kazakhstan	35.9	(1.2)	41.5	(1.1)	17.8	(0.9)	4.8	(0.5)
	Latvia	11.2	(0.7)	48.1	(1.1)	32.2	(1.2)	8.5	(0.7)
	Liechtenstein	13.8	(2.6)	41.2	(3.6)	33.0	(3.3)	12.0	(2.4)
	Lithuania	16.6	(0.7)	46.5	(1.0)	28.8	(0.9)	8.1	(0.4)
	Macao-China	11.9	(0.6)	47.0	(0.8)	34.7	(0.7)	6.4	(0.4)
	Malaysia	10.7	(0.6)	37.2	(1.0)	27.7	(0.8)	24.4	(0.8)
	Montenegro	30.1	(0.9)	37.0	(0.9)	20.4	(0.8)	12.5	(0.7)
	Peru	20.9	(0.7)	45.2	(0.9)	17.5	(0.6)	16.4	(0.7)
	Qatar	26.1	(0.5)	35.8	(0.5)	19.4	(0.4)	18.8	(0.4)
	Romania	19.1	(0.9)	32.0	(0.9)	27.7	(0.8)	21.2	(0.7)
	Russian Federation	25.4	(0.6)	44.9	(1.0)	24.4	(0.9)	5.3	(0.4)
	Serbia	19.9	(0.9)	30.5	(0.8)	28.9	(0.8)	20.7	(0.8)
	Shanghai-China	14.2	(0.6)	36.2	(0.9)	36.3	(0.8)	13.3	(0.6)
	Singapore	12.4	(0.6)	47.3	(0.9)	30.1	(0.8)	10.2	(0.5)
	Chinese Taipei	8.7	(0.4)	36.3	(0.9)	42.2	(0.9)	12.8	(0.6)
	Thailand	11.6	(0.6)	59.5	(0.8)	16.3	(0.8)	12.6	(0.7)
	Tunisia	14.3	(0.7)	32.6	(0.9)	22.2	(0.8)	30.9	(1.1)
	United Arab Emirates	18.1	(0.7)	36.2	(0.8)	23.4	(0.6)	22.4	(0.7)
	Uruguay	12.5	(0.7)	29.2	(0.9)	27.5	(0.8)	30.8	(1.0)
	Viet Nam	8.7	(0.6)	46.6	(1.0)	31.0	(0.9)	13.8	(0.7)

* See notes at the beginning of this Annex.

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[Part 1/1]

Students' exposure to the mathematics task "calculating how much more expensive a computer would be after adding tax"

Percentage of students who answered how often they have encountered the following types of mathematics tasks during their time in school

Table I.3.4

		Calculating how much more expensive a computer would be after adding tax							
		Frequently		Sometimes		Rarely		Never	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	11.3	(0.4)	37.6	(0.5)	29.0	(0.5)	22.2	(0.6)
	Austria	31.4	(1.1)	36.2	(1.1)	21.2	(0.9)	11.2	(0.7)
	Belgium	10.4	(0.5)	29.4	(0.6)	28.6	(0.7)	31.6	(0.8)
	Canada	20.1	(0.5)	41.0	(0.7)	24.0	(0.6)	14.9	(0.5)
	Chile	19.0	(0.7)	38.1	(0.8)	23.1	(0.8)	19.7	(0.8)
	Czech Republic	9.8	(0.7)	32.4	(1.0)	34.1	(0.8)	23.8	(0.9)
	Denmark	20.2	(0.8)	41.9	(1.0)	26.3	(0.8)	11.5	(0.6)
	Estonia	15.2	(0.7)	39.5	(0.9)	28.4	(0.8)	16.9	(0.8)
	Finland	14.7	(0.6)	45.0	(0.9)	26.2	(0.9)	14.0	(0.7)
	France	21.0	(0.8)	40.5	(1.0)	21.9	(0.7)	16.6	(0.7)
	Germany	22.6	(0.9)	39.2	(1.0)	25.0	(0.9)	13.2	(0.7)
	Greece	13.4	(0.7)	25.6	(0.8)	32.8	(0.8)	28.2	(0.9)
	Hungary	19.1	(0.8)	34.0	(1.0)	28.1	(0.7)	18.9	(0.8)
	Iceland	24.9	(1.0)	37.2	(0.9)	21.8	(0.9)	16.1	(0.8)
	Ireland	29.5	(0.9)	47.5	(0.9)	14.5	(0.5)	8.6	(0.7)
	Israel	13.5	(0.7)	27.9	(0.8)	22.8	(0.7)	35.9	(0.9)
	Italy	12.8	(0.5)	23.1	(0.4)	25.7	(0.6)	38.4	(0.6)
	Japan	11.9	(0.7)	31.3	(0.7)	31.0	(0.8)	25.8	(0.8)
	Korea	12.5	(0.7)	33.8	(0.9)	35.5	(1.0)	18.1	(0.8)
	Luxembourg	11.4	(0.5)	30.3	(0.7)	27.7	(0.8)	30.6	(0.8)
	Mexico	16.9	(0.4)	42.3	(0.5)	24.8	(0.4)	16.0	(0.4)
	Netherlands	29.5	(0.9)	46.1	(0.9)	14.8	(0.8)	9.6	(0.6)
	New Zealand	19.0	(0.7)	45.8	(0.9)	21.6	(0.7)	13.6	(0.7)
	Norway	16.1	(0.8)	45.6	(1.2)	25.8	(1.0)	12.5	(0.7)
	Poland	36.0	(1.2)	44.7	(1.1)	15.6	(0.8)	3.7	(0.4)
	Portugal	10.0	(0.8)	29.3	(0.9)	31.2	(0.9)	29.5	(0.9)
	Slovak Republic	14.4	(0.8)	38.3	(1.0)	27.5	(0.8)	19.7	(0.8)
	Slovenia	20.5	(0.7)	37.2	(1.1)	25.8	(0.9)	16.4	(0.8)
	Spain	20.7	(0.7)	47.5	(0.9)	23.4	(0.6)	8.5	(0.4)
	Sweden	20.6	(0.7)	46.4	(1.0)	22.3	(0.8)	10.7	(0.6)
	Switzerland	16.4	(0.7)	37.9	(0.8)	26.5	(0.6)	19.3	(0.8)
	Turkey	15.0	(0.5)	29.5	(0.9)	27.8	(0.7)	27.8	(1.0)
	United Kingdom	22.7	(0.9)	43.0	(0.8)	21.3	(0.8)	12.9	(0.6)
	United States	16.9	(0.6)	41.1	(0.9)	27.1	(0.8)	14.9	(0.6)
	OECD average	18.2	(0.1)	37.8	(0.2)	25.4	(0.1)	18.6	(0.1)
Partners	Albania	16.8	(0.9)	34.3	(1.0)	26.3	(1.0)	22.7	(1.0)
	Argentina	15.2	(0.8)	36.2	(0.9)	24.9	(0.9)	23.8	(0.9)
	Brazil	19.8	(0.5)	40.7	(0.5)	23.8	(0.5)	15.8	(0.5)
	Bulgaria	12.4	(0.5)	28.9	(0.9)	33.8	(0.9)	24.9	(0.9)
	Colombia	14.5	(0.7)	35.5	(0.8)	23.3	(0.7)	26.6	(0.9)
	Costa Rica	13.5	(0.8)	29.0	(0.9)	27.6	(0.9)	29.9	(0.9)
	Croatia	18.7	(0.7)	33.8	(0.8)	27.5	(0.8)	19.9	(0.9)
	Cyprus*	19.5	(0.8)	33.3	(0.9)	27.3	(0.8)	20.0	(0.8)
	Hong Kong-China	8.7	(0.5)	48.1	(1.0)	33.5	(0.9)	9.7	(0.6)
	Indonesia	13.0	(0.7)	29.9	(1.0)	25.2	(0.8)	31.9	(1.2)
	Jordan	25.8	(0.9)	35.2	(0.8)	21.0	(0.7)	18.0	(0.8)
	Kazakhstan	22.9	(1.0)	38.1	(1.2)	26.3	(1.0)	12.7	(0.8)
	Latvia	12.1	(0.7)	43.2	(1.2)	31.2	(1.0)	13.5	(0.9)
	Liechtenstein	17.6	(3.0)	40.4	(3.9)	28.9	(3.4)	13.1	(2.2)
	Lithuania	16.4	(0.7)	43.2	(0.9)	29.3	(0.7)	11.1	(0.6)
	Macao-China	7.1	(0.4)	33.3	(0.8)	46.8	(0.8)	12.7	(0.5)
	Malaysia	14.6	(0.6)	36.0	(1.0)	27.0	(0.7)	22.5	(1.0)
	Montenegro	24.3	(0.9)	36.7	(1.0)	21.2	(0.8)	17.8	(0.8)
	Peru	20.7	(0.8)	39.1	(0.8)	20.2	(0.7)	19.9	(0.8)
	Qatar	19.9	(0.5)	37.7	(0.6)	20.3	(0.4)	22.0	(0.5)
	Romania	21.9	(0.7)	39.7	(0.9)	22.6	(0.7)	15.9	(0.6)
	Russian Federation	18.7	(0.8)	36.2	(0.8)	28.0	(0.8)	17.1	(0.6)
	Serbia	14.0	(0.6)	32.9	(0.9)	30.1	(0.9)	23.1	(0.7)
	Shanghai-China	20.8	(0.7)	40.8	(0.9)	27.6	(0.9)	10.9	(0.5)
	Singapore	20.5	(0.6)	51.0	(0.9)	20.6	(0.7)	7.9	(0.5)
	Chinese Taipei	10.7	(0.5)	34.5	(0.9)	36.9	(0.8)	17.9	(0.6)
	Thailand	13.6	(0.6)	53.8	(0.8)	19.9	(0.7)	12.7	(0.6)
	Tunisia	14.1	(0.7)	34.0	(1.0)	20.9	(0.8)	31.0	(0.9)
	United Arab Emirates	21.3	(0.7)	38.0	(0.8)	21.2	(0.6)	19.5	(0.8)
	Uruguay	10.5	(0.7)	29.9	(1.0)	28.7	(0.8)	30.9	(1.1)
	Viet Nam	3.6	(0.4)	28.7	(0.8)	41.4	(0.8)	26.3	(0.9)

* See notes at the beginning of this Annex.

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[Part 1/1]

Students' exposure to the mathematics task "calculating how many square metres of tiles you need to cover a floor"

Table I.3.5 *Percentage of students who answered how often they have encountered the following types of mathematics tasks during their time in school*

		Calculating how many square metres of tiles you need to cover a floor							
		Frequently		Sometimes		Rarely		Never	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	18.9	(0.5)	42.7	(0.6)	20.9	(0.5)	17.5	(0.4)
	Austria	35.8	(1.1)	32.4	(0.8)	20.1	(0.8)	11.8	(0.7)
	Belgium	24.0	(0.8)	39.1	(0.7)	19.1	(0.7)	17.8	(0.6)
	Canada	23.2	(0.5)	34.2	(0.6)	20.4	(0.5)	22.2	(0.6)
	Chile	22.1	(0.8)	31.6	(0.8)	24.2	(0.7)	22.2	(0.7)
	Czech Republic	15.9	(0.9)	40.0	(1.1)	28.7	(1.1)	15.3	(0.8)
	Denmark	24.9	(0.8)	39.9	(0.8)	22.6	(0.8)	12.5	(0.6)
	Estonia	26.3	(1.0)	42.0	(1.1)	19.1	(0.7)	12.7	(0.7)
	Finland	24.5	(0.8)	47.2	(0.8)	17.2	(0.7)	11.1	(0.6)
	France	25.0	(0.8)	36.5	(0.9)	21.2	(0.7)	17.3	(0.8)
	Germany	36.7	(1.0)	39.7	(1.0)	14.6	(0.7)	8.9	(0.5)
	Greece	15.7	(0.7)	28.5	(0.8)	32.5	(0.8)	23.3	(0.8)
	Hungary	29.6	(0.8)	34.9	(0.9)	22.8	(0.8)	12.6	(0.7)
	Iceland	36.4	(1.1)	35.1	(1.1)	14.9	(0.6)	13.5	(0.8)
	Ireland	27.2	(0.9)	43.1	(0.8)	19.6	(0.8)	10.1	(0.6)
	Israel	13.7	(0.6)	29.3	(0.9)	26.5	(0.8)	30.5	(0.9)
	Italy	17.8	(0.4)	36.5	(0.5)	26.2	(0.4)	19.5	(0.5)
	Japan	13.4	(0.6)	37.2	(0.8)	27.5	(0.8)	21.9	(0.8)
	Korea	32.3	(1.1)	45.2	(1.1)	15.9	(0.7)	6.6	(0.6)
	Luxembourg	21.7	(0.8)	29.9	(0.8)	22.3	(0.7)	26.1	(0.7)
	Mexico	25.5	(0.4)	43.6	(0.5)	19.1	(0.3)	11.7	(0.3)
	Netherlands	36.6	(1.0)	45.4	(1.1)	11.5	(0.7)	6.5	(0.6)
	New Zealand	20.6	(0.7)	44.6	(0.9)	19.6	(0.8)	15.2	(0.7)
	Norway	22.0	(1.0)	47.0	(1.0)	22.3	(0.9)	8.6	(0.5)
	Poland	46.6	(1.1)	36.9	(0.8)	13.1	(0.7)	3.5	(0.4)
	Portugal	10.1	(0.6)	34.2	(0.8)	27.4	(0.8)	28.3	(0.9)
	Slovak Republic	31.5	(1.2)	37.7	(1.2)	20.1	(0.8)	10.6	(0.7)
	Slovenia	31.8	(0.9)	36.9	(1.1)	19.0	(0.8)	12.4	(0.6)
	Spain	29.6	(0.6)	44.8	(0.6)	17.9	(0.6)	7.7	(0.3)
	Sweden	25.3	(0.9)	44.1	(0.8)	19.4	(0.7)	11.2	(0.6)
	Switzerland	31.8	(0.8)	38.6	(0.8)	18.3	(0.6)	11.3	(0.5)
	Turkey	20.6	(0.8)	34.8	(0.7)	25.6	(0.8)	19.0	(0.8)
	United Kingdom	23.1	(0.9)	41.4	(0.8)	21.4	(0.7)	14.1	(0.6)
	United States	24.4	(0.9)	39.7	(0.9)	19.2	(0.8)	16.7	(0.9)
	OECD average	25.4	(0.1)	38.7	(0.1)	20.9	(0.1)	15.0	(0.1)
Partners	Albania	30.3	(0.9)	35.4	(0.9)	21.4	(0.8)	12.9	(0.7)
	Argentina	22.0	(1.0)	38.5	(1.1)	21.2	(0.8)	18.3	(0.8)
	Brazil	17.4	(0.5)	28.4	(0.6)	23.8	(0.6)	30.4	(0.7)
	Bulgaria	21.2	(0.7)	38.1	(0.8)	26.9	(0.9)	13.8	(0.7)
	Colombia	20.9	(0.9)	31.5	(0.8)	22.2	(0.7)	25.4	(0.8)
	Costa Rica	10.4	(0.7)	26.4	(0.9)	27.1	(1.2)	36.1	(1.1)
	Croatia	23.0	(0.8)	36.5	(0.7)	25.1	(0.9)	15.4	(0.7)
	Cyprus*	14.3	(0.7)	26.3	(0.9)	30.3	(0.9)	29.2	(0.9)
	Hong Kong-China	9.3	(0.5)	43.5	(0.9)	38.0	(1.1)	9.2	(0.7)
	Indonesia	24.0	(1.0)	31.6	(0.8)	23.6	(1.0)	20.8	(1.0)
	Jordan	26.9	(0.8)	32.3	(0.7)	23.1	(0.6)	17.8	(0.7)
	Kazakhstan	32.3	(1.2)	36.9	(0.9)	21.9	(0.8)	8.9	(0.6)
	Latvia	19.9	(1.2)	46.8	(1.3)	23.9	(1.0)	9.4	(0.6)
	Liechtenstein	33.0	(3.3)	47.9	(3.7)	13.1	(2.3)	6.0	(1.6)
	Lithuania	29.9	(0.8)	45.1	(0.9)	19.1	(0.7)	5.9	(0.4)
	Macao-China	12.1	(0.5)	42.8	(0.8)	37.5	(0.8)	7.6	(0.4)
	Malaysia	20.4	(0.8)	36.4	(0.8)	24.6	(0.9)	18.6	(0.8)
	Montenegro	25.4	(0.9)	35.5	(1.0)	23.7	(0.9)	15.3	(0.7)
	Peru	23.6	(0.8)	37.6	(0.7)	19.8	(0.7)	19.0	(0.8)
	Qatar	23.2	(0.5)	32.9	(0.6)	23.0	(0.5)	20.9	(0.5)
	Romania	29.7	(0.8)	36.5	(0.8)	21.0	(0.8)	12.8	(0.7)
	Russian Federation	24.6	(0.9)	42.5	(1.0)	25.2	(0.7)	7.6	(0.5)
	Serbia	17.5	(0.8)	34.0	(0.9)	26.1	(0.8)	22.3	(0.7)
	Shanghai-China	18.2	(0.7)	38.3	(0.8)	31.7	(0.9)	11.7	(0.6)
	Singapore	14.9	(0.6)	42.8	(0.8)	29.9	(0.8)	12.3	(0.5)
	Chinese Taipei	15.5	(0.5)	38.4	(0.8)	30.9	(0.8)	15.2	(0.7)
	Thailand	24.9	(0.8)	50.8	(0.9)	16.0	(0.7)	8.2	(0.6)
	Tunisia	16.6	(0.7)	32.6	(1.0)	22.1	(0.8)	28.8	(1.0)
	United Arab Emirates	24.6	(0.6)	33.4	(0.6)	21.0	(0.4)	21.0	(0.8)
	Uruguay	11.8	(0.7)	33.3	(0.8)	27.2	(0.7)	27.7	(0.7)
	Viet Nam	9.7	(0.6)	44.5	(1.1)	31.2	(0.8)	14.5	(0.8)

* See notes at the beginning of this Annex.

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[Part 1/1]

Students' exposure to the mathematics task "understanding scientific tables presented in an article"

Table I.3.6 *Percentage of students who answered how often they have encountered the following types of mathematics tasks during their time in school*

		Understanding scientific tables presented in an article							
		Frequently		Sometimes		Rarely		Never	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	10.9	(0.4)	37.2	(0.6)	31.6	(0.6)	20.3	(0.5)
	Austria	10.3	(0.6)	24.6	(0.8)	37.5	(1.0)	27.5	(1.0)
	Belgium	14.5	(0.5)	34.3	(0.7)	27.1	(0.6)	24.0	(0.6)
	Canada	14.9	(0.5)	35.2	(0.6)	30.3	(0.6)	19.7	(0.5)
	Chile	14.2	(0.5)	35.1	(0.7)	30.3	(0.7)	20.4	(0.8)
	Czech Republic	12.7	(0.9)	36.7	(1.1)	34.7	(1.0)	15.8	(1.0)
	Denmark	13.3	(0.7)	34.2	(0.8)	38.8	(0.8)	13.7	(0.7)
	Estonia	17.7	(0.8)	41.5	(1.0)	31.2	(0.9)	9.6	(0.5)
	Finland	9.9	(0.5)	37.3	(0.8)	36.2	(0.8)	16.5	(0.6)
	France	18.4	(0.8)	30.8	(0.8)	29.6	(0.8)	21.2	(0.9)
	Germany	13.0	(0.6)	32.8	(0.9)	35.3	(0.9)	19.0	(0.8)
	Greece	13.9	(0.6)	24.6	(0.8)	32.0	(0.8)	29.5	(0.9)
	Hungary	21.2	(0.8)	33.8	(0.9)	29.2	(0.9)	15.8	(0.9)
	Iceland	15.2	(0.8)	30.0	(1.0)	32.6	(1.0)	22.3	(0.9)
	Ireland	12.2	(0.6)	33.1	(0.9)	36.0	(1.0)	18.8	(0.9)
	Israel	23.5	(0.9)	34.7	(0.9)	20.4	(0.7)	21.4	(0.9)
	Italy	13.9	(0.4)	32.2	(0.5)	29.2	(0.4)	24.7	(0.4)
	Japan	6.9	(0.4)	22.2	(0.8)	38.0	(0.7)	32.8	(0.9)
	Korea	25.8	(1.0)	45.0	(0.9)	22.3	(0.8)	6.8	(0.6)
	Luxembourg	13.0	(0.6)	31.5	(0.8)	30.3	(0.8)	25.1	(0.7)
	Mexico	16.3	(0.3)	40.9	(0.4)	29.3	(0.4)	13.5	(0.3)
	Netherlands	22.1	(0.9)	46.0	(1.3)	21.1	(1.0)	10.8	(1.0)
	New Zealand	10.3	(0.6)	36.3	(1.0)	33.7	(1.0)	19.8	(0.8)
	Norway	10.3	(0.7)	38.1	(0.9)	37.2	(1.0)	14.3	(0.7)
	Poland	14.8	(0.7)	35.7	(0.8)	36.8	(0.8)	12.8	(0.7)
	Portugal	17.0	(0.7)	40.8	(0.9)	23.9	(0.8)	18.2	(0.9)
	Slovak Republic	13.2	(0.7)	32.8	(0.9)	33.2	(1.0)	20.8	(0.7)
	Slovenia	11.6	(0.7)	29.0	(0.8)	35.0	(1.0)	24.5	(0.7)
	Spain	11.0	(0.5)	29.5	(0.5)	35.9	(0.7)	23.6	(0.6)
	Sweden	15.7	(0.7)	42.8	(0.9)	30.3	(0.8)	11.1	(0.5)
	Switzerland	10.1	(0.4)	30.2	(0.8)	37.9	(0.6)	21.7	(0.8)
	Turkey	18.0	(0.7)	29.6	(1.1)	25.2	(0.7)	27.3	(0.8)
	United Kingdom	10.2	(0.6)	32.9	(0.9)	36.6	(0.8)	20.4	(0.7)
	United States	18.9	(0.7)	38.0	(0.8)	26.7	(0.8)	16.4	(0.8)
	OECD average	14.6	(0.1)	34.4	(0.1)	31.6	(0.1)	19.4	(0.1)
Partners	Albania	32.2	(1.1)	36.8	(1.1)	20.5	(0.8)	10.5	(0.8)
	Argentina	15.0	(0.7)	36.7	(1.0)	25.7	(0.9)	22.6	(0.8)
	Brazil	26.8	(0.7)	36.2	(0.5)	21.3	(0.5)	15.8	(0.5)
	Bulgaria	18.6	(0.7)	34.2	(0.8)	31.5	(0.9)	15.7	(0.7)
	Colombia	14.2	(0.7)	31.1	(0.8)	27.7	(0.8)	27.0	(0.8)
	Costa Rica	12.3	(0.8)	30.5	(0.9)	27.8	(1.0)	29.3	(1.0)
	Croatia	11.6	(0.6)	30.8	(0.9)	34.4	(0.8)	23.3	(0.8)
	Cyprus*	15.3	(0.7)	29.1	(0.9)	29.5	(0.7)	26.2	(0.8)
	Hong Kong-China	7.4	(0.4)	27.4	(0.8)	43.4	(0.9)	21.8	(0.8)
	Indonesia	21.0	(0.9)	35.0	(0.9)	24.7	(0.9)	19.3	(0.8)
	Jordan	31.0	(0.8)	38.1	(0.8)	20.1	(0.6)	10.9	(0.5)
	Kazakhstan	26.0	(0.9)	35.7	(1.0)	25.6	(1.0)	12.7	(0.8)
	Latvia	11.3	(0.7)	33.8	(1.0)	37.5	(1.0)	17.4	(0.9)
	Liechtenstein	9.4	(2.0)	33.3	(3.3)	36.5	(3.5)	20.9	(3.0)
	Lithuania	15.0	(0.7)	36.2	(0.9)	33.6	(0.8)	15.2	(0.7)
	Macao-China	8.6	(0.5)	29.5	(0.7)	42.2	(0.8)	19.8	(0.6)
	Malaysia	18.6	(0.8)	38.1	(0.8)	26.7	(0.8)	16.6	(0.8)
	Montenegro	15.4	(0.7)	32.1	(0.9)	31.3	(1.1)	21.2	(0.9)
	Peru	19.9	(0.8)	40.6	(0.9)	23.7	(0.8)	15.8	(0.7)
	Qatar	22.5	(0.6)	35.3	(0.6)	24.3	(0.5)	17.9	(0.5)
	Romania	18.1	(0.8)	34.3	(0.9)	28.3	(0.7)	19.2	(0.7)
	Russian Federation	19.2	(0.6)	33.2	(0.9)	31.2	(0.9)	16.5	(0.7)
	Serbia	13.7	(0.8)	29.1	(0.9)	30.6	(0.7)	26.5	(0.9)
	Shanghai-China	25.2	(0.7)	37.6	(0.7)	27.6	(0.7)	9.5	(0.5)
	Singapore	14.8	(0.6)	43.0	(0.8)	30.7	(0.8)	11.5	(0.6)
	Chinese Taipei	15.6	(0.7)	34.3	(0.9)	34.1	(0.9)	15.9	(0.7)
	Thailand	23.0	(0.9)	53.1	(1.0)	16.2	(0.7)	7.7	(0.6)
	Tunisia	24.8	(0.8)	36.6	(0.9)	20.6	(0.8)	18.1	(0.7)
	United Arab Emirates	23.2	(0.6)	36.6	(0.7)	23.6	(0.6)	16.6	(0.6)
	Uruguay	8.5	(0.6)	25.1	(0.9)	28.3	(0.8)	38.0	(1.0)
	Viet Nam	5.9	(0.5)	28.0	(0.9)	36.3	(0.8)	29.8	(0.9)

* See notes at the beginning of this Annex.

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[Part 1/1]

Students' exposure to the mathematics task "solving an equation like $6x^2 + 5 = 29$"

Percentage of students who answered how often they have encountered the following types of mathematics tasks during their time in school

Table I.3.7

		Solving an equation like $6x^2 + 5 = 29$							
		Frequently		Sometimes		Rarely		Never	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	51.1	(0.6)	30.5	(0.5)	10.9	(0.4)	7.5	(0.3)
	Austria	63.8	(1.0)	17.6	(0.8)	10.7	(0.6)	8.0	(0.6)
	Belgium	62.6	(0.7)	18.3	(0.5)	7.9	(0.4)	11.3	(0.5)
	Canada	59.5	(0.7)	23.4	(0.5)	8.8	(0.4)	8.2	(0.4)
	Chile	55.4	(1.2)	27.0	(1.0)	10.6	(0.6)	7.0	(0.4)
	Czech Republic	54.2	(1.2)	29.1	(1.1)	10.9	(0.7)	5.8	(0.6)
	Denmark	46.3	(1.0)	32.0	(0.9)	13.9	(0.8)	7.9	(0.6)
	Estonia	62.5	(1.1)	24.9	(0.9)	8.3	(0.6)	4.4	(0.4)
	Finland	61.3	(1.1)	28.2	(0.8)	6.8	(0.5)	3.7	(0.3)
	France	64.9	(1.0)	19.9	(0.8)	6.7	(0.5)	8.5	(0.6)
	Germany	68.9	(1.2)	19.1	(0.8)	7.2	(0.6)	4.7	(0.4)
	Greece	67.5	(1.0)	16.5	(0.7)	8.1	(0.6)	7.8	(0.6)
	Hungary	67.4	(1.2)	19.5	(0.8)	9.1	(0.7)	4.1	(0.5)
	Iceland	72.3	(0.9)	16.7	(0.8)	5.5	(0.5)	5.4	(0.5)
	Ireland	68.1	(1.0)	20.6	(0.7)	6.5	(0.5)	4.8	(0.4)
	Israel	65.4	(1.2)	21.2	(0.8)	7.4	(0.6)	6.1	(0.5)
	Italy	71.7	(0.6)	15.6	(0.4)	6.4	(0.2)	6.3	(0.3)
	Japan	69.4	(1.0)	18.0	(0.6)	6.4	(0.4)	6.2	(0.6)
	Korea	79.4	(1.2)	14.6	(0.8)	3.5	(0.4)	2.6	(0.4)
	Luxembourg	52.8	(0.9)	24.3	(0.8)	11.0	(0.5)	11.9	(0.6)
	Mexico	56.7	(0.6)	31.0	(0.5)	8.2	(0.3)	4.1	(0.2)
	Netherlands	64.6	(1.4)	20.7	(1.0)	7.4	(0.5)	7.3	(0.6)
	New Zealand	48.4	(1.1)	30.9	(0.9)	11.8	(0.6)	9.0	(0.6)
	Norway	57.8	(1.2)	31.5	(1.0)	6.9	(0.5)	3.8	(0.4)
	Poland	61.8	(1.0)	29.2	(0.9)	7.0	(0.5)	2.1	(0.3)
	Portugal	48.0	(1.2)	29.2	(1.1)	11.3	(0.7)	11.5	(0.8)
	Slovak Republic	57.1	(1.4)	27.3	(1.2)	9.7	(0.6)	5.9	(0.5)
	Slovenia	67.2	(0.8)	21.5	(0.7)	7.7	(0.4)	3.6	(0.3)
	Spain	74.1	(0.7)	18.2	(0.6)	4.8	(0.3)	2.9	(0.3)
	Sweden	45.0	(1.2)	37.5	(1.0)	10.9	(0.6)	6.7	(0.5)
	Switzerland	62.7	(1.0)	22.3	(0.9)	8.5	(0.4)	6.4	(0.3)
	Turkey	58.8	(1.3)	21.7	(0.9)	11.3	(0.6)	8.2	(0.5)
	United Kingdom	62.0	(0.9)	24.9	(0.8)	7.3	(0.5)	5.7	(0.4)
	United States	65.5	(1.1)	23.8	(0.9)	6.2	(0.5)	4.5	(0.4)
	OECD average	61.6	(0.2)	23.7	(0.1)	8.4	(0.1)	6.3	(0.1)
Partners	Albania	69.5	(0.9)	17.1	(0.7)	9.2	(0.6)	4.2	(0.4)
	Argentina	50.4	(1.1)	31.2	(0.8)	9.2	(0.6)	9.3	(0.6)
	Brazil	38.3	(0.8)	34.5	(0.6)	16.5	(0.5)	10.8	(0.4)
	Bulgaria	65.4	(1.3)	20.8	(0.8)	9.2	(0.7)	4.7	(0.4)
	Colombia	42.5	(1.0)	34.8	(1.0)	14.2	(0.9)	8.4	(0.5)
	Costa Rica	57.1	(1.3)	28.5	(1.1)	8.0	(0.5)	6.5	(0.6)
	Croatia	67.8	(1.0)	21.2	(0.7)	6.9	(0.5)	4.1	(0.5)
	Cyprus*	60.4	(1.0)	21.6	(0.9)	10.8	(0.6)	7.2	(0.5)
	Hong Kong-China	64.4	(1.0)	28.4	(0.9)	5.1	(0.5)	2.1	(0.3)
	Indonesia	53.5	(1.3)	27.4	(0.9)	13.4	(0.7)	5.6	(0.4)
	Jordan	55.2	(1.0)	26.7	(0.8)	12.0	(0.7)	6.1	(0.4)
	Kazakhstan	68.6	(1.4)	19.7	(0.9)	9.0	(0.7)	2.8	(0.3)
	Latvia	59.9	(1.2)	29.1	(1.1)	8.0	(0.6)	3.0	(0.4)
	Liechtenstein	76.2	(3.0)	13.3	(2.3)	4.8	(1.8)	5.7	(1.6)
	Lithuania	65.3	(1.1)	25.5	(1.0)	6.9	(0.5)	2.3	(0.3)
	Macao-China	68.3	(0.8)	24.9	(0.7)	5.3	(0.4)	1.6	(0.2)
	Malaysia	59.8	(1.3)	23.4	(0.9)	10.5	(0.5)	6.3	(0.5)
	Montenegro	59.8	(0.9)	23.2	(0.8)	10.7	(0.6)	6.2	(0.5)
	Peru	62.9	(1.3)	28.6	(1.0)	6.5	(0.5)	2.0	(0.3)
	Qatar	50.1	(0.6)	27.5	(0.6)	12.8	(0.4)	9.6	(0.4)
	Romania	60.6	(1.2)	23.2	(0.8)	11.2	(0.6)	4.9	(0.4)
	Russian Federation	75.0	(1.1)	17.4	(0.9)	5.5	(0.5)	2.1	(0.2)
	Serbia	60.5	(1.1)	22.8	(0.9)	10.0	(0.6)	6.7	(0.5)
	Shanghai-China	67.0	(1.1)	20.7	(0.8)	7.9	(0.5)	4.5	(0.4)
	Singapore	74.8	(0.8)	19.1	(0.7)	4.2	(0.3)	1.9	(0.2)
	Chinese Taipei	59.6	(1.1)	24.9	(0.6)	8.8	(0.5)	6.6	(0.5)
	Thailand	53.0	(1.3)	33.4	(1.1)	9.2	(0.5)	4.4	(0.4)
	Tunisia	46.7	(1.4)	30.1	(0.9)	12.3	(0.6)	10.8	(0.7)
	United Arab Emirates	58.4	(1.0)	24.4	(0.8)	10.4	(0.4)	6.7	(0.4)
	Uruguay	58.0	(1.0)	27.1	(1.0)	8.2	(0.5)	6.7	(0.5)
	Viet Nam	68.0	(1.1)	24.6	(0.8)	5.1	(0.6)	2.3	(0.3)

* See notes at the beginning of this Annex.

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[Part 1/1]

Students' exposure to the mathematics task "finding the actual distance between two places on a map with a 1:10,000 scale"

Percentage of students who answered how often they have encountered the following types of mathematics tasks during their time in school

Table I.3.8

		Finding the actual distance between two places on a map with a 1:10 000 scale							
		Frequently		Sometimes		Rarely		Never	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	12.1	(0.4)	41.4	(0.6)	34.4	(0.5)	12.1	(0.4)
	Austria	14.3	(0.8)	30.1	(1.0)	37.1	(1.1)	18.5	(0.9)
	Belgium	17.5	(0.7)	37.6	(0.7)	31.7	(0.7)	13.1	(0.5)
	Canada	13.4	(0.4)	32.2	(0.6)	34.9	(0.6)	19.6	(0.6)
	Chile	13.4	(0.7)	28.6	(0.9)	32.7	(0.9)	25.4	(0.9)
	Czech Republic	10.5	(0.9)	34.0	(1.3)	41.6	(1.3)	14.0	(0.8)
	Denmark	31.2	(0.9)	43.7	(0.8)	18.7	(0.7)	6.4	(0.5)
	Estonia	11.8	(0.7)	36.7	(0.8)	43.0	(1.0)	8.5	(0.5)
	Finland	18.9	(0.7)	51.6	(0.9)	24.8	(0.9)	4.7	(0.3)
	France	13.1	(0.7)	31.4	(0.9)	38.0	(1.0)	17.4	(0.7)
	Germany	13.6	(0.8)	35.1	(0.9)	39.2	(1.0)	12.1	(0.7)
	Greece	12.9	(0.6)	20.8	(0.9)	39.5	(1.1)	26.9	(0.9)
	Hungary	18.8	(0.8)	36.1	(1.0)	34.0	(1.0)	11.1	(0.8)
	Iceland	27.5	(1.0)	37.3	(1.1)	25.5	(0.9)	9.7	(0.7)
	Ireland	12.3	(0.7)	33.0	(1.0)	37.9	(0.9)	16.8	(0.7)
	Israel	11.6	(0.6)	22.2	(0.8)	32.7	(0.8)	33.4	(0.9)
	Italy	10.5	(0.4)	26.9	(0.5)	38.3	(0.5)	24.3	(0.4)
	Japan	30.3	(0.9)	36.2	(0.8)	22.0	(0.8)	11.5	(0.7)
	Korea	25.6	(0.9)	47.8	(0.8)	21.5	(0.8)	5.1	(0.4)
	Luxembourg	14.5	(0.6)	31.3	(0.8)	34.4	(0.8)	19.9	(0.6)
	Mexico	18.2	(0.3)	39.8	(0.4)	30.1	(0.5)	11.9	(0.3)
	Netherlands	17.3	(1.0)	45.6	(1.1)	28.8	(1.0)	8.3	(0.7)
	New Zealand	10.3	(0.7)	34.6	(1.0)	36.7	(1.0)	18.3	(0.9)
	Norway	23.9	(1.0)	51.5	(0.9)	20.8	(0.9)	3.7	(0.3)
	Poland	25.9	(1.0)	44.9	(0.9)	26.6	(1.0)	2.6	(0.3)
	Portugal	9.1	(0.5)	29.6	(0.9)	39.3	(1.2)	21.9	(0.8)
	Slovak Republic	23.0	(0.9)	41.1	(1.0)	27.3	(1.0)	8.6	(0.6)
	Slovenia	19.3	(1.0)	36.1	(1.0)	34.4	(1.0)	10.3	(0.6)
	Spain	18.5	(0.6)	38.4	(0.8)	32.7	(0.8)	10.3	(0.4)
	Sweden	24.6	(1.0)	46.3	(1.0)	23.4	(1.1)	5.6	(0.5)
	Switzerland	15.0	(0.5)	37.8	(0.8)	36.6	(0.9)	10.6	(0.6)
	Turkey	21.4	(0.9)	30.4	(0.9)	28.2	(0.8)	20.1	(0.8)
	United Kingdom	9.6	(0.6)	32.7	(0.8)	40.8	(1.0)	16.8	(0.7)
	United States	12.9	(0.6)	32.0	(0.9)	35.6	(1.0)	19.5	(0.7)
	OECD average	17.1	(0.1)	36.3	(0.2)	32.5	(0.2)	14.1	(0.1)
Partners	Albania	23.0	(1.0)	38.3	(1.1)	29.0	(1.1)	9.7	(0.6)
	Argentina	15.8	(0.8)	29.2	(1.0)	28.7	(0.8)	26.2	(0.8)
	Brazil	17.7	(0.5)	32.6	(0.7)	28.6	(0.6)	21.2	(0.6)
	Bulgaria	18.9	(0.9)	32.0	(1.0)	36.0	(1.0)	13.1	(0.7)
	Colombia	13.6	(0.9)	27.0	(1.0)	29.5	(1.0)	29.9	(0.7)
	Costa Rica	10.6	(0.7)	24.3	(1.0)	33.6	(0.9)	31.4	(1.0)
	Croatia	24.7	(0.8)	35.2	(0.9)	29.9	(0.8)	10.2	(0.7)
	Cyprus*	19.3	(0.7)	29.4	(0.8)	30.2	(0.8)	21.1	(0.8)
	Hong Kong-China	14.1	(0.6)	39.1	(0.9)	40.7	(1.0)	6.1	(0.6)
	Indonesia	36.2	(1.2)	36.3	(1.1)	19.8	(0.8)	7.7	(0.5)
	Jordan	26.9	(0.9)	34.2	(0.9)	25.1	(0.7)	13.8	(0.6)
	Kazakhstan	34.5	(1.1)	37.2	(0.9)	22.4	(0.8)	5.9	(0.5)
	Latvia	11.2	(0.8)	35.5	(0.9)	44.8	(1.1)	8.4	(0.8)
	Liechtenstein	14.1	(2.6)	30.2	(3.3)	45.9	(3.5)	9.7	(2.1)
	Lithuania	17.6	(0.7)	39.2	(0.9)	35.8	(1.1)	7.4	(0.5)
	Macao-China	9.4	(0.4)	36.9	(0.8)	47.1	(0.7)	6.6	(0.4)
	Malaysia	27.9	(0.9)	38.7	(1.0)	24.9	(0.8)	8.6	(0.7)
	Montenegro	20.2	(0.9)	33.0	(0.9)	29.6	(0.9)	17.2	(0.8)
	Peru	19.0	(0.8)	35.5	(0.8)	26.6	(0.9)	18.9	(0.6)
	Qatar	20.9	(0.5)	30.6	(0.5)	28.1	(0.4)	20.4	(0.5)
	Romania	23.8	(0.9)	32.9	(0.9)	29.8	(0.9)	13.5	(0.8)
	Russian Federation	15.2	(0.9)	30.5	(0.8)	39.5	(0.9)	14.8	(0.9)
	Serbia	15.0	(0.7)	30.9	(0.8)	34.1	(1.1)	20.0	(0.8)
	Shanghai-China	28.0	(0.8)	35.1	(0.7)	29.7	(0.9)	7.2	(0.5)
	Singapore	34.1	(0.8)	43.1	(0.8)	19.0	(0.6)	3.7	(0.3)
	Chinese Taipei	15.1	(0.6)	38.5	(0.8)	36.5	(0.8)	10.0	(0.6)
	Thailand	25.5	(0.8)	51.6	(0.9)	17.2	(0.7)	5.6	(0.4)
	Tunisia	16.9	(0.7)	31.0	(0.9)	27.6	(1.0)	24.5	(1.0)
	United Arab Emirates	23.0	(0.6)	33.0	(0.6)	26.2	(0.6)	17.9	(0.6)
	Uruguay	11.6	(0.6)	25.1	(0.9)	30.9	(0.9)	32.4	(1.0)
	Viet Nam	8.8	(0.6)	41.0	(0.9)	37.8	(0.9)	12.3	(0.7)

* See notes at the beginning of this Annex.

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[Part 1/1]

Students' exposure to the mathematics task "solving an equation like 2(x+3) = (x+3)(x-3)"

Table I.3.9 *Percentage of students who answered how often they have encountered the following types of mathematics tasks during their time in school*

		Solving an equation like 2(x+3) = (x+3)(x-3)							
		Frequently		Sometimes		Rarely		Never	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	51.8	(0.6)	30.5	(0.5)	10.6	(0.4)	7.0	(0.3)
	Austria	63.3	(1.1)	16.7	(0.8)	11.3	(0.7)	8.7	(0.6)
	Belgium	61.6	(0.8)	18.6	(0.6)	8.3	(0.4)	11.5	(0.5)
	Canada	57.8	(0.6)	23.0	(0.5)	9.8	(0.3)	9.4	(0.4)
	Chile	56.1	(1.2)	25.1	(1.0)	11.3	(0.6)	7.6	(0.4)
	Czech Republic	58.0	(1.2)	26.3	(1.0)	9.8	(0.7)	5.9	(0.6)
	Denmark	44.1	(1.1)	32.8	(0.9)	15.3	(0.7)	7.8	(0.5)
	Estonia	63.3	(1.0)	24.3	(0.9)	8.3	(0.5)	4.2	(0.4)
	Finland	50.5	(1.0)	34.6	(0.9)	9.9	(0.5)	5.0	(0.3)
	France	62.2	(0.9)	20.7	(0.8)	8.4	(0.5)	8.7	(0.6)
	Germany	66.1	(1.1)	21.2	(0.8)	7.8	(0.5)	4.9	(0.5)
	Greece	67.8	(1.1)	15.7	(0.7)	8.8	(0.7)	7.6	(0.5)
	Hungary	69.5	(1.1)	17.8	(0.8)	8.9	(0.6)	3.8	(0.5)
	Iceland	72.8	(0.9)	17.1	(0.8)	4.8	(0.5)	5.2	(0.5)
	Ireland	66.8	(1.0)	21.1	(0.8)	6.7	(0.4)	5.4	(0.5)
	Israel	65.2	(1.2)	21.9	(0.7)	6.4	(0.6)	6.5	(0.5)
	Italy	75.6	(0.6)	14.2	(0.4)	5.3	(0.2)	4.9	(0.3)
	Japan	69.8	(1.1)	18.5	(0.7)	6.4	(0.4)	5.4	(0.5)
	Korea	81.5	(1.1)	13.5	(0.8)	2.8	(0.4)	2.2	(0.3)
	Luxembourg	53.9	(0.8)	23.3	(0.8)	11.3	(0.5)	11.6	(0.6)
	Mexico	56.0	(0.5)	30.6	(0.5)	8.9	(0.2)	4.5	(0.2)
	Netherlands	59.5	(1.5)	23.6	(1.2)	8.5	(0.7)	8.4	(0.7)
	New Zealand	46.1	(1.0)	31.7	(0.8)	12.2	(0.6)	10.0	(0.7)
	Norway	53.8	(1.3)	33.8	(1.1)	8.3	(0.6)	4.1	(0.4)
	Poland	61.8	(1.1)	29.5	(0.9)	7.0	(0.6)	1.7	(0.3)
	Portugal	48.6	(1.3)	26.4	(1.1)	12.5	(0.7)	12.6	(0.8)
	Slovak Republic	58.9	(1.3)	26.6	(1.0)	9.1	(0.6)	5.4	(0.5)
	Slovenia	71.5	(0.9)	19.3	(0.7)	6.6	(0.4)	2.6	(0.3)
	Spain	72.5	(0.6)	19.7	(0.5)	4.8	(0.3)	2.9	(0.3)
	Sweden	42.1	(1.2)	38.4	(1.1)	12.5	(0.6)	6.9	(0.5)
	Switzerland	62.5	(1.0)	22.0	(0.9)	8.6	(0.4)	7.0	(0.4)
	Turkey	58.2	(1.3)	20.3	(0.8)	12.6	(0.6)	9.0	(0.5)
	United Kingdom	58.7	(1.0)	25.3	(0.8)	9.0	(0.4)	6.9	(0.3)
	United States	61.3	(1.2)	25.7	(0.9)	7.3	(0.5)	5.7	(0.5)
	OECD average	60.9	(0.2)	23.8	(0.1)	8.8	(0.1)	6.5	(0.1)
Partners	Albania	70.4	(1.0)	16.5	(0.9)	8.8	(0.6)	4.4	(0.5)
	Argentina	50.2	(1.1)	30.4	(0.9)	9.5	(0.5)	9.9	(0.5)
	Brazil	35.9	(0.7)	34.1	(0.7)	18.4	(0.6)	11.7	(0.5)
	Bulgaria	65.5	(1.2)	20.9	(0.8)	8.5	(0.6)	5.1	(0.5)
	Colombia	41.5	(1.0)	33.4	(1.0)	15.7	(0.8)	9.4	(0.5)
	Costa Rica	57.0	(1.2)	27.6	(1.1)	8.4	(0.6)	7.0	(0.5)
	Croatia	70.1	(1.0)	18.8	(0.7)	7.1	(0.5)	3.9	(0.5)
	Cyprus*	60.5	(1.0)	20.8	(0.8)	10.8	(0.6)	7.9	(0.5)
	Hong Kong-China	64.5	(1.1)	27.5	(0.9)	5.7	(0.5)	2.3	(0.3)
	Indonesia	53.0	(1.4)	29.6	(1.0)	12.6	(0.7)	4.8	(0.5)
	Jordan	43.4	(1.1)	31.6	(0.8)	16.6	(0.6)	8.5	(0.5)
	Kazakhstan	70.1	(1.2)	19.5	(0.9)	8.2	(0.6)	2.2	(0.3)
	Latvia	57.0	(1.3)	29.6	(1.1)	10.3	(0.7)	3.1	(0.4)
	Liechtenstein	75.9	(3.1)	13.0	(2.5)	4.1	(1.4)	6.9	(1.8)
	Lithuania	65.6	(1.2)	24.5	(0.9)	7.2	(0.5)	2.7	(0.3)
	Macao-China	69.3	(0.8)	24.0	(0.9)	5.0	(0.3)	1.7	(0.2)
	Malaysia	60.4	(1.2)	23.2	(0.8)	11.0	(0.6)	5.4	(0.5)
	Montenegro	58.4	(0.9)	24.4	(0.9)	10.4	(0.6)	6.8	(0.5)
	Peru	61.0	(1.2)	28.7	(0.8)	7.8	(0.6)	2.6	(0.3)
	Qatar	49.4	(0.6)	27.5	(0.5)	13.1	(0.4)	10.0	(0.4)
	Romania	57.2	(1.3)	25.1	(0.9)	11.9	(0.7)	5.8	(0.5)
	Russian Federation	75.5	(1.2)	16.9	(1.0)	5.6	(0.4)	2.0	(0.3)
	Serbia	63.3	(1.1)	19.3	(0.7)	9.6	(0.6)	7.7	(0.5)
	Shanghai-China	68.3	(1.1)	19.8	(0.8)	7.8	(0.6)	4.2	(0.4)
	Singapore	76.3	(0.8)	17.6	(0.7)	4.2	(0.3)	1.9	(0.2)
	Chinese Taipei	59.6	(1.1)	24.7	(0.6)	9.1	(0.6)	6.6	(0.5)
	Thailand	52.1	(1.2)	34.2	(1.0)	9.8	(0.5)	3.9	(0.3)
	Tunisia	49.2	(1.3)	27.5	(0.9)	12.8	(0.7)	10.5	(0.6)
	United Arab Emirates	54.5	(0.9)	25.2	(0.7)	12.1	(0.5)	8.1	(0.4)
	Uruguay	59.3	(1.1)	24.9	(0.9)	8.6	(0.5)	7.2	(0.4)
	Viet Nam	66.9	(1.4)	22.9	(1.0)	7.3	(0.7)	2.8	(0.4)

* See notes at the beginning of this Annex.

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[Part 1/1]

Students' exposure to the mathematics task "calculating the power consumption of an electronic appliance per week"

Percentage of students who answered how often they have encountered the following types of mathematics tasks during their time in school

Table I.3.10

		Calculating the power consumption of an electronic appliance per week							
		Frequently		Sometimes		Rarely		Never	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	6.4	(0.3)	29.8	(0.5)	38.8	(0.6)	25.1	(0.5)
	Austria	9.8	(0.5)	24.1	(0.8)	36.8	(0.9)	29.3	(0.9)
	Belgium	6.3	(0.4)	22.4	(0.7)	35.8	(0.7)	35.5	(0.8)
	Canada	11.4	(0.4)	30.2	(0.5)	32.4	(0.6)	26.0	(0.5)
	Chile	15.0	(0.7)	31.7	(0.8)	31.9	(0.7)	21.5	(0.7)
	Czech Republic	7.2	(0.5)	28.2	(1.1)	39.4	(1.1)	25.1	(1.0)
	Denmark	12.3	(0.6)	40.6	(0.9)	36.0	(0.9)	11.1	(0.5)
	Estonia	9.6	(0.6)	28.3	(1.0)	42.5	(0.9)	19.6	(0.8)
	Finland	10.9	(0.5)	41.9	(0.8)	32.6	(0.8)	14.6	(0.5)
	France	10.2	(0.6)	30.9	(0.8)	35.8	(0.9)	23.1	(0.8)
	Germany	9.5	(0.6)	30.6	(0.9)	39.9	(0.9)	20.0	(0.9)
	Greece	14.9	(0.7)	25.8	(0.9)	33.5	(0.9)	25.9	(0.9)
	Hungary	13.6	(0.8)	31.1	(0.9)	35.1	(1.0)	20.2	(0.9)
	Iceland	14.2	(0.8)	31.4	(1.0)	35.3	(1.1)	19.1	(0.9)
	Ireland	10.6	(0.5)	35.4	(1.0)	35.5	(0.8)	18.4	(0.7)
	Israel	12.9	(0.7)	22.0	(0.7)	28.1	(0.8)	37.0	(1.1)
	Italy	5.6	(0.2)	18.3	(0.4)	33.3	(0.5)	42.8	(0.5)
	Japan	10.1	(0.5)	30.5	(0.8)	36.6	(0.8)	22.9	(0.8)
	Korea	13.7	(0.7)	49.0	(0.9)	29.9	(0.9)	7.4	(0.5)
	Luxembourg	9.1	(0.5)	22.8	(0.7)	33.3	(0.8)	34.8	(0.8)
	Mexico	16.7	(0.4)	40.0	(0.4)	29.0	(0.4)	14.2	(0.3)
	Netherlands	12.9	(0.6)	44.3	(0.9)	30.2	(0.8)	12.6	(0.8)
	New Zealand	9.3	(0.6)	33.2	(0.9)	34.6	(0.9)	23.0	(0.8)
	Norway	8.4	(0.6)	32.9	(0.9)	43.3	(1.1)	15.4	(0.7)
	Poland	13.5	(0.7)	36.4	(1.0)	39.4	(1.0)	10.7	(0.6)
	Portugal	13.7	(0.7)	32.4	(0.9)	30.8	(0.9)	23.2	(0.9)
	Slovak Republic	13.8	(0.7)	31.7	(0.8)	34.6	(1.0)	19.9	(0.8)
	Slovenia	11.8	(0.8)	30.4	(1.0)	36.6	(0.9)	21.2	(0.9)
	Spain	13.2	(0.5)	36.2	(0.6)	35.3	(0.6)	15.3	(0.5)
	Sweden	11.3	(0.6)	37.4	(1.0)	36.2	(0.9)	15.1	(0.8)
	Switzerland	6.9	(0.4)	25.5	(0.7)	41.3	(0.9)	26.2	(0.8)
	Turkey	15.0	(0.7)	26.8	(0.9)	30.3	(0.8)	27.9	(1.0)
	United Kingdom	11.4	(0.5)	36.4	(0.9)	33.6	(0.9)	18.7	(0.6)
	United States	9.9	(0.6)	26.3	(0.7)	34.3	(1.0)	29.6	(1.0)
	OECD average	11.2	(0.1)	31.6	(0.1)	35.1	(0.1)	22.1	(0.1)
Partners	Albania	22.5	(1.2)	37.1	(1.1)	27.5	(1.1)	13.0	(0.8)
	Argentina	13.5	(0.8)	29.6	(0.8)	29.0	(0.9)	27.9	(1.0)
	Brazil	16.0	(0.5)	33.0	(0.5)	26.4	(0.6)	24.5	(0.6)
	Bulgaria	15.3	(0.7)	31.2	(0.8)	35.1	(1.0)	18.4	(0.7)
	Colombia	16.0	(0.7)	33.2	(1.1)	26.0	(1.0)	24.7	(0.8)
	Costa Rica	11.8	(0.8)	25.2	(0.9)	31.3	(0.9)	31.7	(0.9)
	Croatia	11.4	(0.5)	26.9	(0.8)	38.0	(0.8)	23.8	(0.8)
	Cyprus*	12.8	(0.6)	24.2	(0.8)	31.4	(0.9)	31.5	(0.9)
	Hong Kong-China	5.9	(0.5)	27.1	(0.9)	49.3	(1.1)	17.8	(0.9)
	Indonesia	16.2	(0.9)	32.8	(0.7)	26.8	(1.0)	24.1	(0.9)
	Jordan	26.0	(1.0)	33.4	(0.8)	24.8	(0.8)	15.9	(0.6)
	Kazakhstan	22.8	(0.8)	38.5	(0.9)	28.3	(1.0)	10.3	(0.5)
	Latvia	12.0	(0.9)	34.8	(0.8)	38.1	(1.0)	15.1	(0.9)
	Liechtenstein	4.3	(1.5)	28.1	(3.1)	42.7	(3.6)	24.9	(3.2)
	Lithuania	13.2	(0.7)	34.9	(0.9)	38.3	(0.8)	13.7	(0.6)
	Macao-China	10.3	(0.5)	30.2	(0.8)	41.8	(1.0)	17.7	(0.6)
	Malaysia	12.3	(0.6)	34.3	(1.0)	34.8	(1.0)	18.6	(0.8)
	Montenegro	11.9	(0.6)	25.6	(0.9)	32.5	(1.0)	30.0	(1.0)
	Peru	19.9	(0.6)	36.4	(0.8)	25.8	(0.7)	17.9	(0.7)
	Qatar	21.2	(0.5)	31.1	(0.6)	26.1	(0.6)	21.6	(0.5)
	Romania	17.1	(0.7)	28.3	(0.9)	31.1	(0.9)	23.5	(0.8)
	Russian Federation	16.7	(0.8)	37.0	(0.9)	31.8	(0.8)	14.5	(0.6)
	Serbia	9.4	(0.6)	22.4	(0.8)	35.1	(0.9)	33.1	(0.9)
	Shanghai-China	14.7	(0.7)	30.1	(0.8)	37.1	(0.7)	18.1	(0.8)
	Singapore	20.6	(0.6)	45.1	(0.9)	25.6	(0.8)	8.7	(0.5)
	Chinese Taipei	12.1	(0.6)	30.1	(0.8)	39.1	(0.9)	18.7	(0.7)
	Thailand	19.6	(0.9)	53.4	(1.0)	19.8	(0.8)	7.2	(0.5)
	Tunisia	14.7	(0.7)	28.8	(0.9)	25.6	(0.8)	30.8	(1.0)
	United Arab Emirates	18.6	(0.6)	30.2	(0.8)	27.9	(0.6)	23.3	(0.7)
	Uruguay	10.2	(0.6)	24.6	(0.8)	31.7	(0.9)	33.5	(1.0)
	Viet Nam	12.5	(0.7)	40.9	(0.9)	31.7	(0.9)	14.8	(0.8)

* See notes at the beginning of this Annex.

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[Part 1/1]

Students' exposure to the mathematics problem "solve equation; find volume"

Table I.3.11 *Percentage of students who answered how often they have encountered the following types of problems in their mathematics lessons*

		Solve equation; find volume							
		Frequently		Sometimes		Rarely		Never	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	66.0	(0.6)	28.8	(0.6)	4.2	(0.2)	1.0	(0.1)
	Austria	70.0	(0.9)	23.2	(0.7)	5.5	(0.5)	1.3	(0.2)
	Belgium	63.4	(0.9)	23.6	(0.6)	7.4	(0.4)	5.6	(0.4)
	Canada	72.9	(0.5)	22.5	(0.5)	3.5	(0.2)	1.0	(0.1)
	Chile	69.6	(1.0)	26.3	(0.9)	3.2	(0.3)	0.9	(0.2)
	Czech Republic	68.4	(1.1)	25.1	(1.0)	5.3	(0.5)	1.3	(0.3)
	Denmark	78.7	(0.8)	19.0	(0.7)	1.8	(0.3)	0.5	(0.1)
	Estonia	69.9	(1.0)	24.9	(0.9)	4.8	(0.4)	0.5	(0.1)
	Finland	78.2	(0.8)	19.9	(0.8)	1.3	(0.2)	0.7	(0.1)
	France	70.3	(0.9)	23.4	(0.7)	4.2	(0.4)	2.1	(0.3)
	Germany	77.0	(0.9)	18.5	(0.8)	3.4	(0.3)	1.2	(0.2)
	Greece	65.2	(0.9)	24.4	(0.8)	7.5	(0.5)	2.8	(0.3)
	Hungary	71.3	(1.0)	23.1	(0.8)	4.2	(0.4)	1.4	(0.4)
	Iceland	85.4	(0.7)	11.5	(0.6)	2.0	(0.3)	1.1	(0.2)
	Ireland	76.9	(0.8)	19.4	(0.8)	3.0	(0.3)	0.6	(0.2)
	Israel	55.2	(1.0)	29.7	(0.9)	10.3	(0.6)	4.8	(0.5)
	Italy	63.2	(0.6)	26.8	(0.5)	6.6	(0.2)	3.4	(0.2)
	Japan	78.7	(0.9)	17.3	(0.7)	2.5	(0.3)	1.4	(0.2)
	Korea	60.9	(1.0)	30.6	(0.9)	6.4	(0.4)	2.1	(0.3)
	Luxembourg	68.6	(0.8)	24.0	(0.7)	4.6	(0.3)	2.8	(0.3)
	Mexico	61.2	(0.6)	32.3	(0.5)	4.8	(0.2)	1.7	(0.1)
	Netherlands	66.0	(1.2)	25.4	(1.0)	5.6	(0.5)	2.9	(0.3)
	New Zealand	55.7	(1.1)	36.5	(1.0)	5.8	(0.5)	2.0	(0.3)
	Norway	60.7	(1.1)	33.7	(1.0)	4.5	(0.3)	1.1	(0.2)
	Poland	65.7	(1.0)	28.6	(0.8)	4.7	(0.4)	0.9	(0.2)
	Portugal	49.1	(1.2)	40.1	(1.1)	8.1	(0.5)	2.8	(0.3)
	Slovak Republic	73.2	(1.1)	21.1	(0.9)	4.2	(0.5)	1.5	(0.3)
	Slovenia	69.7	(1.0)	25.0	(0.9)	4.7	(0.4)	0.6	(0.1)
	Spain	71.7	(0.6)	24.0	(0.5)	3.3	(0.3)	1.0	(0.1)
	Sweden	62.9	(1.1)	32.3	(0.9)	3.4	(0.4)	1.4	(0.3)
	Switzerland	73.6	(0.8)	21.4	(0.6)	3.6	(0.4)	1.4	(0.2)
	Turkey	62.9	(1.0)	25.8	(0.7)	7.2	(0.5)	4.1	(0.5)
	United Kingdom	72.0	(0.8)	24.1	(0.7)	3.1	(0.4)	0.9	(0.2)
	United States	70.5	(1.1)	23.3	(0.9)	4.7	(0.5)	1.5	(0.3)
	OECD average	68.4	(0.2)	25.2	(0.1)	4.7	(0.1)	1.8	(0.0)
Partners	Albania	64.6	(1.0)	22.6	(1.0)	8.9	(0.6)	3.8	(0.4)
	Argentina	49.0	(0.9)	39.3	(0.8)	7.4	(0.5)	4.3	(0.4)
	Brazil	43.2	(0.7)	41.5	(0.7)	11.2	(0.4)	4.2	(0.3)
	Bulgaria	63.1	(1.2)	26.6	(0.9)	7.8	(0.6)	2.4	(0.3)
	Colombia	59.2	(1.2)	32.3	(1.1)	5.5	(0.5)	3.0	(0.4)
	Costa Rica	56.1	(1.2)	33.9	(1.0)	6.7	(0.6)	3.3	(0.4)
	Croatia	78.4	(0.9)	17.3	(0.8)	3.4	(0.3)	0.9	(0.2)
	Cyprus*	62.1	(0.9)	27.5	(0.9)	7.6	(0.5)	2.8	(0.3)
	Hong Kong-China	51.1	(1.0)	38.3	(1.0)	9.6	(0.6)	0.9	(0.2)
	Indonesia	65.6	(1.2)	25.6	(0.9)	6.9	(0.5)	1.9	(0.3)
	Jordan	72.2	(1.0)	20.6	(0.9)	4.5	(0.4)	2.6	(0.3)
	Kazakhstan	65.3	(1.2)	24.2	(1.0)	8.9	(0.6)	1.7	(0.3)
	Latvia	66.0	(1.2)	27.8	(1.1)	5.7	(0.5)	0.6	(0.2)
	Liechtenstein	77.5	(3.1)	18.4	(2.8)	2.4	(1.1)	1.7	(0.9)
	Lithuania	65.5	(1.1)	28.3	(0.9)	5.2	(0.4)	1.1	(0.2)
	Macao-China	47.7	(0.8)	36.6	(0.7)	14.0	(0.6)	1.7	(0.2)
	Malaysia	64.6	(1.1)	25.4	(0.9)	6.9	(0.5)	3.1	(0.4)
	Montenegro	66.2	(1.0)	23.1	(0.9)	7.1	(0.6)	3.6	(0.4)
	Peru	57.2	(1.3)	32.2	(1.1)	7.5	(0.5)	3.1	(0.4)
	Qatar	53.4	(0.6)	32.9	(0.6)	9.3	(0.3)	4.4	(0.2)
	Romania	67.3	(1.0)	23.6	(0.8)	7.3	(0.5)	1.8	(0.3)
	Russian Federation	72.6	(1.0)	21.6	(0.8)	5.0	(0.5)	0.8	(0.1)
	Serbia	55.2	(1.0)	30.2	(0.9)	10.9	(0.6)	3.7	(0.4)
	Shanghai-China	44.4	(1.0)	29.2	(0.8)	19.8	(0.7)	6.7	(0.5)
	Singapore	58.5	(0.8)	30.7	(0.8)	9.1	(0.5)	1.7	(0.2)
	Chinese Taipei	45.5	(0.8)	36.9	(0.8)	14.8	(0.7)	2.7	(0.3)
	Thailand	65.8	(1.2)	30.3	(1.1)	2.6	(0.2)	1.3	(0.2)
	Tunisia	54.6	(1.1)	30.4	(1.0)	8.0	(0.5)	7.0	(0.5)
	United Arab Emirates	68.8	(0.7)	24.1	(0.5)	5.6	(0.4)	1.5	(0.2)
	Uruguay	49.0	(0.9)	36.8	(0.8)	10.0	(0.6)	4.1	(0.4)
	Viet Nam	53.9	(1.1)	36.0	(0.9)	8.0	(0.5)	2.1	(0.3)

* See notes at the beginning of this Annex.

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[Part 1/1]

Students' exposure to the mathematics problem "word problems"

Table I.3.12 *Percentage of students who answered how often they have encountered the following types of problems in their mathematics lessons*

		Word problems							
		Frequently		Sometimes		Rarely		Never	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	41.1	(0.6)	49.0	(0.6)	8.6	(0.3)	1.2	(0.1)
	Austria	55.2	(1.0)	36.3	(1.0)	6.9	(0.5)	1.6	(0.2)
	Belgium	48.7	(0.9)	38.7	(0.8)	9.2	(0.4)	3.5	(0.3)
	Canada	50.1	(0.7)	41.2	(0.6)	7.2	(0.3)	1.6	(0.2)
	Chile	53.0	(1.2)	39.6	(1.1)	6.1	(0.4)	1.3	(0.2)
	Czech Republic	33.8	(1.0)	49.6	(1.0)	13.8	(0.8)	2.8	(0.4)
	Denmark	47.8	(0.9)	44.4	(1.0)	7.0	(0.6)	0.8	(0.2)
	Estonia	40.0	(1.1)	48.4	(1.1)	10.6	(0.7)	0.9	(0.2)
	Finland	53.6	(1.1)	42.7	(1.0)	3.0	(0.3)	0.7	(0.1)
	France	57.6	(1.0)	34.7	(0.8)	6.3	(0.4)	1.4	(0.2)
	Germany	51.5	(1.2)	39.6	(1.2)	7.6	(0.5)	1.2	(0.2)
	Greece	21.4	(0.7)	39.5	(0.9)	29.6	(0.8)	9.5	(0.6)
	Hungary	51.7	(1.2)	36.5	(1.0)	9.4	(0.5)	2.4	(0.5)
	Iceland	68.7	(1.1)	26.4	(1.0)	3.9	(0.4)	0.9	(0.2)
	Ireland	41.1	(1.0)	46.7	(0.9)	10.8	(0.6)	1.4	(0.2)
	Israel	35.7	(0.9)	43.7	(0.9)	15.4	(0.7)	5.3	(0.5)
	Italy	39.9	(0.6)	42.5	(0.5)	12.6	(0.3)	5.1	(0.3)
	Japan	32.3	(0.9)	47.7	(0.8)	14.3	(0.6)	5.7	(0.4)
	Korea	35.9	(1.0)	47.6	(1.0)	12.3	(0.7)	4.2	(0.4)
	Luxembourg	52.8	(0.9)	37.5	(0.9)	7.3	(0.5)	2.4	(0.3)
	Mexico	42.0	(0.5)	48.7	(0.5)	7.0	(0.2)	2.4	(0.2)
	Netherlands	31.0	(1.1)	48.7	(1.1)	15.9	(0.7)	4.4	(0.4)
	New Zealand	33.3	(1.0)	52.3	(0.9)	11.8	(0.6)	2.5	(0.3)
	Norway	41.9	(1.0)	49.5	(0.8)	7.0	(0.5)	1.6	(0.2)
	Poland	52.8	(1.1)	40.2	(1.0)	6.2	(0.5)	0.8	(0.2)
	Portugal	26.4	(0.7)	51.8	(1.0)	17.6	(0.8)	4.3	(0.4)
	Slovak Republic	50.6	(1.2)	38.8	(1.1)	8.6	(0.6)	2.0	(0.3)
	Slovenia	57.1	(1.0)	35.7	(1.0)	6.4	(0.5)	0.8	(0.1)
	Spain	58.7	(0.9)	36.2	(0.7)	4.0	(0.3)	1.2	(0.1)
	Sweden	46.4	(1.0)	46.4	(1.0)	5.8	(0.4)	1.3	(0.2)
	Switzerland	57.7	(1.1)	36.6	(1.0)	4.7	(0.4)	1.0	(0.2)
	Turkey	21.9	(0.9)	42.8	(0.9)	22.4	(0.9)	12.9	(0.7)
	United Kingdom	43.6	(1.0)	45.8	(1.1)	9.5	(0.8)	1.1	(0.2)
	United States	38.8	(1.0)	49.1	(1.1)	10.0	(0.5)	2.1	(0.3)
	OECD average	44.5	(0.2)	42.8	(0.2)	10.0	(0.1)	2.7	(0.1)
Partners	Albania	46.3	(1.0)	35.7	(0.8)	12.9	(0.7)	5.0	(0.4)
	Argentina	32.8	(1.0)	49.8	(1.0)	11.6	(0.7)	5.8	(0.5)
	Brazil	28.2	(0.6)	48.8	(0.7)	16.8	(0.7)	6.3	(0.3)
	Bulgaria	29.8	(0.9)	43.8	(0.9)	21.3	(0.7)	5.0	(0.5)
	Colombia	45.6	(1.3)	41.7	(1.2)	9.3	(0.6)	3.4	(0.4)
	Costa Rica	33.1	(1.2)	47.4	(1.0)	13.4	(0.9)	6.2	(0.6)
	Croatia	52.4	(1.2)	35.6	(1.0)	9.7	(0.6)	2.2	(0.3)
	Cyprus*	36.1	(0.9)	43.6	(0.9)	16.1	(0.6)	4.2	(0.4)
	Hong Kong-China	18.8	(0.7)	54.0	(0.8)	24.7	(0.8)	2.5	(0.4)
	Indonesia	46.1	(1.1)	38.3	(0.9)	12.1	(0.6)	3.4	(0.4)
	Jordan	58.9	(1.0)	32.3	(0.9)	6.2	(0.3)	2.5	(0.3)
	Kazakhstan	43.8	(1.2)	40.1	(1.0)	14.1	(0.8)	2.1	(0.3)
	Latvia	37.2	(1.0)	48.3	(1.1)	13.1	(0.8)	1.3	(0.2)
	Liechtenstein	57.7	(3.8)	35.5	(3.3)	6.8	(1.8)	0.0	c
	Lithuania	32.6	(0.9)	51.6	(1.0)	14.0	(0.6)	1.9	(0.2)
	Macao-China	13.6	(0.6)	45.2	(0.8)	36.7	(0.8)	4.5	(0.3)
	Malaysia	43.5	(1.1)	41.9	(0.9)	11.6	(0.7)	3.1	(0.3)
	Montenegro	53.7	(1.0)	32.7	(0.9)	9.8	(0.6)	3.8	(0.4)
	Peru	48.8	(1.3)	40.1	(1.0)	7.9	(0.6)	3.3	(0.4)
	Qatar	39.2	(0.6)	46.3	(0.6)	10.3	(0.3)	4.2	(0.2)
	Romania	44.7	(1.0)	38.8	(0.9)	13.3	(0.5)	3.2	(0.3)
	Russian Federation	50.0	(1.2)	37.4	(1.1)	11.2	(0.8)	1.4	(0.2)
	Serbia	29.9	(1.1)	43.4	(0.8)	20.7	(0.9)	6.0	(0.5)
	Shanghai-China	18.9	(0.8)	40.3	(1.0)	33.2	(1.0)	7.6	(0.5)
	Singapore	29.9	(0.8)	47.3	(0.9)	18.9	(0.6)	3.9	(0.3)
	Chinese Taipei	25.7	(0.7)	50.4	(0.7)	20.4	(0.5)	3.5	(0.3)
	Thailand	48.3	(1.0)	46.2	(0.9)	3.7	(0.3)	1.9	(0.3)
	Tunisia	35.3	(1.0)	46.2	(0.9)	11.4	(0.7)	7.0	(0.6)
	United Arab Emirates	42.4	(0.7)	42.9	(0.7)	11.9	(0.5)	2.7	(0.2)
	Uruguay	20.7	(0.9)	48.0	(0.8)	21.7	(0.7)	9.6	(0.6)
	Viet Nam	14.6	(0.7)	50.3	(1.0)	26.7	(0.8)	8.4	(0.5)

* See notes at the beginning of this Annex.

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[Part 1/1]

Students' exposure to the mathematics problem "geometrical theorems; prime number"

Percentage of students who answered how often they have encountered the following types of problems in their mathematics lessons

Table I.3.13

		Geometrical theorems; prime number							
		Frequently		Sometimes		Rarely		Never	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	30.9	(0.6)	46.6	(0.6)	17.5	(0.5)	5.0	(0.2)
	Austria	38.3	(1.1)	38.4	(1.1)	17.9	(0.7)	5.4	(0.5)
	Belgium	36.2	(0.8)	38.9	(0.7)	15.4	(0.6)	9.5	(0.5)
	Canada	34.1	(0.6)	42.6	(0.7)	16.7	(0.5)	6.6	(0.3)
	Chile	34.5	(0.9)	45.5	(0.8)	16.4	(0.8)	3.5	(0.4)
	Czech Republic	24.0	(1.2)	43.6	(1.0)	25.4	(1.0)	7.0	(0.6)
	Denmark	25.7	(0.8)	49.3	(1.0)	21.2	(0.8)	3.7	(0.4)
	Estonia	35.7	(1.1)	40.4	(1.1)	19.5	(0.9)	4.3	(0.5)
	Finland	20.9	(0.7)	46.9	(0.9)	22.0	(0.6)	10.2	(0.6)
	France	42.2	(1.0)	40.7	(0.9)	12.8	(0.7)	4.3	(0.4)
	Germany	41.9	(1.2)	36.9	(1.0)	15.6	(0.8)	5.6	(0.5)
	Greece	42.4	(0.9)	36.5	(0.8)	15.3	(0.6)	5.8	(0.4)
	Hungary	35.2	(1.1)	42.4	(1.0)	17.7	(0.8)	4.7	(0.5)
	Iceland	28.0	(1.0)	39.2	(1.1)	24.2	(1.0)	8.6	(0.6)
	Ireland	26.0	(0.8)	40.8	(0.9)	23.6	(0.9)	9.6	(0.5)
	Israel	30.1	(1.0)	30.4	(1.0)	20.0	(0.9)	19.6	(0.8)
	Italy	32.4	(0.5)	41.9	(0.4)	17.0	(0.4)	8.8	(0.3)
	Japan	48.3	(1.0)	35.3	(0.7)	10.6	(0.6)	5.7	(0.4)
	Korea	35.5	(1.2)	43.0	(0.9)	15.8	(0.7)	5.7	(0.5)
	Luxembourg	33.9	(0.8)	41.8	(0.8)	16.9	(0.6)	7.4	(0.4)
	Mexico	41.8	(0.5)	44.9	(0.5)	11.1	(0.3)	2.2	(0.1)
	Netherlands	39.6	(1.2)	37.9	(0.9)	13.7	(0.8)	8.7	(0.6)
	New Zealand	24.6	(0.9)	48.2	(1.1)	22.0	(0.9)	5.2	(0.4)
	Norway	16.2	(0.8)	45.6	(1.0)	29.5	(1.0)	8.8	(0.6)
	Poland	46.8	(1.1)	38.3	(1.0)	12.5	(0.8)	2.5	(0.3)
	Portugal	40.9	(1.0)	45.5	(1.0)	9.2	(0.7)	4.3	(0.4)
	Slovak Republic	34.8	(1.0)	44.1	(1.0)	16.8	(0.7)	4.4	(0.4)
	Slovenia	33.5	(1.0)	48.2	(1.0)	16.3	(0.7)	2.0	(0.2)
	Spain	35.3	(0.6)	45.8	(0.8)	15.2	(0.5)	3.6	(0.3)
	Sweden	14.7	(0.8)	40.8	(0.8)	31.8	(0.9)	12.7	(0.7)
	Switzerland	43.3	(0.8)	39.9	(0.8)	12.3	(0.5)	4.5	(0.4)
	Turkey	51.0	(1.0)	33.2	(0.9)	9.9	(0.6)	5.8	(0.6)
	United Kingdom	24.9	(1.1)	45.7	(0.8)	23.8	(0.8)	5.6	(0.3)
	United States	31.4	(0.9)	43.0	(1.0)	18.4	(0.6)	7.3	(0.5)
	OECD average	34.0	(0.2)	41.8	(0.2)	17.8	(0.1)	6.4	(0.1)
Partners	Albania	55.9	(1.1)	31.9	(1.1)	8.9	(0.6)	3.3	(0.3)
	Argentina	26.0	(0.8)	43.5	(0.9)	22.0	(0.7)	8.5	(0.5)
	Brazil	33.8	(0.7)	44.1	(0.7)	16.2	(0.5)	5.8	(0.3)
	Bulgaria	45.4	(1.0)	36.8	(0.8)	13.0	(0.6)	4.7	(0.4)
	Colombia	41.7	(1.4)	41.0	(1.2)	12.4	(0.7)	4.8	(0.5)
	Costa Rica	23.3	(0.9)	40.9	(1.0)	23.9	(0.9)	11.9	(0.9)
	Croatia	36.8	(1.0)	45.8	(1.0)	14.6	(0.7)	2.8	(0.3)
	Cyprus*	31.7	(1.0)	41.8	(1.1)	18.5	(0.7)	8.0	(0.5)
	Hong Kong-China	33.3	(0.9)	46.1	(0.7)	16.8	(0.7)	3.8	(0.4)
	Indonesia	61.0	(1.3)	30.0	(1.2)	6.6	(0.6)	2.3	(0.4)
	Jordan	46.5	(1.0)	40.1	(0.8)	9.9	(0.5)	3.4	(0.3)
	Kazakhstan	61.8	(1.0)	28.8	(0.8)	7.0	(0.5)	2.3	(0.3)
	Latvia	34.6	(1.2)	41.3	(0.9)	16.7	(0.8)	7.4	(0.7)
	Liechtenstein	54.1	(3.5)	30.7	(3.3)	10.6	(2.2)	4.6	(1.5)
	Lithuania	39.5	(1.1)	39.7	(1.0)	15.8	(0.7)	5.0	(0.4)
	Macao-China	29.5	(0.8)	40.1	(0.8)	20.4	(0.6)	10.0	(0.5)
	Malaysia	43.9	(1.1)	41.3	(1.0)	11.6	(0.6)	3.1	(0.3)
	Montenegro	42.7	(0.9)	39.1	(1.1)	13.5	(0.6)	4.7	(0.4)
	Peru	40.2	(1.2)	42.3	(1.0)	12.4	(0.8)	5.1	(0.4)
	Qatar	36.3	(0.5)	43.1	(0.5)	15.1	(0.4)	5.4	(0.3)
	Romania	57.8	(1.1)	32.4	(1.0)	8.3	(0.5)	1.6	(0.2)
	Russian Federation	45.1	(1.0)	33.5	(0.8)	14.5	(0.6)	6.9	(0.5)
	Serbia	35.1	(1.1)	45.7	(1.0)	15.7	(0.8)	3.6	(0.4)
	Shanghai-China	27.1	(0.8)	28.1	(0.9)	23.1	(0.7)	21.6	(0.8)
	Singapore	43.0	(0.8)	43.5	(0.9)	11.3	(0.5)	2.2	(0.3)
	Chinese Taipei	28.1	(0.8)	44.9	(0.8)	21.9	(0.7)	5.0	(0.3)
	Thailand	52.9	(1.0)	42.1	(0.9)	3.6	(0.4)	1.3	(0.2)
	Tunisia	49.4	(1.0)	35.7	(0.8)	9.2	(0.5)	5.7	(0.5)
	United Arab Emirates	41.0	(0.9)	41.4	(0.7)	13.8	(0.5)	3.8	(0.3)
	Uruguay	25.8	(0.8)	42.2	(1.0)	21.3	(0.8)	10.7	(0.7)
	Viet Nam	30.3	(0.9)	47.5	(0.8)	15.8	(0.6)	6.4	(0.5)

* See notes at the beginning of this Annex.

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[Part 1/1]

Students' exposure to mathematics problem requiring a real-life context (data)

Table I.3.14 *Percentage of students who answered how often they have encountered the following types of problems in their mathematics lessons*

		Data							
		Frequently		Sometimes		Rarely		Never	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	26.7	(0.5)	52.0	(0.6)	18.0	(0.5)	3.2	(0.2)
	Austria	13.2	(0.9)	36.9	(1.1)	36.8	(1.1)	13.1	(0.8)
	Belgium	20.6	(0.7)	43.9	(0.7)	25.1	(0.7)	10.4	(0.5)
	Canada	32.1	(0.5)	49.3	(0.7)	15.5	(0.5)	3.0	(0.3)
	Chile	30.0	(0.9)	49.3	(0.9)	17.4	(0.8)	3.2	(0.3)
	Czech Republic	6.9	(0.6)	33.7	(0.9)	42.4	(1.1)	17.0	(0.8)
	Denmark	25.0	(0.8)	51.1	(1.0)	20.4	(0.8)	3.4	(0.3)
	Estonia	10.0	(0.6)	40.0	(0.9)	41.5	(1.0)	8.5	(0.6)
	Finland	12.4	(0.6)	47.7	(0.8)	31.3	(0.7)	8.5	(0.4)
	France	23.6	(0.9)	45.6	(0.9)	23.8	(0.8)	7.0	(0.5)
	Germany	18.1	(0.8)	47.2	(1.0)	28.2	(0.8)	6.4	(0.5)
	Greece	16.7	(0.7)	37.3	(0.9)	33.9	(1.0)	12.2	(0.6)
	Hungary	20.5	(0.9)	44.5	(1.1)	27.5	(0.9)	7.5	(0.6)
	Iceland	36.7	(1.0)	43.3	(1.1)	16.9	(0.7)	3.2	(0.4)
	Ireland	26.5	(0.8)	44.2	(1.0)	23.5	(0.8)	5.8	(0.5)
	Israel	28.6	(0.9)	39.4	(0.9)	19.9	(0.7)	12.2	(0.7)
	Italy	15.7	(0.4)	39.7	(0.4)	29.2	(0.4)	15.4	(0.4)
	Japan	6.7	(0.4)	27.8	(0.8)	43.7	(0.8)	21.8	(0.7)
	Korea	12.2	(0.6)	41.7	(0.9)	35.4	(0.9)	10.7	(0.5)
	Luxembourg	19.4	(0.8)	44.0	(0.9)	26.5	(0.8)	10.1	(0.5)
	Mexico	37.6	(0.6)	48.9	(0.5)	11.3	(0.3)	2.3	(0.1)
	Netherlands	36.4	(1.3)	48.6	(1.2)	12.1	(0.6)	2.9	(0.3)
	New Zealand	23.9	(1.0)	54.4	(1.1)	17.7	(0.7)	4.0	(0.4)
	Norway	18.8	(0.7)	54.2	(1.0)	22.0	(0.9)	5.0	(0.4)
	Poland	16.2	(0.8)	47.7	(1.0)	31.5	(1.0)	4.6	(0.3)
	Portugal	30.5	(0.9)	51.5	(0.9)	14.5	(0.8)	3.5	(0.3)
	Slovak Republic	14.6	(0.8)	44.5	(1.1)	31.2	(0.9)	9.7	(0.6)
	Slovenia	15.7	(0.7)	43.6	(1.0)	33.9	(1.1)	6.8	(0.5)
	Spain	22.9	(0.5)	48.6	(0.5)	23.5	(0.7)	5.0	(0.3)
	Sweden	19.6	(0.8)	53.6	(1.0)	21.9	(0.9)	4.9	(0.4)
	Switzerland	14.8	(0.7)	45.7	(0.8)	31.4	(0.8)	8.1	(0.4)
	Turkey	20.2	(0.8)	39.0	(0.9)	24.7	(0.6)	16.0	(0.9)
	United Kingdom	20.9	(0.8)	47.2	(0.8)	27.1	(0.8)	4.8	(0.3)
	United States	27.8	(0.8)	50.5	(1.0)	17.7	(0.7)	4.0	(0.4)
	OECD average	21.2	(0.1)	45.2	(0.2)	25.8	(0.1)	7.8	(0.1)
Partners	Albania	28.9	(0.9)	43.8	(1.0)	20.5	(0.8)	6.8	(0.5)
	Argentina	26.1	(1.0)	47.0	(1.0)	17.7	(1.0)	9.2	(0.7)
	Brazil	29.6	(0.6)	47.7	(0.7)	16.3	(0.4)	6.3	(0.3)
	Bulgaria	16.6	(0.9)	38.1	(0.9)	32.4	(1.0)	12.9	(0.7)
	Colombia	39.1	(1.2)	42.2	(1.0)	12.5	(0.6)	6.3	(0.6)
	Costa Rica	18.9	(1.1)	42.1	(1.3)	27.6	(1.1)	11.4	(0.7)
	Croatia	12.5	(0.6)	37.6	(0.9)	36.1	(0.9)	13.8	(0.6)
	Cyprus*	20.9	(0.8)	41.1	(1.0)	29.2	(0.8)	8.7	(0.5)
	Hong Kong-China	9.8	(0.7)	39.2	(1.0)	42.4	(0.9)	8.6	(0.6)
	Indonesia	44.5	(1.2)	36.0	(0.9)	14.0	(0.7)	5.5	(0.5)
	Jordan	39.9	(0.7)	41.8	(0.8)	13.5	(0.6)	4.7	(0.4)
	Kazakhstan	28.9	(1.0)	43.2	(1.1)	20.3	(0.8)	7.6	(0.6)
	Latvia	14.4	(0.8)	45.1	(1.0)	33.4	(1.0)	7.1	(0.6)
	Liechtenstein	14.0	(2.6)	48.2	(3.6)	29.5	(3.3)	8.3	(2.0)
	Lithuania	16.5	(0.7)	45.3	(0.9)	31.4	(1.0)	6.9	(0.5)
	Macao-China	7.8	(0.4)	34.3	(0.9)	42.4	(0.8)	15.4	(0.6)
	Malaysia	22.9	(0.8)	43.9	(0.9)	24.1	(0.7)	9.1	(0.6)
	Montenegro	17.3	(0.8)	37.1	(1.0)	29.8	(1.0)	15.8	(0.6)
	Peru	27.6	(1.0)	46.0	(1.0)	18.9	(0.8)	7.5	(0.5)
	Qatar	26.6	(0.6)	47.2	(0.6)	19.2	(0.5)	7.0	(0.3)
	Romania	22.7	(1.0)	40.7	(0.9)	26.9	(0.9)	9.7	(0.6)
	Russian Federation	23.9	(1.1)	40.5	(1.0)	27.0	(1.0)	8.6	(0.5)
	Serbia	14.2	(0.8)	35.7	(0.9)	34.9	(0.8)	15.2	(0.8)
	Shanghai-China	20.3	(0.8)	36.8	(0.8)	28.6	(0.8)	14.4	(0.7)
	Singapore	18.4	(0.7)	43.7	(0.9)	29.4	(0.8)	8.6	(0.4)
	Chinese Taipei	14.0	(0.7)	37.2	(0.9)	37.5	(0.9)	11.2	(0.5)
	Thailand	40.3	(0.9)	49.6	(0.9)	7.7	(0.5)	2.4	(0.3)
	Tunisia	35.2	(1.0)	38.4	(1.0)	14.4	(0.7)	12.0	(0.7)
	United Arab Emirates	30.0	(0.7)	45.7	(0.8)	19.2	(0.6)	5.1	(0.3)
	Uruguay	15.2	(0.7)	41.4	(1.0)	27.6	(0.9)	15.7	(0.7)
	Viet Nam	10.0	(0.6)	34.8	(1.0)	29.4	(0.7)	25.8	(1.0)

* See notes at the beginning of this Annex.

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[Part 1/1]

Students' exposure to the mathematics concept "exponential function"

Table I.3.15 *Percentage of students who answered how familiar they are with the following mathematical concepts*

		Exponential function									
		Never heard of it		Heard of it once or twice		Heard of it a few times		Heard of it often		Know it well, understand the concept	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	48.8	(0.7)	16.9	(0.4)	14.3	(0.4)	9.8	(0.3)	10.3	(0.5)
	Austria	54.8	(1.3)	16.3	(0.8)	11.0	(0.6)	7.7	(0.6)	10.2	(0.9)
	Belgium	60.1	(1.0)	15.1	(0.5)	11.8	(0.5)	6.7	(0.4)	6.3	(0.5)
	Canada	16.3	(0.5)	14.3	(0.5)	21.2	(0.5)	22.9	(0.6)	25.3	(0.7)
	Chile	28.2	(1.2)	19.3	(0.7)	24.5	(0.7)	20.5	(1.0)	7.5	(0.5)
	Czech Republic	59.0	(1.2)	23.2	(0.9)	10.6	(0.6)	4.5	(0.4)	2.7	(0.3)
	Denmark	50.6	(1.1)	22.0	(0.7)	16.7	(0.6)	5.7	(0.5)	4.9	(0.5)
	Estonia	66.0	(1.0)	16.4	(0.7)	11.5	(0.7)	4.1	(0.4)	2.2	(0.3)
	Finland	35.0	(0.8)	25.0	(0.7)	23.2	(0.7)	10.4	(0.5)	6.4	(0.4)
	France	58.8	(1.0)	21.0	(0.7)	11.7	(0.7)	5.0	(0.4)	3.6	(0.3)
	Germany	44.5	(1.1)	14.7	(0.7)	10.5	(0.6)	10.7	(0.6)	19.7	(1.1)
	Greece	52.2	(1.1)	19.2	(0.7)	13.0	(0.5)	8.7	(0.6)	6.9	(0.5)
	Hungary	56.4	(1.0)	23.4	(0.9)	13.9	(0.7)	4.0	(0.4)	2.3	(0.5)
	Iceland	38.4	(1.1)	17.7	(0.8)	19.5	(0.8)	12.1	(0.6)	12.3	(0.7)
	Ireland	64.1	(1.2)	16.6	(0.6)	11.0	(0.6)	5.1	(0.5)	3.3	(0.3)
	Israel	54.9	(1.0)	17.2	(0.8)	11.8	(0.6)	8.0	(0.6)	8.2	(0.5)
	Italy	32.9	(0.5)	19.1	(0.3)	22.5	(0.5)	15.2	(0.3)	10.4	(0.3)
	Japan	27.9	(0.8)	25.0	(0.7)	27.1	(0.7)	13.7	(0.6)	6.3	(0.5)
	Korea	26.2	(1.1)	37.9	(0.8)	19.8	(0.7)	10.0	(0.6)	6.0	(0.9)
	Luxembourg	64.6	(0.8)	14.0	(0.6)	9.9	(0.6)	4.7	(0.4)	6.9	(0.3)
	Mexico	29.8	(0.6)	23.0	(0.4)	21.6	(0.3)	17.0	(0.5)	8.6	(0.3)
	Netherlands	40.5	(1.7)	11.2	(0.7)	16.4	(1.0)	16.5	(1.2)	15.4	(1.6)
	New Zealand	42.2	(1.2)	18.1	(0.7)	18.0	(0.7)	12.3	(0.8)	9.5	(0.7)
	Norway	m	m	m	m	m	m	m	m	m	m
	Poland	10.6	(0.7)	18.7	(0.8)	29.7	(1.0)	26.5	(1.0)	14.4	(0.7)
	Portugal	47.4	(1.2)	17.4	(0.8)	17.4	(0.7)	10.5	(0.6)	7.2	(0.7)
	Slovak Republic	56.2	(1.2)	19.8	(0.8)	14.0	(0.7)	6.2	(0.4)	3.9	(0.5)
	Slovenia	26.6	(1.0)	20.4	(0.8)	25.8	(1.1)	17.6	(0.7)	9.6	(0.6)
	Spain	26.5	(0.8)	15.0	(0.4)	20.2	(0.6)	17.4	(0.5)	21.0	(0.7)
	Sweden	71.2	(0.9)	16.1	(0.7)	6.6	(0.4)	2.9	(0.4)	3.1	(0.4)
	Switzerland	55.1	(1.0)	19.4	(0.6)	12.8	(0.7)	5.3	(0.3)	7.3	(0.5)
	Turkey	56.2	(1.1)	14.1	(0.7)	14.6	(0.6)	11.6	(0.6)	3.6	(0.3)
	United Kingdom	61.8	(0.9)	18.7	(0.7)	11.4	(0.7)	5.3	(0.4)	2.7	(0.3)
	United States	14.5	(0.9)	16.4	(0.7)	22.9	(0.8)	22.4	(0.8)	23.8	(0.9)
	OECD average	44.8	(0.2)	18.9	(0.1)	16.6	(0.1)	10.9	(0.1)	8.8	(0.1)
Partners	Albania	23.4	(1.1)	14.8	(0.8)	16.3	(0.6)	18.4	(0.8)	27.1	(1.1)
	Argentina	56.9	(1.3)	16.7	(0.9)	11.6	(0.7)	7.6	(0.5)	7.2	(0.7)
	Brazil	36.6	(1.0)	13.8	(0.5)	18.0	(0.6)	20.5	(0.7)	11.2	(0.7)
	Bulgaria	24.1	(0.8)	27.4	(0.7)	22.8	(0.9)	16.4	(0.7)	9.2	(0.5)
	Colombia	30.9	(1.1)	15.3	(0.7)	21.1	(0.7)	20.7	(1.0)	12.0	(0.7)
	Costa Rica	39.1	(1.2)	19.2	(0.8)	19.1	(0.9)	13.9	(0.8)	8.7	(0.7)
	Croatia	40.1	(0.8)	19.9	(0.7)	17.1	(0.8)	9.8	(0.6)	13.1	(0.6)
	Cyprus*	49.9	(0.9)	16.6	(0.7)	13.9	(0.6)	10.4	(0.6)	9.1	(0.6)
	Hong Kong-China	10.7	(1.0)	12.7	(0.6)	21.2	(0.9)	26.6	(0.9)	28.7	(0.9)
	Indonesia	43.6	(1.1)	28.0	(1.0)	14.2	(0.8)	11.1	(0.8)	3.1	(0.6)
	Jordan	23.0	(0.8)	12.6	(0.6)	8.4	(0.5)	20.9	(0.8)	35.1	(1.0)
	Kazakhstan	45.2	(1.1)	25.5	(0.7)	15.7	(0.8)	8.8	(0.5)	4.8	(0.4)
	Latvia	64.9	(1.6)	15.0	(0.8)	10.0	(0.8)	5.9	(0.6)	4.2	(0.5)
	Liechtenstein	49.8	(3.9)	13.4	(2.5)	15.3	(2.6)	6.2	(1.9)	15.3	(2.2)
	Lithuania	48.1	(1.0)	27.0	(0.9)	16.5	(0.7)	5.2	(0.4)	3.2	(0.3)
	Macao-China	12.1	(0.5)	11.6	(0.5)	17.9	(0.6)	26.1	(0.8)	32.4	(0.7)
	Malaysia	49.8	(1.1)	22.9	(0.8)	14.7	(0.6)	7.9	(0.5)	4.7	(0.4)
	Montenegro	43.3	(0.9)	20.5	(0.8)	12.6	(0.6)	10.1	(0.6)	13.4	(0.6)
	Peru	27.6	(1.2)	21.8	(0.9)	20.4	(0.7)	18.4	(1.0)	11.8	(0.6)
	Qatar	34.6	(0.6)	16.3	(0.4)	14.6	(0.5)	12.3	(0.4)	22.2	(0.6)
	Romania	38.0	(1.0)	22.9	(0.8)	18.5	(0.7)	13.5	(0.6)	7.0	(0.5)
	Russian Federation	65.7	(0.8)	19.1	(0.6)	10.0	(0.5)	3.2	(0.3)	2.0	(0.2)
	Serbia	52.0	(1.0)	23.8	(0.8)	12.4	(0.7)	7.7	(0.5)	4.1	(0.3)
	Shanghai-China	9.4	(0.6)	6.8	(0.4)	10.4	(0.7)	18.6	(0.9)	54.8	(1.3)
	Singapore	32.6	(0.9)	8.5	(0.4)	11.4	(0.6)	19.9	(0.6)	27.5	(0.7)
	Chinese Taipei	8.2	(0.5)	11.9	(0.5)	26.5	(0.8)	33.8	(0.8)	19.7	(0.9)
	Thailand	52.1	(0.9)	25.7	(0.8)	10.7	(0.5)	9.2	(0.6)	2.3	(0.3)
	Tunisia	80.4	(1.0)	8.9	(0.6)	3.7	(0.4)	2.9	(0.3)	4.1	(0.6)
	United Arab Emirates	27.0	(0.8)	10.1	(0.5)	9.3	(0.4)	17.4	(0.6)	36.2	(0.9)
	Uruguay	44.3	(1.3)	14.0	(0.7)	16.8	(0.8)	12.6	(0.9)	12.3	(1.0)
	Viet Nam	13.2	(0.8)	14.7	(0.8)	27.3	(0.9)	27.4	(0.9)	17.4	(0.9)

* See notes at the beginning of this Annex.

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[Part 1/1]

Students' exposure to the mathematics concept "divisor"

Table I.3.16 *Percentage of students who answered how familiar they are with the following mathematical concepts*

		Divisor									
		Never heard of it		Heard of it once or twice		Heard of it a few times		Heard of it often		Know it well, understand the concept	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	33.1	(0.6)	22.5	(0.5)	20.3	(0.5)	12.5	(0.4)	11.6	(0.5)
	Austria	6.3	(0.6)	7.4	(0.6)	13.0	(0.6)	21.7	(0.7)	51.6	(1.1)
	Belgium	3.2	(0.3)	3.8	(0.3)	6.1	(0.4)	15.4	(0.5)	71.4	(0.7)
	Canada	13.3	(0.4)	13.2	(0.4)	18.0	(0.4)	20.7	(0.5)	34.9	(0.6)
	Chile	2.3	(0.3)	5.6	(0.5)	9.1	(0.6)	29.6	(0.9)	53.3	(1.3)
	Czech Republic	1.5	(0.4)	2.5	(0.4)	8.4	(0.6)	17.1	(0.8)	70.5	(1.2)
	Denmark	25.6	(0.9)	18.6	(0.7)	21.0	(0.6)	13.4	(0.7)	21.4	(0.8)
	Estonia	0.8	(0.2)	2.6	(0.3)	6.9	(0.5)	26.9	(0.9)	62.9	(1.1)
	Finland	6.7	(0.4)	8.6	(0.5)	13.4	(0.6)	27.2	(0.7)	44.0	(0.9)
	France	3.6	(0.4)	5.7	(0.4)	10.2	(0.6)	21.5	(0.8)	58.9	(0.9)
	Germany	14.5	(0.8)	12.0	(0.7)	16.0	(0.7)	17.0	(0.8)	40.5	(1.1)
	Greece	3.5	(0.3)	6.1	(0.6)	7.2	(0.5)	19.6	(0.8)	63.7	(1.2)
	Hungary	1.3	(0.3)	3.8	(0.5)	5.4	(0.5)	22.6	(1.0)	67.0	(1.2)
	Iceland	12.6	(0.7)	7.1	(0.6)	11.6	(0.7)	19.9	(1.0)	48.8	(1.2)
	Ireland	15.5	(0.8)	16.7	(0.7)	20.2	(0.9)	21.8	(0.8)	25.8	(0.9)
	Israel	27.5	(1.0)	14.5	(0.6)	12.9	(0.6)	15.4	(0.7)	29.8	(1.0)
	Italy	2.2	(0.2)	3.6	(0.2)	5.9	(0.3)	20.6	(0.5)	67.7	(0.7)
	Japan	2.1	(0.3)	2.6	(0.3)	5.7	(0.4)	23.7	(0.7)	65.9	(1.1)
	Korea	0.7	(0.2)	2.7	(0.3)	8.1	(0.5)	17.8	(0.9)	70.8	(1.3)
	Luxembourg	7.0	(0.4)	6.4	(0.4)	11.2	(0.6)	15.6	(0.6)	59.8	(0.8)
	Mexico	5.2	(0.2)	12.6	(0.3)	16.2	(0.4)	26.5	(0.5)	39.5	(0.6)
	Netherlands	24.6	(1.3)	12.9	(0.9)	16.3	(0.8)	21.2	(0.9)	25.0	(1.0)
	New Zealand	37.4	(1.1)	23.3	(0.8)	18.7	(0.8)	12.0	(0.7)	8.6	(0.6)
	Norway	m	m	m	m	m	m	m	m	m	m
	Poland	3.4	(0.4)	7.7	(0.6)	12.6	(0.7)	21.6	(0.9)	54.8	(1.3)
	Portugal	2.3	(0.3)	4.8	(0.5)	11.1	(0.8)	25.6	(0.8)	56.2	(1.4)
	Slovak Republic	2.7	(0.4)	2.8	(0.4)	8.4	(0.6)	24.3	(0.8)	61.8	(1.1)
	Slovenia	2.3	(0.3)	2.0	(0.2)	4.3	(0.4)	12.6	(0.7)	78.8	(0.9)
	Spain	2.1	(0.2)	4.6	(0.3)	11.6	(0.5)	16.8	(0.5)	64.9	(0.7)
	Sweden	53.7	(1.1)	23.4	(0.9)	8.6	(0.6)	5.8	(0.4)	8.5	(0.5)
	Switzerland	7.1	(0.5)	7.6	(0.4)	10.9	(0.6)	16.4	(0.6)	58.1	(1.3)
	Turkey	3.3	(0.3)	6.1	(0.5)	10.9	(0.6)	35.4	(1.2)	44.4	(1.5)
	United Kingdom	45.8	(1.0)	24.6	(0.7)	15.4	(0.7)	8.7	(0.6)	5.4	(0.4)
	United States	11.8	(0.7)	14.7	(0.7)	20.0	(0.7)	23.2	(0.7)	30.3	(1.0)
	OECD average	11.7	(0.1)	9.5	(0.1)	12.0	(0.1)	19.7	(0.1)	47.2	(0.2)
Partners	Albania	3.6	(0.4)	6.3	(0.6)	10.0	(0.7)	21.1	(1.0)	59.0	(1.2)
	Argentina	6.1	(0.4)	13.9	(0.9)	14.1	(0.7)	19.0	(0.6)	46.8	(1.5)
	Brazil	7.0	(0.3)	14.0	(0.6)	16.0	(0.4)	30.0	(0.7)	33.0	(0.7)
	Bulgaria	6.6	(0.6)	10.2	(0.7)	8.8	(0.5)	16.5	(0.7)	57.9	(1.5)
	Colombia	3.0	(0.3)	10.2	(0.6)	13.3	(0.7)	31.3	(1.0)	42.2	(1.0)
	Costa Rica	5.6	(0.5)	9.6	(0.7)	15.9	(0.8)	22.2	(0.8)	46.6	(1.2)
	Croatia	2.6	(0.3)	2.9	(0.3)	6.0	(0.4)	10.8	(0.6)	77.8	(0.9)
	Cyprus*	9.7	(0.5)	9.8	(0.5)	14.7	(0.6)	23.4	(0.8)	42.3	(0.8)
	Hong Kong-China	0.9	(0.3)	1.4	(0.2)	4.4	(0.5)	12.4	(0.6)	80.8	(0.8)
	Indonesia	2.6	(0.4)	11.8	(0.7)	20.4	(1.0)	47.3	(0.9)	17.8	(1.0)
	Jordan	13.2	(0.6)	13.2	(0.6)	9.0	(0.5)	18.2	(0.7)	46.4	(1.0)
	Kazakhstan	4.3	(0.4)	7.5	(0.6)	9.9	(0.6)	26.2	(0.9)	52.1	(1.3)
	Latvia	2.1	(0.3)	5.8	(0.5)	6.3	(0.5)	18.0	(0.9)	67.9	(1.2)
	Liechtenstein	4.8	(1.5)	5.9	(1.7)	8.3	(2.0)	15.0	(2.5)	65.9	(2.9)
	Lithuania	3.5	(0.3)	8.2	(0.6)	13.4	(0.6)	21.6	(0.8)	53.3	(1.1)
	Macao-China	2.5	(0.2)	2.4	(0.3)	5.1	(0.3)	11.8	(0.5)	78.1	(0.6)
	Malaysia	11.6	(0.8)	15.4	(0.8)	18.2	(0.7)	31.4	(1.0)	23.3	(1.0)
	Montenegro	6.7	(0.4)	6.8	(0.4)	6.3	(0.5)	14.9	(0.7)	65.3	(1.0)
	Peru	3.3	(0.3)	11.7	(0.6)	12.0	(0.6)	27.8	(0.9)	45.1	(1.3)
	Qatar	15.8	(0.5)	17.7	(0.5)	16.7	(0.5)	13.3	(0.4)	36.4	(0.6)
	Romania	6.8	(0.6)	13.3	(0.8)	13.1	(0.8)	25.7	(1.0)	41.0	(1.6)
	Russian Federation	2.8	(0.3)	4.0	(0.5)	5.6	(0.4)	15.0	(0.6)	72.6	(0.9)
	Serbia	3.3	(0.3)	2.8	(0.4)	7.4	(0.6)	12.8	(0.7)	73.7	(1.1)
	Shanghai-China	4.74	0.29	3.7	(0.3)	9.2	(0.5)	15.5	(0.8)	66.9	(0.8)
	Singapore	30.2	(0.8)	12.0	(0.5)	12.9	(0.6)	17.1	(0.7)	27.9	(0.7)
	Chinese Taipei	2.6	(0.3)	4.9	(0.4)	10.4	(0.6)	26.2	(0.8)	56.0	(1.0)
	Thailand	2.7	(0.3)	11.8	(0.7)	8.3	(0.5)	36.8	(1.0)	40.4	(1.2)
	Tunisia	11.0	(0.7)	10.8	(0.7)	10.4	(0.6)	17.4	(0.8)	50.4	(1.5)
	United Arab Emirates	18.2	(0.5)	12.1	(0.6)	10.9	(0.4)	18.3	(0.6)	40.5	(0.9)
	Uruguay	3.8	(0.3)	9.7	(0.6)	16.1	(0.7)	25.6	(0.8)	44.8	(1.0)
	Viet Nam	15.6	(0.9)	14.6	(0.6)	32.1	(1.0)	20.6	(0.9)	17.2	(1.1)

* See notes at the beginning of this Annex.

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[Part 1/1]

Students' exposure to the mathematics concept "quadratic function"

Table I.3.17 *Percentage of students who answered how familiar they are with the following mathematical concepts*

		Quadratic function									
		Never heard of it		Heard of it once or twice		Heard of it a few times		Heard of it often		Know it well, understand the concept	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	25.9	(0.6)	14.5	(0.4)	16.6	(0.5)	17.8	(0.5)	25.2	(0.7)
	Austria	13.2	(0.8)	13.4	(0.7)	15.7	(0.7)	20.0	(0.7)	37.7	(1.1)
	Belgium	18.3	(0.7)	8.7	(0.4)	11.9	(0.5)	17.8	(0.6)	43.3	(0.9)
	Canada	21.0	(0.6)	13.1	(0.4)	14.7	(0.5)	20.2	(0.5)	30.9	(0.9)
	Chile	39.8	(1.0)	19.6	(0.7)	20.3	(0.7)	12.7	(0.6)	7.6	(0.6)
	Czech Republic	8.7	(0.9)	13.5	(0.9)	22.9	(0.9)	26.1	(1.0)	28.7	(1.2)
	Denmark	5.5	(0.5)	9.3	(0.6)	20.8	(0.9)	28.5	(1.1)	35.9	(1.3)
	Estonia	5.5	(0.4)	5.0	(0.4)	9.7	(0.7)	23.6	(1.0)	56.2	(1.2)
	Finland	10.8	(0.6)	13.4	(0.6)	22.9	(0.8)	28.8	(0.9)	24.0	(0.8)
	France	12.6	(0.8)	11.5	(0.8)	15.0	(0.7)	21.3	(0.8)	39.5	(1.1)
	Germany	10.3	(0.6)	11.9	(0.7)	14.5	(0.7)	18.9	(0.8)	44.4	(1.2)
	Greece	21.8	(0.8)	19.9	(0.6)	20.5	(0.7)	18.2	(0.8)	19.6	(0.7)
	Hungary	4.3	(0.5)	7.9	(0.7)	10.9	(0.6)	29.3	(1.1)	47.6	(1.4)
	Iceland	44.0	(1.0)	17.0	(0.8)	17.7	(0.8)	9.7	(0.5)	11.6	(0.6)
	Ireland	11.3	(0.8)	10.8	(0.6)	18.3	(0.8)	26.5	(1.0)	33.1	(1.0)
	Israel	8.8	(0.8)	7.0	(0.6)	8.7	(0.6)	14.0	(0.6)	61.5	(1.5)
	Italy	14.0	(0.4)	14.3	(0.4)	19.5	(0.3)	23.9	(0.5)	28.3	(0.6)
	Japan	1.4	(0.1)	1.7	(0.3)	4.8	(0.4)	30.7	(0.8)	61.4	(1.1)
	Korea	1.1	(0.2)	3.3	(0.4)	11.4	(0.7)	35.3	(1.0)	48.9	(1.5)
	Luxembourg	24.3	(0.6)	14.3	(0.7)	18.3	(0.7)	15.0	(0.7)	28.1	(0.7)
	Mexico	15.4	(0.4)	19.5	(0.4)	23.3	(0.4)	24.5	(0.4)	17.2	(0.4)
	Netherlands	12.2	(0.9)	8.2	(0.6)	14.4	(0.7)	27.4	(1.2)	37.7	(1.4)
	New Zealand	26.7	(1.1)	15.2	(0.7)	19.9	(0.8)	20.6	(0.7)	17.7	(0.9)
	Norway	m	m	m	m	m	m	m	m	m	m
	Poland	15.9	(0.8)	18.4	(0.8)	20.5	(0.7)	19.9	(0.8)	25.4	(1.1)
	Portugal	27.4	(1.1)	11.0	(0.6)	12.3	(0.7)	15.8	(0.9)	33.5	(1.5)
	Slovak Republic	16.1	(0.7)	17.2	(0.8)	26.2	(1.1)	20.1	(0.8)	20.3	(1.4)
	Slovenia	6.5	(0.5)	9.6	(0.7)	18.4	(0.8)	25.4	(0.8)	40.1	(0.9)
	Spain	14.8	(0.5)	9.9	(0.4)	14.4	(0.5)	19.0	(0.5)	42.0	(0.8)
	Sweden	59.7	(1.1)	19.6	(0.7)	11.6	(0.6)	4.5	(0.3)	4.6	(0.6)
	Switzerland	20.9	(0.8)	17.6	(0.6)	17.1	(0.6)	14.2	(0.6)	30.1	(1.1)
	Turkey	10.2	(0.7)	8.3	(0.5)	12.7	(0.5)	35.0	(0.9)	33.8	(1.3)
	United Kingdom	21.9	(1.0)	16.4	(0.6)	19.0	(0.7)	21.2	(0.9)	21.5	(1.0)
	United States	11.8	(0.9)	11.5	(0.7)	18.0	(0.8)	24.1	(0.7)	34.5	(1.4)
	OECD average	17.0	(0.1)	12.5	(0.1)	16.5	(0.1)	21.5	(0.1)	32.5	(0.2)
Partners	Albania	27.8	(0.9)	21.9	(0.9)	20.3	(0.8)	17.0	(0.8)	12.9	(0.9)
	Argentina	34.3	(1.6)	18.1	(0.8)	15.5	(0.7)	13.4	(0.8)	18.6	(1.3)
	Brazil	28.3	(0.9)	18.4	(0.6)	21.5	(0.6)	18.4	(0.7)	13.5	(0.6)
	Bulgaria	10.4	(0.7)	15.4	(0.8)	16.6	(0.7)	21.7	(0.7)	35.9	(1.1)
	Colombia	19.9	(0.9)	15.1	(0.9)	19.9	(0.8)	24.9	(1.1)	20.2	(1.1)
	Costa Rica	36.5	(1.3)	14.7	(0.9)	15.5	(0.8)	15.4	(0.8)	17.9	(1.2)
	Croatia	6.4	(0.4)	9.4	(0.5)	17.6	(0.7)	21.2	(0.7)	45.4	(0.9)
	Cyprus*	6.6	(0.4)	7.9	(0.5)	13.4	(0.7)	23.0	(0.8)	49.2	(0.9)
	Hong Kong-China	17.2	(0.9)	13.0	(0.7)	18.0	(0.8)	21.7	(0.8)	30.1	(1.0)
	Indonesia	2.6	(0.3)	10.6	(0.6)	19.4	(1.0)	45.7	(1.0)	21.7	(1.2)
	Jordan	7.9	(0.5)	8.2	(0.5)	6.5	(0.5)	17.7	(0.8)	59.7	(1.2)
	Kazakhstan	10.5	(0.7)	12.9	(0.7)	16.3	(0.7)	28.1	(0.9)	32.2	(1.5)
	Latvia	5.6	(0.6)	7.6	(0.5)	12.2	(0.7)	28.1	(1.1)	46.4	(1.2)
	Liechtenstein	16.9	(2.8)	22.4	(3.1)	12.0	(2.5)	16.2	(2.9)	32.5	(3.2)
	Lithuania	8.2	(0.5)	10.0	(0.7)	15.1	(0.7)	23.2	(0.8)	43.6	(1.2)
	Macao-China	8.1	(0.4)	6.8	(0.4)	11.7	(0.5)	23.6	(0.7)	49.8	(0.8)
	Malaysia	9.1	(0.5)	11.0	(0.6)	14.6	(0.7)	31.6	(1.0)	33.7	(1.2)
	Montenegro	8.8	(0.6)	12.0	(0.6)	15.3	(0.7)	21.3	(0.8)	42.6	(0.9)
	Peru	14.5	(0.8)	17.6	(0.9)	21.0	(0.8)	26.7	(0.9)	20.2	(1.0)
	Qatar	17.4	(0.5)	14.7	(0.4)	17.0	(0.5)	14.3	(0.4)	36.5	(0.6)
	Romania	6.4	(0.6)	10.3	(0.7)	12.2	(0.7)	27.4	(0.8)	43.7	(1.4)
	Russian Federation	2.3	(0.3)	3.0	(0.3)	7.1	(0.5)	23.6	(1.0)	64.0	(0.9)
	Serbia	5.7	(0.5)	11.2	(0.6)	19.5	(0.7)	25.1	(0.9)	38.6	(1.2)
	Shanghai-China	1.8	(0.3)	1.7	(0.3)	2.4	(0.3)	13.4	(0.8)	80.7	(1.1)
	Singapore	6.1	(0.4)	6.6	(0.4)	10.6	(0.5)	20.6	(0.7)	56.1	(0.7)
	Chinese Taipei	1.4	(0.2)	3.2	(0.3)	12.5	(0.7)	36.8	(1.0)	46.1	(1.2)
	Thailand	15.8	(0.7)	18.0	(0.8)	15.6	(0.7)	31.4	(0.8)	19.2	(0.8)
	Tunisia	44.0	(1.0)	16.5	(0.9)	14.4	(0.7)	12.1	(0.6)	13.0	(0.9)
	United Arab Emirates	7.1	(0.4)	8.6	(0.5)	9.3	(0.4)	19.4	(0.5)	55.6	(1.0)
	Uruguay	26.1	(1.2)	12.6	(0.7)	16.9	(0.8)	21.6	(1.1)	22.7	(1.1)
	Viet Nam	1.5	(0.3)	3.2	(0.4)	6.1	(0.6)	37.9	(1.3)	51.3	(1.7)

* See notes at the beginning of this Annex.

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[Part 1/1]

Students' exposure to the mathematics concept "linear equation"

Table I.3.18 *Percentage of students who answered how familiar they are with the following mathematical concepts*

		Linear equation									
		Never heard of it		Heard of it once or twice		Heard of it a few times		Heard of it often		Know it well, understand the concept	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	9.2	(0.4)	7.6	(0.3)	12.2	(0.5)	24.0	(0.6)	47.1	(0.8)
	Austria	10.9	(0.6)	8.0	(0.5)	10.7	(0.7)	19.1	(0.7)	51.3	(1.1)
	Belgium	29.7	(0.8)	14.0	(0.5)	17.3	(0.5)	17.0	(0.6)	21.9	(0.7)
	Canada	5.8	(0.3)	5.1	(0.3)	9.5	(0.4)	24.0	(0.6)	55.6	(0.8)
	Chile	4.9	(0.4)	7.2	(0.5)	11.4	(0.7)	26.8	(0.8)	49.7	(1.3)
	Czech Republic	2.7	(0.4)	3.8	(0.4)	10.2	(0.7)	23.9	(1.0)	59.5	(1.3)
	Denmark	11.0	(0.9)	9.6	(0.7)	16.0	(0.7)	24.7	(0.9)	38.8	(1.2)
	Estonia	1.0	(0.2)	1.5	(0.2)	5.7	(0.5)	28.1	(0.9)	63.7	(1.1)
	Finland	7.9	(0.5)	11.1	(0.7)	19.8	(0.7)	27.8	(0.9)	33.4	(1.0)
	France	10.5	(0.6)	8.7	(0.7)	11.9	(0.6)	24.5	(0.8)	44.3	(1.2)
	Germany	6.2	(0.5)	4.8	(0.5)	7.6	(0.6)	17.8	(0.8)	63.6	(1.2)
	Greece	18.4	(0.9)	17.4	(0.7)	18.1	(0.6)	22.7	(0.9)	23.4	(0.8)
	Hungary	5.4	(0.4)	7.2	(0.5)	10.7	(0.7)	23.9	(0.9)	52.8	(1.4)
	Iceland	53.0	(1.0)	15.0	(0.8)	14.1	(0.7)	9.6	(0.6)	8.2	(0.6)
	Ireland	11.8	(0.7)	11.4	(0.7)	15.1	(0.6)	23.8	(0.8)	38.0	(1.1)
	Israel	16.4	(1.2)	6.8	(0.5)	9.2	(0.6)	13.8	(0.7)	53.9	(1.3)
	Italy	19.5	(0.6)	11.6	(0.4)	14.1	(0.4)	17.9	(0.4)	36.8	(0.8)
	Japan	1.6	(0.2)	1.5	(0.2)	3.8	(0.4)	24.0	(0.9)	69.1	(1.2)
	Korea	0.9	(0.2)	2.7	(0.4)	6.5	(0.5)	20.9	(0.8)	69.0	(1.3)
	Luxembourg	27.8	(0.7)	13.9	(0.6)	16.0	(0.6)	14.6	(0.6)	27.7	(0.7)
	Mexico	9.0	(0.3)	14.1	(0.3)	18.6	(0.4)	28.3	(0.4)	30.0	(0.5)
	Netherlands	10.2	(0.9)	5.4	(0.7)	12.3	(0.7)	29.6	(1.1)	42.5	(1.6)
	New Zealand	13.0	(0.9)	9.5	(0.6)	14.4	(0.7)	26.4	(0.8)	36.7	(1.2)
	Norway	m	m	m	m	m	m	m	m	m	m
	Poland	20.0	(1.0)	20.2	(0.8)	23.2	(0.8)	20.9	(0.9)	15.8	(0.9)
	Portugal	16.8	(0.9)	14.4	(0.7)	20.1	(0.7)	24.3	(0.8)	24.5	(1.1)
	Slovak Republic	4.5	(0.6)	3.7	(0.5)	8.6	(0.7)	26.2	(0.9)	57.0	(1.2)
	Slovenia	2.2	(0.3)	2.8	(0.3)	7.4	(0.5)	23.5	(0.9)	64.2	(1.1)
	Spain	12.3	(0.6)	9.3	(0.4)	15.6	(0.5)	21.1	(0.6)	41.8	(0.8)
	Sweden	39.0	(1.3)	25.5	(0.8)	17.5	(0.8)	9.4	(0.6)	8.6	(0.8)
	Switzerland	21.1	(1.2)	14.9	(0.7)	15.6	(0.7)	17.2	(0.6)	31.2	(1.4)
	Turkey	6.4	(0.5)	10.5	(0.6)	17.7	(0.6)	39.1	(0.9)	26.4	(0.9)
	United Kingdom	11.3	(0.5)	10.9	(0.6)	14.8	(0.7)	27.1	(0.8)	35.9	(1.1)
	United States	3.2	(0.4)	5.2	(0.4)	10.4	(0.6)	24.4	(1.0)	56.8	(1.4)
	OECD average	12.8	(0.1)	9.6	(0.1)	13.2	(0.1)	22.6	(0.1)	41.8	(0.2)
Partners	Albania	6.6	(0.5)	9.8	(0.6)	15.7	(1.1)	25.2	(1.1)	42.6	(1.0)
	Argentina	27.6	(1.0)	16.7	(0.8)	15.5	(1.0)	16.4	(0.8)	23.8	(1.3)
	Brazil	27.9	(1.0)	18.2	(0.5)	21.0	(0.7)	19.8	(0.6)	13.0	(0.7)
	Bulgaria	5.4	(0.6)	8.4	(0.7)	9.3	(0.6)	19.4	(0.7)	57.5	(1.6)
	Colombia	12.6	(0.8)	11.3	(0.6)	15.9	(0.6)	31.9	(1.1)	28.4	(1.0)
	Costa Rica	27.3	(1.3)	13.4	(0.8)	18.6	(1.0)	17.0	(0.8)	23.7	(1.5)
	Croatia	1.4	(0.2)	2.2	(0.3)	5.6	(0.4)	18.9	(0.9)	72.0	(1.1)
	Cyprus*	26.5	(0.8)	17.5	(0.7)	17.6	(0.6)	15.3	(0.7)	23.0	(0.8)
	Hong Kong-China	31.7	(0.9)	11.1	(0.6)	13.2	(0.6)	15.5	(0.7)	28.4	(1.0)
	Indonesia	8.6	(0.9)	11.5	(0.8)	16.8	(0.8)	43.5	(1.4)	19.6	(1.1)
	Jordan	9.2	(0.5)	7.5	(0.5)	6.6	(0.4)	16.5	(0.7)	60.3	(1.1)
	Kazakhstan	6.9	(0.6)	8.4	(0.6)	11.5	(0.7)	25.4	(1.0)	47.8	(1.6)
	Latvia	3.3	(0.4)	4.2	(0.5)	12.0	(0.8)	31.5	(1.3)	49.1	(1.5)
	Liechtenstein	16.2	(2.5)	9.5	(2.0)	9.8	(2.2)	13.8	(2.6)	50.7	(3.6)
	Lithuania	15.1	(0.9)	13.4	(0.7)	15.5	(0.7)	20.9	(0.7)	35.1	(1.3)
	Macao-China	1.3	(0.2)	2.1	(0.2)	6.7	(0.4)	17.6	(0.6)	72.3	(0.8)
	Malaysia	9.1	(0.6)	11.0	(0.7)	14.1	(0.7)	30.1	(1.1)	35.7	(1.4)
	Montenegro	3.9	(0.4)	6.0	(0.4)	8.2	(0.6)	22.4	(0.8)	59.5	(1.0)
	Peru	7.1	(0.6)	13.8	(0.7)	16.0	(0.7)	27.6	(0.9)	35.4	(1.2)
	Qatar	15.3	(0.4)	13.0	(0.4)	13.4	(0.5)	13.9	(0.4)	44.3	(0.6)
	Romania	5.3	(0.6)	9.2	(0.7)	8.6	(0.6)	24.3	(0.9)	52.7	(1.5)
	Russian Federation	1.5	(0.2)	2.2	(0.3)	5.1	(0.3)	20.4	(0.7)	70.8	(0.9)
	Serbia	1.6	(0.3)	3.3	(0.3)	8.9	(0.7)	22.1	(0.8)	64.2	(1.1)
	Shanghai-China	w	w	w	w	w	w	w	w	w	w
	Singapore	2.4	(0.3)	3.2	(0.3)	8.1	(0.5)	23.7	(0.7)	62.6	(0.7)
	Chinese Taipei	21.1	(0.8)	13.1	(0.6)	19.3	(0.7)	22.5	(0.8)	23.9	(0.9)
	Thailand	3.4	(0.4)	9.3	(0.6)	10.4	(0.6)	41.9	(0.9)	34.9	(1.0)
	Tunisia	47.6	(1.1)	16.8	(0.8)	12.7	(0.7)	10.6	(0.6)	12.3	(0.7)
	United Arab Emirates	8.1	(0.5)	7.8	(0.5)	10.1	(0.4)	19.0	(0.6)	55.0	(0.9)
	Uruguay	18.7	(0.9)	12.6	(0.7)	17.8	(0.8)	24.5	(0.9)	26.4	(1.1)
	Viet Nam	64.9	(1.0)	13.5	(0.7)	11.8	(0.6)	5.7	(0.4)	4.2	(0.4)

* See notes at the beginning of this Annex.

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[Part 1/1]

Students' exposure to the mathematics concept "vectors"

Table I.3.19 *Percentage of students who answered how familiar they are with the following mathematical concepts*

		Vectors									
		Never heard of it		Heard of it once or twice		Heard of it a few times		Heard of it often		Know it well, understand the concept	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	31.1	(0.7)	20.1	(0.5)	20.1	(0.5)	15.7	(0.5)	12.9	(0.5)
	Austria	28.5	(1.1)	15.7	(0.7)	12.8	(0.7)	12.9	(0.6)	30.1	(1.3)
	Belgium	25.2	(1.0)	9.2	(0.4)	12.8	(0.6)	16.2	(0.7)	36.6	(1.0)
	Canada	32.4	(0.7)	17.9	(0.5)	21.0	(0.5)	15.6	(0.5)	13.2	(0.5)
	Chile	16.5	(1.1)	11.4	(0.6)	17.4	(0.7)	24.3	(0.9)	30.4	(1.2)
	Czech Republic	48.6	(1.7)	17.1	(0.8)	12.2	(0.8)	10.3	(0.7)	11.8	(0.8)
	Denmark	54.1	(1.2)	20.1	(0.9)	15.8	(0.6)	6.7	(0.5)	3.3	(0.4)
	Estonia	39.7	(1.1)	24.0	(0.9)	20.6	(0.7)	9.4	(0.6)	6.3	(0.5)
	Finland	60.1	(0.9)	18.8	(0.8)	13.1	(0.5)	5.4	(0.3)	2.6	(0.2)
	France	24.8	(1.0)	7.3	(0.5)	6.3	(0.5)	12.7	(0.6)	48.9	(1.2)
	Germany	42.0	(1.1)	18.7	(0.8)	15.1	(0.7)	9.9	(0.6)	14.4	(0.8)
	Greece	5.6	(0.5)	8.2	(0.6)	13.0	(0.6)	26.8	(0.9)	46.4	(1.3)
	Hungary	7.2	(0.6)	7.2	(0.6)	12.7	(0.7)	27.3	(1.1)	45.6	(1.5)
	Iceland	73.6	(1.0)	12.0	(0.8)	7.9	(0.6)	3.7	(0.4)	2.8	(0.4)
	Ireland	58.1	(0.9)	19.2	(0.8)	12.7	(0.6)	5.9	(0.4)	4.0	(0.4)
	Israel	65.7	(1.1)	10.6	(0.6)	7.8	(0.5)	5.9	(0.4)	10.0	(0.9)
	Italy	17.9	(0.7)	12.1	(0.4)	14.8	(0.4)	19.0	(0.4)	36.2	(1.1)
	Japan	31.6	(1.4)	20.2	(0.8)	21.1	(0.9)	17.5	(0.9)	9.6	(0.9)
	Korea	34.4	(1.2)	31.8	(0.8)	21.6	(0.8)	9.4	(0.7)	2.7	(0.6)
	Luxembourg	39.0	(0.9)	10.9	(0.6)	11.4	(0.6)	10.4	(0.6)	28.3	(0.6)
	Mexico	27.2	(0.5)	21.0	(0.4)	22.8	(0.5)	18.5	(0.5)	10.5	(0.4)
	Netherlands	58.0	(1.2)	13.1	(0.6)	12.3	(0.7)	8.4	(0.6)	8.2	(0.7)
	New Zealand	34.0	(1.4)	18.6	(0.6)	18.6	(0.7)	15.8	(0.7)	13.0	(0.8)
	Norway	m	m	m	m	m	m	m	m	m	m
	Poland	16.3	(1.0)	18.4	(0.9)	21.3	(0.9)	22.5	(0.9)	21.6	(1.2)
	Portugal	8.4	(0.8)	6.5	(0.5)	13.7	(0.8)	24.1	(0.8)	47.3	(1.5)
	Slovak Republic	51.1	(1.7)	12.8	(0.8)	11.9	(0.8)	11.9	(0.6)	12.3	(1.1)
	Slovenia	17.1	(0.7)	15.1	(0.7)	18.2	(0.8)	20.8	(0.8)	28.9	(0.8)
	Spain	31.3	(0.9)	11.0	(0.4)	12.9	(0.4)	16.3	(0.4)	28.5	(0.8)
	Sweden	71.5	(1.1)	13.9	(0.8)	7.6	(0.5)	3.7	(0.4)	3.4	(0.5)
	Switzerland	45.5	(1.3)	16.4	(0.8)	11.7	(0.5)	9.2	(0.5)	17.3	(1.2)
	Turkey	4.6	(0.4)	5.5	(0.5)	10.3	(0.6)	37.5	(1.0)	42.1	(1.3)
	United Kingdom	18.4	(0.9)	14.4	(0.9)	17.7	(0.7)	22.5	(1.0)	27.0	(1.2)
	United States	31.5	(1.2)	20.0	(0.8)	20.8	(0.9)	15.0	(0.7)	12.7	(0.7)
	OECD average	34.9	(0.2)	15.1	(0.1)	14.9	(0.1)	14.9	(0.1)	20.3	(0.2)
Partners	Albania	3.1	(0.4)	5.3	(0.6)	9.2	(0.7)	24.1	(1.1)	58.3	(1.2)
	Argentina	38.6	(1.7)	16.1	(0.9)	12.8	(0.9)	13.5	(0.7)	19.0	(1.6)
	Brazil	36.0	(1.1)	16.7	(0.6)	18.8	(0.6)	16.9	(0.7)	11.7	(0.7)
	Bulgaria	9.7	(0.8)	13.0	(0.8)	14.5	(0.8)	22.1	(0.8)	40.7	(1.5)
	Colombia	25.5	(1.2)	9.4	(0.5)	13.5	(0.6)	25.2	(1.2)	26.4	(1.2)
	Costa Rica	39.7	(1.6)	11.3	(0.6)	11.3	(0.7)	12.6	(0.8)	25.2	(1.6)
	Croatia	3.5	(0.4)	5.4	(0.4)	12.8	(0.8)	22.3	(0.9)	55.9	(1.3)
	Cyprus*	7.6	(0.5)	8.9	(0.6)	15.8	(0.6)	26.8	(0.7)	41.0	(0.9)
	Hong Kong-China	45.1	(1.2)	14.4	(0.7)	16.3	(0.7)	11.2	(0.6)	13.0	(0.8)
	Indonesia	20.2	(1.1)	17.5	(0.8)	18.9	(0.9)	32.3	(1.1)	11.1	(0.9)
	Jordan	33.1	(1.0)	14.9	(0.6)	16.2	(0.6)	17.0	(0.7)	18.7	(1.1)
	Kazakhstan	5.5	(0.5)	5.5	(0.5)	9.3	(0.5)	25.4	(1.0)	54.4	(1.4)
	Latvia	43.4	(1.3)	20.8	(1.1)	16.4	(0.8)	10.5	(0.7)	8.9	(0.8)
	Liechtenstein	38.3	(3.4)	12.3	(2.2)	10.8	(2.1)	11.4	(2.5)	27.3	(3.2)
	Lithuania	57.9	(1.2)	21.1	(0.8)	12.3	(0.6)	5.7	(0.5)	3.0	(0.3)
	Macao-China	33.3	(0.8)	12.6	(0.5)	18.1	(0.7)	15.2	(0.5)	20.8	(0.7)
	Malaysia	30.1	(1.0)	19.8	(0.7)	20.6	(0.7)	19.3	(0.8)	10.2	(0.7)
	Montenegro	9.0	(0.6)	10.0	(0.6)	13.4	(0.6)	23.0	(0.8)	44.6	(1.0)
	Peru	29.6	(1.2)	15.1	(0.8)	15.2	(0.6)	21.3	(0.8)	18.8	(0.9)
	Qatar	27.8	(0.6)	16.7	(0.4)	15.9	(0.4)	15.2	(0.4)	24.5	(0.5)
	Romania	7.4	(0.7)	9.9	(0.6)	13.5	(0.7)	29.4	(0.8)	39.8	(1.4)
	Russian Federation	2.8	(0.3)	3.9	(0.3)	6.7	(0.5)	21.5	(0.8)	65.1	(1.1)
	Serbia	3.2	(0.5)	3.9	(0.4)	11.4	(0.6)	23.5	(0.8)	58.0	(1.1)
	Shanghai-China	7.1	(1.0)	1.7	(0.2)	4.0	(0.4)	12.5	(0.6)	74.7	(1.3)
	Singapore	15.1	(0.6)	8.5	(0.4)	11.0	(0.6)	21.3	(0.7)	44.0	(0.9)
	Chinese Taipei	19.6	(0.9)	13.1	(0.6)	22.7	(0.7)	25.2	(0.8)	19.4	(0.8)
	Thailand	16.3	(0.8)	15.7	(0.8)	14.7	(0.7)	30.5	(0.8)	22.8	(1.1)
	Tunisia	33.2	(1.1)	17.4	(0.7)	14.5	(0.7)	15.2	(0.7)	19.6	(0.8)
	United Arab Emirates	29.9	(0.7)	12.5	(0.4)	14.1	(0.5)	16.5	(0.6)	27.1	(0.8)
	Uruguay	14.9	(0.8)	9.4	(0.7)	17.2	(0.7)	23.4	(0.9)	35.0	(1.0)
	Viet Nam	5.1	(1.1)	2.7	(0.5)	3.9	(0.5)	27.9	(1.2)	60.4	(1.9)

* See notes at the beginning of this Annex.

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[Part 1/1]

Students' exposure to the mathematics concept "complex number"

Table I.3.20 *Percentage of students who answered how familiar they are with the following mathematical concepts*

		Complex number									
		Never heard of it		Heard of it once or twice		Heard of it a few times		Heard of it often		Know it well, understand the concept	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	18.7	(0.5)	20.9	(0.4)	24.7	(0.6)	21.7	(0.6)	14.0	(0.4)
	Austria	31.2	(1.0)	21.2	(0.9)	18.3	(0.7)	12.9	(0.6)	16.3	(0.9)
	Belgium	41.7	(0.9)	18.5	(0.6)	17.5	(0.6)	11.6	(0.5)	10.7	(0.5)
	Canada	20.0	(0.5)	19.0	(0.5)	23.1	(0.5)	20.7	(0.5)	17.2	(0.6)
	Chile	13.3	(0.6)	16.9	(0.7)	25.5	(0.7)	27.5	(0.8)	16.8	(0.7)
	Czech Republic	45.4	(1.2)	27.2	(0.9)	15.5	(0.8)	7.7	(0.7)	4.1	(0.5)
	Denmark	33.0	(1.0)	27.4	(0.9)	22.6	(0.8)	10.5	(0.6)	6.5	(0.5)
	Estonia	42.5	(0.9)	23.5	(1.0)	17.8	(0.7)	9.0	(0.5)	7.2	(0.4)
	Finland	61.2	(0.8)	22.7	(0.6)	11.0	(0.5)	3.6	(0.3)	1.4	(0.2)
	France	30.5	(0.9)	17.7	(0.7)	21.3	(0.8)	16.9	(0.7)	13.5	(0.7)
	Germany	33.4	(1.0)	24.8	(0.7)	18.0	(0.7)	11.3	(0.7)	12.5	(0.7)
	Greece	43.5	(1.2)	19.9	(0.7)	15.1	(0.7)	11.1	(0.6)	10.4	(0.6)
	Hungary	21.5	(0.9)	20.2	(0.8)	22.1	(0.7)	20.2	(0.8)	16.0	(0.8)
	Iceland	72.0	(1.0)	12.6	(0.8)	7.9	(0.6)	4.5	(0.4)	3.0	(0.4)
	Ireland	32.0	(0.9)	23.1	(0.7)	18.8	(0.8)	14.2	(0.7)	11.9	(0.7)
	Israel	37.8	(1.0)	13.2	(0.6)	15.8	(0.7)	13.4	(0.7)	19.8	(0.8)
	Italy	24.1	(0.5)	17.5	(0.4)	21.9	(0.4)	19.6	(0.4)	16.9	(0.4)
	Japan	61.2	(1.2)	17.3	(0.6)	11.7	(0.5)	5.5	(0.5)	4.2	(0.7)
	Korea	6.0	(0.7)	5.1	(0.5)	8.9	(0.6)	23.8	(1.0)	56.2	(1.5)
	Luxembourg	30.8	(0.8)	17.7	(0.7)	21.5	(0.8)	13.8	(0.6)	16.2	(0.7)
	Mexico	18.2	(0.4)	23.9	(0.4)	24.8	(0.4)	21.2	(0.4)	12.0	(0.5)
	Netherlands	56.0	(1.1)	19.0	(0.8)	14.8	(0.6)	6.4	(0.6)	3.8	(0.5)
	New Zealand	24.3	(0.9)	23.7	(1.1)	25.1	(0.9)	18.3	(0.8)	8.7	(0.6)
	Norway	m	m	m	m	m	m	m	m	m	m
	Poland	40.9	(1.1)	25.3	(0.7)	18.1	(0.8)	11.0	(0.6)	4.8	(0.5)
	Portugal	22.6	(0.8)	17.4	(0.8)	23.3	(0.8)	21.9	(0.8)	14.9	(0.6)
	Slovak Republic	46.0	(1.4)	24.1	(1.1)	16.8	(0.9)	7.2	(0.5)	5.9	(0.5)
	Slovenia	27.9	(0.8)	23.6	(0.8)	23.7	(0.8)	15.9	(0.7)	9.0	(0.5)
	Spain	26.7	(0.6)	18.1	(0.5)	19.0	(0.5)	17.1	(0.5)	19.1	(0.6)
	Sweden	44.4	(1.1)	27.1	(0.8)	16.6	(0.7)	7.5	(0.5)	4.3	(0.5)
	Switzerland	35.0	(0.8)	22.4	(0.6)	19.0	(0.6)	12.0	(0.6)	11.6	(0.6)
	Turkey	14.8	(0.7)	16.3	(0.7)	22.5	(0.9)	30.9	(1.0)	15.6	(0.8)
	United Kingdom	17.6	(0.6)	20.5	(0.8)	24.8	(0.7)	21.5	(0.8)	15.6	(0.7)
	United States	13.7	(0.8)	17.5	(0.9)	21.3	(0.8)	22.3	(0.9)	25.2	(1.2)
	OECD average	33.0	(0.2)	20.2	(0.1)	19.1	(0.1)	14.9	(0.1)	12.9	(0.1)
Partners	Albania	23.2	(0.9)	22.2	(1.0)	23.0	(0.8)	19.5	(1.0)	12.1	(0.8)
	Argentina	26.5	(1.1)	21.3	(0.8)	16.1	(0.7)	16.4	(0.6)	19.7	(1.1)
	Brazil	25.0	(0.6)	24.2	(0.6)	23.2	(0.6)	17.9	(0.5)	9.7	(0.5)
	Bulgaria	29.0	(0.8)	21.7	(0.8)	19.9	(0.7)	17.2	(0.6)	12.1	(0.6)
	Colombia	13.7	(0.6)	19.4	(0.9)	23.7	(0.8)	27.4	(1.0)	15.9	(0.9)
	Costa Rica	29.5	(1.2)	19.8	(0.8)	19.7	(0.9)	16.2	(0.8)	14.9	(0.8)
	Croatia	20.3	(0.7)	19.1	(0.7)	23.7	(0.7)	16.2	(0.7)	20.7	(0.7)
	Cyprus*	42.2	(0.9)	15.8	(0.6)	14.9	(0.7)	12.5	(0.6)	14.5	(0.6)
	Hong Kong-China	13.1	(0.8)	12.8	(0.7)	23.2	(0.8)	23.5	(0.9)	27.5	(1.0)
	Indonesia	25.0	(1.3)	23.3	(0.8)	21.0	(0.9)	24.5	(1.0)	6.2	(0.5)
	Jordan	10.1	(0.7)	10.3	(0.5)	11.0	(0.6)	20.1	(0.8)	48.6	(1.2)
	Kazakhstan	12.9	(0.8)	11.7	(0.6)	15.8	(0.7)	26.3	(1.0)	33.4	(1.3)
	Latvia	44.1	(1.5)	23.0	(0.8)	15.2	(0.8)	9.6	(0.7)	8.0	(0.8)
	Liechtenstein	39.1	(3.2)	24.5	(2.9)	12.8	(2.2)	10.1	(2.1)	13.5	(2.5)
	Lithuania	54.4	(1.1)	23.1	(0.9)	14.2	(0.7)	5.2	(0.5)	3.1	(0.3)
	Macao-China	10.9	(0.5)	13.8	(0.6)	24.6	(0.7)	23.0	(0.7)	27.6	(0.8)
	Malaysia	20.5	(0.8)	22.2	(0.9)	22.4	(0.6)	22.7	(0.8)	12.1	(0.6)
	Montenegro	17.8	(0.7)	16.1	(0.7)	18.2	(0.7)	22.3	(0.8)	25.6	(0.8)
	Peru	8.9	(0.6)	19.6	(0.8)	22.9	(0.8)	28.5	(1.0)	20.0	(0.9)
	Qatar	16.5	(0.5)	16.7	(0.4)	19.7	(0.6)	17.0	(0.4)	30.1	(0.6)
	Romania	18.1	(0.7)	19.2	(0.8)	21.2	(0.8)	22.2	(0.8)	19.3	(0.8)
	Russian Federation	31.2	(0.9)	20.5	(0.6)	22.3	(1.0)	15.0	(0.5)	10.9	(0.7)
	Serbia	15.0	(0.7)	19.5	(0.8)	24.3	(0.8)	23.9	(0.8)	17.3	(0.8)
	Shanghai-China	16.1	(0.7)	11.1	(0.5)	13.8	(0.5)	14.9	(0.7)	44.1	(1.0)
	Singapore	19.4	(0.7)	14.8	(0.7)	22.8	(0.7)	22.3	(0.7)	20.6	(0.7)
	Chinese Taipei	11.3	(0.6)	10.3	(0.5)	18.6	(0.6)	28.4	(0.8)	31.4	(0.9)
	Thailand	12.6	(0.7)	16.1	(0.7)	18.8	(0.7)	35.2	(0.8)	17.3	(0.8)
	Tunisia	20.5	(0.9)	13.8	(0.8)	14.0	(0.6)	17.2	(0.8)	34.5	(1.2)
	United Arab Emirates	11.3	(0.5)	11.2	(0.5)	14.4	(0.5)	22.9	(0.6)	40.2	(0.7)
	Uruguay	27.2	(0.9)	20.6	(0.7)	23.3	(0.8)	17.4	(0.7)	11.6	(0.7)
	Viet Nam	22.1	(1.1)	18.4	(0.7)	28.3	(1.0)	17.3	(0.8)	14.0	(0.9)

* See notes at the beginning of this Annex.

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[Part 1/1]

Students' exposure to the mathematics concept "rational number"

Table I.3.21 *Percentage of students who answered how familiar they are with the following mathematical concepts*

		Rational number									
		Never heard of it		Heard of it once or twice		Heard of it a few times		Heard of it often		Know it well, understand the concept	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	17.7	(0.5)	17.3	(0.5)	19.8	(0.5)	20.9	(0.5)	24.3	(0.7)
	Austria	10.9	(0.7)	8.1	(0.6)	13.1	(0.7)	23.7	(0.7)	44.3	(1.1)
	Belgium	13.7	(0.7)	7.7	(0.4)	11.9	(0.6)	21.7	(0.6)	45.1	(0.9)
	Canada	7.3	(0.4)	8.8	(0.5)	16.6	(0.6)	27.6	(0.5)	39.8	(0.9)
	Chile	3.5	(0.4)	6.1	(0.5)	11.9	(0.6)	34.1	(0.8)	44.2	(1.3)
	Czech Republic	2.7	(0.4)	5.9	(0.6)	16.9	(0.9)	29.1	(1.1)	45.4	(1.4)
	Denmark	27.5	(1.1)	23.3	(0.8)	23.1	(0.6)	14.1	(0.7)	12.0	(0.7)
	Estonia	2.8	(0.3)	5.4	(0.5)	13.1	(0.6)	32.8	(0.9)	45.9	(1.1)
	Finland	43.2	(1.4)	20.0	(0.6)	17.1	(0.6)	10.8	(0.7)	8.9	(0.6)
	France	17.7	(0.9)	14.1	(0.8)	18.1	(0.7)	19.9	(0.8)	30.3	(1.2)
	Germany	6.0	(0.6)	5.2	(0.4)	12.8	(0.8)	23.9	(1.1)	52.1	(1.4)
	Greece	3.5	(0.5)	5.6	(0.5)	7.5	(0.8)	19.7	(0.9)	63.7	(1.5)
	Hungary	1.7	(0.3)	4.1	(0.5)	7.8	(0.7)	28.8	(1.1)	57.5	(1.5)
	Iceland	33.5	(0.8)	10.1	(0.7)	14.7	(0.8)	18.5	(0.7)	23.2	(0.9)
	Ireland	22.7	(0.9)	19.8	(0.8)	19.5	(0.7)	19.2	(0.8)	18.7	(1.0)
	Israel	24.9	(1.1)	12.4	(0.6)	14.7	(0.6)	17.1	(0.8)	30.9	(1.1)
	Italy	4.6	(0.3)	7.0	(0.3)	12.4	(0.3)	26.7	(0.5)	49.2	(0.8)
	Japan	2.5	(0.3)	3.6	(0.4)	9.0	(0.5)	28.0	(0.8)	57.0	(1.3)
	Korea	0.3	(0.1)	1.9	(0.3)	5.8	(0.5)	20.2	(0.9)	71.9	(1.3)
	Luxembourg	21.1	(0.7)	12.6	(0.6)	15.6	(0.6)	17.8	(0.6)	33.0	(0.8)
	Mexico	13.6	(0.4)	19.5	(0.4)	23.2	(0.4)	25.4	(0.4)	18.3	(0.5)
	Netherlands	60.5	(1.3)	17.7	(0.8)	12.9	(0.7)	5.3	(0.4)	3.7	(0.4)
	New Zealand	24.8	(0.9)	22.1	(0.8)	23.0	(0.9)	18.0	(0.7)	12.1	(0.8)
	Norway	m	m	m	m	m	m	m	m	m	m
	Poland	2.5	(0.3)	7.0	(0.6)	15.8	(0.8)	30.5	(0.9)	44.3	(1.3)
	Portugal	2.4	(0.3)	5.3	(0.4)	12.7	(0.8)	31.4	(1.0)	48.2	(1.3)
	Slovak Republic	4.4	(0.5)	6.9	(0.6)	15.2	(0.8)	30.4	(1.0)	43.1	(1.3)
	Slovenia	1.8	(0.2)	2.5	(0.3)	6.9	(0.5)	23.7	(0.9)	65.2	(1.0)
	Spain	7.5	(0.4)	8.3	(0.4)	16.3	(0.6)	23.8	(0.5)	44.1	(0.9)
	Sweden	46.1	(1.5)	24.9	(0.8)	15.4	(0.8)	7.8	(0.6)	5.8	(0.7)
	Switzerland	20.9	(1.0)	14.3	(0.7)	15.4	(0.5)	18.4	(0.7)	30.9	(1.1)
	Turkey	2.1	(0.3)	3.4	(0.4)	6.7	(0.5)	37.0	(1.2)	50.9	(1.4)
	United Kingdom	19.3	(0.7)	18.5	(0.8)	22.1	(0.8)	20.9	(0.6)	19.1	(1.0)
	United States	3.9	(0.6)	9.0	(0.6)	15.8	(0.7)	27.1	(0.9)	44.2	(1.5)
	OECD average	14.5	(0.1)	10.9	(0.1)	14.6	(0.1)	22.9	(0.1)	37.2	(0.2)
Partners	Albania	2.6	(0.4)	5.4	(0.6)	8.7	(0.5)	26.4	(1.0)	56.9	(1.2)
	Argentina	7.3	(0.6)	13.7	(0.7)	14.2	(0.6)	21.7	(0.8)	43.0	(1.5)
	Brazil	5.0	(0.3)	13.0	(0.5)	18.5	(0.5)	32.5	(0.6)	31.1	(0.7)
	Bulgaria	5.7	(0.5)	7.8	(0.6)	9.3	(0.6)	20.2	(0.7)	56.9	(1.4)
	Colombia	3.2	(0.4)	10.3	(0.6)	14.7	(0.6)	36.8	(1.0)	34.9	(1.0)
	Costa Rica	7.0	(0.6)	9.4	(0.7)	16.1	(0.9)	23.4	(0.9)	44.0	(1.3)
	Croatia	1.4	(0.2)	2.3	(0.3)	6.9	(0.4)	22.9	(0.8)	66.5	(1.1)
	Cyprus*	6.4	(0.5)	8.1	(0.5)	14.7	(0.7)	23.2	(0.7)	47.6	(1.0)
	Hong Kong-China	6.0	(0.6)	4.6	(0.4)	14.6	(0.7)	24.6	(0.8)	50.2	(1.1)
	Indonesia	9.6	(0.9)	15.0	(1.0)	20.9	(1.0)	39.6	(1.3)	14.9	(0.9)
	Jordan	7.2	(0.5)	8.5	(0.6)	7.1	(0.5)	20.3	(0.7)	57.0	(1.1)
	Kazakhstan	4.5	(0.4)	6.2	(0.6)	9.9	(0.6)	28.1	(1.0)	51.3	(1.4)
	Latvia	2.0	(0.3)	4.9	(0.5)	10.6	(0.7)	31.4	(0.9)	51.1	(1.1)
	Liechtenstein	30.8	(2.9)	12.1	(2.2)	9.3	(2.0)	12.3	(2.3)	35.6	(3.4)
	Lithuania	15.5	(1.0)	13.2	(0.8)	16.5	(0.8)	23.8	(0.9)	30.9	(1.3)
	Macao-China	1.3	(0.2)	2.9	(0.2)	9.7	(0.5)	25.8	(0.7)	60.3	(0.7)
	Malaysia	12.6	(0.8)	15.4	(0.8)	22.0	(0.8)	31.2	(1.0)	18.7	(0.8)
	Montenegro	3.4	(0.4)	6.6	(0.4)	9.4	(0.6)	24.1	(0.9)	56.5	(1.0)
	Peru	2.3	(0.2)	10.4	(0.6)	13.1	(0.7)	35.5	(0.9)	38.7	(1.2)
	Qatar	32.3	(0.5)	12.9	(0.4)	12.5	(0.4)	12.4	(0.4)	29.8	(0.5)
	Romania	5.8	(0.5)	10.8	(0.7)	13.3	(0.7)	28.2	(0.9)	41.9	(1.4)
	Russian Federation	4.1	(0.4)	5.4	(0.4)	11.3	(0.6)	26.4	(0.8)	52.8	(1.0)
	Serbia	2.3	(0.3)	3.4	(0.3)	13.7	(0.7)	24.6	(0.9)	56.0	(1.1)
	Shanghai-China	0.5	(0.2)	0.6	(0.1)	2.1	(0.3)	11.1	(0.7)	85.7	(0.8)
	Singapore	8.8	(0.5)	8.6	(0.5)	16.3	(0.6)	25.9	(0.8)	40.4	(0.8)
	Chinese Taipei	9.0	(0.7)	7.1	(0.4)	13.7	(0.5)	27.6	(0.9)	42.6	(1.2)
	Thailand	4.9	(0.5)	8.8	(0.6)	8.6	(0.5)	38.2	(0.8)	39.5	(1.1)
	Tunisia	4.0	(0.4)	5.6	(0.5)	6.4	(0.5)	19.1	(0.9)	65.0	(1.4)
	United Arab Emirates	5.6	(0.4)	8.0	(0.4)	8.8	(0.4)	21.4	(0.6)	56.1	(0.9)
	Uruguay	8.1	(0.5)	11.5	(0.7)	19.4	(0.8)	28.4	(1.0)	32.6	(1.0)
	Viet Nam	1.3	(0.2)	7.3	(0.6)	21.5	(1.0)	34.9	(0.9)	34.9	(1.6)

* See notes at the beginning of this Annex.

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[Part 1/1]

Students' exposure to the mathematics concept "radicals"

Table I.3.22 *Percentage of students who answered how familiar they are with the following mathematical concepts*

		Radicals									
		Never heard of it		Heard of it once or twice		Heard of it a few times		Heard of it often		Know it well, understand the concept	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	34.8	(0.6)	24.0	(0.5)	20.7	(0.5)	13.4	(0.4)	7.1	(0.4)
	Austria	1.8	(0.3)	1.4	(0.2)	3.1	(0.3)	14.2	(0.6)	79.5	(0.7)
	Belgium	7.9	(0.5)	5.2	(0.4)	7.9	(0.4)	15.3	(0.6)	63.8	(0.8)
	Canada	14.2	(0.6)	12.8	(0.5)	16.5	(0.5)	23.2	(0.6)	33.2	(0.8)
	Chile	4.7	(0.5)	6.8	(0.6)	10.6	(0.6)	28.7	(0.8)	49.2	(1.4)
	Czech Republic	0.9	(0.2)	1.3	(0.3)	6.2	(0.5)	16.7	(0.6)	74.8	(0.9)
	Denmark	2.5	(0.3)	2.3	(0.3)	4.8	(0.4)	16.8	(0.7)	73.6	(0.9)
	Estonia	5.9	(0.5)	4.5	(0.4)	8.3	(0.6)	18.2	(0.8)	63.1	(1.0)
	Finland	42.4	(0.9)	22.0	(0.7)	17.8	(0.6)	10.1	(0.6)	7.8	(0.5)
	France	21.2	(0.9)	16.1	(0.6)	19.0	(0.7)	20.1	(0.7)	23.7	(1.0)
	Germany	2.0	(0.3)	2.5	(0.3)	4.7	(0.4)	11.0	(0.7)	79.9	(0.9)
	Greece	3.4	(0.4)	3.5	(0.4)	4.9	(0.6)	15.4	(0.7)	72.8	(1.3)
	Hungary	3.1	(0.5)	4.1	(0.4)	8.5	(0.6)	24.6	(1.0)	59.7	(1.4)
	Iceland	28.6	(0.9)	15.3	(0.7)	20.4	(0.8)	17.7	(0.8)	18.0	(0.9)
	Ireland	32.7	(1.0)	24.0	(0.9)	20.9	(0.8)	13.5	(0.7)	8.8	(0.6)
	Israel	6.4	(0.7)	3.8	(0.3)	7.3	(0.5)	11.8	(0.6)	70.7	(1.2)
	Italy	8.3	(0.3)	9.0	(0.4)	10.7	(0.4)	19.2	(0.4)	52.8	(1.0)
	Japan	39.9	(1.1)	16.3	(0.6)	16.9	(0.8)	14.0	(0.5)	13.0	(0.8)
	Korea	0.7	(0.2)	2.1	(0.3)	5.6	(0.4)	20.3	(0.9)	71.3	(1.3)
	Luxembourg	14.4	(0.5)	8.8	(0.4)	11.6	(0.5)	17.4	(0.7)	47.8	(0.8)
	Mexico	13.0	(0.4)	17.1	(0.4)	21.6	(0.4)	27.2	(0.4)	21.2	(0.6)
	Netherlands	1.9	(0.4)	3.5	(0.4)	5.8	(0.5)	20.6	(1.0)	68.2	(1.4)
	New Zealand	36.9	(1.1)	24.3	(1.0)	20.5	(0.8)	13.3	(0.7)	4.9	(0.4)
	Norway	m	m	m	m	m	m	m	m	m	m
	Poland	1.4	(0.2)	2.6	(0.4)	5.4	(0.5)	17.5	(0.8)	73.1	(1.0)
	Portugal	11.4	(0.7)	10.2	(0.6)	16.1	(0.7)	27.6	(1.0)	34.7	(1.3)
	Slovak Republic	44.3	(1.3)	24.8	(0.9)	14.7	(0.8)	8.3	(0.7)	7.9	(1.1)
	Slovenia	1.9	(0.3)	1.5	(0.2)	4.0	(0.3)	15.8	(0.8)	76.9	(0.9)
	Spain	10.7	(0.5)	8.7	(0.4)	14.1	(0.5)	22.9	(0.6)	43.6	(0.9)
	Sweden	41.6	(1.0)	29.6	(0.8)	18.0	(0.8)	7.6	(0.6)	3.2	(0.4)
	Switzerland	8.0	(0.4)	6.6	(0.3)	9.3	(0.4)	13.3	(0.6)	62.9	(0.9)
	Turkey	3.3	(0.4)	4.9	(0.5)	8.7	(0.5)	36.5	(1.1)	46.7	(1.3)
	United Kingdom	39.0	(0.9)	24.5	(0.8)	19.4	(0.6)	11.7	(0.5)	5.5	(0.4)
	United States	8.0	(0.6)	10.4	(0.7)	17.0	(0.8)	25.4	(0.9)	39.3	(1.4)
	OECD average	15.1	(0.1)	10.7	(0.1)	12.1	(0.1)	17.9	(0.1)	44.2	(0.2)
Partners	Albania	3.3	(0.5)	4.9	(0.5)	7.5	(0.5)	23.1	(1.2)	61.2	(1.2)
	Argentina	11.1	(0.8)	14.4	(0.8)	14.4	(0.7)	20.7	(0.9)	39.4	(1.6)
	Brazil	6.8	(0.3)	13.0	(0.5)	18.7	(0.5)	32.4	(0.6)	29.0	(0.7)
	Bulgaria	7.2	(0.6)	7.2	(0.6)	8.0	(0.6)	15.2	(0.7)	62.5	(1.5)
	Colombia	5.4	(0.4)	9.6	(0.5)	16.6	(0.7)	34.6	(0.9)	33.8	(1.1)
	Costa Rica	11.8	(0.9)	9.3	(0.6)	14.1	(0.7)	20.4	(1.0)	44.4	(1.2)
	Croatia	33.0	(0.9)	26.8	(0.7)	22.4	(0.9)	10.4	(0.5)	7.4	(0.5)
	Cyprus*	9.1	(0.5)	6.6	(0.5)	9.4	(0.5)	17.3	(0.6)	57.5	(0.8)
	Hong Kong-China	7.8	(0.6)	5.2	(0.5)	10.6	(0.6)	22.0	(0.8)	54.4	(1.2)
	Indonesia	1.4	(0.2)	8.8	(0.6)	13.8	(0.8)	47.4	(1.2)	28.6	(1.3)
	Jordan	8.5	(0.5)	7.6	(0.5)	5.9	(0.5)	16.0	(0.8)	62.1	(1.3)
	Kazakhstan	8.1	(0.6)	8.9	(0.7)	12.0	(0.6)	27.0	(1.1)	44.0	(1.5)
	Latvia	1.5	(0.3)	2.5	(0.3)	3.4	(0.4)	15.5	(0.8)	77.1	(1.0)
	Liechtenstein	0.8	(0.7)	0.5	(0.5)	1.7	(1.1)	13.1	(2.5)	84.0	(2.4)
	Lithuania	3.0	(0.3)	3.0	(0.3)	4.6	(0.5)	11.5	(0.7)	77.9	(1.0)
	Macao-China	6.3	(0.4)	4.4	(0.3)	8.8	(0.5)	20.6	(0.7)	59.9	(0.7)
	Malaysia	29.8	(0.8)	24.8	(0.7)	24.7	(0.8)	15.4	(0.7)	5.3	(0.4)
	Montenegro	3.0	(0.3)	5.0	(0.4)	5.7	(0.4)	18.2	(0.7)	68.0	(0.8)
	Peru	2.4	(0.3)	8.7	(0.5)	10.2	(0.7)	32.1	(0.9)	46.6	(1.3)
	Qatar	31.1	(0.6)	17.7	(0.5)	15.8	(0.5)	13.7	(0.4)	21.8	(0.5)
	Romania	6.2	(0.6)	8.6	(0.7)	9.8	(0.6)	23.4	(0.9)	52.0	(1.5)
	Russian Federation	16.6	(0.6)	17.1	(0.7)	21.0	(0.7)	21.8	(0.7)	23.5	(1.0)
	Serbia	1.6	(0.3)	2.4	(0.3)	7.9	(0.6)	14.8	(0.8)	73.3	(1.1)
	Shanghai-China	0.9	(0.2)	0.9	(0.2)	2.2	(0.3)	11.2	(0.7)	84.9	(0.9)
	Singapore	31.3	(0.8)	18.9	(0.6)	22.0	(0.7)	17.4	(0.5)	10.4	(0.6)
	Chinese Taipei	1.5	(0.2)	2.8	(0.4)	8.6	(0.5)	31.3	(0.8)	55.8	(1.1)
	Thailand	13.2	(0.7)	12.8	(0.7)	12.9	(0.6)	31.6	(0.8)	29.6	(1.1)
	Tunisia	5.4	(0.5)	5.4	(0.5)	8.1	(0.6)	18.4	(0.9)	62.7	(1.4)
	United Arab Emirates	8.9	(0.5)	9.6	(0.4)	10.6	(0.4)	18.9	(0.6)	52.0	(1.1)
	Uruguay	5.6	(0.5)	7.8	(0.6)	11.8	(0.6)	26.5	(0.9)	48.3	(1.0)
	Viet Nam	5.0	(0.4)	6.7	(0.6)	10.8	(0.8)	35.0	(0.9)	42.4	(1.7)

* See notes at the beginning of this Annex.

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[Part 1/1]

Students' exposure to the mathematics concept "polygon"

Table I.3.23 *Percentage of students who answered how familiar they are with the following mathematical concepts*

		Polygon									
		Never heard of it		Heard of it once or twice		Heard of it a few times		Heard of it often		Know it well, understand the concept	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	5.5	(0.3)	7.4	(0.3)	12.5	(0.4)	22.6	(0.5)	51.9	(0.6)
	Austria	61.8	(1.3)	16.5	(0.7)	9.6	(0.5)	5.0	(0.4)	7.1	(0.5)
	Belgium	4.1	(0.3)	2.9	(0.2)	6.2	(0.3)	14.4	(0.6)	72.3	(0.8)
	Canada	3.3	(0.2)	3.8	(0.3)	9.4	(0.4)	21.0	(0.5)	62.5	(0.8)
	Chile	4.4	(0.4)	8.8	(0.5)	18.4	(0.8)	31.4	(0.9)	37.0	(1.2)
	Czech Republic	8.6	(0.7)	11.0	(0.7)	19.2	(0.9)	22.8	(1.0)	38.5	(1.0)
	Denmark	29.2	(1.2)	17.0	(0.8)	15.6	(0.8)	15.6	(0.9)	22.6	(1.0)
	Estonia	1.4	(0.2)	1.7	(0.3)	6.0	(0.5)	19.9	(0.8)	71.1	(0.9)
	Finland	8.0	(0.5)	7.0	(0.4)	11.7	(0.5)	19.0	(0.6)	54.2	(0.9)
	France	4.3	(0.5)	4.3	(0.4)	7.6	(0.6)	18.5	(0.8)	65.3	(1.0)
	Germany	75.4	(0.9)	11.8	(0.7)	6.3	(0.5)	2.1	(0.3)	4.4	(0.5)
	Greece	6.1	(0.5)	7.4	(0.6)	10.6	(0.7)	19.2	(0.6)	56.6	(1.2)
	Hungary	2.0	(0.4)	2.7	(0.4)	6.5	(0.5)	19.1	(0.9)	69.7	(1.1)
	Iceland	24.0	(0.8)	8.2	(0.6)	11.5	(0.7)	16.4	(0.8)	39.9	(0.9)
	Ireland	36.9	(1.0)	15.6	(0.7)	13.7	(0.5)	13.7	(0.7)	20.1	(0.9)
	Israel	12.5	(0.8)	7.1	(0.5)	14.0	(0.7)	16.8	(0.6)	49.7	(1.4)
	Italy	4.3	(0.2)	5.1	(0.2)	9.5	(0.4)	20.1	(0.4)	61.0	(0.7)
	Japan	6.5	(0.4)	3.8	(0.4)	7.9	(0.5)	17.6	(0.6)	64.2	(1.2)
	Korea	5.8	(0.5)	7.4	(0.5)	13.4	(0.7)	17.8	(0.7)	55.5	(1.5)
	Luxembourg	25.0	(0.8)	11.4	(0.5)	14.9	(0.7)	17.0	(0.7)	31.7	(0.8)
	Mexico	5.0	(0.2)	10.6	(0.3)	14.7	(0.3)	26.3	(0.4)	43.4	(0.5)
	Netherlands	57.5	(1.1)	13.1	(0.7)	10.9	(0.6)	8.4	(0.5)	10.0	(0.7)
	New Zealand	10.4	(0.8)	9.7	(0.6)	16.3	(0.7)	24.1	(0.7)	39.4	(1.1)
	Norway	m	m	m	m	m	m	m	m	m	m
	Poland	1.4	(0.2)	2.9	(0.4)	6.7	(0.5)	16.8	(0.8)	72.1	(1.1)
	Portugal	2.3	(0.3)	4.2	(0.4)	10.2	(0.7)	27.2	(0.9)	56.1	(1.3)
	Slovak Republic	13.4	(0.8)	11.9	(0.7)	20.3	(0.9)	22.1	(0.8)	32.3	(1.1)
	Slovenia	30.8	(0.9)	20.2	(0.8)	19.3	(0.8)	14.8	(0.8)	14.9	(0.7)
	Spain	4.7	(0.4)	6.9	(0.4)	13.6	(0.5)	20.0	(0.4)	54.9	(0.7)
	Sweden	66.3	(1.2)	14.6	(0.7)	9.2	(0.5)	5.2	(0.4)	4.6	(0.6)
	Switzerland	53.4	(1.3)	9.1	(0.6)	6.9	(0.5)	7.4	(0.4)	23.3	(0.9)
	Turkey	3.0	(0.4)	3.8	(0.4)	7.2	(0.5)	33.3	(1.2)	52.7	(1.4)
	United Kingdom	5.8	(0.3)	6.7	(0.5)	10.8	(0.7)	25.0	(0.9)	51.8	(1.1)
	United States	3.1	(0.4)	5.5	(0.5)	9.4	(0.7)	18.8	(0.8)	63.2	(1.3)
	OECD average	17.8	(0.1)	8.5	(0.1)	11.5	(0.1)	18.2	(0.1)	44.1	(0.2)
Partners	Albania	3.2	(0.5)	4.6	(0.6)	8.0	(0.5)	22.9	(1.0)	61.3	(1.1)
	Argentina	15.1	(0.9)	16.5	(0.8)	16.7	(0.7)	20.2	(0.8)	31.4	(1.2)
	Brazil	15.0	(0.7)	17.7	(0.6)	22.7	(0.6)	24.2	(0.6)	20.4	(0.7)
	Bulgaria	9.3	(0.5)	9.0	(0.7)	11.3	(0.6)	18.4	(0.8)	52.0	(1.3)
	Colombia	5.0	(0.4)	13.0	(0.7)	18.9	(0.7)	33.6	(1.0)	29.6	(1.2)
	Costa Rica	12.0	(0.8)	14.7	(0.9)	19.6	(0.9)	20.8	(0.9)	32.9	(1.1)
	Croatia	7.0	(0.4)	6.4	(0.5)	11.0	(0.6)	18.3	(0.8)	57.1	(1.2)
	Cyprus*	13.0	(0.6)	13.4	(0.7)	16.6	(0.7)	18.2	(0.8)	38.8	(0.8)
	Hong Kong-China	0.6	(0.1)	2.0	(0.2)	7.9	(0.6)	20.2	(0.7)	69.2	(1.0)
	Indonesia	38.3	(1.2)	21.7	(0.8)	17.4	(0.7)	17.1	(0.8)	5.6	(0.5)
	Jordan	11.0	(0.5)	9.3	(0.5)	10.7	(0.6)	19.9	(0.6)	49.0	(0.9)
	Kazakhstan	3.5	(0.3)	5.7	(0.5)	8.0	(0.5)	25.7	(1.0)	57.2	(1.3)
	Latvia	2.2	(0.3)	2.5	(0.3)	4.2	(0.5)	14.5	(0.8)	76.7	(0.9)
	Liechtenstein	67.7	(3.1)	11.7	(2.4)	7.9	(2.0)	3.8	(1.4)	8.8	(1.8)
	Lithuania	3.4	(0.4)	3.9	(0.4)	6.9	(0.6)	14.4	(0.7)	71.4	(1.1)
	Macao-China	1.6	(0.2)	2.6	(0.2)	8.5	(0.4)	23.0	(0.7)	64.3	(0.8)
	Malaysia	6.5	(0.5)	9.7	(0.6)	14.6	(0.6)	34.1	(1.1)	35.2	(1.2)
	Montenegro	8.3	(0.5)	11.4	(0.6)	15.3	(0.7)	24.6	(0.8)	40.4	(0.9)
	Peru	4.9	(0.4)	12.1	(0.6)	14.9	(0.8)	30.2	(0.8)	38.0	(1.2)
	Qatar	14.4	(0.5)	14.8	(0.5)	16.3	(0.5)	16.3	(0.4)	38.1	(0.6)
	Romania	10.7	(0.7)	12.9	(0.7)	17.0	(0.7)	26.1	(1.1)	33.4	(1.3)
	Russian Federation	2.4	(0.3)	1.9	(0.3)	4.0	(0.3)	14.0	(0.8)	77.6	(0.9)
	Serbia	2.9	(0.4)	4.9	(0.4)	11.9	(0.6)	20.3	(0.9)	60.0	(1.1)
	Shanghai-China	1.3	(0.2)	1.2	(0.2)	3.7	(0.4)	17.1	(0.7)	76.8	(0.9)
	Singapore	7.2	(0.4)	7.4	(0.5)	15.6	(0.7)	28.4	(0.8)	41.4	(0.8)
	Chinese Taipei	2.0	(0.3)	4.0	(0.4)	11.2	(0.6)	27.1	(0.7)	55.7	(1.0)
	Thailand	5.3	(0.4)	11.7	(0.6)	13.7	(0.7)	35.0	(0.9)	34.3	(0.8)
	Tunisia	10.2	(0.7)	8.5	(0.6)	11.3	(0.7)	19.8	(0.8)	50.2	(1.5)
	United Arab Emirates	7.3	(0.5)	7.9	(0.4)	8.9	(0.4)	19.6	(0.6)	56.2	(1.0)
	Uruguay	7.5	(0.5)	11.3	(0.7)	22.2	(0.7)	23.9	(0.8)	35.1	(1.0)
	Viet Nam	11.3	(0.8)	13.1	(0.7)	24.8	(0.9)	24.3	(0.9)	26.5	(1.4)

* See notes at the beginning of this Annex.

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[Part 1/1]

Students' exposure to the mathematics concept "congruent figure"

Table I.3.24 *Percentage of students who answered how familiar they are with the following mathematical concepts*

		Congruent figure									
		Never heard of it		Heard of it once or twice		Heard of it a few times		Heard of it often		Know it well, understand the concept	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	35.9	(0.7)	16.4	(0.5)	15.6	(0.4)	14.7	(0.5)	17.4	(0.8)
	Austria	45.1	(1.2)	15.5	(0.8)	13.7	(0.7)	10.5	(0.5)	15.3	(0.9)
	Belgium	14.6	(0.7)	5.2	(0.3)	8.1	(0.4)	15.9	(0.6)	56.1	(1.0)
	Canada	16.2	(0.6)	10.6	(0.4)	14.2	(0.4)	18.2	(0.5)	40.7	(0.8)
	Chile	18.1	(1.0)	14.1	(0.7)	19.0	(0.7)	24.8	(0.8)	24.1	(1.2)
	Czech Republic	8.5	(0.6)	12.1	(0.7)	19.1	(0.9)	22.6	(0.9)	37.7	(1.2)
	Denmark	28.6	(1.2)	14.5	(0.7)	15.4	(0.7)	15.0	(0.7)	26.4	(1.0)
	Estonia	10.7	(0.6)	11.5	(0.6)	16.0	(0.8)	22.2	(0.8)	39.5	(1.1)
	Finland	27.1	(0.9)	20.2	(0.7)	20.9	(0.6)	16.3	(0.8)	15.4	(0.7)
	France	45.3	(1.1)	19.1	(0.8)	15.4	(0.8)	10.6	(0.6)	9.7	(0.6)
	Germany	30.9	(1.3)	12.3	(0.6)	12.5	(0.7)	13.2	(0.7)	31.0	(1.4)
	Greece	7.8	(0.6)	6.7	(0.6)	8.7	(0.6)	17.6	(0.7)	59.2	(1.3)
	Hungary	16.6	(0.9)	13.6	(0.7)	16.8	(0.8)	19.3	(0.9)	33.7	(1.4)
	Iceland	44.9	(1.1)	13.9	(0.7)	16.2	(0.9)	12.4	(0.8)	12.7	(0.8)
	Ireland	33.5	(1.0)	14.3	(0.6)	16.0	(0.8)	16.3	(0.7)	20.0	(0.8)
	Israel	16.0	(1.1)	6.2	(0.4)	9.8	(0.6)	14.9	(0.6)	53.1	(1.3)
	Italy	14.6	(0.4)	7.4	(0.3)	10.1	(0.3)	16.5	(0.5)	51.4	(0.9)
	Japan	4.1	(0.4)	3.3	(0.3)	6.1	(0.5)	20.6	(0.8)	65.9	(1.3)
	Korea	10.5	(0.7)	4.9	(0.5)	9.3	(0.6)	13.0	(0.6)	62.3	(1.5)
	Luxembourg	38.2	(0.9)	13.4	(0.6)	14.6	(0.6)	13.5	(0.6)	20.4	(0.6)
	Mexico	14.4	(0.4)	16.7	(0.4)	18.9	(0.4)	23.4	(0.4)	26.6	(0.6)
	Netherlands	66.7	(1.2)	12.9	(0.7)	9.8	(0.7)	5.0	(0.5)	5.7	(0.7)
	New Zealand	58.7	(1.1)	18.6	(0.8)	12.3	(0.7)	6.9	(0.5)	3.6	(0.4)
	Norway	m	m	m	m	m	m	m	m	m	m
	Poland	6.6	(0.6)	8.7	(0.6)	15.6	(0.7)	22.9	(0.9)	46.2	(1.5)
	Portugal	52.1	(1.2)	15.1	(0.6)	14.5	(0.8)	11.9	(0.7)	6.5	(0.6)
	Slovak Republic	34.5	(1.1)	18.0	(0.8)	18.5	(0.8)	12.5	(0.6)	16.5	(1.0)
	Slovenia	10.9	(0.6)	6.0	(0.5)	9.1	(0.5)	15.7	(0.9)	58.3	(1.1)
	Spain	34.1	(0.8)	18.6	(0.5)	18.1	(0.6)	14.8	(0.5)	14.4	(0.5)
	Sweden	71.3	(1.0)	15.1	(0.7)	7.5	(0.5)	3.7	(0.4)	2.4	(0.3)
	Switzerland	28.0	(1.1)	10.6	(0.6)	10.5	(0.6)	12.8	(0.5)	38.1	(1.3)
	Turkey	25.9	(1.0)	13.9	(0.6)	18.2	(0.7)	21.1	(0.8)	21.0	(1.2)
	United Kingdom	41.1	(1.0)	20.4	(0.7)	16.9	(0.5)	12.5	(0.6)	9.1	(0.6)
	United States	10.3	(0.8)	9.0	(0.7)	12.1	(0.6)	18.5	(0.8)	50.1	(1.3)
	OECD average	27.9	(0.2)	12.7	(0.1)	13.9	(0.1)	15.5	(0.1)	30.0	(0.2)
Partners	Albania	6.0	(0.5)	8.5	(0.6)	12.6	(0.7)	20.4	(0.7)	52.5	(1.2)
	Argentina	50.6	(1.5)	15.6	(0.7)	11.9	(0.7)	11.0	(0.8)	10.9	(0.7)
	Brazil	39.1	(0.9)	17.5	(0.6)	17.9	(0.6)	13.7	(0.5)	11.8	(0.6)
	Bulgaria	13.6	(0.6)	12.1	(0.7)	12.8	(0.6)	17.1	(0.7)	44.5	(1.3)
	Colombia	33.4	(1.2)	17.8	(0.7)	19.1	(0.7)	17.9	(0.9)	11.8	(0.7)
	Costa Rica	22.6	(1.1)	13.6	(0.8)	17.2	(0.9)	18.7	(0.9)	28.0	(1.2)
	Croatia	20.8	(0.9)	13.2	(0.7)	15.3	(0.7)	16.6	(0.6)	34.2	(1.3)
	Cyprus*	16.7	(0.6)	10.5	(0.6)	14.3	(0.6)	18.6	(0.6)	39.9	(0.9)
	Hong Kong-China	9.3	(0.8)	7.3	(0.5)	11.8	(0.6)	20.1	(0.8)	51.5	(1.2)
	Indonesia	13.9	(1.0)	13.9	(0.8)	19.8	(0.9)	35.3	(1.0)	17.1	(1.0)
	Jordan	9.9	(0.6)	8.6	(0.5)	10.1	(0.5)	17.5	(0.6)	53.9	(1.1)
	Kazakhstan	36.0	(1.4)	20.2	(1.0)	16.5	(0.6)	16.2	(0.8)	11.0	(0.8)
	Latvia	2.9	(0.4)	3.3	(0.4)	6.4	(0.6)	17.8	(0.8)	69.7	(1.2)
	Liechtenstein	23.3	(2.6)	8.5	(2.1)	9.0	(1.9)	11.1	(2.3)	48.0	(3.3)
	Lithuania	21.6	(1.1)	13.9	(0.6)	14.1	(0.7)	17.6	(0.7)	32.8	(1.0)
	Macao-China	8.2	(0.4)	5.9	(0.4)	10.4	(0.5)	17.2	(0.6)	58.3	(0.7)
	Malaysia	36.6	(1.0)	20.7	(0.7)	18.7	(0.7)	15.6	(0.8)	8.4	(0.5)
	Montenegro	21.0	(0.9)	16.7	(0.7)	17.8	(0.8)	18.9	(0.9)	25.6	(0.9)
	Peru	17.2	(0.9)	16.8	(0.7)	19.6	(0.7)	25.6	(1.0)	20.8	(1.0)
	Qatar	23.3	(0.5)	16.5	(0.5)	15.5	(0.5)	13.4	(0.4)	31.2	(0.6)
	Romania	15.7	(0.7)	13.3	(0.7)	13.8	(0.8)	22.5	(0.7)	34.7	(1.3)
	Russian Federation	62.5	(1.0)	13.7	(0.7)	11.2	(0.7)	7.2	(0.5)	5.4	(0.4)
	Serbia	9.4	(0.6)	10.6	(0.8)	15.3	(0.7)	19.0	(0.8)	45.8	(1.3)
	Shanghai-China	4.0	(0.4)	2.2	(0.3)	3.4	(0.3)	10.7	(0.7)	79.7	(1.0)
	Singapore	11.8	(0.6)	6.7	(0.4)	11.8	(0.6)	22.1	(0.8)	47.6	(0.9)
	Chinese Taipei	5.3	(0.4)	7.2	(0.4)	14.0	(0.6)	24.4	(0.6)	49.1	(1.0)
	Thailand	9.8	(0.6)	15.4	(0.6)	18.7	(0.8)	31.2	(0.8)	24.9	(1.0)
	Tunisia	28.0	(0.9)	15.1	(0.9)	15.1	(0.7)	16.3	(0.8)	25.6	(1.0)
	United Arab Emirates	14.7	(0.6)	8.7	(0.4)	10.4	(0.5)	17.4	(0.6)	48.8	(0.9)
	Uruguay	50.9	(1.0)	20.0	(0.9)	14.1	(0.6)	8.4	(0.5)	6.6	(0.5)
	Viet Nam	13.6	(0.7)	11.8	(0.8)	19.4	(0.7)	24.2	(0.8)	31.1	(1.5)

* See notes at the beginning of this Annex.

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[Part 1/1]

Students' exposure to the mathematics concept "cosine"

Table I.3.25 *Percentage of students who answered how familiar they are with the following mathematical concepts*

		Cosine									
		Never heard of it		Heard of it once or twice		Heard of it a few times		Heard of it often		Know it well, understand the concept	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	32.4	(0.7)	8.3	(0.3)	7.7	(0.3)	11.6	(0.4)	40.0	(0.8)
	Austria	38.3	(1.4)	8.4	(0.4)	7.0	(0.5)	9.7	(0.5)	36.6	(1.5)
	Belgium	22.4	(0.8)	4.0	(0.3)	5.0	(0.3)	11.3	(0.4)	57.3	(0.9)
	Canada	31.9	(0.8)	7.8	(0.4)	8.8	(0.4)	12.5	(0.5)	39.1	(0.9)
	Chile	54.0	(1.3)	13.7	(0.6)	12.9	(0.5)	11.1	(0.7)	8.2	(0.6)
	Czech Republic	18.8	(1.4)	9.5	(0.8)	12.7	(0.8)	17.5	(0.9)	41.5	(2.0)
	Denmark	24.9	(1.2)	9.1	(0.5)	11.4	(0.5)	17.8	(0.9)	36.7	(1.4)
	Estonia	13.9	(0.8)	4.7	(0.4)	7.0	(0.5)	14.7	(0.7)	59.8	(1.1)
	Finland	18.3	(0.7)	5.3	(0.4)	9.2	(0.5)	21.4	(0.6)	45.8	(1.1)
	France	5.2	(0.5)	2.9	(0.4)	4.6	(0.4)	16.3	(0.8)	71.0	(1.0)
	Germany	30.4	(1.1)	8.8	(0.6)	8.4	(0.6)	9.4	(0.5)	43.1	(1.3)
	Greece	4.7	(0.4)	4.6	(0.5)	7.2	(0.6)	19.9	(0.8)	63.6	(1.3)
	Hungary	32.2	(1.3)	19.8	(0.8)	17.3	(0.8)	13.8	(0.6)	16.9	(1.1)
	Iceland	74.5	(1.0)	8.0	(0.6)	6.5	(0.5)	3.9	(0.4)	7.1	(0.5)
	Ireland	41.9	(1.1)	8.3	(0.5)	7.9	(0.5)	13.8	(0.7)	28.2	(1.0)
	Israel	24.6	(1.4)	6.1	(0.5)	7.6	(0.5)	10.0	(0.6)	51.8	(1.6)
	Italy	46.6	(1.1)	12.1	(0.4)	11.3	(0.3)	12.4	(0.4)	17.7	(0.9)
	Japan	50.8	(1.8)	14.1	(0.6)	12.0	(0.6)	11.6	(0.7)	11.4	(1.5)
	Korea	10.1	(0.8)	5.1	(0.5)	13.5	(0.7)	21.6	(0.8)	49.7	(1.6)
	Luxembourg	46.9	(0.8)	9.5	(0.5)	7.5	(0.5)	6.9	(0.4)	29.2	(0.6)
	Mexico	15.7	(0.5)	12.5	(0.3)	16.2	(0.4)	25.3	(0.4)	30.4	(0.6)
	Netherlands	33.0	(1.4)	4.3	(0.5)	7.4	(0.7)	15.7	(1.0)	39.8	(1.4)
	New Zealand	42.9	(1.1)	9.6	(0.6)	8.3	(0.5)	12.7	(0.7)	26.4	(1.2)
	Norway	m	m	m	m	m	m	m	m	m	m
	Poland	39.5	(1.3)	24.5	(0.9)	17.7	(0.9)	11.5	(0.6)	6.8	(1.0)
	Portugal	22.0	(1.3)	6.9	(0.5)	11.6	(0.6)	21.1	(0.8)	38.3	(1.6)
	Slovak Republic	7.4	(0.7)	4.4	(0.4)	11.8	(0.7)	23.5	(1.0)	52.9	(1.2)
	Slovenia	36.8	(0.9)	11.3	(0.5)	12.3	(0.6)	14.7	(0.7)	24.8	(0.8)
	Spain	27.7	(0.8)	7.9	(0.4)	9.3	(0.5)	14.0	(0.4)	41.1	(0.9)
	Sweden	78.8	(0.9)	9.2	(0.5)	6.2	(0.4)	2.8	(0.3)	3.0	(0.5)
	Switzerland	57.7	(1.4)	10.5	(0.5)	7.2	(0.4)	6.0	(0.4)	18.6	(1.0)
	Turkey	15.4	(1.0)	6.8	(0.5)	9.4	(0.7)	29.3	(1.0)	39.1	(1.4)
	United Kingdom	38.2	(1.4)	8.8	(0.4)	7.7	(0.6)	13.2	(0.6)	32.1	(1.3)
	United States	41.4	(1.5)	9.2	(0.6)	11.6	(0.6)	13.0	(0.6)	25.0	(1.5)
	OECD average	32.7	(0.2)	9.0	(0.1)	9.8	(0.1)	14.2	(0.1)	34.3	(0.2)
Partners	Albania	5.9	(0.5)	7.1	(0.6)	9.4	(0.7)	23.9	(0.8)	53.7	(1.0)
	Argentina	38.4	(1.9)	11.9	(0.6)	11.2	(0.6)	12.9	(0.8)	25.7	(1.9)
	Brazil	26.8	(0.9)	10.8	(0.4)	13.3	(0.5)	22.3	(0.7)	26.7	(0.9)
	Bulgaria	25.5	(1.0)	18.1	(0.9)	15.6	(0.7)	15.8	(0.6)	24.9	(1.2)
	Colombia	18.2	(0.9)	7.5	(0.5)	11.0	(0.6)	24.0	(0.9)	39.3	(1.1)
	Costa Rica	37.5	(1.5)	9.5	(0.6)	11.4	(0.6)	12.0	(0.6)	29.6	(1.6)
	Croatia	27.8	(1.0)	16.6	(0.7)	20.4	(0.9)	13.1	(0.7)	22.2	(1.0)
	Cyprus*	10.6	(0.4)	6.5	(0.4)	9.3	(0.5)	17.1	(0.6)	56.5	(0.8)
	Hong Kong-China	46.4	(1.4)	11.7	(0.6)	12.7	(0.6)	10.6	(0.6)	18.5	(1.3)
	Indonesia	35.6	(1.8)	15.4	(0.6)	15.3	(0.8)	22.8	(1.2)	11.0	(1.4)
	Jordan	7.9	(0.4)	7.1	(0.6)	5.6	(0.4)	13.6	(0.6)	65.8	(1.1)
	Kazakhstan	3.2	(0.3)	3.9	(0.5)	6.8	(0.5)	21.1	(0.9)	65.0	(1.3)
	Latvia	10.2	(0.9)	4.4	(0.5)	5.6	(0.5)	18.9	(0.9)	60.9	(1.1)
	Liechtenstein	53.6	(3.2)	7.6	(1.8)	3.6	(1.3)	6.8	(2.0)	28.5	(2.4)
	Lithuania	44.8	(1.1)	18.2	(0.7)	13.4	(0.6)	9.4	(0.6)	14.2	(0.6)
	Macao-China	22.9	(0.7)	6.9	(0.5)	9.1	(0.5)	16.2	(0.6)	44.8	(0.8)
	Malaysia	48.7	(1.1)	18.1	(0.7)	15.0	(0.6)	10.5	(0.6)	7.6	(0.7)
	Montenegro	30.3	(1.0)	17.9	(0.8)	15.1	(0.6)	17.5	(0.6)	19.2	(0.8)
	Peru	20.5	(1.1)	12.3	(0.6)	11.5	(0.6)	22.0	(0.9)	33.7	(1.2)
	Qatar	36.3	(0.5)	11.8	(0.4)	11.2	(0.4)	11.2	(0.4)	29.5	(0.4)
	Romania	6.8	(0.6)	8.0	(0.6)	10.5	(0.6)	24.5	(0.9)	50.3	(1.5)
	Russian Federation	2.9	(0.4)	1.9	(0.3)	4.3	(0.3)	18.2	(0.8)	72.8	(0.9)
	Serbia	17.3	(1.0)	14.7	(0.8)	17.4	(0.8)	20.8	(0.9)	29.8	(1.6)
	Shanghai-China	6.6	(0.9)	2.0	(0.3)	2.8	(0.3)	9.3	(0.6)	79.4	(1.2)
	Singapore	8.5	(0.5)	3.0	(0.3)	4.7	(0.4)	18.9	(0.7)	64.9	(0.9)
	Chinese Taipei	37.1	(1.1)	14.2	(0.6)	17.9	(0.7)	15.6	(0.7)	15.2	(0.8)
	Thailand	51.0	(1.0)	19.3	(0.8)	12.3	(0.7)	11.8	(0.6)	5.6	(0.5)
	Tunisia	65.8	(1.0)	10.2	(0.6)	8.6	(0.6)	7.0	(0.5)	8.3	(0.7)
	United Arab Emirates	19.8	(0.7)	6.6	(0.4)	5.7	(0.3)	12.1	(0.5)	55.8	(1.1)
	Uruguay	18.7	(0.9)	6.2	(0.6)	11.3	(0.6)	22.5	(0.8)	41.4	(1.2)
	Viet Nam	3.4	(0.6)	2.5	(0.3)	6.1	(0.5)	35.8	(1.2)	52.1	(1.6)

* See notes at the beginning of this Annex.

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[Part 1/1]

Students' exposure to the mathematics concept "arithmetic mean"

Table I.3.26 *Percentage of students who answered how familiar they are with the following mathematical concepts*

		Arithmetic mean									
		Never heard of it		Heard of it once or twice		Heard of it a few times		Heard of it often		Know it well, understand the concept	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	43.2	(0.7)	15.8	(0.4)	14.2	(0.5)	11.4	(0.4)	15.5	(0.5)
	Austria	53.4	(1.3)	13.0	(0.7)	10.9	(0.7)	7.8	(0.5)	14.8	(1.2)
	Belgium	33.2	(0.9)	13.1	(0.6)	12.8	(0.5)	12.4	(0.5)	28.5	(1.0)
	Canada	45.3	(0.7)	15.3	(0.4)	14.0	(0.4)	10.8	(0.4)	14.6	(0.5)
	Chile	28.8	(1.3)	17.3	(0.8)	17.2	(0.7)	19.4	(0.8)	17.4	(1.1)
	Czech Republic	8.7	(0.7)	8.9	(0.8)	13.3	(0.7)	16.8	(0.8)	52.3	(1.3)
	Denmark	10.4	(0.6)	10.5	(0.6)	17.3	(0.7)	19.7	(0.7)	42.1	(1.0)
	Estonia	4.8	(0.4)	5.6	(0.5)	9.9	(0.6)	20.5	(0.8)	59.2	(1.2)
	Finland	67.0	(0.9)	14.8	(0.6)	10.9	(0.6)	4.0	(0.3)	3.3	(0.4)
	France	38.0	(1.1)	14.9	(0.6)	14.2	(0.6)	11.7	(0.6)	21.3	(0.9)
	Germany	50.4	(1.2)	12.3	(0.7)	11.6	(0.7)	8.5	(0.6)	17.3	(1.0)
	Greece	9.5	(0.6)	10.2	(0.7)	14.1	(0.7)	21.6	(0.8)	44.5	(1.3)
	Hungary	33.4	(1.3)	18.4	(0.7)	15.9	(0.7)	13.0	(0.6)	19.4	(1.2)
	Iceland	30.1	(0.9)	9.0	(0.6)	13.4	(0.7)	15.0	(0.7)	32.5	(1.0)
	Ireland	38.6	(0.8)	12.6	(0.6)	13.0	(0.6)	13.8	(0.6)	22.1	(0.8)
	Israel	20.6	(0.9)	9.9	(0.6)	10.7	(0.6)	12.7	(0.7)	46.0	(1.1)
	Italy	10.3	(0.4)	6.6	(0.3)	9.6	(0.3)	17.0	(0.4)	56.6	(0.8)
	Japan	1.2	(0.2)	1.4	(0.2)	3.9	(0.3)	17.4	(0.8)	76.1	(1.0)
	Korea	52.4	(1.5)	15.2	(0.6)	9.6	(0.6)	9.6	(0.7)	13.2	(1.3)
	Luxembourg	56.7	(0.9)	13.8	(0.5)	12.1	(0.6)	7.0	(0.4)	10.4	(0.5)
	Mexico	18.7	(0.5)	19.6	(0.3)	20.9	(0.5)	23.0	(0.5)	17.9	(0.5)
	Netherlands	27.5	(0.9)	14.3	(0.9)	16.1	(0.8)	17.2	(0.8)	25.0	(1.3)
	New Zealand	49.2	(1.0)	17.0	(0.6)	13.2	(0.6)	10.5	(0.6)	10.2	(0.7)
	Norway	m	m	m	m	m	m	m	m	m	m
	Poland	1.8	(0.3)	4.1	(0.4)	9.9	(0.7)	18.5	(0.8)	65.7	(1.2)
	Portugal	30.9	(1.3)	15.4	(0.7)	17.3	(0.7)	15.5	(0.8)	20.9	(1.3)
	Slovak Republic	11.7	(0.9)	8.8	(0.7)	13.6	(0.8)	18.7	(0.8)	47.1	(1.7)
	Slovenia	15.5	(0.8)	10.0	(0.6)	15.6	(0.7)	19.3	(0.8)	39.6	(1.0)
	Spain	20.0	(0.8)	12.6	(0.5)	15.9	(0.5)	16.6	(0.5)	34.9	(0.9)
	Sweden	65.3	(1.0)	16.1	(0.7)	9.8	(0.6)	5.0	(0.4)	3.8	(0.4)
	Switzerland	51.0	(1.2)	15.4	(0.6)	12.7	(0.8)	9.8	(0.5)	11.1	(0.7)
	Turkey	4.7	(0.4)	5.9	(0.5)	11.0	(0.6)	29.1	(1.1)	49.3	(1.5)
	United Kingdom	40.3	(1.4)	15.3	(0.6)	13.9	(0.7)	11.8	(0.5)	18.6	(0.7)
	United States	42.5	(1.1)	14.8	(0.6)	12.3	(0.7)	11.8	(0.6)	18.7	(1.0)
	OECD average	30.8	(0.2)	12.4	(0.1)	13.1	(0.1)	14.4	(0.1)	29.4	(0.2)
Partners	Albania	5.6	(0.6)	7.9	(0.7)	12.6	(0.7)	21.1	(0.9)	52.7	(1.1)
	Argentina	58.7	(1.2)	15.4	(0.7)	10.7	(0.6)	7.6	(0.5)	7.5	(0.6)
	Brazil	28.7	(0.8)	17.7	(0.5)	17.4	(0.6)	18.4	(0.5)	17.8	(0.8)
	Bulgaria	9.7	(0.7)	8.6	(0.7)	10.4	(0.6)	17.7	(0.7)	53.7	(1.6)
	Colombia	21.9	(1.2)	17.2	(0.8)	20.3	(0.9)	22.3	(0.9)	18.2	(1.1)
	Costa Rica	46.4	(1.3)	15.6	(0.8)	15.2	(0.9)	10.6	(0.7)	12.3	(0.8)
	Croatia	9.8	(0.7)	7.4	(0.5)	14.2	(0.7)	19.3	(0.7)	49.3	(1.4)
	Cyprus*	15.0	(0.6)	12.4	(0.6)	15.7	(0.7)	18.9	(0.7)	38.1	(0.9)
	Hong Kong-China	15.8	(0.8)	8.9	(0.6)	13.8	(0.6)	16.8	(0.7)	44.7	(1.1)
	Indonesia	5.0	(0.5)	11.5	(0.7)	14.1	(0.7)	42.2	(1.2)	27.2	(1.4)
	Jordan	7.8	(0.5)	6.6	(0.5)	6.0	(0.4)	13.5	(0.6)	66.1	(1.1)
	Kazakhstan	5.8	(0.5)	6.1	(0.5)	9.8	(0.7)	24.7	(1.0)	53.6	(1.6)
	Latvia	5.2	(0.5)	4.8	(0.5)	7.6	(0.8)	19.5	(1.0)	62.9	(1.2)
	Liechtenstein	60.0	(3.3)	11.9	(2.6)	10.9	(2.1)	6.4	(1.6)	10.8	(2.2)
	Lithuania	17.7	(0.8)	13.6	(0.6)	15.7	(0.8)	16.2	(0.6)	36.8	(1.2)
	Macao-China	22.7	(0.7)	11.5	(0.5)	14.4	(0.5)	15.7	(0.6)	35.7	(0.7)
	Malaysia	54.3	(1.0)	19.3	(0.7)	14.2	(0.6)	8.4	(0.5)	3.9	(0.4)
	Montenegro	24.9	(0.8)	17.1	(0.8)	17.6	(0.6)	18.0	(0.7)	22.4	(0.8)
	Peru	15.2	(0.6)	17.6	(0.7)	17.4	(0.7)	24.7	(0.8)	25.1	(1.0)
	Qatar	19.1	(0.5)	16.0	(0.4)	14.8	(0.5)	14.2	(0.4)	35.9	(0.6)
	Romania	5.6	(0.5)	8.7	(0.7)	9.6	(0.5)	21.9	(0.9)	54.3	(1.5)
	Russian Federation	2.3	(0.3)	2.4	(0.2)	4.6	(0.3)	16.4	(0.8)	74.2	(1.0)
	Serbia	12.6	(0.8)	12.3	(0.7)	17.3	(0.9)	19.8	(0.7)	38.0	(1.3)
	Shanghai-China	7.4	(0.6)	4.5	(0.4)	7.2	(0.4)	12.6	(0.6)	68.3	(0.9)
	Singapore	35.8	(0.8)	11.2	(0.6)	12.8	(0.6)	14.2	(0.6)	26.0	(0.7)
	Chinese Taipei	9.6	(0.6)	7.0	(0.5)	12.7	(0.6)	24.5	(0.8)	46.2	(1.2)
	Thailand	5.4	(0.5)	12.7	(0.7)	15.6	(0.7)	35.4	(1.0)	31.0	(1.1)
	Tunisia	12.2	(0.8)	9.1	(0.7)	11.8	(0.7)	20.5	(0.8)	46.3	(1.4)
	United Arab Emirates	13.7	(0.6)	9.0	(0.5)	8.6	(0.4)	15.8	(0.5)	52.9	(1.0)
	Uruguay	54.8	(1.1)	16.7	(0.7)	14.2	(0.7)	7.8	(0.6)	6.4	(0.6)
	Viet Nam	20.1	(1.0)	14.9	(0.7)	18.4	(0.9)	21.0	(0.8)	25.6	(1.5)

* See notes at the beginning of this Annex.

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[Part 1/1]

Students' exposure to the mathematics concept "probability"

Table I.3.27 *Percentage of students who answered how familiar they are with the following mathematical concepts*

		Probability									
		Never heard of it		Heard of it once or twice		Heard of it a few times		Heard of it often		Know it well, understand the concept	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	3.3	(0.2)	3.3	(0.2)	6.7	(0.3)	17.3	(0.4)	69.4	(0.6)
	Austria	14.8	(0.8)	13.9	(0.6)	17.5	(0.7)	20.4	(0.8)	33.5	(0.9)
	Belgium	26.0	(0.8)	15.7	(0.6)	17.6	(0.7)	17.3	(0.5)	23.4	(1.1)
	Canada	2.7	(0.2)	3.3	(0.2)	8.0	(0.4)	20.4	(0.6)	65.6	(0.7)
	Chile	15.9	(1.0)	10.7	(0.6)	15.2	(0.8)	25.4	(0.8)	32.7	(1.5)
	Czech Republic	9.9	(0.7)	13.4	(0.7)	21.1	(0.9)	23.5	(0.9)	32.1	(1.0)
	Denmark	2.3	(0.3)	1.5	(0.2)	4.7	(0.4)	15.0	(0.7)	76.6	(0.9)
	Estonia	4.3	(0.5)	6.5	(0.4)	15.4	(0.7)	25.4	(0.9)	48.5	(1.1)
	Finland	5.8	(0.4)	7.6	(0.4)	14.5	(0.5)	25.1	(0.8)	47.0	(1.0)
	France	6.2	(0.5)	4.7	(0.4)	5.1	(0.5)	15.1	(0.6)	68.9	(1.0)
	Germany	4.8	(0.4)	4.8	(0.4)	8.1	(0.5)	16.6	(0.8)	65.7	(1.2)
	Greece	5.8	(0.6)	6.4	(0.6)	8.9	(0.5)	21.7	(0.8)	57.2	(1.4)
	Hungary	9.4	(0.7)	10.6	(0.6)	17.6	(0.7)	26.7	(1.0)	35.7	(1.2)
	Iceland	7.5	(0.6)	4.5	(0.5)	10.7	(0.6)	23.3	(0.9)	54.0	(1.0)
	Ireland	14.6	(0.7)	11.6	(0.6)	13.9	(0.7)	19.9	(0.8)	40.0	(1.2)
	Israel	11.9	(1.0)	7.4	(0.6)	12.4	(0.7)	16.4	(0.8)	51.9	(1.4)
	Italy	7.5	(0.4)	8.4	(0.3)	14.7	(0.4)	26.7	(0.5)	42.7	(0.6)
	Japan	1.1	(0.2)	1.1	(0.2)	3.3	(0.3)	19.1	(0.8)	75.3	(1.0)
	Korea	0.9	(0.2)	3.1	(0.3)	13.8	(0.7)	29.3	(0.8)	52.8	(1.3)
	Luxembourg	15.5	(0.6)	7.8	(0.4)	13.3	(0.6)	18.3	(0.7)	45.1	(0.8)
	Mexico	8.5	(0.3)	12.7	(0.3)	15.9	(0.3)	25.9	(0.4)	37.0	(0.5)
	Netherlands	14.9	(0.9)	7.3	(0.5)	13.0	(0.6)	22.8	(1.0)	42.0	(1.3)
	New Zealand	5.0	(0.5)	4.3	(0.4)	8.3	(0.5)	22.6	(0.8)	59.8	(1.1)
	Norway	m	m	m	m	m	m	m	m	m	m
	Poland	3.2	(0.4)	7.6	(0.6)	13.3	(0.7)	23.1	(0.8)	52.7	(1.2)
	Portugal	4.9	(0.6)	3.7	(0.4)	7.8	(0.6)	18.8	(0.9)	64.8	(1.4)
	Slovak Republic	5.5	(0.5)	7.1	(0.6)	16.1	(0.8)	26.2	(0.8)	45.1	(1.1)
	Slovenia	9.0	(0.5)	8.3	(0.5)	13.9	(0.8)	25.3	(0.9)	43.4	(1.0)
	Spain	8.6	(0.4)	10.0	(0.4)	16.7	(0.5)	23.0	(0.6)	41.7	(0.8)
	Sweden	5.7	(0.5)	8.2	(0.6)	12.6	(0.7)	22.9	(0.7)	50.7	(1.2)
	Switzerland	11.3	(0.6)	9.6	(0.5)	15.7	(0.6)	20.4	(0.6)	43.1	(1.0)
	Turkey	2.6	(0.4)	4.4	(0.4)	8.6	(0.5)	35.5	(1.0)	48.9	(1.2)
	United Kingdom	2.2	(0.2)	2.3	(0.3)	4.5	(0.4)	15.6	(0.6)	75.4	(0.8)
	United States	4.0	(0.5)	4.3	(0.4)	7.6	(0.5)	20.4	(0.9)	63.6	(1.2)
	OECD average	7.7	(0.1)	7.2	(0.1)	12.0	(0.1)	22.0	(0.1)	51.1	(0.2)
Partners	Albania	5.2	(0.5)	6.6	(0.7)	10.4	(0.6)	25.9	(1.0)	51.9	(1.2)
	Argentina	38.7	(1.2)	17.6	(0.7)	14.4	(0.6)	13.3	(0.6)	16.0	(0.8)
	Brazil	19.4	(0.5)	16.7	(0.5)	18.6	(0.5)	22.9	(0.6)	22.4	(0.7)
	Bulgaria	17.6	(0.7)	16.6	(0.7)	15.8	(0.6)	19.8	(0.7)	30.1	(0.9)
	Colombia	20.2	(1.0)	14.6	(0.6)	18.7	(0.8)	24.4	(0.9)	22.1	(1.0)
	Costa Rica	35.3	(1.2)	14.3	(0.7)	15.4	(0.8)	16.2	(0.9)	18.7	(0.9)
	Croatia	12.7	(0.6)	13.0	(0.7)	19.9	(0.7)	20.4	(0.7)	34.0	(0.9)
	Cyprus*	15.3	(0.6)	10.8	(0.6)	13.2	(0.6)	17.0	(0.6)	43.7	(0.8)
	Hong Kong-China	6.3	(0.7)	7.6	(0.6)	15.6	(0.7)	27.4	(0.9)	43.1	(1.2)
	Indonesia	47.0	(1.5)	20.6	(0.8)	15.1	(0.7)	12.8	(0.8)	4.5	(0.9)
	Jordan	8.4	(0.5)	6.5	(0.5)	5.2	(0.5)	13.2	(0.6)	66.8	(1.2)
	Kazakhstan	8.9	(0.8)	10.7	(0.6)	14.8	(0.7)	26.5	(0.9)	39.2	(1.4)
	Latvia	9.1	(0.7)	9.7	(0.7)	13.4	(1.0)	24.2	(0.9)	43.6	(1.5)
	Liechtenstein	7.0	(1.7)	3.9	(1.3)	8.9	(1.9)	15.4	(2.6)	64.9	(3.4)
	Lithuania	12.3	(0.7)	10.8	(0.6)	15.7	(0.7)	19.5	(0.8)	41.7	(1.0)
	Macao-China	18.1	(0.7)	13.9	(0.5)	19.5	(0.6)	17.9	(0.6)	30.6	(0.7)
	Malaysia	28.0	(1.0)	18.3	(0.7)	20.9	(0.8)	21.4	(0.8)	11.4	(0.6)
	Montenegro	25.5	(0.8)	17.9	(0.7)	16.8	(0.7)	18.4	(0.7)	21.4	(0.9)
	Peru	19.3	(0.8)	18.0	(0.7)	18.5	(0.6)	22.9	(0.8)	21.3	(1.0)
	Qatar	19.9	(0.5)	14.4	(0.5)	12.0	(0.3)	12.4	(0.4)	41.3	(0.6)
	Romania	8.7	(0.6)	11.1	(0.7)	12.3	(0.7)	23.6	(0.8)	44.3	(1.4)
	Russian Federation	4.4	(0.5)	4.5	(0.4)	7.9	(0.4)	19.4	(1.0)	63.9	(1.2)
	Serbia	15.9	(0.7)	14.3	(0.6)	16.7	(0.7)	21.5	(0.8)	31.5	(0.9)
	Shanghai-China	1.7	(0.3)	2.0	(0.3)	5.2	(0.4)	16.1	(0.8)	75.1	(1.1)
	Singapore	5.3	(0.3)	3.8	(0.3)	9.0	(0.5)	22.7	(0.7)	59.3	(0.7)
	Chinese Taipei	3.2	(0.4)	5.7	(0.4)	14.8	(0.6)	35.0	(0.7)	41.4	(1.0)
	Thailand	3.6	(0.4)	7.7	(0.6)	8.4	(0.5)	33.5	(0.9)	46.8	(1.2)
	Tunisia	15.3	(0.8)	9.5	(0.6)	10.8	(0.6)	18.0	(0.7)	46.5	(1.4)
	United Arab Emirates	7.3	(0.4)	7.4	(0.4)	7.4	(0.4)	17.1	(0.5)	60.7	(0.9)
	Uruguay	21.7	(0.9)	13.0	(0.6)	18.3	(0.7)	20.7	(0.9)	26.2	(1.1)
	Viet Nam	26.2	(1.5)	19.3	(0.7)	26.1	(0.9)	16.9	(0.8)	11.6	(0.9)

* See notes at the beginning of this Annex.

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[Part 1/1]

Familiarity with mathematics topics

Table I.3.28 *Percentage of students who «heard often» or «know well» the mathematics topics, across OECD countries*

Degrees of exposure with mathematics topics	Mathematics topics
Topics with Low Exposure (< 40% of students)	Exponential Function
	Vectors
	Complex Number
Topics with Medium Exposure	Quadratic Function
	Rational Number
	Congruent Figure
	Cosine
	Arithmetic Mean
Topics with High Exposure (> 60% of students)	Divisor
	Linear Equation
	Radicals
	Polygon
	Probability

Source: OECD, PISA 2012 Database, Tables I.3.15 to I.3.27.



[Part 1/1]

Table I.4.1a **Percentage of students at each proficiency level in reading**

		All students															
		Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to less than 698.32 score points)		Level 6 (above 698.32 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	0.9	(0.1)	3.1	(0.2)	10.2	(0.4)	21.6	(0.5)	29.1	(0.5)	23.3	(0.5)	9.8	(0.5)	1.9	(0.2)
	Austria	0.8	(0.2)	4.8	(0.6)	13.8	(0.8)	24.2	(0.9)	29.6	(0.9)	21.2	(0.9)	5.2	(0.6)	0.3	(0.1)
	Belgium	1.6	(0.3)	4.1	(0.4)	10.4	(0.6)	20.4	(0.6)	27.3	(0.7)	24.4	(0.7)	10.4	(0.5)	1.4	(0.2)
	Canada	0.5	(0.1)	2.4	(0.2)	8.0	(0.4)	19.4	(0.6)	31.0	(0.7)	25.8	(0.6)	10.8	(0.5)	2.1	(0.2)
	Chile	1.0	(0.2)	8.1	(0.8)	23.9	(1.1)	35.1	(1.1)	24.3	(1.1)	6.9	(0.6)	0.6	(0.1)	0.0	(0.0)
	Czech Republic	0.6	(0.3)	3.5	(0.6)	12.7	(0.9)	26.4	(1.3)	31.3	(1.2)	19.4	(1.1)	5.3	(0.5)	0.8	(0.2)
	Denmark	0.8	(0.3)	3.1	(0.4)	10.7	(0.8)	25.8	(0.9)	33.6	(0.8)	20.5	(0.9)	5.1	(0.6)	0.4	(0.1)
	Estonia	0.2	(0.1)	1.3	(0.3)	7.7	(0.6)	22.7	(0.9)	35.0	(1.1)	24.9	(1.1)	7.5	(0.7)	0.9	(0.2)
	Finland	0.7	(0.2)	2.4	(0.4)	8.2	(0.6)	19.1	(0.8)	29.3	(0.7)	26.8	(0.8)	11.3	(0.6)	2.2	(0.3)
	France	2.1	(0.4)	4.9	(0.4)	11.9	(0.7)	18.9	(0.8)	26.3	(0.8)	23.0	(0.7)	10.6	(0.6)	2.3	(0.4)
	Germany	0.5	(0.2)	3.3	(0.4)	10.7	(0.7)	22.1	(0.9)	29.9	(0.9)	24.6	(0.9)	8.3	(0.6)	0.7	(0.2)
	Greece	2.6	(0.4)	5.9	(0.6)	14.2	(0.8)	25.1	(1.1)	30.0	(1.0)	17.2	(1.2)	4.6	(0.6)	0.5	(0.1)
	Hungary	0.7	(0.2)	5.2	(0.6)	13.8	(0.9)	24.3	(1.2)	29.9	(1.0)	20.4	(1.0)	5.3	(0.7)	0.4	(0.1)
	Iceland	2.3	(0.3)	5.4	(0.5)	13.3	(0.6)	24.7	(0.9)	29.9	(1.1)	18.6	(1.1)	5.2	(0.4)	0.6	(0.2)
	Ireland	0.3	(0.1)	1.9	(0.4)	7.5	(0.7)	19.6	(1.2)	33.4	(1.2)	26.0	(0.9)	10.1	(0.7)	1.3	(0.3)
	Israel	3.8	(0.6)	6.9	(0.7)	12.9	(1.0)	20.8	(0.9)	25.3	(0.8)	20.6	(1.0)	8.1	(0.8)	1.5	(0.3)
	Italy	1.6	(0.2)	5.2	(0.3)	12.7	(0.5)	23.7	(0.6)	29.7	(0.5)	20.5	(0.6)	6.1	(0.3)	0.6	(0.1)
	Japan	0.6	(0.2)	2.4	(0.4)	6.7	(0.7)	16.6	(0.9)	26.7	(1.0)	28.4	(1.1)	14.6	(1.0)	3.9	(0.6)
	Korea	0.4	(0.1)	1.7	(0.4)	5.5	(0.6)	16.4	(0.9)	30.8	(1.0)	31.0	(1.1)	12.6	(1.0)	1.6	(0.3)
	Luxembourg	2.0	(0.2)	6.3	(0.3)	13.8	(0.8)	23.4	(0.7)	25.8	(0.6)	19.7	(0.6)	7.5	(0.3)	1.4	(0.2)
	Mexico	2.6	(0.2)	11.0	(0.5)	27.5	(0.7)	34.5	(0.6)	19.6	(0.5)	4.5	(0.3)	0.4	(0.1)	0.0	(0.0)
	Netherlands	0.9	(0.5)	2.8	(0.5)	10.3	(0.9)	21.0	(1.3)	29.2	(1.3)	26.1	(1.4)	9.0	(0.7)	0.8	(0.2)
	New Zealand	1.3	(0.3)	4.0	(0.5)	11.0	(0.7)	20.8	(0.8)	26.3	(1.1)	22.7	(1.1)	10.9	(0.6)	3.0	(0.4)
	Norway	1.7	(0.3)	3.7	(0.4)	10.8	(0.7)	21.9	(1.0)	29.4	(1.4)	22.3	(1.2)	8.5	(0.6)	1.7	(0.3)
	Poland	0.3	(0.1)	2.1	(0.4)	8.1	(0.7)	21.4	(0.9)	32.0	(0.9)	26.0	(1.0)	8.6	(0.8)	1.4	(0.4)
	Portugal	1.3	(0.3)	5.1	(0.5)	12.3	(1.0)	25.5	(1.2)	30.2	(1.5)	19.7	(1.1)	5.3	(0.6)	0.5	(0.1)
	Slovak Republic	4.1	(0.8)	7.9	(0.8)	16.2	(1.1)	25.0	(1.1)	26.8	(1.4)	15.7	(1.0)	4.1	(0.6)	0.3	(0.2)
	Slovenia	1.2	(0.1)	4.9	(0.4)	15.0	(0.7)	27.2	(0.8)	28.4	(0.9)	18.2	(0.6)	4.7	(0.5)	0.3	(0.1)
	Spain	1.3	(0.2)	4.4	(0.4)	12.6	(0.5)	25.8	(0.8)	31.2	(0.7)	19.2	(0.6)	5.0	(0.3)	0.5	(0.1)
	Sweden	2.9	(0.4)	6.0	(0.6)	13.9	(0.7)	23.5	(0.9)	27.3	(0.7)	18.6	(0.9)	6.7	(0.5)	1.2	(0.2)
	Switzerland	0.5	(0.1)	2.9	(0.3)	10.3	(0.6)	21.9	(0.9)	31.5	(0.7)	23.8	(0.8)	8.2	(0.6)	1.0	(0.2)
	Turkey	0.6	(0.2)	4.5	(0.6)	16.6	(1.1)	30.8	(1.4)	28.7	(1.3)	14.5	(1.4)	4.1	(0.8)	0.3	(0.1)
	United Kingdom	1.5	(0.3)	4.0	(0.5)	11.2	(0.8)	23.5	(1.0)	29.9	(1.1)	21.3	(1.1)	7.5	(0.6)	1.3	(0.2)
	United States	0.8	(0.2)	3.6	(0.5)	12.3	(0.9)	24.9	(1.0)	30.5	(0.9)	20.1	(1.1)	6.9	(0.6)	1.0	(0.2)
	OECD total	1.1	(0.1)	4.4	(0.2)	13.1	(0.3)	24.2	(0.3)	28.4	(0.3)	20.2	(0.3)	7.4	(0.2)	1.2	(0.1)
	OECD average	1.3	(0.1)	4.4	(0.1)	12.3	(0.1)	23.5	(0.2)	29.1	(0.2)	21.0	(0.2)	7.3	(0.1)	1.1	(0.0)
Partners	Albania	12.0	(0.8)	15.9	(1.0)	24.4	(1.2)	24.7	(1.0)	15.9	(0.7)	5.9	(0.6)	1.1	(0.2)	0.1	(0.1)
	Argentina	8.1	(0.8)	17.7	(1.2)	27.7	(1.3)	27.3	(1.1)	14.6	(0.9)	4.0	(0.6)	0.5	(0.2)	0.1	(0.0)
	Brazil	4.0	(0.4)	14.8	(0.6)	30.4	(0.8)	30.1	(0.8)	15.8	(0.6)	(4.4)	(0.4)	0.5	(0.1)	0.0	(0.0)
	Bulgaria	8.0	(1.1)	12.8	(1.2)	18.6	(1.1)	22.2	(1.2)	21.4	(1.1)	12.7	(1.0)	3.8	(0.6)	0.5	(0.2)
	Colombia	5.0	(0.8)	15.4	(1.0)	31.0	(1.3)	30.5	(1.2)	14.5	(0.9)	3.2	(0.5)	0.3	(0.1)	0.0	c
	Costa Rica	0.8	(0.2)	7.3	(1.0)	24.3	(1.2)	38.1	(1.4)	22.9	(1.4)	6.0	(0.8)	0.6	(0.2)	0.0	c
	Croatia	0.7	(0.2)	4.0	(0.6)	13.9	(1.0)	27.8	(1.1)	31.2	(1.2)	17.8	(1.1)	4.2	(0.7)	0.2	(0.1)
	Cyprus*	6.1	(0.3)	9.7	(0.4)	17.0	(0.6)	25.1	(0.8)	24.9	(0.7)	13.2	(0.6)	3.5	(0.3)	0.5	(0.1)
	Hong Kong-China	0.2	(0.1)	1.3	(0.2)	5.3	(0.6)	14.3	(0.8)	29.2	(1.2)	32.9	(1.4)	14.9	(1.0)	1.9	(0.4)
	Indonesia	4.1	(0.8)	16.3	(1.3)	34.8	(1.6)	31.6	(1.5)	11.5	(1.3)	1.5	(0.5)	0.1	(0.1)	0.0	c
	Jordan	7.5	(0.8)	14.9	(0.8)	28.3	(1.0)	30.8	(1.1)	15.5	(0.8)	2.9	(0.6)	0.1	(0.1)	0.0	c
	Kazakhstan	4.2	(0.5)	17.3	(1.2)	35.6	(1.1)	31.3	(1.1)	10.4	(0.9)	1.2	(0.2)	0.0	(0.0)	0.0	c
	Latvia	0.7	(0.2)	3.7	(0.5)	12.6	(1.0)	26.7	(1.3)	33.1	(1.1)	19.1	(0.9)	3.9	(0.6)	0.3	(0.1)
	Liechtenstein	0.0	c	1.9	(1.0)	10.5	(1.8)	22.4	(3.4)	28.6	(4.5)	25.7	(2.4)	10.4	(2.4)	0.6	c
	Lithuania	1.0	(0.2)	4.6	(0.5)	15.6	(1.1)	28.1	(1.1)	31.1	(0.9)	16.3	(0.8)	3.1	(0.3)	0.2	(0.1)
	Macao-China	0.3	(0.1)	2.1	(0.2)	9.0	(0.4)	23.3	(0.6)	34.3	(0.7)	24.0	(0.6)	6.4	(0.5)	0.6	(0.2)
	Malaysia	5.8	(0.6)	16.4	(1.0)	30.5	(1.0)	31.0	(1.1)	13.6	(1.1)	2.5	(0.5)	0.1	(0.1)	0.0	c
	Montenegro	4.4	(0.5)	13.2	(0.6)	25.7	(0.9)	29.2	(0.8)	19.9	(0.8)	6.6	(0.5)	0.9	(0.2)	0.0	(0.0)
	Peru	9.8	(0.9)	20.6	(1.1)	29.5	(1.0)	24.9	(1.0)	11.4	(1.0)	3.3	(0.6)	0.5	(0.2)	0.0	c
	Qatar	13.6	(0.3)	18.9	(0.5)	24.6	(0.4)	21.9	(0.5)	13.5	(0.4)	5.8	(0.2)	1.4	(0.1)	0.2	(0.1)
	Romania	2.5	(0.4)	10.3	(0.8)	24.4	(1.3)	30.6	(1.1)	21.8	(1.2)	8.7	(0.9)	1.5	(0.4)	0.1	c
	Russian Federation	1.1	(0.2)	5.2	(0.5)	16.0	(1.0)	29.5	(1.1)	28.3	(1.0)	15.3	(0.9)	4.2	(0.5)	0.5	(0.1)
	Serbia	2.6	(0.4)	9.3	(0.7)	21.3	(1.1)	30.8	(1.2)	23.3	(1.1)	10.5	(0.8)	2.0	(0.4)	0.2	(0.1)
	Shanghai-China	0.1	(0.1)	0.3	(0.1)	2.5	(0.3)	11.0	(0.9)	25.3	(0.8)	35.7	(1.1)	21.3	(1.0)	3.8	(0.7)
	Singapore	0.5	(0.1)	1.9	(0.3)	7.5	(0.4)	16.7	(0.7)	25.4	(0.7)	26.8	(0.8)	16.2	(0.7)	5.0	(0.4)
	Chinese Taipei	0.6	(0.1)	2.5	(0.3)	8.4	(0.7)	18.1	(0.8)	29.9	(0.9)	28.7	(1.0)	10.4	(0.7)	1.4	(0.3)
	Thailand	1.2	(0.3)	7.7	(0.8)	24.1	(1.0)	36.0	(1.1)	23.5	(1.1)	6.7	(0.8)	0.8	(0.2)	0.1	(0.0)
	Tunisia	6.2	(0.9)	15.5	(1.2)	27.6	(1.3)	31.4	(1.4)	15.6	(1.1)	3.5	(0.7)	0.2	(0.1)	0.0	c
	United Arab Emirates	3.3	(0.3)	10.4	(0.6)	21.8	(0.7)	28.6	(0.7)	24.0	(0.8)	9.7	(0.6)	2.1	(0.3)	0.2	(0.1)
	Uruguay	6.4	(0.7)	14.7	(0.8)	25.9	(0.9)	28.9	(1.0)	17.4	(0.7)	5.7	(0.6)	0.9	(0.3)	0.0	c
	Viet Nam	0.1	(0.1)	1.5	(0.5)	7.8	(1.1)	23.7	(1.4)	39.0	(1.5)	23.4	(1.5)	4.2	(0.7)	0.4	(0.2)

* See notes at the beginning of this Annex.

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[Part 1/2]

Table I.4.1b Percentage of students below Level 2 and at Level 5 or above in reading in PISA 2000 through 2012

		Proficiency levels in PISA 2000				Proficiency levels in PISA 2003				Proficiency levels in PISA 2006				Proficiency levels in PISA 2009				Proficiency levels in PISA 2012			
		Below Level 2 (less than 407.47 score points)		Level 5 or above (above 625.61 score points)		Below Level 2 (less than 407.47 score points)		Level 5 or above (above 625.61 score points)		Below Level 2 (less than 407.47 score points)		Level 5 or above (above 625.61 score points)		Below Level 2 (less than 407.47 score points)		Level 5 or above (above 625.61 score points)		Below Level 2 (less than 407.47 score points)		Level 5 or above (above 625.61 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	12.5	(0.9)	17.6	(1.2)	11.8	(0.6)	14.6	(0.7)	13.4	(0.6)	10.6	(0.6)	14.2	(0.6)	12.8	(0.8)	14.2	(0.5)	11.7	(0.5)
	Austria	19.3	(0.9)	7.5	(0.7)	20.7	(1.2)	8.3	(0.8)	21.5	(1.5)	9.0	(0.7)	m	m	m	m	19.5	(1.1)	5.5	(0.6)
	Belgium	19.0	(1.3)	12.0	(0.7)	17.9	(0.9)	12.5	(0.5)	19.4	(1.1)	11.3	(0.6)	17.7	(0.9)	11.2	(0.6)	16.1	(0.8)	11.8	(0.6)
	Canada	9.6	(0.4)	16.8	(0.5)	9.5	(0.6)	12.6	(0.5)	11.0	(0.7)	14.5	(0.7)	10.3	(0.5)	12.8	(0.5)	10.9	(0.5)	12.9	(0.6)
	Chile	48.2	(1.9)	0.5	(0.1)	m	m	m	m	36.3	(2.0)	3.5	(0.6)	30.6	(1.5)	1.3	(0.3)	33.0	(1.7)	0.6	(0.1)
	Czech Republic	17.5	(0.8)	7.0	(0.6)	19.3	(1.4)	6.4	(0.6)	24.8	(1.5)	9.2	(0.8)	23.1	(1.3)	5.1	(0.5)	16.9	(1.2)	6.1	(0.5)
	Denmark	17.9	(0.9)	8.1	(0.5)	16.5	(0.9)	5.2	(0.5)	16.0	(1.1)	5.9	(0.6)	15.2	(0.9)	4.7	(0.5)	14.6	(1.1)	5.4	(0.6)
	Estonia	m	m	m	m	m	m	m	m	13.6	(1.1)	6.0	(0.6)	13.3	(1.0)	6.1	(0.6)	9.1	(0.6)	8.3	(0.7)
	Finland	7.0	(0.7)	18.5	(0.9)	5.7	(0.4)	14.7	(0.7)	4.8	(0.5)	16.7	(0.8)	8.1	(0.5)	14.5	(0.8)	11.3	(0.7)	13.5	(0.6)
	France	15.2	(1.1)	8.5	(0.5)	17.5	(1.1)	7.4	(0.6)	21.7	(1.5)	7.3	(0.7)	19.8	(1.2)	9.6	(1.0)	18.9	(1.0)	12.9	(0.8)
	Germany	22.6	(1.0)	8.8	(0.5)	22.3	(1.2)	9.6	(0.6)	20.0	(1.5)	9.9	(0.7)	18.5	(1.1)	7.6	(0.6)	14.5	(0.9)	8.9	(0.7)
	Greece	24.4	(2.1)	5.0	(0.7)	25.3	(1.3)	5.7	(0.7)	27.7	(1.4)	3.5	(0.4)	21.3	(1.8)	5.6	(0.5)	22.6	(1.2)	5.1	(0.6)
	Hungary	22.7	(1.5)	5.1	(0.8)	20.5	(1.0)	4.9	(0.6)	20.6	(1.1)	4.7	(0.6)	17.6	(1.4)	6.1	(0.7)	19.7	(1.2)	5.6	(0.8)
	Iceland	14.5	(0.7)	9.1	(0.7)	18.5	(0.6)	7.1	(0.6)	20.5	(0.7)	6.0	(0.5)	16.8	(0.6)	8.5	(0.6)	21.0	(0.7)	5.8	(0.5)
	Ireland	11.0	(1.0)	14.2	(0.8)	11.0	(0.9)	9.3	(0.7)	12.1	(1.1)	11.7	(0.8)	17.2	(1.0)	7.0	(0.5)	9.6	(0.9)	11.4	(0.7)
	Israel	33.2	(3.2)	4.2	(0.8)	m	m	m	m	38.9	(1.6)	5.0	(0.5)	26.5	(1.2)	7.4	(0.6)	23.6	(1.6)	9.6	(0.8)
	Italy	18.9	(1.1)	5.3	(0.5)	23.9	(1.3)	5.2	(0.3)	26.4	(1.0)	5.2	(0.4)	21.0	(0.6)	5.8	(0.3)	19.5	(0.7)	6.7	(0.3)
	Japan	10.1	(1.5)	9.9	(1.1)	19.0	(1.3)	9.7	(0.9)	18.4	(1.4)	9.4	(0.7)	13.6	(1.1)	13.4	(0.9)	9.8	(0.9)	18.5	(1.3)
	Korea	5.8	(0.7)	5.7	(0.6)	6.8	(0.7)	12.2	(1.1)	5.8	(0.9)	21.7	(1.4)	5.8	(0.8)	12.9	(1.1)	7.6	(0.9)	14.1	(1.2)
	Luxembourg	m	m	m	m	22.7	(0.7)	5.2	(0.4)	22.9	(0.6)	5.6	(0.4)	26.0	(0.6)	5.7	(0.5)	22.2	(0.7)	8.9	(0.4)
	Mexico	44.1	(1.7)	0.9	(0.2)	52.0	(1.9)	0.5	(0.1)	47.0	(1.3)	0.6	(0.1)	40.1	(1.0)	0.4	(0.1)	41.1	(0.9)	0.4	(0.1)
	Netherlands	m	m	m	m	11.5	(1.1)	8.8	(0.7)	15.1	(1.2)	9.1	(0.6)	14.3	(1.5)	9.8	(1.1)	14.0	(1.2)	9.8	(0.8)
	New Zealand	13.7	(0.8)	18.7	(1.0)	14.5	(0.8)	16.3	(0.8)	14.5	(0.9)	15.9	(0.8)	14.3	(0.7)	15.7	(0.8)	16.3	(0.8)	14.0	(0.8)
	Norway	17.5	(1.1)	11.2	(0.7)	18.1	(1.0)	10.0	(0.7)	22.4	(1.2)	7.7	(0.6)	15.0	(0.8)	8.4	(0.9)	16.2	(1.0)	10.2	(0.7)
	Poland	23.2	(1.4)	5.9	(0.9)	16.8	(1.0)	8.0	(0.6)	16.2	(0.9)	11.6	(0.8)	15.0	(0.8)	7.2	(0.6)	10.6	(0.8)	10.0	(0.9)
	Portugal	26.3	(1.9)	4.2	(0.5)	21.9	(1.5)	3.8	(0.5)	24.9	(1.5)	4.6	(0.5)	17.6	(1.2)	4.8	(0.5)	18.8	(1.4)	5.8	(0.6)
	Slovak Republic	m	m	m	m	24.9	(1.5)	3.5	(0.4)	27.8	(1.3)	5.4	(0.5)	22.2	(1.2)	4.5	(0.5)	28.2	(1.8)	4.4	(0.7)
	Slovenia	m	m	m	m	m	m	m	m	16.5	(0.6)	5.3	(0.5)	21.2	(0.6)	4.6	(0.5)	21.1	(0.7)	5.0	(0.4)
	Spain	16.3	(1.1)	4.2	(0.5)	21.1	(0.9)	5.0	(0.5)	25.7	(1.0)	1.8	(0.2)	19.6	(0.9)	3.3	(0.3)	18.3	(0.8)	5.5	(0.3)
	Sweden	12.6	(0.7)	11.2	(0.7)	13.3	(0.8)	11.4	(0.7)	15.3	(1.1)	10.6	(0.8)	17.4	(0.9)	9.0	(0.7)	22.7	(1.2)	7.9	(0.6)
	Switzerland	20.4	(1.3)	9.2	(1.0)	16.7	(1.1)	7.9	(0.8)	16.4	(0.9)	7.7	(0.7)	16.8	(0.9)	8.1	(0.7)	13.7	(0.8)	9.1	(0.7)
	Turkey	m	m	m	m	36.8	(2.4)	3.8	(1.2)	32.2	(1.8)	2.1	(0.6)	24.5	(1.4)	1.9	(0.4)	21.6	(1.4)	4.3	(0.9)
	United Kingdom	m	m	m	m	m	m	m	m	19.0	(0.8)	9.0	(0.6)	18.4	(0.8)	8.0	(0.5)	16.6	(1.3)	8.8	(0.7)
	United States	17.9	(2.2)	12.2	(1.4)	19.4	(1.1)	9.3	(0.7)	m	m	m	m	17.6	(1.1)	9.9	(0.9)	16.6	(1.3)	7.9	(0.7)
	OECD average 2000	19.3	(0.3)	8.9	(0.1)	18.4	(0.2)	8.7	(0.1)	20.8	(0.2)	8.7	(0.1)	18.1	(0.2)	8.2	(0.1)	17.7	(0.2)	8.8	(0.1)
	OECD average 2003	m	m	m	m	19.2	(0.2)	8.2	(0.1)	20.2	(0.2)	8.5	(0.1)	17.9	(0.2)	8.1	(0.1)	17.5	(0.2)	8.8	(0.1)
	OECD average 2006	m	m	m	m	m	m	m	m	20.9	(0.2)	8.1	(0.1)	18.5	(0.2)	7.6	(0.1)	18.0	(0.2)	8.4	(0.1)
	OECD average 2009	m	m	m	m	m	m	m	m	m	m	m	m	18.5	(0.2)	7.7	(0.1)	17.9	(0.2)	8.5	(0.1)
Partners	Albania	70.4	(1.1)	0.1	(0.1)	m	m	m	m	m	m	m	m	56.7	(1.9)	0.2	(0.1)	52.3	(1.3)	1.2	(0.2)
	Argentina	43.9	(4.5)	1.7	(0.5)	m	m	m	m	57.9	(2.5)	0.9	(0.2)	51.6	(1.9)	1.0	(0.2)	53.6	(1.7)	0.5	(0.1)
	Brazil	55.8	(1.7)	0.6	(0.2)	50.0	(1.7)	1.9	(0.5)	55.5	(1.3)	1.1	(0.3)	49.6	(1.3)	1.3	(0.2)	49.2	(1.1)	0.5	(0.1)
	Bulgaria	40.3	(2.1)	2.2	(0.6)	m	m	m	m	51.1	(2.5)	2.1	(0.5)	41.0	(2.6)	2.8	(0.5)	39.4	(2.2)	4.3	(0.6)
	Colombia	m	m	m	m	m	m	m	m	55.7	(2.1)	0.6	(0.2)	47.1	(1.9)	0.6	(0.2)	51.4	(1.8)	0.3	(0.1)
	Costa Rica	m	m	m	m	m	m	m	m	m	m	m	m	32.6	(1.5)	0.8	(0.3)	32.4	(1.8)	0.6	(0.2)
	Croatia	m	m	m	m	m	m	m	m	21.5	(1.3)	3.7	(0.4)	22.4	(1.3)	3.2	(0.4)	18.7	(1.3)	4.4	(0.7)
	Dubai (UAE)	m	m	m	m	m	m	m	m	m	m	m	m	31.0	(0.5)	5.3	(0.5)	26.7	(0.8)	4.8	(0.4)
	Hong Kong-China	9.1	(1.0)	9.5	(0.8)	12.0	(1.2)	5.7	(0.5)	7.1	(0.8)	12.8	(0.8)	8.3	(0.7)	12.4	(0.8)	6.8	(0.7)	16.8	(1.2)
	Indonesia	68.7	(2.5)	c	c	63.3	(1.8)	0.1	(0.1)	58.3	(3.4)	0.1	(0.0)	53.4	(2.3)	c	c	55.2	(2.2)	0.1	(0.1)
	Jordan	m	m	m	m	m	m	m	m	49.6	(1.4)	0.2	(0.1)	48.0	(1.6)	0.2	(0.1)	50.7	(1.6)	0.1	(0.1)
	Kazakhstan	m	m	m	m	m	m	m	m	m	m	m	m	58.7	(1.5)	0.4	(0.1)	57.1	(1.6)	0.0	(0.0)
	Latvia	30.1	(2.0)	4.2	(0.6)	18.0	(1.2)	6.0	(0.7)	21.2	(1.5)	4.5	(0.5)	17.6	(1.2)	2.9	(0.4)	17.0	(1.1)	4.2	(0.6)
	Liechtenstein	22.1	(2.1)	5.1	(1.6)	10.4	(1.7)	13.0	(2.5)	14.3	(1.9)	9.8	(1.8)	15.7	(1.8)	4.6	(1.4)	12.4	(1.9)	10.9	(2.9)
	Lithuania	m	m	m	m	m	m	m	m	25.7	(1.2)	4.4	(0.5)	24.4	(1.2)	2.9	(0.4)	21.2	(1.2)	3.3	(0.4)
	Macao-China	m	m	m	m	9.7	(1.3)	1.7	(0.5)	13.0	(0.5)	3.0	(0.3)	14.9	(0.5)	2.9	(0.2)	11.5	(0.4)	7.0	(0.4)
	Malaysia	m	m	m	m	m	m	m	m	m	m	m	m	44.0	(1.6)	0.1	(0.1)	52.7	(1.7)	0.1	(0.1)
	Montenegro	m	m	m	m	m	m	m	m	56.3	(0.8)	0.4	(0.2)	49.5	(1.0)	0.6	(0.2)	43.3	(0.7)	1.0	(0.2)
	Peru	79.5	(1.5)	0.1	(0.1)	m	m	m	m	m	m	m	m	64.8	(1.7)	0.5	(0.2)	59.9	(2.0)	0.5	(0.2)
	Qatar	m	m	m	m	m	m	m	m	81.6	(0.4)	0.6	(0.1)	63.5	(0.5)	1.7	(0.2)	57.1	(0.4)	1.6	(0.1)
	Romania	41.3	(1.5)	2.2	(0.3)	m	m	m	m	53.5	(2.2)	0.3	(0.1)	40.4	(2.0)	0.7	(0.2)	37.3	(1.9)	1.6	(0.4)
	Russian Federation	27.4	(1.7)	3.2	(0.5)	34.0	(1.8)	1.7	(0.3)	35.3	(1.9)	1.7	(0.3)	27.4	(1.3)	3.2	(0.5)	22.3	(1.3)	4.6	(0.6)
	Serbia	m	m	m	m	m	m	m	m	51.7	(1.8)	0.3	(0.1)	32.8	(1.3)	0.8	(0.2)	33.1	(1.7)	2.2	(0.4)
	Shanghai-China	m	m	m	m	m	m	m	m	m	m	m	m	4.1	(0.5)	19.5	(1.1)	2.9	(0.4)	25.1	(1.2)
	Singapore	m	m	m	m	m	m	m	m	m	m	m	m	12.5	(0.5)	15.7	(0.5)	9.9	(0.4)	21.2	(0.6)
	Chinese Taipei	m	m	m	m	m	m	m	m	15.3	(1.2)	4.7	(0.6)	15.6	(0.9)	5.2	(0.8)	11.5	(0.9)	11.8	(0.8)
	Thailand	37.1	(1.7)	0.5	(0.2)	44.0	(1.5)	0.5	(0.1)	44.6	(1.4)	0.3	(0.1)	42.9	(1.5)	0.3	(0.2)	33.0	(1.4)	0.8	(0.2)
	Tunisia	m	m	m	m	62.7	(1.3)	0.3	(0.1)	59.0	(1.8)	0.2	(0.1)	50.2	(1.6)	0.2	(0.1)	49.3	(2.2)	0.2	(0.2)
	United Arab Emirates*	m	m	m	m	m	m	m	m	m	m	m	m	42.6	(1.5)	1.4	(0.3)	38.7	(1.5)	1.3	(0.3)
	Uruguay	m	m	m	m	39.8	(1.3)	5.3	(0.7)	46.6	(1.3)	3.1	(0.4)	41.9	(1.2)	1.8	(0.3)	47.0	(1.4)	0.9	(0.3)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).
For Chile, Albania, Argentina, Bulgaria, Indonesia, Peru and Thailand, the change between the PISA 2000 and PISA 2012 represents change between 2001 and 2012 because these countries implemented the PISA 2000 assessment in 2001 as part of PISA 2000+.
For Israel and Romania, the change between the PISA 2000 and PISA 2012 represents change between 2002 and 2012 because these countries implemented the PISA 2000 assessment in 2002 as part of PISA 2000+.
For Costa Rica and Malaysia the change between PISA 2009 and PISA 2012 represents change between 2010 and 2012 because these countries implemented the PISA 2009 assessment in 2010 as part of PISA 2009+.
In the United Arab Emirates, Dubai took the PISA 2009 assessment in 2009 and the rest of the United Arab Emirates in 2010 as part of PISA 2009+. Results are thus reported separately.
* United Arab Emirates excluding Dubai (see note above).
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[Part 2/2]

Table I.4.1b Percentage of students below Level 2 and at Level 5 or above in reading in PISA 2000 through 2012

		Change between 2000 and 2012 (PISA 2012 - PISA 2000)				Change between 2003 and 2012 (PISA 2012 - PISA 2003)				Change between 2006 and 2012 (PISA 2012 - PISA 2006)				Change between 2009 and 2012 (PISA 2012 - PISA 2009)			
		Below Level 2 (less than 407.47 score points)		Level 5 or above (above 625.61 score points)		Below Level 2 (less than 407.47 score points)		Level 5 or above (above 625.61 score points)		Below Level 2 (less than 407.47 score points)		Level 5 or above (above 625.61 score points)		Below Level 2 (less than 407.47 score points)		Level 5 or above (above 625.61 score points)	
		% dif.	S.E.	% dif.	S.E.	% dif.	S.E.	% dif.	S.E.	% dif.	S.E.	% dif.	S.E.	% dif.	S.E.	% dif.	S.E.
OECD	Australia	1.7	(1.6)	**-5.9**	(1.9)	2.3	(1.5)	-2.9	(1.6)	0.8	(1.5)	1.1	(1.5)	-0.1	(1.0)	-1.0	(1.1)
	Austria	0.2	(2.0)	-1.9	(1.4)	-1.2	(2.2)	**-2.8**	(1.4)	-2.0	(2.3)	**-3.5**	(1.3)	m	m	m	m
	Belgium	-2.9	(1.9)	-0.2	(1.7)	-1.8	(1.7)	-0.8	(1.6)	-3.3	(1.8)	0.5	(1.6)	-1.7	(1.3)	0.6	(1.1)
	Canada	1.3	(1.2)	**-3.9**	(1.7)	1.4	(1.3)	0.2	(1.7)	-0.1	(1.3)	-1.6	(1.7)	0.6	(0.8)	0.1	(1.0)
	Chile	**-15.2**	(3.5)	0.1	(0.2)	m	m	m	m	-3.2	(3.5)	**-2.9**	(0.6)	2.5	(2.6)	**-0.7**	(0.3)
	Czech Republic	-0.6	(2.2)	-0.9	(1.2)	-2.4	(2.4)	-0.3	(1.2)	**-7.9**	(2.5)	**-3.1**	(1.3)	**-6.2**	(1.9)	0.9	(0.8)
	Denmark	-3.3	(2.0)	**-2.7**	(1.2)	-1.9	(2.0)	0.3	(1.2)	-1.4	(2.0)	-0.5	(1.2)	-0.6	(1.5)	0.7	(0.9)
	Estonia	m	m	m	m	m	m	m	m	**-4.5**	(1.6)	2.3	(1.5)	**-4.2**	(1.3)	**2.3**	(1.1)
	Finland	**4.4**	(1.5)	**-5.0**	(1.9)	**5.6**	(1.5)	-1.2	(1.9)	**6.5**	(1.4)	-3.2	(1.9)	**3.2**	(1.0)	-1.0	(1.2)
	France	**3.7**	(1.8)	**4.4**	(1.7)	1.4	(1.8)	**5.5**	(1.7)	-2.8	(2.1)	**5.6**	(1.7)	-0.8	(1.6)	**3.3**	(1.4)
	Germany	**-8.1**	(1.8)	0.1	(1.6)	**-7.8**	(2.0)	-0.6	(1.7)	**-5.5**	(2.2)	-0.9	(1.7)	**-4.0**	(1.5)	1.3	(1.1)
	Greece	-1.8	(2.9)	0.1	(1.2)	-2.6	(2.4)	-0.6	(1.2)	**-5.1**	(2.4)	1.7	(1.1)	1.3	(2.3)	-0.5	(0.9)
	Hungary	-3.0	(2.4)	0.6	(1.4)	-0.8	(2.1)	0.8	(1.4)	-0.8	(2.1)	0.9	(1.3)	2.2	(1.9)	-0.4	(1.1)
	Iceland	**6.5**	(1.9)	**-3.3**	(1.3)	2.5	(1.8)	-1.3	(1.2)	0.5	(1.9)	-0.2	(1.1)	**4.2**	(1.2)	**-2.7**	(0.9)
	Ireland	-1.5	(1.8)	-2.8	(1.8)	-1.4	(1.7)	2.2	(1.8)	-2.5	(1.8)	-0.3	(1.8)	**-7.7**	(1.5)	**4.4**	(1.1)
	Israel	**-9.6**	(3.8)	**5.5**	(1.6)	m	m	m	m	**-15.3**	(2.7)	**4.6**	(1.5)	-3.0	(2.1)	2.2	(1.2)
	Italy	0.6	(2.0)	1.4	(1.2)	**-4.4**	(2.0)	1.5	(1.1)	**-6.9**	(1.8)	1.5	(1.1)	-1.5	(1.1)	0.9	(0.7)
	Japan	-0.3	(2.0)	**8.6**	(2.4)	**-9.3**	(1.8)	**8.8**	(2.3)	**-8.6**	(1.9)	**9.1**	(2.2)	**-3.8**	(1.5)	**5.1**	(1.7)
	Korea	1.9	(1.4)	**8.4**	(2.3)	0.9	(1.4)	2.0	(2.4)	1.9	(1.5)	**-7.6**	(2.6)	1.9	(1.3)	1.2	(1.9)
	Luxembourg	m	m	m	m	-0.6	(1.8)	**3.6**	(1.3)	-0.7	(1.7)	**3.3**	(1.2)	**-3.9**	(1.2)	**3.2**	(0.8)
	Mexico	-3.1	(3.4)	-0.4	(0.3)	**-10.9**	(3.5)	-0.1	(0.2)	-5.9	(3.2)	-0.1	(0.2)	1.0	(1.9)	0.0	(0.1)
	Netherlands	m	m	m	m	2.5	(2.1)	0.9	(1.8)	-1.1	(2.1)	0.6	(1.7)	-0.3	(2.1)	-0.1	(1.5)
	New Zealand	2.5	(1.7)	**-4.8**	(1.9)	1.8	(1.7)	-2.4	(1.7)	1.7	(1.8)	-1.9	(1.7)	1.9	(1.3)	-1.8	(1.3)
	Norway	-1.3	(1.9)	-1.0	(1.6)	-1.9	(1.9)	0.3	(1.6)	**-6.2**	(2.0)	2.5	(1.5)	1.2	(1.4)	1.8	(1.3)
	Poland	**-12.7**	(1.9)	**4.1**	(1.8)	**-6.2**	(1.6)	2.0	(1.6)	**-5.7**	(1.6)	-1.6	(1.7)	**-4.5**	(1.3)	**2.8**	(1.2)
	Portugal	**-7.4**	(2.8)	1.6	(1.3)	-3.1	(2.5)	2.0	(1.3)	**-6.1**	(2.5)	1.2	(1.3)	1.2	(2.0)	1.0	(1.0)
	Slovak Republic	m	m	m	m	3.3	(2.9)	0.8	(1.0)	0.4	(2.8)	-1.0	(1.1)	**6.0**	(2.3)	-0.1	(0.9)
	Slovenia	m	m	m	m	m	m	m	m	**4.6**	(2.0)	-0.2	(0.9)	-0.1	(1.2)	0.4	(0.7)
	Spain	2.1	(2.0)	1.3	(1.0)	-2.8	(1.9)	0.5	(1.0)	**-7.3**	(1.9)	**3.7**	(0.9)	-1.2	(1.3)	**2.2**	(0.6)
	Sweden	**10.1**	(2.0)	**-3.3**	(1.4)	**9.5**	(2.0)	**-3.5**	(1.4)	**7.5**	(2.2)	-2.7	(1.5)	**5.3**	(1.7)	-1.1	(1.1)
	Switzerland	**-6.7**	(2.1)	-0.1	(1.8)	-3.0	(1.9)	1.3	(1.6)	-2.8	(1.8)	1.4	(1.6)	**-3.1**	(1.3)	1.0	(1.1)
	Turkey	m	m	m	m	**-15.2**	(3.5)	0.6	(1.6)	**-10.5**	(3.1)	2.2	(1.2)	-2.9	(2.2)	**2.5**	(1.0)
	United Kingdom	m	m	m	m	m	m	m	m	-2.4	(2.0)	-0.3	(1.4)	-1.8	(1.6)	0.7	(1.0)
	United States	-1.3	(2.9)	**-4.3**	(1.8)	-2.8	(2.2)	-1.3	(1.4)	m	m	m	m	-1.0	(1.8)	-1.9	(1.2)
	OECD average 2000	**-1.6**	(0.4)	-0.2	(0.3)	**-1.6**	(0.4)	0.4	(0.3)	**-3.1**	(0.4)	0.1	(0.3)	-0.5	(0.3)	**0.7**	(0.2)
	OECD average 2003	m	m	m	m	**-1.7**	(0.4)	0.5	(0.3)	**-2.6**	(0.4)	0.3	(0.3)	-0.5	(0.3)	**0.8**	(0.2)
	OECD average 2006	m	m	m	m	m	m	m	m	**-2.9**	(0.4)	0.3	(0.3)	**-0.6**	(0.3)	**0.9**	(0.2)
	OECD average 2009	m	m	m	m	m	m	m	m	m	m	m	m	**-0.6**	(0.3)	**0.8**	(0.2)
Partners	Albania	**-18.0**	(2.9)	**1.1**	(0.3)	m	m	m	m	m	m	m	m	-4.3	(2.5)	**1.0**	(0.3)
	Argentina	9.7	(5.5)	**-1.2**	(0.5)	m	m	m	m	-4.3	(3.9)	-0.4	(0.3)	2.0	(2.9)	-0.4	(0.3)
	Brazil	-6.6	(3.4)	0.0	(0.3)	-0.8	(3.4)	**-1.4**	(0.5)	**-6.3**	(3.2)	-0.6	(0.4)	-0.4	(2.1)	**-0.8**	(0.3)
	Bulgaria	-0.9	(3.4)	**2.1**	(1.0)	m	m	m	m	**-11.7**	(3.7)	**2.3**	(1.0)	-1.6	(3.5)	1.5	(0.9)
	Colombia	m	m	m	m	m	m	m	m	-4.3	(3.9)	-0.3	(0.3)	4.3	(2.9)	-0.2	(0.2)
	Costa Rica	m	m	m	m	m	m	m	m	m	m	m	m	-0.2	(2.7)	-0.2	(0.3)
	Croatia	m	m	m	m	m	m	m	m	-2.8	(2.4)	0.7	(1.1)	-3.7	(2.0)	1.2	(0.9)
	Dubai (UAE)	m	m	m	m	m	m	m	m	m	m	m	m	**-4.3**	(1.3)	-0.5	(0.7)
	Hong Kong-China	-2.3	(1.5)	**7.3**	(2.5)	**-5.3**	(1.6)	**11.1**	(2.4)	-0.4	(1.3)	4.0	(2.4)	-1.5	(1.1)	**4.4**	(1.6)
	Indonesia	**-13.4**	(4.7)	c	c	-8.0	(4.3)	0.0	(0.1)	-3.1	(5.2)	0.0	(0.1)	1.8	(3.5)	c	c
	Jordan	m	m	m	m	m	m	m	m	1.1	(3.4)	-0.1	(0.2)	2.7	(2.6)	-0.1	(0.2)
	Kazakhstan	m	m	m	m	m	m	m	m	m	m	m	m	-1.6	(2.6)	**-0.3**	(0.1)
	Latvia	**-13.1**	(2.8)	0.0	(1.1)	-1.1	c	-1.8	c	-4.2	(2.4)	-0.4	(1.0)	-0.6	(1.8)	1.2	(0.8)
	Liechtenstein	**-9.8**	(3.0)	5.9	(3.7)	2.0	(2.8)	-2.0	(4.2)	-1.9	(2.9)	1.1	(3.8)	-3.3	(2.7)	6.3	(3.3)
	Lithuania	m	m	m	m	m	m	m	m	-4.5	(2.4)	-1.1	(0.9)	-3.2	(1.8)	0.4	(0.6)
	Macao-China	m	m	m	m	1.8	(1.9)	**5.3**	(1.3)	-1.5	(1.5)	**4.0**	(1.2)	**-3.4**	(0.9)	**4.1**	(0.7)
	Malaysia	m	m	m	m	m	m	m	m	m	m	m	m	**8.8**	(2.7)	0.0	(0.1)
	Montenegro	m	m	m	m	m	m	m	m	**-13.0**	(2.8)	0.5	(0.3)	**-6.3**	(1.8)	0.4	(0.3)
	Peru	**-19.7**	(3.5)	0.4	(0.3)	m	m	m	m	m	m	m	m	-4.9	(2.8)	0.0	(0.3)
	Qatar	m	m	m	m	m	m	m	m	**-24.4**	(2.1)	**1.1**	(0.3)	**-6.3**	(1.1)	-0.1	(0.2)
	Romania	-4.0	(3.5)	-0.6	(0.6)	m	m	m	m	**-16.2**	(3.7)	**1.3**	(0.5)	-3.1	(3.0)	**0.9**	(0.5)
	Russian Federation	-5.1	(3.0)	1.4	(1.0)	**-11.7**	(3.0)	**2.9**	(0.9)	**-13.0**	(3.1)	**2.9**	(0.9)	**-5.1**	(2.1)	1.5	(0.8)
	Serbia	m	m	m	m	m	m	m	m	**-18.6**	(3.3)	**1.9**	(0.6)	0.3	(2.4)	**1.4**	(0.5)
	Shanghai-China	m	m	m	m	m	m	m	m	m	m	m	m	-1.1	(0.7)	**5.6**	(2.0)
	Singapore	m	m	m	m	m	m	m	m	m	m	m	m	**-2.6**	(0.7)	**5.5**	(1.3)
	Chinese Taipei	m	m	m	m	m	m	m	m	**-3.8**	(1.8)	**7.1**	(1.9)	**-4.1**	(1.3)	**6.6**	(1.4)
	Thailand	-4.1	(3.5)	0.3	(0.3)	**-11.0**	(3.4)	0.3	(0.3)	**-11.6**	(3.3)	0.5	(0.3)	**-9.9**	(2.4)	0.5	(0.3)
	Tunisia	m	m	m	m	**-13.4**	(3.6)	0.0	(0.2)	**-9.7**	(3.8)	0.1	(0.2)	-0.9	(3.0)	0.0	(0.2)
	United Arab Emirates*	m	m	m	m	m	m	m	m	m	m	m	m	-3.9	(2.4)	-0.1	(0.5)
	Uruguay	m	m	m	m	**7.3**	(3.1)	**-4.3**	(0.7)	0.4	(3.1)	**-2.1**	(0.5)	**5.1**	(2.2)	**-0.8**	(0.4)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).
For Chile, Albania, Argentina, Bulgaria, Indonesia, Peru and Thailand, the change between the PISA 2000 and PISA 2012 represents change between 2001 and 2012 because these countries implemented the PISA 2000 assessment in 2001 as part of PISA 2000+.
For Israel and Romania, the change between the PISA 2000 and PISA 2012 represents change between 2002 and 2012 because these countries implemented the PISA 2000 assessment in 2002 as part of PISA 2000+.
For Costa Rica and Malaysia the change between PISA 2009 and PISA 2012 represents change between 2010 and 2012 because these countries implemented the PISA 2009 assessment in 2010 as part of PISA 2009+.
In the United Arab Emirates, Dubai took the PISA 2009 assessment in 2009 and the rest of the United Arab Emirates in 2010 as part of PISA 2009+. Results are thus reported separately.
* United Arab Emirates excluding Dubai (see note above).
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[Part 1/2]

Table I.4.2a **Percentage of students at each proficiency level in reading, by gender**

		Boys															
		Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to less than 698.32 score points)		Level 6 (above 698.32 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	1.4	(0.2)	4.5	(0.3)	13.2	(0.5)	23.6	(0.7)	28.3	(0.7)	19.9	(0.8)	7.7	(0.6)	1.5	(0.3)
	Austria	1.4	(0.4)	7.2	(1.1)	17.6	(1.2)	25.1	(1.3)	27.8	(1.2)	17.1	(1.3)	3.5	(0.6)	0.3	(0.1)
	Belgium	2.5	(0.5)	5.7	(0.7)	12.2	(0.8)	21.6	(0.9)	27.1	(1.1)	21.8	(1.0)	8.2	(0.7)	0.9	(0.2)
	Canada	0.8	(0.2)	3.6	(0.4)	10.8	(0.6)	22.4	(0.8)	30.5	(0.9)	22.2	(0.8)	8.4	(0.6)	1.3	(0.2)
	Chile	1.6	(0.4)	10.9	(1.1)	26.8	(1.4)	33.0	(1.5)	21.7	(1.4)	5.6	(0.7)	0.4	(0.1)	0.0	(0.0)
	Czech Republic	0.9	(0.5)	5.6	(1.1)	16.3	(1.4)	28.4	(1.6)	29.9	(1.7)	15.3	(1.3)	3.2	(0.6)	0.5	(0.2)
	Denmark	1.3	(0.5)	4.4	(0.5)	13.5	(1.0)	27.9	(1.5)	32.4	(1.3)	16.8	(1.2)	3.4	(0.6)	0.3	(0.1)
	Estonia	0.3	(0.2)	2.3	(0.5)	11.6	(0.9)	28.4	(1.6)	33.6	(1.5)	19.0	(1.0)	4.4	(0.7)	0.4	(0.1)
	Finland	1.1	(0.3)	3.9	(0.7)	12.8	(0.9)	25.1	(1.3)	29.5	(1.1)	20.6	(1.2)	6.2	(0.6)	0.9	(0.2)
	France	3.6	(0.7)	6.8	(0.8)	15.1	(1.0)	20.2	(1.1)	24.8	(1.0)	20.3	(1.0)	7.7	(0.8)	1.5	(0.4)
	Germany	0.8	(0.3)	5.0	(0.6)	14.3	(0.9)	25.6	(1.1)	29.2	(1.1)	19.9	(1.1)	4.9	(0.7)	0.2	(0.1)
	Greece	4.5	(0.7)	9.2	(1.0)	18.5	(1.2)	26.2	(1.3)	25.2	(1.3)	12.9	(1.3)	3.2	(0.5)	0.4	(0.2)
	Hungary	1.3	(0.4)	7.8	(1.1)	17.9	(1.4)	26.4	(1.6)	26.9	(1.4)	16.1	(1.2)	3.5	(0.7)	0.2	(0.1)
	Iceland	3.6	(0.6)	8.2	(0.8)	18.0	(1.2)	26.2	(1.3)	26.7	(1.2)	14.0	(1.0)	3.1	(0.5)	0.2	(0.1)
	Ireland	0.5	(0.2)	2.7	(0.6)	9.8	(1.0)	22.0	(1.3)	33.0	(1.3)	23.4	(1.3)	7.5	(0.7)	1.1	(0.3)
	Israel	6.2	(1.0)	10.1	(1.4)	16.0	(1.4)	19.5	(1.2)	22.1	(1.2)	17.4	(1.6)	7.5	(1.1)	1.2	(0.4)
	Italy	2.6	(0.3)	7.5	(0.4)	15.9	(0.8)	24.9	(0.8)	27.1	(0.8)	17.0	(0.7)	4.6	(0.4)	0.4	(0.1)
	Japan	1.1	(0.3)	3.3	(0.5)	8.7	(1.0)	17.6	(1.1)	26.0	(1.1)	26.8	(1.3)	12.9	(1.1)	3.5	(0.8)
	Korea	0.7	(0.2)	2.5	(0.6)	7.2	(0.9)	18.8	(1.4)	29.7	(1.3)	28.6	(1.5)	11.2	(1.4)	1.4	(0.4)
	Luxembourg	3.2	(0.3)	8.1	(0.6)	15.4	(1.1)	23.9	(1.3)	25.4	(0.9)	17.0	(1.0)	6.0	(0.5)	1.1	(0.2)
	Mexico	3.7	(0.4)	13.7	(0.8)	30.0	(0.9)	32.2	(0.8)	16.5	(0.7)	3.6	(0.3)	0.3	(0.1)	0.0	c
	Netherlands	1.4	(0.7)	4.0	(0.7)	11.8	(1.0)	22.7	(1.5)	29.0	(1.6)	23.6	(1.7)	6.9	(0.8)	0.5	(0.2)
	New Zealand	2.1	(0.4)	5.6	(0.6)	13.3	(1.0)	22.3	(1.1)	25.0	(1.5)	20.7	(1.3)	9.0	(0.8)	2.0	(0.3)
	Norway	2.7	(0.5)	5.3	(0.6)	14.5	(1.0)	24.3	(1.5)	28.5	(1.8)	18.0	(1.3)	5.8	(0.7)	0.9	(0.3)
	Poland	0.7	(0.2)	3.7	(0.7)	11.8	(1.1)	25.5	(1.2)	30.5	(1.3)	20.6	(1.3)	6.4	(1.0)	0.8	(0.3)
	Portugal	2.4	(0.5)	7.4	(0.9)	15.2	(1.2)	27.0	(1.5)	28.7	(2.0)	15.5	(1.3)	3.5	(0.7)	0.3	(0.2)
	Slovak Republic	4.9	(0.9)	10.2	(1.2)	20.2	(1.4)	26.2	(1.4)	23.1	(1.5)	12.2	(1.0)	3.0	(0.6)	0.2	(0.2)
	Slovenia	2.2	(0.2)	7.9	(0.6)	20.4	(1.0)	29.6	(1.1)	24.7	(1.2)	13.0	(0.9)	2.2	(0.5)	0.1	c
	Spain	2.1	(0.3)	6.0	(0.5)	15.3	(0.7)	27.0	(1.3)	28.7	(1.2)	16.4	(0.7)	4.1	(0.4)	0.4	(0.1)
	Sweden	4.7	(0.7)	8.6	(1.2)	18.0	(1.2)	24.5	(1.8)	24.4	(1.2)	14.4	(1.3)	4.6	(0.7)	0.8	(0.3)
	Switzerland	0.9	(0.3)	4.3	(0.6)	13.3	(0.8)	24.9	(1.1)	30.3	(1.2)	19.9	(1.1)	5.8	(0.6)	0.6	(0.2)
	Turkey	1.0	(0.3)	7.3	(1.0)	22.6	(1.4)	32.6	(1.8)	22.9	(1.5)	11.0	(1.4)	2.4	(0.6)	0.1	(0.1)
	United Kingdom	2.0	(0.4)	5.1	(0.8)	12.7	(0.9)	25.2	(1.3)	28.7	(1.3)	19.9	(1.6)	5.6	(0.8)	0.7	(0.2)
	United States	1.2	(0.4)	5.3	(0.8)	15.7	(1.4)	25.8	(1.4)	28.1	(1.2)	17.7	(1.3)	5.4	(0.6)	0.8	(0.3)
	OECD total	1.7	(0.1)	6.2	(0.3)	16.1	(0.4)	25.3	(0.4)	26.4	(0.4)	17.6	(0.4)	5.8	(0.2)	0.9	(0.1)
	OECD average	2.1	(0.1)	6.3	(0.1)	15.5	(0.2)	25.2	(0.2)	27.2	(0.2)	17.6	(0.2)	5.4	(0.1)	0.7	(0.0)
Partners	Albania	13.1	(1.2)	17.1	(1.5)	25.0	(1.9)	24.0	(1.7)	14.7	(1.2)	5.0	(1.0)	1.1	(0.3)	0.1	(0.1)
	Argentina	11.4	(1.3)	21.5	(1.6)	28.8	(1.5)	24.0	(1.3)	11.5	(1.1)	2.5	(0.6)	0.3	(0.1)	0.0	(0.1)
	Brazil	5.9	(0.5)	19.1	(0.9)	32.3	(0.9)	26.6	(1.0)	12.3	(0.8)	(3.5)	(0.4)	0.4	(0.1)	0.0	c
	Bulgaria	12.4	(1.5)	17.6	(1.5)	20.9	(1.2)	21.2	(1.3)	17.2	(1.2)	8.4	(0.9)	2.1	(0.4)	0.2	(0.1)
	Colombia	6.7	(1.1)	18.1	(1.1)	32.0	(1.5)	26.7	(1.2)	13.0	(1.2)	3.2	(0.6)	0.3	(0.2)	0.0	c
	Costa Rica	1.4	(0.5)	10.5	(1.6)	27.8	(1.8)	35.9	(2.1)	19.0	(1.8)	4.7	(0.8)	0.6	(0.3)	0.0	c
	Croatia	1.4	(0.4)	6.3	(0.9)	19.9	(1.4)	30.1	(1.4)	26.9	(1.5)	12.7	(1.2)	2.6	(0.6)	0.1	(0.1)
	Cyprus*	10.5	(0.6)	14.0	(0.7)	20.0	(0.9)	23.5	(0.9)	19.5	(0.8)	9.8	(0.6)	2.3	(0.3)	0.3	(0.1)
	Hong Kong-China	0.4	(0.2)	1.9	(0.3)	6.9	(0.9)	16.3	(1.0)	30.2	(1.7)	30.4	(1.8)	12.3	(1.2)	1.6	(0.4)
	Indonesia	5.8	(1.2)	21.0	(1.6)	35.7	(1.9)	27.3	(1.7)	9.0	(1.5)	1.1	(0.4)	0.0	(0.1)	0.0	c
	Jordan	13.4	(1.5)	23.1	(1.3)	32.6	(1.6)	21.9	(1.6)	7.4	(0.9)	1.4	(0.7)	0.1	c	0.0	c
	Kazakhstan	7.0	(0.9)	22.9	(2.0)	36.9	(1.4)	25.3	(1.4)	7.3	(1.0)	0.5	(0.2)	0.0	c	0.0	c
	Latvia	1.2	(0.5)	6.0	(0.9)	18.4	(1.4)	31.3	(1.7)	29.0	(1.4)	12.0	(1.1)	1.9	(0.3)	0.1	c
	Liechtenstein	0.0	c	2.2	(1.5)	12.6	(2.7)	24.4	(4.8)	30.3	(5.5)	22.2	(3.2)	7.8	(2.9)	0.5	c
	Lithuania	1.7	(0.3)	7.5	(0.8)	22.7	(1.7)	30.5	(1.4)	25.5	(1.1)	10.6	(0.8)	1.5	(0.3)	0.1	c
	Macao-China	0.6	(0.2)	3.4	(0.4)	12.5	(0.8)	26.2	(0.9)	33.0	(1.1)	19.6	(0.8)	4.4	(0.5)	0.3	(0.2)
	Malaysia	9.0	(1.0)	21.5	(1.6)	32.4	(1.5)	25.8	(1.4)	9.7	(1.1)	1.4	(0.4)	0.1	c	0.0	c
	Montenegro	7.7	(1.0)	19.6	(1.0)	29.7	(1.3)	25.7	(1.0)	13.6	(1.0)	3.2	(0.4)	0.4	(0.2)	0.0	c
	Peru	11.6	(1.0)	23.1	(1.3)	30.5	(1.3)	22.2	(1.3)	9.8	(1.1)	2.5	(0.6)	0.3	(0.2)	0.0	c
	Qatar	22.8	(0.5)	23.9	(0.7)	21.8	(0.6)	16.3	(0.6)	9.9	(0.5)	4.4	(0.3)	0.9	(0.2)	0.1	(0.1)
	Romania	3.8	(0.5)	14.3	(1.1)	28.7	(1.6)	29.1	(1.6)	17.1	(1.4)	5.7	(0.8)	1.2	(0.4)	0.1	c
	Russian Federation	1.8	(0.3)	7.7	(0.8)	20.0	(1.3)	31.0	(1.4)	24.9	(1.3)	11.7	(0.9)	2.7	(0.4)	0.2	(0.1)
	Serbia	4.2	(0.7)	13.6	(1.1)	25.1	(1.2)	30.2	(1.3)	18.4	(1.3)	7.1	(0.8)	1.3	(0.3)	0.1	(0.1)
	Shanghai-China	0.2	(0.1)	0.5	(0.2)	3.6	(0.5)	13.5	(1.2)	27.1	(1.2)	34.6	(1.4)	17.7	(1.2)	2.8	(0.7)
	Singapore	0.8	(0.2)	3.0	(0.4)	9.5	(0.6)	18.3	(0.9)	25.7	(0.8)	25.5	(0.8)	13.3	(0.8)	3.8	(0.5)
	Chinese Taipei	1.0	(0.3)	3.8	(0.5)	11.6	(0.9)	19.4	(1.1)	29.7	(1.1)	25.8	(1.3)	7.9	(0.9)	0.9	(0.3)
	Thailand	2.5	(0.6)	13.9	(1.3)	32.3	(1.4)	33.5	(1.2)	14.4	(1.2)	3.2	(0.6)	0.3	(0.1)	0.0	c
	Tunisia	8.8	(1.3)	19.1	(1.7)	29.1	(1.6)	27.8	(1.7)	12.5	(1.2)	2.5	(0.6)	0.2	(0.2)	0.0	c
	United Arab Emirates	6.0	(0.7)	16.5	(1.2)	26.0	(1.2)	25.2	(1.1)	18.0	(1.1)	6.9	(0.7)	1.3	(0.3)	0.1	(0.1)
	Uruguay	9.9	(1.1)	18.2	(1.1)	26.8	(1.3)	25.8	(1.3)	14.1	(0.8)	4.5	(0.6)	0.7	(0.3)	0.0	c
	Viet Nam	0.2	(0.2)	2.6	(0.8)	11.2	(1.6)	28.8	(1.7)	35.9	(1.8)	18.1	(1.4)	3.1	(0.7)	0.2	(0.2)

* See notes at the beginning of this Annex.

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[Part 2/2]

Table I.4.2a **Percentage of students at each proficiency level in reading, by gender**

		Girls															
		Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to less than 698.32 score points)		Level 6 (above 698.32 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	0.4	(0.1)	1.7	(0.2)	7.0	(0.5)	19.5	(0.7)	29.9	(0.9)	27.0	(0.8)	12.1	(0.6)	2.4	(0.3)
	Austria	0.3	(0.2)	2.4	(0.7)	10.0	(1.0)	23.4	(1.1)	31.4	(1.4)	25.1	(1.4)	6.9	(0.8)	0.4	(0.2)
	Belgium	0.8	(0.3)	2.5	(0.4)	8.5	(0.7)	19.2	(1.0)	27.5	(1.0)	27.2	(0.9)	12.6	(0.7)	1.8	(0.2)
	Canada	0.2	(0.1)	1.2	(0.2)	5.3	(0.4)	16.4	(0.8)	31.6	(1.0)	29.4	(0.7)	13.1	(0.7)	2.9	(0.4)
	Chile	0.4	(0.2)	5.5	(0.8)	21.3	(1.3)	37.1	(1.3)	26.8	(1.3)	8.2	(0.8)	0.7	(0.1)	0.0	c
	Czech Republic	0.3	(0.2)	1.3	(0.4)	9.0	(1.0)	24.4	(1.6)	32.8	(1.3)	23.6	(1.5)	7.4	(0.7)	1.1	(0.2)
	Denmark	0.3	(0.1)	1.8	(0.4)	8.0	(0.8)	23.6	(1.0)	34.8	(1.3)	24.3	(1.3)	6.8	(0.8)	0.4	(0.2)
	Estonia	0.0	c	0.4	(0.2)	3.8	(0.7)	17.1	(1.2)	36.4	(1.7)	30.6	(1.6)	10.5	(0.9)	1.3	(0.3)
	Finland	0.3	(0.2)	0.9	(0.3)	3.4	(0.4)	12.7	(0.7)	29.1	(1.1)	33.3	(1.1)	16.7	(1.1)	3.6	(0.5)
	France	0.7	(0.2)	3.1	(0.6)	9.0	(0.8)	17.6	(1.2)	27.8	(1.3)	25.6	(1.2)	13.3	(0.9)	3.0	(0.6)
	Germany	0.2	(0.1)	1.5	(0.4)	7.0	(0.8)	18.5	(1.1)	30.6	(1.1)	29.4	(1.1)	11.7	(0.9)	1.1	(0.4)
	Greece	0.8	(0.2)	2.6	(0.4)	9.9	(1.0)	23.9	(1.4)	34.7	(1.2)	21.4	(1.5)	6.1	(0.8)	0.6	(0.2)
	Hungary	0.3	(0.2)	2.8	(0.6)	10.0	(0.9)	22.4	(1.3)	32.8	(1.3)	24.3	(1.4)	6.9	(0.8)	0.5	(0.2)
	Iceland	1.0	(0.3)	2.5	(0.5)	8.6	(0.7)	23.3	(1.4)	33.0	(1.8)	23.3	(1.6)	7.5	(0.8)	0.9	(0.4)
	Ireland	0.0	(0.0)	0.9	(0.3)	5.1	(0.8)	17.0	(1.6)	33.9	(1.6)	28.6	(1.1)	12.8	(1.0)	1.6	(0.5)
	Israel	1.4	(0.4)	3.9	(0.6)	9.9	(1.0)	22.1	(1.0)	28.5	(1.0)	23.7	(1.0)	8.7	(0.9)	1.8	(0.5)
	Italy	0.5	(0.1)	2.7	(0.3)	9.3	(0.6)	22.3	(0.8)	32.4	(0.8)	24.3	(0.8)	7.6	(0.4)	0.9	(0.1)
	Japan	0.2	(0.1)	1.4	(0.3)	4.5	(0.6)	15.5	(1.2)	27.5	(1.3)	30.2	(1.4)	16.5	(1.3)	4.2	(0.8)
	Korea	0.1	(0.1)	0.8	(0.3)	3.6	(0.6)	13.6	(1.3)	32.2	(1.4)	33.8	(1.4)	14.2	(1.4)	1.7	(0.4)
	Luxembourg	0.8	(0.2)	4.5	(0.4)	12.2	(0.9)	22.9	(1.0)	26.3	(1.1)	22.5	(0.9)	9.0	(0.6)	1.7	(0.3)
	Mexico	1.6	(0.2)	8.4	(0.4)	25.1	(0.8)	36.6	(0.9)	22.5	(0.6)	5.3	(0.4)	0.5	(0.1)	0.0	(0.0)
	Netherlands	0.3	(0.2)	1.6	(0.5)	8.7	(1.2)	19.1	(1.4)	29.4	(1.7)	28.6	(1.7)	11.2	(1.4)	1.0	(0.3)
	New Zealand	0.4	(0.2)	2.4	(0.5)	8.5	(0.7)	19.2	(1.0)	27.6	(1.4)	24.8	(1.5)	13.0	(0.9)	4.1	(0.7)
	Norway	0.6	(0.3)	2.0	(0.5)	7.0	(0.7)	19.5	(1.3)	30.2	(1.6)	26.7	(1.5)	11.4	(1.0)	2.5	(0.6)
	Poland	0.0	c	0.6	(0.2)	4.6	(0.6)	17.5	(1.2)	33.4	(1.4)	31.2	(1.4)	10.8	(0.9)	1.9	(0.5)
	Portugal	0.3	(0.1)	2.9	(0.5)	9.4	(1.4)	23.9	(1.6)	31.9	(1.4)	23.9	(1.4)	7.2	(0.7)	0.7	(0.2)
	Slovak Republic	3.1	(0.8)	5.4	(0.9)	11.8	(1.6)	23.6	(1.4)	30.8	(1.9)	19.5	(1.5)	5.3	(0.8)	0.4	(0.2)
	Slovenia	0.2	(0.1)	1.8	(0.3)	9.2	(0.9)	24.5	(1.2)	32.4	(1.3)	23.9	(1.1)	7.4	(0.7)	0.6	(0.2)
	Spain	0.5	(0.1)	2.8	(0.4)	9.8	(0.6)	24.6	(0.9)	33.7	(1.2)	22.0	(0.9)	5.9	(0.4)	0.6	(0.1)
	Sweden	1.0	(0.3)	3.3	(0.5)	9.6	(0.7)	22.6	(1.1)	30.2	(1.2)	22.8	(1.3)	8.9	(0.8)	1.7	(0.3)
	Switzerland	0.1	(0.1)	1.5	(0.3)	7.2	(0.7)	18.8	(1.2)	32.6	(1.1)	27.8	(1.1)	10.6	(0.8)	1.3	(0.4)
	Turkey	0.1	(0.1)	1.7	(0.3)	10.4	(1.0)	29.0	(1.8)	34.6	(1.7)	18.0	(1.7)	5.8	(1.1)	0.4	(0.2)
	United Kingdom	1.0	(0.3)	2.9	(0.5)	9.7	(1.0)	21.8	(1.3)	30.9	(1.3)	22.6	(1.1)	9.3	(0.8)	1.8	(0.4)
	United States	0.3	(0.2)	1.8	(0.5)	8.8	(1.0)	23.9	(1.5)	32.9	(1.2)	22.6	(1.3)	8.4	(0.8)	1.3	(0.4)
	OECD total	0.5	(0.1)	2.6	(0.1)	10.0	(0.3)	23.1	(0.4)	30.6	(0.4)	22.8	(0.4)	9.0	(0.3)	1.5	(0.1)
	OECD average	0.5	(0.0)	2.4	(0.1)	9.0	(0.2)	21.7	(0.2)	31.0	(0.2)	24.6	(0.2)	9.3	(0.1)	1.5	(0.1)
Partners	Albania	10.9	(1.1)	14.7	(1.0)	23.6	(1.1)	25.4	(1.1)	17.1	(1.1)	7.0	(0.7)	1.1	(0.3)	0.1	(0.1)
	Argentina	5.0	(0.7)	14.2	(1.2)	26.7	(1.7)	30.4	(1.7)	17.5	(1.4)	5.5	(0.7)	0.7	(0.2)	0.1	(0.1)
	Brazil	2.2	(0.3)	10.9	(0.6)	(28.7)	(1.1)	33.3	(0.9)	18.9	(1.1)	5.3	(0.5)	0.6	(0.2)	0.0	(0.0)
	Bulgaria	3.3	(0.7)	7.6	(1.0)	16.1	(1.4)	23.2	(1.6)	26.0	(1.7)	17.3	(1.4)	5.6	(0.8)	0.9	(0.3)
	Colombia	3.4	(0.8)	13.1	(1.3)	30.2	(1.7)	33.9	(1.8)	15.8	(1.2)	3.2	(0.6)	0.3	(0.2)	0.0	c
	Costa Rica	0.3	(0.2)	4.5	(0.7)	21.2	(1.4)	40.0	(1.5)	26.3	(1.5)	7.2	(1.1)	0.5	(0.2)	0.0	c
	Croatia	0.1	c	1.6	(0.4)	7.8	(0.9)	25.5	(1.4)	35.7	(1.5)	23.2	(1.5)	5.8	(1.0)	0.4	(0.2)
	Cyprus*	1.4	(0.2)	5.3	(0.6)	13.8	(0.8)	26.8	(1.4)	30.5	(1.1)	16.8	(1.0)	4.6	(0.6)	0.7	(0.2)
	Hong Kong-China	0.1	c	0.6	(0.2)	3.4	(0.6)	11.9	(1.1)	28.1	(1.4)	35.8	(1.4)	18.0	(1.4)	2.1	(0.5)
	Indonesia	2.3	(0.6)	11.4	(1.5)	33.9	(1.9)	36.1	(2.0)	14.1	(1.5)	2.0	(0.8)	0.1	(0.1)	0.0	c
	Jordan	1.7	(0.3)	6.9	(0.7)	24.1	(1.2)	39.4	(1.3)	23.3	(1.4)	4.4	(0.8)	0.2	(0.1)	0.0	c
	Kazakhstan	1.5	(0.4)	11.7	(1.1)	34.2	(1.6)	37.1	(1.3)	13.5	(1.2)	1.9	(0.4)	0.0	c	0.0	c
	Latvia	0.1	(0.1)	1.4	(0.4)	6.6	(1.0)	22.0	(1.5)	37.2	(1.4)	26.3	(1.6)	5.9	(1.0)	0.5	(0.2)
	Liechtenstein	0.0	c	1.6	(1.4)	8.0	(2.5)	20.1	(4.4)	26.7	(6.5)	29.6	(4.1)	13.2	(3.2)	0.7	c
	Lithuania	0.2	(0.1)	1.6	(0.4)	8.5	(0.8)	25.6	(1.5)	36.8	(1.1)	22.1	(1.1)	4.8	(0.6)	0.3	(0.1)
	Macao-China	0.0	c	0.8	(0.2)	5.3	(0.5)	20.2	(0.7)	35.6	(1.1)	28.7	(1.2)	8.6	(0.8)	0.8	(0.3)
	Malaysia	2.8	(0.4)	11.6	(0.9)	28.7	(1.3)	35.9	(1.2)	17.3	(1.4)	3.5	(0.6)	0.2	(0.1)	0.0	c
	Montenegro	1.0	(0.2)	6.7	(0.6)	21.8	(1.1)	32.7	(1.2)	26.2	(1.4)	10.0	(1.0)	1.5	(0.4)	0.1	(0.1)
	Peru	8.1	(0.9)	18.3	(1.3)	28.5	(1.4)	27.5	(1.4)	13.0	(1.3)	4.0	(0.8)	0.6	(0.3)	0.0	c
	Qatar	3.8	(0.3)	13.7	(0.5)	27.6	(0.6)	27.9	(0.8)	17.3	(0.7)	7.4	(0.4)	2.0	(0.2)	0.3	(0.1)
	Romania	1.3	(0.5)	6.5	(0.8)	20.2	(1.5)	32.0	(1.4)	26.2	(1.6)	11.7	(1.2)	1.9	(0.4)	0.1	c
	Russian Federation	0.4	(0.1)	2.6	(0.4)	12.0	(1.2)	28.0	(1.3)	31.7	(1.4)	18.9	(1.3)	5.6	(0.7)	0.8	(0.2)
	Serbia	1.0	(0.3)	5.1	(0.6)	17.5	(1.4)	31.3	(1.6)	28.2	(1.4)	13.9	(1.1)	2.7	(0.6)	0.3	(0.1)
	Shanghai-China	0.0	c	0.1	(0.2)	1.4	(0.3)	8.6	(0.9)	23.5	(1.1)	36.8	(1.2)	24.7	(1.3)	4.7	(0.8)
	Singapore	0.1	(0.1)	0.8	(0.3)	5.3	(0.6)	15.0	(0.8)	25.1	(1.1)	28.3	(1.4)	19.2	(1.2)	6.3	(0.6)
	Chinese Taipei	0.2	(0.1)	1.1	(0.3)	5.4	(0.7)	16.9	(1.2)	30.1	(1.4)	31.5	(1.4)	12.8	(1.5)	1.9	(0.7)
	Thailand	0.2	(0.1)	2.9	(0.6)	17.7	(1.1)	38.0	(1.7)	30.6	(1.5)	9.5	(1.2)	1.1	(0.3)	0.1	(0.1)
	Tunisia	4.0	(0.7)	12.3	(1.3)	26.4	(1.8)	34.5	(1.6)	18.3	(1.4)	4.4	(0.9)	0.2	(0.2)	0.0	c
	United Arab Emirates	0.7	(0.2)	4.6	(0.6)	17.8	(1.0)	31.8	(1.3)	29.7	(1.1)	12.5	(0.9)	2.8	(0.4)	0.2	(0.1)
	Uruguay	3.3	(0.5)	11.7	(1.1)	25.2	(1.3)	31.7	(1.3)	20.3	(1.0)	6.7	(0.9)	1.1	(0.4)	0.0	c
	Viet Nam	0.0	c	0.5	(0.3)	4.9	(0.9)	19.3	(1.6)	41.6	(1.7)	28.0	(1.7)	5.1	(0.8)	0.5	(0.2)

* See notes at the beginning of this Annex.

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[Part 1/2]

Table I.4.2b Percentage of students below Level 2 and at Level 5 or above in reading in PISA 2000 and 2012, by gender

		Boys											
		Proficiency levels in PISA 2000				Proficiency levels in PISA 2012				Change between 2000 and 2012 (PISA 2012 - PISA 2000)			
		Below Level 2 (less than 407.47 score points)		Level 5 or above (above 625.61 score points)		Below Level 2 (less than 407.47 score points)		Level 5 or above (above 625.61 score points)		Below Level 2 (less than 407.47 score points)		Level 5 or above (above 625.61 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	% dif.	S.E.	% dif.	S.E.
OECD	Australia	16.0	(1.3)	14.2	(1.1)	19.0	(0.6)	9.2	(0.8)	**3.0**	(1.5)	**-5.1**	(1.3)
	Austria	23.8	(1.5)	5.1	(0.7)	26.2	(1.7)	3.7	(0.6)	2.5	(2.3)	-1.4	(0.9)
	Belgium	22.8	(1.4)	9.9	(0.9)	20.4	(1.2)	9.1	(0.7)	-2.4	(1.9)	-0.8	(1.2)
	Canada	12.7	(0.6)	12.8	(0.6)	15.2	(0.7)	9.7	(0.7)	**2.5**	(0.9)	**-3.1**	(0.9)
	Chile	53.6	(2.2)	0.4	(0.2)	39.2	(2.2)	0.4	(0.1)	**-14.4**	(3.1)	0.1	(0.2)
	Czech Republic	23.6	(1.6)	5.3	(0.7)	22.8	(1.7)	3.7	(0.6)	-0.8	(2.4)	-1.6	(0.9)
	Denmark	21.8	(1.3)	6.8	(0.7)	19.2	(1.5)	3.7	(0.6)	-2.6	(1.9)	**-3.1**	(0.9)
	Finland	11.0	(0.9)	11.0	(0.9)	17.7	(1.1)	7.1	(0.6)	**6.8**	(1.5)	**-3.9**	(1.1)
	France	19.9	(1.5)	6.4	(0.7)	25.5	(1.3)	9.2	(0.9)	**5.6**	(2.0)	**2.8**	(1.1)
	Germany	26.6	(1.2)	6.7	(0.8)	20.1	(1.1)	5.2	(0.7)	**-6.4**	(1.6)	-1.5	(1.0)
	Greece	30.9	(2.7)	3.6	(0.7)	32.2	(1.8)	3.6	(0.6)	1.3	(3.2)	-0.1	(0.9)
	Hungary	27.2	(2.2)	3.5	(0.8)	26.9	(1.9)	3.8	(0.8)	-0.3	(2.9)	0.2	(1.1)
	Iceland	20.1	(1.1)	6.4	(0.9)	29.8	(1.3)	3.3	(0.5)	**9.7**	(1.7)	**-3.1**	(1.1)
	Ireland	13.5	(1.3)	11.2	(1.1)	13.0	(1.4)	8.5	(0.7)	-0.5	(1.9)	**-2.7**	(1.3)
	Israel	36.5	(4.0)	4.2	(1.1)	32.3	(2.6)	8.7	(1.3)	-4.2	(4.8)	**4.5**	(1.7)
	Italy	24.6	(2.1)	3.7	(0.6)	25.9	(0.9)	5.0	(0.5)	1.3	(2.3)	1.3	(0.8)
	Japan	14.2	(2.3)	7.5	(1.3)	13.1	(1.3)	16.4	(1.5)	-1.1	(2.7)	**8.9**	(2.0)
	Korea	7.3	(1.1)	4.4	(0.6)	10.4	(1.4)	12.6	(1.5)	3.1	(1.7)	**8.2**	(1.6)
	Mexico	49.8	(2.0)	0.8	(0.3)	47.4	(1.1)	0.3	(0.1)	-2.4	(2.3)	-0.5	(0.3)
	New Zealand	18.5	(1.4)	13.7	(1.2)	21.0	(1.2)	11.0	(0.9)	2.5	(1.9)	-2.7	(1.5)
	Norway	23.2	(1.6)	8.1	(0.8)	22.5	(1.4)	6.7	(0.7)	-0.6	(2.1)	-1.5	(1.1)
	Poland	30.3	(2.5)	4.1	(0.8)	16.2	(1.2)	7.2	(1.1)	**-14.1**	(2.8)	**3.0**	(1.3)
	Portugal	31.3	(2.2)	3.8	(0.6)	25.0	(1.8)	3.8	(0.8)	**-6.3**	(2.8)	0.0	(0.9)
	Spain	20.4	(1.4)	3.6	(0.7)	23.4	(1.0)	4.5	(0.4)	3.0	(1.7)	0.9	(0.8)
	Sweden	16.8	(1.0)	7.4	(0.8)	31.3	(1.8)	5.3	(0.7)	**14.5**	(2.0)	-2.1	(1.1)
	Switzerland	24.6	(1.8)	7.3	(0.9)	18.5	(1.1)	6.3	(0.7)	**-6.1**	(2.1)	-0.9	(1.1)
	United States	23.0	(3.0)	11.0	(1.6)	22.2	(1.8)	6.2	(0.7)	-0.8	(3.5)	**-4.8**	(1.7)
	OECD average 2000	23.8	(0.4)	6.8	(0.2)	23.6	(0.3)	6.5	(0.1)	-0.3	(0.4)	-0.3	(0.2)
Partners	Albania	80.6	(1.2)	0.1	(0.1)	55.2	(1.9)	1.2	(0.3)	**-25.4**	(2.3)	**1.1**	(0.3)
	Argentina	53.3	(3.4)	0.9	(0.4)	61.7	(2.0)	0.3	(0.1)	**8.4**	(3.9)	-0.6	(0.4)
	Brazil	59.5	(1.9)	0.4	(0.2)	57.2	(1.3)	0.4	(0.1)	-2.3	(2.3)	0.0	(0.3)
	Bulgaria	50.3	(2.4)	1.2	(0.4)	50.9	(2.4)	2.3	(0.5)	0.6	(3.4)	1.1	(0.6)
	Hong Kong-China	11.9	(1.5)	9.0	(1.1)	9.1	(1.0)	13.9	(1.4)	-2.7	(1.8)	**5.0**	(1.8)
	Indonesia	74.5	(2.4)	c	c	62.6	(2.6)	0.0	(0.1)	**-11.9**	(3.5)	c	c
	Latvia	40.3	(2.5)	2.5	(0.5)	25.7	(1.9)	2.0	(0.3)	**-14.7**	(3.2)	-0.5	(0.6)
	Liechtenstein	27.1	(3.9)	3.9	(1.9)	14.8	(3.0)	8.3	(3.1)	**-12.3**	(4.9)	4.4	(3.7)
	Peru	80.7	(2.3)	0.1	(0.2)	65.1	(1.9)	0.3	(0.2)	**-15.5**	(3.0)	0.2	(0.3)
	Romania	44.2	(2.2)	2.0	(0.4)	46.8	(2.3)	1.2	(0.4)	2.6	(3.1)	-0.7	(0.6)
	Russian Federation	35.1	(1.9)	2.3	(0.5)	29.6	(1.8)	2.9	(0.5)	**-5.5**	(2.6)	0.6	(0.6)
	Thailand	51.1	(2.1)	0.3	(0.2)	48.6	(1.8)	0.3	(0.1)	-2.5	(2.8)	0.0	(0.3)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Only countries and economies with comparable results in PISA 2000 and PISA 2012 are presented.

For Chile, Albania, Argentina, Bulgaria, Indonesia, Peru and Thailand, the change between the PISA 2000 and PISA 2012 represents change between 2001 and 2012 because these countries implemented the PISA 2000 assessment in 2001 as part of PISA 2000+.

For Israel and Romania, the change between the PISA 2000 and PISA 2012 represents change between 2002 and 2012 because these countries implemented the PISA 2000 assessment in 2002 as part of PISA 2000+.

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[Part 2/2]

Table I.4.2b Percentage of students below Level 2 and at Level 5 or above in reading in PISA 2000 and 2012, by gender

		Girls											
		Proficiency levels in PISA 2000				Proficiency levels in PISA 2012				Change between 2000 and 2012 (PISA 2012 - PISA 2000)			
		Below Level 2 (less than 407.47 score points)		Level 5 or above (above 625.61 score points)		Below Level 2 (less than 407.47 score points)		Level 5 or above (above 625.61 score points)		Below Level 2 (less than 407.47 score points)		Level 5 or above (above 625.61 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	% dif.	S.E.	% dif.	S.E.
OECD	Australia	8.4	(0.9)	21.6	(2.0)	9.1	(0.6)	14.5	(0.7)	0.7	(1.1)	**-7.1**	(2.1)
	Austria	14.6	(1.0)	10.0	(1.1)	12.8	(1.1)	7.3	(0.9)	-1.8	(1.5)	-2.7	(1.4)
	Belgium	14.1	(1.7)	14.5	(1.0)	11.8	(0.9)	14.4	(0.8)	-2.4	(1.9)	-0.1	(1.3)
	Canada	6.0	(0.4)	21.0	(0.7)	6.6	(0.4)	16.0	(0.9)	0.6	(0.6)	**-5.0**	(1.1)
	Chile	43.4	(2.3)	0.6	(0.2)	27.2	(1.7)	0.8	(0.1)	**-16.2**	(2.9)	0.1	(0.3)
	Czech Republic	11.5	(0.8)	8.6	(0.7)	10.6	(1.2)	8.5	(0.8)	-0.9	(1.4)	0.0	(1.1)
	Denmark	13.3	(1.0)	9.6	(0.9)	10.1	(0.9)	7.2	(0.9)	**-3.3**	(1.4)	-2.4	(1.3)
	Finland	3.2	(0.7)	25.5	(1.4)	4.6	(0.6)	20.3	(1.2)	1.4	(0.9)	**-5.3**	(1.8)
	France	10.5	(1.1)	10.5	(0.8)	12.7	(1.1)	16.4	(1.1)	2.2	(1.6)	**5.9**	(1.4)
	Germany	18.2	(1.4)	11.1	(0.8)	8.7	(0.9)	12.8	(1.0)	**-9.5**	(1.7)	1.7	(1.3)
	Greece	17.7	(2.0)	6.4	(0.9)	13.3	(1.1)	6.7	(0.9)	-4.4	(2.3)	0.3	(1.2)
	Hungary	17.9	(1.7)	6.7	(1.0)	13.0	(1.1)	7.4	(0.9)	**-4.9**	(2.0)	0.7	(1.3)
	Iceland	8.0	(0.8)	11.9	(0.9)	12.0	(0.8)	8.4	(1.0)	**4.0**	(1.1)	**-3.5**	(1.3)
	Ireland	8.3	(1.1)	17.4	(1.2)	6.1	(0.9)	14.4	(1.0)	-2.2	(1.4)	-3.0	(1.6)
	Israel	30.6	(3.1)	4.2	(1.0)	15.1	(1.3)	10.5	(0.9)	**-15.4**	(3.4)	**6.4**	(1.3)
	Italy	12.6	(1.4)	7.0	(0.7)	12.6	(0.7)	8.5	(0.5)	0.0	(1.5)	1.5	(0.8)
	Japan	6.0	(1.2)	12.1	(1.4)	6.1	(0.8)	20.8	(1.5)	0.1	(1.4)	**8.6**	(2.1)
	Korea	3.7	(0.7)	7.4	(1.0)	4.5	(0.7)	15.9	(1.6)	0.8	(1.0)	**8.5**	(1.9)
	Mexico	38.9	(2.1)	0.9	(0.3)	35.0	(1.0)	0.5	(0.1)	-3.9	(2.3)	-0.4	(0.3)
	New Zealand	8.3	(0.7)	24.0	(1.5)	11.3	(0.9)	17.1	(1.3)	**3.0**	(1.2)	**-6.9**	(2.0)
	Norway	10.4	(1.0)	14.7	(1.0)	9.6	(0.9)	14.0	(1.3)	-0.8	(1.4)	-0.8	(1.6)
	Poland	15.9	(1.7)	7.7	(1.3)	5.2	(0.7)	12.7	(1.1)	**-10.7**	(1.8)	**5.0**	(1.7)
	Portugal	21.2	(1.9)	4.6	(0.7)	12.5	(1.5)	7.8	(0.7)	**-8.7**	(2.4)	**3.2**	(1.0)
	Spain	11.5	(1.1)	4.9	(0.5)	13.1	(0.8)	6.5	(0.4)	1.6	(1.4)	**1.7**	(0.7)
	Sweden	7.8	(0.8)	15.1	(1.1)	14.0	(0.9)	10.5	(1.0)	**6.2**	(1.2)	**-4.6**	(1.4)
	Switzerland	15.7	(1.3)	11.3	(1.4)	8.8	(0.8)	11.9	(1.0)	**-6.9**	(1.5)	0.6	(1.7)
	United States	13.1	(1.7)	13.4	(1.6)	10.8	(1.1)	9.7	(0.9)	-2.3	(2.0)	**-3.7**	(1.8)
	OECD average 2000	14.5	(0.3)	11.2	(0.2)	11.7	(0.2)	11.2	(0.2)	**-2.7**	(0.3)	-0.1	(0.3)
Partners	Albania	60.4	(1.4)	0.1	(0.1)	49.3	(1.4)	1.2	(0.4)	**-11.2**	(2.0)	**1.1**	(0.4)
	Argentina	36.7	(5.6)	2.3	(0.8)	45.9	(1.9)	0.7	(0.2)	9.2	(5.9)	-1.6	(0.8)
	Brazil	52.1	(2.0)	0.7	(0.3)	41.9	(1.3)	0.6	(0.2)	**-10.2**	(2.4)	0.0	(0.4)
	Bulgaria	29.8	(2.3)	3.3	(1.0)	27.0	(2.1)	6.5	(0.9)	-2.8	(3.1)	**3.2**	(1.4)
	Hong Kong-China	6.3	(1.0)	10.1	(1.2)	4.1	(0.7)	20.2	(1.7)	-2.3	(1.2)	**10.1**	(2.1)
	Indonesia	63.1	(2.9)	c	c	47.7	(2.4)	0.1	(0.1)	**-15.4**	(3.8)	c	c
	Latvia	19.7	(1.8)	5.8	(1.0)	8.2	(1.1)	6.4	(1.0)	**-11.5**	(2.1)	0.5	(1.4)
	Liechtenstein	15.8	(3.2)	6.4	(2.6)	9.7	(2.8)	13.9	(3.6)	-6.1	(4.2)	7.6	(4.4)
	Peru	78.3	(2.0)	0.1	(0.1)	54.9	(2.4)	0.6	(0.3)	**-23.4**	(3.2)	0.5	(0.3)
	Romania	38.6	(1.9)	2.4	(0.4)	28.1	(1.9)	2.0	(0.5)	**-10.5**	(2.7)	-0.4	(0.6)
	Russian Federation	19.6	(1.6)	4.1	(0.6)	15.0	(1.2)	6.4	(0.9)	**-4.6**	(2.0)	**2.3**	(1.1)
	Thailand	27.3	(1.6)	0.6	(0.2)	20.7	(1.4)	1.2	(0.3)	**-6.6**	(2.2)	0.6	(0.4)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Only countries and economies with comparable results in PISA 2000 and PISA 2012 are presented.

For Chile, Albania, Argentina, Bulgaria, Indonesia, Peru and Thailand, the change between the PISA 2000 and PISA 2012 represents change between 2001 and 2012 because these countries implemented the PISA 2000 assessment in 2001 as part of PISA 2000+.

For Israel and Romania, the change between the PISA 2000 and PISA 2012 represents change between 2002 and 2012 because these countries implemented the PISA 2000 assessment in 2002 as part of PISA 2000+.

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[Part 1/1]

Table I.4.3a **Mean score, variation and gender differences in student performance in reading**

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	Australia	512	(1.6)	97	(1.0)	495	(2.3)	530	(2.0)	**-34**	(2.9)	347	(3.0)	386	(2.4)	448	(2.2)	579	(1.9)	634	(2.3)	664	(3.1)
	Austria	490	(2.8)	92	(1.8)	471	(4.0)	508	(3.4)	**-37**	(5.0)	329	(6.3)	365	(5.1)	427	(3.9)	557	(3.0)	603	(2.5)	629	(3.7)
	Belgium	509	(2.3)	102	(1.7)	493	(3.0)	525	(2.7)	**-32**	(3.5)	326	(6.3)	373	(4.3)	444	(3.2)	583	(2.2)	633	(2.3)	660	(2.5)
	Canada	523	(1.9)	92	(0.9)	506	(2.3)	541	(2.1)	**-35**	(2.1)	363	(3.3)	403	(2.8)	464	(2.3)	587	(2.2)	638	(2.6)	667	(2.7)
	Chile	441	(2.9)	78	(1.4)	430	(3.8)	452	(2.9)	**-23**	(3.3)	310	(4.6)	339	(4.2)	388	(3.8)	496	(3.3)	541	(3.3)	567	(3.4)
	Czech Republic	493	(2.9)	89	(1.9)	474	(3.3)	513	(3.4)	**-39**	(3.7)	344	(6.0)	378	(4.7)	434	(3.7)	554	(3.6)	604	(3.8)	634	(4.3)
	Denmark	496	(2.6)	86	(2.2)	481	(3.3)	512	(2.6)	**-31**	(2.8)	347	(6.9)	385	(5.1)	442	(3.5)	555	(2.4)	602	(2.8)	629	(4.4)
	Estonia	516	(2.0)	80	(1.2)	494	(2.4)	538	(2.3)	**-44**	(2.4)	381	(4.4)	412	(3.4)	463	(3.0)	571	(2.4)	618	(2.8)	645	(4.3)
	Finland	524	(2.4)	95	(1.3)	494	(3.1)	556	(2.4)	**-62**	(3.1)	360	(5.7)	399	(4.3)	463	(3.5)	590	(2.3)	639	(2.5)	669	(3.5)
	France	505	(2.8)	109	(2.3)	483	(3.8)	527	(3.0)	**-44**	(4.2)	312	(7.7)	358	(5.4)	435	(4.3)	584	(3.6)	639	(3.9)	669	(5.0)
	Germany	508	(2.8)	91	(1.7)	486	(2.9)	530	(3.1)	**-44**	(2.5)	346	(5.2)	384	(4.8)	447	(3.6)	574	(3.1)	621	(3.2)	646	(3.3)
	Greece	477	(3.3)	99	(2.1)	452	(4.1)	502	(3.1)	**-50**	(3.7)	302	(8.8)	346	(6.0)	416	(4.5)	545	(3.4)	597	(3.9)	626	(4.5)
	Hungary	488	(3.2)	92	(1.9)	468	(3.9)	508	(3.3)	**-40**	(3.6)	327	(6.0)	363	(5.2)	427	(4.6)	555	(3.3)	603	(3.9)	630	(4.7)
	Iceland	483	(1.8)	98	(1.4)	457	(2.4)	508	(2.5)	**-51**	(3.3)	308	(5.7)	352	(4.1)	422	(2.9)	551	(2.9)	602	(2.4)	631	(3.2)
	Ireland	523	(2.6)	86	(1.7)	509	(3.5)	538	(3.0)	**-29**	(4.2)	373	(7.1)	410	(5.7)	469	(3.6)	582	(2.7)	631	(3.2)	659	(3.2)
	Israel	486	(5.0)	114	(2.5)	463	(8.2)	507	(3.9)	**-44**	(7.9)	282	(9.5)	329	(7.5)	414	(6.8)	568	(4.5)	624	(4.5)	656	(4.8)
	Italy	490	(2.0)	97	(0.9)	471	(2.5)	510	(2.3)	**-39**	(2.6)	317	(3.5)	359	(2.9)	427	(2.6)	559	(2.1)	609	(2.2)	636	(2.1)
	Japan	538	(3.7)	99	(2.3)	527	(4.7)	551	(3.6)	**-24**	(4.1)	364	(7.7)	409	(6.5)	475	(4.8)	607	(3.8)	658	(4.4)	689	(5.1)
	Korea	536	(3.9)	87	(2.0)	525	(5.0)	548	(4.5)	**-23**	(5.4)	382	(8.6)	424	(6.2)	483	(4.3)	596	(4.1)	640	(4.0)	665	(4.8)
	Luxembourg	488	(1.5)	105	(1.0)	473	(1.9)	503	(1.8)	**-30**	(2.0)	304	(3.8)	347	(2.7)	418	(2.4)	564	(2.2)	620	(2.3)	651	(2.4)
	Mexico	424	(1.5)	80	(1.0)	411	(1.7)	435	(1.6)	**-24**	(1.4)	288	(3.0)	319	(2.5)	370	(1.9)	479	(1.8)	525	(1.9)	552	(2.0)
	Netherlands	511	(3.5)	93	(3.0)	498	(4.0)	525	(3.5)	**-26**	(3.1)	349	(8.3)	386	(6.6)	451	(5.1)	579	(3.7)	625	(3.6)	650	(3.8)
	New Zealand	512	(2.4)	106	(1.6)	495	(3.3)	530	(3.5)	**-34**	(5.0)	332	(4.7)	374	(4.9)	443	(3.2)	586	(3.1)	645	(4.0)	679	(4.9)
	Norway	504	(3.2)	100	(1.9)	481	(3.3)	528	(3.9)	**-46**	(3.3)	330	(8.1)	375	(4.8)	442	(4.0)	573	(3.4)	627	(3.9)	658	(4.2)
	Poland	518	(3.1)	87	(1.6)	497	(3.7)	539	(3.1)	**-42**	(2.9)	366	(5.9)	404	(4.6)	461	(3.2)	579	(3.6)	626	(4.8)	655	(6.2)
	Portugal	488	(3.8)	94	(1.9)	468	(4.2)	508	(3.7)	**-39**	(2.7)	320	(6.9)	362	(6.0)	429	(4.9)	554	(3.5)	604	(3.5)	631	(3.8)
	Slovak Republic	463	(4.2)	104	(3.3)	444	(4.6)	483	(5.1)	**-39**	(4.6)	274	(10.4)	321	(8.4)	396	(6.8)	538	(4.1)	591	(5.2)	620	(5.5)
	Slovenia	481	(1.2)	92	(0.9)	454	(1.7)	510	(1.8)	**-56**	(2.7)	324	(2.9)	362	(2.5)	420	(1.9)	548	(2.1)	598	(2.5)	626	(3.7)
	Spain	488	(1.9)	92	(1.1)	474	(2.3)	503	(1.9)	**-29**	(2.0)	327	(4.6)	367	(3.6)	430	(2.6)	552	(2.1)	601	(2.3)	630	(2.1)
	Sweden	483	(3.0)	107	(1.8)	458	(4.0)	509	(2.8)	**-51**	(3.6)	297	(6.5)	343	(5.4)	416	(4.3)	558	(3.3)	614	(4.2)	647	(4.2)
	Switzerland	509	(2.6)	90	(1.1)	491	(3.1)	527	(2.5)	**-36**	(2.6)	352	(4.6)	388	(3.9)	451	(3.3)	573	(2.8)	622	(3.2)	648	(3.9)
	Turkey	475	(4.2)	86	(2.4)	453	(4.6)	499	(4.3)	**-46**	(4.0)	335	(5.3)	365	(4.6)	417	(4.0)	534	(5.6)	588	(6.8)	620	(7.9)
	United Kingdom	499	(3.5)	97	(2.3)	487	(4.5)	512	(3.8)	**-25**	(4.6)	330	(7.4)	372	(7.0)	438	(4.8)	567	(3.4)	619	(3.8)	650	(4.3)
	United States	498	(3.7)	92	(1.6)	482	(4.1)	513	(3.8)	**-31**	(2.6)	342	(7.2)	378	(4.8)	436	(4.5)	561	(3.9)	614	(4.0)	646	(4.7)
	OECD total	495	(1.1)	97	(0.5)	479	(1.3)	511	(1.2)	**-32**	(0.9)	329	(1.9)	367	(1.5)	430	(1.4)	563	(1.3)	618	(1.2)	649	(1.5)
	OECD average	496	(0.5)	94	(0.3)	478	(0.6)	515	(0.5)	**-38**	(0.6)	332	(1.1)	372	(0.9)	435	(0.7)	563	(0.5)	613	(0.6)	642	(0.7)
Partners	Albania	394	(3.2)	116	(2.0)	387	(3.8)	401	(3.7)	**-15**	(4.0)	189	(9.0)	247	(7.2)	325	(4.8)	473	(3.2)	536	(3.4)	572	(4.3)
	Argentina	396	(3.7)	96	(2.3)	377	(4.5)	414	(3.6)	**-38**	(3.6)	233	(7.6)	274	(5.4)	332	(4.5)	462	(4.1)	516	(4.4)	549	(5.1)
	Brazil	410	(2.1)	85	(1.2)	394	(2.4)	425	(2.2)	**-31**	(1.9)	271	(3.1)	302	(2.8)	353	(2.4)	468	(2.7)	520	(3.0)	552	(3.6)
	Bulgaria	436	(6.0)	119	(2.8)	403	(6.3)	472	(5.6)	**-70**	(5.2)	233	(9.2)	275	(8.0)	353	(8.2)	523	(6.0)	585	(6.1)	619	(6.3)
	Colombia	403	(3.4)	84	(1.9)	394	(3.9)	412	(3.8)	**-19**	(3.5)	262	(6.5)	295	(5.4)	348	(4.0)	460	(3.7)	509	(4.5)	540	(5.0)
	Costa Rica	441	(3.5)	74	(1.6)	427	(3.9)	452	(3.5)	**-25**	(2.6)	315	(5.4)	344	(5.4)	391	(4.3)	490	(4.2)	536	(5.0)	563	(4.9)
	Croatia	485	(3.3)	86	(2.1)	461	(4.1)	509	(3.3)	**-48**	(4.0)	337	(5.9)	370	(5.1)	427	(4.4)	546	(3.8)	593	(4.9)	622	(5.1)
	Cyprus*	449	(1.2)	111	(1.3)	418	(1.9)	481	(1.9)	**-64**	(3.0)	249	(4.0)	297	(3.3)	378	(2.4)	528	(2.1)	583	(2.6)	616	(3.3)
	Hong Kong-China	545	(2.8)	85	(1.8)	533	(3.8)	558	(3.3)	**-25**	(4.7)	391	(6.4)	430	(5.4)	493	(4.4)	604	(3.0)	648	(3.4)	672	(4.1)
	Indonesia	396	(4.2)	75	(2.7)	382	(4.8)	410	(4.3)	**-28**	(3.4)	270	(7.8)	299	(6.1)	346	(4.7)	447	(4.6)	492	(6.1)	517	(7.3)
	Jordan	399	(3.6)	91	(2.5)	361	(5.5)	436	(3.1)	**-75**	(6.3)	237	(8.4)	280	(6.4)	343	(4.5)	462	(3.2)	510	(4.6)	537	(6.4)
	Kazakhstan	393	(2.7)	74	(1.4)	374	(3.4)	411	(2.6)	**-37**	(2.9)	268	(4.0)	297	(4.4)	344	(3.1)	444	(3.4)	487	(3.5)	511	(4.1)
	Latvia	489	(2.4)	85	(1.7)	462	(3.3)	516	(2.7)	**-55**	(4.0)	341	(5.9)	375	(5.6)	434	(3.0)	548	(2.9)	593	(2.8)	619	(4.1)
	Liechtenstein	516	(4.1)	88	(4.2)	504	(6.2)	529	(5.8)	**-24**	(8.7)	360	(9.7)	391	(9.5)	452	(7.8)	584	(6.9)	630	(10.6)	649	(13.7)
	Lithuania	477	(2.5)	86	(1.5)	450	(2.8)	505	(2.6)	**-55**	(2.3)	331	(5.1)	363	(4.0)	419	(3.9)	538	(2.8)	585	(3.1)	612	(3.6)
	Macao-China	509	(0.9)	82	(0.7)	492	(1.4)	527	(1.1)	**-36**	(1.7)	366	(3.3)	400	(2.4)	457	(1.8)	566	(1.4)	611	(1.6)	637	(2.1)
	Malaysia	398	(3.3)	84	(1.5)	377	(3.9)	418	(3.3)	**-40**	(3.1)	255	(4.7)	288	(4.4)	343	(3.7)	457	(3.9)	503	(4.3)	530	(5.2)
	Montenegro	422	(1.2)	92	(1.3)	391	(2.3)	453	(1.5)	**-62**	(3.1)	267	(4.8)	301	(3.0)	360	(2.5)	487	(1.8)	540	(3.4)	571	(4.1)
	Peru	384	(4.3)	94	(2.3)	373	(4.0)	395	(5.4)	**-22**	(4.3)	231	(5.2)	263	(5.1)	319	(4.7)	447	(5.2)	504	(6.4)	540	(8.5)
	Qatar	388	(0.8)	113	(0.8)	354	(1.1)	424	(1.2)	**-70**	(1.6)	203	(2.4)	242	(2.0)	310	(1.7)	465	(1.9)	535	(2.3)	575	(2.3)
	Romania	438	(4.0)	90	(2.0)	417	(4.5)	457	(4.2)	**-40**	(4.1)	290	(5.3)	322	(4.4)	375	(4.4)	501	(5.5)	555	(5.3)	586	(6.3)
	Russian Federation	475	(3.0)	91	(1.5)	455	(3.5)	495	(3.2)	**-40**	(3.0)	323	(4.8)	359	(4.5)	415	(4.0)	537	(3.9)	592	(4.2)	623	(5.1)
	Serbia	446	(3.4)	93	(2.0)	423	(3.9)	469	(3.8)	**-46**	(3.8)	290	(6.0)	325	(5.5)	384	(4.4)	509	(4.1)	566	(4.6)	596	(5.6)
	Shanghai-China	570	(2.9)	80	(1.8)	557	(3.3)	581	(2.8)	**-24**	(2.5)	431	(5.1)	463	(4.6)	518	(3.6)	626	(2.8)	667	(3.5)	690	(4.7)
	Singapore	542	(1.4)	101	(1.2)	527	(1.9)	559	(1.9)	**-32**	(2.6)	369	(3.6)	408	(2.9)	475	(2.1)	614	(2.1)	668	(3.2)	698	(3.7)
	Chinese Taipei	523	(3.0)	91	(1.8)	507	(4.3)	539	(4.3)	**-32**	(6.4)	361	(5.5)	399	(5.2)	467	(4.4)	587	(2.8)	633	(3.6)	659	(4.7)
	Thailand	441	(3.1)	78	(1.8)	410	(3.6)	465	(3.3)	**-55**	(3.2)	310	(5.0)	341	(4.4)	389	(3.5)	494	(3.7)	541	(4.4)	569	(6.2)
	Tunisia	404	(4.5)	88	(2.5)	388	(5.0)	418	(4.4)	**-31**	(3.1)	252	(7.2)	286	(7.1)	346	(5.9)	466	(4.5)	515	(5.6)	543	(6.5)
	United Arab Emirates	442	(2.5)	95	(1.1)	413	(3.9)	469	(3.2)	**-55**	(4.8)	281	(3.9)	316	(3.7)	376	(3.1)	508	(2.8)	562	(3.1)	595	(3.4)
	Uruguay	411	(3.2)	96	(2.0)	392	(3.9)	428	(3.2)	**-35**	(3.5)	248	(5.8)	285	(5.3)	348	(4.3)	477	(3.0)	534	(4.1)	564	(5.5)
	Viet Nam	508	(4.4)	74	(2.6)	492	(5.0)	523	(4.0)	**-31**	(2.6)	379	(9.6)	411	(8.2)	462	(5.4)	559	(3.9)	599	(5.0)	623	(5.3)

Note: Values that are statistically significant are indicated in bold (see Annex A3).
* See notes at the beginning of this Annex.
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Table I.4.3b Mean reading performance in PISA 2000 through 2012

		PISA 2000		PISA 2003		PISA 2006		PISA 2009		PISA 2012	
		Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.
OECD	Australia	528	(3.5)	525	(2.1)	513	(2.1)	515	(2.3)	512	(1.6)
	Austria	492	(2.7)	491	(3.8)	490	(4.1)	m	m	490	(2.8)
	Belgium	507	(3.6)	507	(2.6)	501	(3.0)	506	(2.3)	509	(2.3)
	Canada	534	(1.6)	528	(1.7)	527	(2.4)	524	(1.5)	523	(1.9)
	Chile	410	(3.6)	m	m	442	(5.0)	449	(3.1)	441	(2.9)
	Czech Republic	492	(2.4)	489	(3.5)	483	(4.2)	478	(2.9)	493	(2.9)
	Denmark	497	(2.4)	492	(2.8)	494	(3.2)	495	(2.1)	496	(2.6)
	Estonia	m	m	m	m	501	(2.9)	501	(2.6)	516	(2.0)
	Finland	546	(2.6)	543	(1.6)	547	(2.1)	536	(2.3)	524	(2.4)
	France	505	(2.7)	496	(2.7)	488	(4.1)	496	(3.4)	505	(2.8)
	Germany	484	(2.5)	491	(3.4)	495	(4.4)	497	(2.7)	508	(2.8)
	Greece	474	(5.0)	472	(4.1)	460	(4.0)	483	(4.3)	477	(3.3)
	Hungary	480	(4.0)	482	(2.5)	482	(3.3)	494	(3.2)	488	(3.2)
	Iceland	507	(1.5)	492	(1.6)	484	(1.9)	500	(1.4)	483	(1.8)
	Ireland	527	(3.2)	515	(2.6)	517	(3.5)	496	(3.0)	523	(2.6)
	Israel	452	(8.5)	m	m	439	(4.6)	474	(3.6)	486	(5.0)
	Italy	487	(2.9)	476	(3.0)	469	(2.4)	486	(1.6)	490	(2.0)
	Japan	522	(5.2)	498	(3.9)	498	(3.6)	520	(3.5)	538	(3.7)
	Korea	525	(2.4)	534	(3.1)	556	(3.8)	539	(3.5)	536	(3.9)
	Luxembourg	m	m	479	(1.5)	479	(1.3)	472	(1.3)	488	(1.5)
	Mexico	422	(3.3)	400	(4.1)	410	(3.1)	425	(2.0)	424	(1.5)
	Netherlands	m	m	513	(2.9)	507	(2.9)	508	(5.1)	511	(3.5)
	New Zealand	529	(2.8)	522	(2.5)	521	(3.0)	521	(2.4)	512	(2.4)
	Norway	505	(2.8)	500	(2.8)	484	(3.2)	503	(2.6)	504	(3.2)
	Poland	479	(4.5)	497	(2.9)	508	(2.8)	500	(2.6)	518	(3.1)
	Portugal	470	(4.5)	478	(3.7)	472	(3.6)	489	(3.1)	488	(3.8)
	Slovak Republic	m	m	469	(3.1)	466	(3.1)	477	(2.5)	463	(4.2)
	Slovenia	m	m	m	m	494	(1.0)	483	(1.0)	481	(1.2)
	Spain	493	(2.7)	481	(2.6)	461	(2.2)	481	(2.0)	488	(1.9)
	Sweden	516	(2.2)	514	(2.4)	507	(3.4)	497	(2.9)	483	(3.0)
	Switzerland	494	(4.2)	499	(3.3)	499	(3.1)	501	(2.4)	509	(2.6)
	Turkey	m	m	441	(5.8)	447	(4.2)	464	(3.5)	475	(4.2)
	United Kingdom	m	m	m	m	495	(2.3)	494	(2.3)	499	(3.5)
	United States	504	(7.0)	495	(3.2)	m	m	500	(3.7)	498	(3.7)
	OECD average 2000	496	(0.7)	497	(0.6)	490	(0.7)	496	(0.5)	498	(0.6)
	OECD average 2003	m	m	494	(0.6)	492	(0.6)	497	(0.5)	498	(0.5)
	OECD average 2006	m	m	m	m	489	(0.6)	494	(0.5)	496	(0.5)
	OECD average 2009	m	m	m	m	m	m	494	(0.5)	497	(0.5)
Partners	Albania	349	(3.3)	m	m	m	m	385	(4.0)	394	(3.2)
	Argentina	418	(9.9)	m	m	374	(7.2)	398	(4.6)	396	(3.7)
	Brazil	396	(3.1)	403	(4.6)	393	(3.7)	412	(2.7)	410	(2.1)
	Bulgaria	430	(4.9)	m	m	402	(6.9)	429	(6.7)	436	(6.0)
	Colombia	m	m	m	m	385	(5.1)	413	(3.7)	403	(3.4)
	Costa Rica	m	m	m	m	m	m	443	(3.2)	441	(3.5)
	Croatia	m	m	m	m	477	(2.8)	476	(2.9)	485	(3.3)
	Dubai (UAE)	m	m	m	m	m	m	459	(1.1)	468	(1.3)
	Hong Kong-China	525	(2.9)	510	(3.7)	536	(2.4)	533	(2.1)	545	(2.8)
	Indonesia	371	(4.0)	382	(3.4)	393	(5.9)	402	(3.7)	396	(4.2)
	Jordan	m	m	m	m	401	(3.3)	405	(3.3)	399	(3.6)
	Kazakhstan	m	m	m	m	m	m	390	(3.1)	393	(2.7)
	Latvia	458	(5.3)	491	(3.7)	479	(3.7)	484	(3.0)	489	(2.4)
	Liechtenstein	483	(4.1)	525	(3.6)	510	(3.9)	499	(2.8)	516	(4.1)
	Lithuania	m	m	m	m	470	(3.0)	468	(2.4)	477	(2.5)
	Macao-China	m	m	498	(2.2)	492	(1.1)	487	(0.9)	509	(0.9)
	Malaysia	m	m	m	m	m	m	414	(2.9)	398	(3.3)
	Montenegro	m	m	m	m	392	(1.2)	408	(1.7)	422	(1.2)
	Peru	327	(4.4)	m	m	m	m	370	(4.0)	384	(4.3)
	Qatar	m	m	m	m	312	(1.2)	372	(0.8)	388	(0.8)
	Romania	428	(3.5)	m	m	396	(4.7)	424	(4.1)	438	(4.0)
	Russian Federation	462	(4.2)	442	(3.9)	440	(4.3)	459	(3.3)	475	(3.0)
	Serbia	m	m	m	m	401	(3.5)	442	(2.4)	446	(3.4)
	Shanghai-China	m	m	m	m	m	m	556	(2.4)	570	(2.9)
	Singapore	m	m	m	m	m	m	526	(1.1)	542	(1.4)
	Chinese Taipei	m	m	m	m	496	(3.4)	495	(2.6)	523	(3.0)
	Thailand	431	(3.2)	420	(2.8)	417	(2.6)	421	(2.6)	441	(3.1)
	Tunisia	m	m	375	(2.8)	380	(4.0)	404	(2.9)	404	(4.5)
	United Arab Emirates*	m	m	m	m	m	m	423	(3.7)	432	(3.3)
	Uruguay	m	m	434	(3.4)	413	(3.4)	426	(2.6)	411	(3.2)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Annualised change is the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. This model considers that Chile, Albania, Argentina, Bulgaria, Indonesia, Peru and Thailand implemented the 2000 assessment in 2001 and Israel and Romania in 2002 as part of the PISA 2000+ and that Costa Rica, Malaysia and the United Arab Emirates (with the exception of Dubai) implemented the PISA 2009 assessment in 2010 as part of PISA 2009+. Dubai implemented the PISA 2009 assessment in 2009.

The curvilinear change is estimated by a regression of time and time-squared on reading performance. The linear term is the estimated annual increase in performance in 2012. The quadratic term is the rate at which changes in performance are accelerating (positive estimate) or decelerating (negative estimate) throughout a country/economy's participation in PISA.

For Costa Rica and Malaysia the change between PISA 2009 and PISA 2012 represents change between 2010 and 2012 because these countries implemented the PISA 2009 assessment in 2010 as part of PISA 2009+.

For Chile, Albania, Argentina, Bulgaria, Indonesia, Peru and Thailand, the change between the PISA 2000 and PISA 2012 represents change between 2001 and 2012 because these countries implemented the PISA 2000 assessment in 2001 as part of PISA 2000+.

For Israel and Romania the change between the PISA 2000 and PISA 2012 represents change between 2002 and 2012 because these countries implemented the PISA 2000 assessment in 2002 as part of PISA 2000+.

In the United Arab Emirates, Dubai took the PISA 2009 assessment in 2009 and the rest of the United Arab Emirates in 2010 as part of PISA 2009+. Results are thus reported separately.

* United Arab Emirates excluding Dubai (see note above).

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[Part 2/2]

Table I.4.3b **Mean reading performance in PISA 2000 through 2012**

		Change between 2000 and 2012 (PISA 2012 - PISA 2000)		Change between 2003 and 2012 (PISA 2012 - PISA 2003)		Change between 2006 and 2012 (PISA 2012 - PISA 2006)		Change between 2009 and 2012 (PISA 2012 - PISA 2009)		Annualised change in reading across PISA assessments		Curvilinear change in reading performance: Annual change in 2012 (Linear term)		Curvilinear change in reading performance: Rate of acceleration or deceleration in performance (Quadratic term)	
		Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Annual change	S.E.	Coef.	S.E.	Coef.	S.E.
OECD	Australia	**-16**	(7.1)	**-14**	(6.2)	-1	(6.2)	-3	(3.8)	**-1.4**	(0.31)	-0.1	(0.86)	0.1	(0.17)
	Austria	-2	(7.1)	-1	(7.3)	-1	(7.4)	m	m	-0.2	(0.39)	0.0	(1.40)	0.0	(0.19)
	Belgium	1	(7.3)	2	(6.6)	8	(6.7)	3	(4.2)	0.1	(0.35)	1.7	(0.97)	0.1	(0.17)
	Canada	-11	(6.4)	-5	(6.2)	-4	(6.4)	-1	(3.6)	**-0.9**	(0.26)	-0.1	(0.82)	0.1	(0.16)
	Chile	**32**	(7.5)	m	m	-1	(8.0)	-8	(5.0)	**3.1**	(0.51)	**-4.0**	(1.66)	**-0.6**	(0.22)
	Czech Republic	1	(7.0)	4	(7.2)	10	(7.5)	**15**	(4.8)	-0.5	(0.42)	**2.9**	(1.24)	0.3	(0.17)
	Denmark	-1	(6.9)	4	(6.8)	2	(6.9)	1	(4.3)	0.1	(0.35)	0.9	(0.97)	0.1	(0.16)
	Estonia	m	m	m	m	**16**	(6.6)	**15**	(4.2)	**2.4**	(0.76)	**7.6**	(2.03)	0.8	(0.57)
	Finland	**-22**	(6.9)	**-19**	(6.3)	**-23**	(6.4)	**-12**	(4.2)	**-1.7**	(0.31)	**-4.8**	(0.83)	-0.3	(0.16)
	France	1	(7.1)	9	(6.8)	**18**	(7.5)	10	(5.2)	0.0	(0.37)	**5.1**	(1.23)	**0.4**	(0.18)
	Germany	**24**	(7.0)	**16**	(7.1)	13	(7.6)	**10**	(4.7)	**1.8**	(0.42)	2.2	(1.26)	0.0	(0.17)
	Greece	3	(8.4)	5	(7.7)	**17**	(7.6)	-6	(6.0)	0.5	(0.52)	**3.2**	(1.42)	0.2	(0.20)
	Hungary	8	(7.8)	7	(6.9)	6	(7.2)	-6	(5.2)	**1.0**	(0.43)	0.7	(1.18)	0.0	(0.18)
	Iceland	**-24**	(6.4)	-9	(6.1)	-2	(6.2)	**-18**	(3.5)	**-1.3**	(0.25)	0.4	(0.64)	0.1	(0.15)
	Ireland	-3	(7.2)	8	(6.7)	6	(7.1)	**28**	(4.7)	**-0.9**	(0.36)	**4.2**	(1.19)	**0.4**	(0.18)
	Israel	**34**	(11.5)	m	m	**47**	(8.8)	12	(6.7)	**3.7**	(0.84)	**10.8**	(2.19)	**0.7**	(0.27)
	Italy	2	(6.9)	**14**	(6.7)	**21**	(6.4)	4	(3.6)	0.5	(0.33)	**5.8**	(0.98)	**0.4**	(0.17)
	Japan	16	(8.7)	**40**	(7.8)	**40**	(7.6)	**18**	(5.7)	**1.5**	(0.46)	**12.1**	(1.39)	**0.9**	(0.19)
	Korea	11	(7.5)	2	(7.5)	**-20**	(7.8)	-3	(5.9)	**0.9**	(0.37)	**-5.2**	(1.29)	**-0.5**	(0.18)
	Luxembourg	m	m	8	(6.0)	8	(5.9)	**16**	(3.3)	**0.7**	(0.25)	**4.7**	(0.66)	**0.5**	(0.16)
	Mexico	2	(7.0)	**24**	(7.1)	**13**	(6.5)	-2	(3.6)	**1.1**	(0.34)	**4.8**	(1.04)	0.3	(0.17)
	Netherlands	m	m	-2	(7.2)	4	(7.2)	3	(6.7)	-0.1	(0.55)	2.2	(1.83)	0.3	(0.25)
	New Zealand	**-17**	(7.0)	-9	(6.6)	-9	(6.8)	**-9**	(4.2)	**-1.1**	(0.33)	-1.4	(0.96)	0.0	(0.17)
	Norway	-1	(7.3)	4	(7.0)	**20**	(7.2)	1	(4.9)	0.1	(0.35)	**4.6**	(1.27)	**0.4**	(0.18)
	Poland	**39**	(8.0)	**22**	(7.0)	11	(7.0)	**18**	(4.8)	**2.8**	(0.46)	0.6	(1.29)	-0.2	(0.19)
	Portugal	**18**	(8.3)	10	(7.7)	**15**	(7.6)	-2	(5.5)	**1.6**	(0.45)	1.9	(1.47)	0.0	(0.19)
	Slovak Republic	m	m	-6	(7.7)	-4	(7.6)	**-15**	(5.5)	-0.1	(0.62)	-2.9	(1.79)	-0.3	(0.28)
	Slovenia	m	m	m	m	**-13**	(5.8)	-2	(3.1)	**-2.2**	(0.53)	1.0	(0.99)	0.5	(0.48)
	Spain	-5	(6.8)	7	(6.5)	**27**	(6.3)	7	(3.8)	-0.3	(0.30)	**7.2**	(0.97)	**0.6**	(0.17)
	Sweden	**-33**	(7.0)	**-31**	(6.8)	**-24**	(7.2)	**-14**	(4.9)	**-2.8**	(0.34)	**-5.3**	(1.13)	-0.2	(0.17)
	Switzerland	15	(7.7)	10	(7.0)	10	(6.9)	9	(4.4)	**1.0**	(0.42)	1.8	(1.05)	0.1	(0.17)
	Turkey	m	m	**35**	(9.1)	**28**	(8.2)	11	(6.1)	**4.1**	(0.76)	**5.1**	(2.23)	0.1	(0.32)
	United Kingdom	m	m	m	m	4	(7.0)	5	(4.9)	0.7	(0.64)	2.7	(2.63)	0.3	(0.42)
	United States	-7	(9.9)	2	(7.5)	m	m	-2	(5.8)	-0.3	(0.53)	1.2	(2.01)	0.1	(0.23)
	OECD average 2000	2	(1.5)	**4**	(1.3)	**8**	(1.3)	**2**	(0.9)	**0.3**	(0.08)	**1.9**	(0.24)	**0.1**	(0.04)
	OECD average 2003	m	m	**5**	(1.3)	**7**	(1.3)	**2**	(0.9)	**0.2**	(0.08)	**1.8**	(0.24)	**0.1**	(0.04)
	OECD average 2006	m	m	m	m	**7**	(1.2)	**3**	(0.8)	**0.4**	(0.08)	**2.1**	(0.24)	**0.2**	(0.04)
	OECD average 2009	m	m	m	m	m	m	**3**	(0.8)	**0.4**	(0.08)	**2.2**	(0.24)	**0.2**	(0.04)
Partners	Albania	**45**	(7.5)	m	m	m	m	9	(5.8)	**4.1**	(0.49)	2.7	(2.28)	-0.1	(0.28)
	Argentina	-22	(12.1)	m	m	**22**	(9.8)	-2	(6.5)	-1.6	(1.00)	**7.8**	(2.70)	**0.8**	(0.33)
	Brazil	**14**	(7.0)	7	(7.5)	**17**	(7.0)	-2	(4.3)	**1.2**	(0.35)	**2.2**	(1.11)	0.1	(0.18)
	Bulgaria	6	(9.8)	m	m	**34**	(10.7)	7	(9.4)	0.4	(0.67)	**10.3**	(2.77)	**0.8**	(0.29)
	Colombia	m	m	m	m	**18**	(8.3)	-10	(5.7)	**3.0**	(1.15)	**-9.5**	(3.38)	**-2.1**	(0.72)
	Costa Rica	m	m	m	m	m	m	-2	(5.4)	-1.0	(2.39)	m	m	m	m
	Croatia	m	m	m	m	7	(7.1)	9	(5.1)	1.2	(0.88)	4.7	(2.85)	0.6	(0.63)
	Dubai (UAE)	m	m	m	m	m	m	**9**	(3.1)	**3.0**	(1.02)	m	m	m	m
	Hong Kong-China	**19**	(7.2)	**35**	(7.3)	9	(6.7)	**11**	(4.4)	**2.3**	(0.37)	**3.7**	(1.05)	0.1	(0.19)
	Indonesia	**26**	(8.3)	15	(7.8)	3	(9.2)	-6	(6.2)	**2.3**	(0.53)	-2.1	(1.98)	-0.4	(0.25)
	Jordan	m	m	m	m	-2	(7.4)	-6	(5.5)	-0.3	(0.93)	-3.7	(2.94)	-0.6	(0.65)
	Kazakhstan	m	m	m	m	m	m	2	(4.8)	0.8	(1.59)	m	m	m	m
	Latvia	**31**	(8.3)	-2	(7.1)	9	(7.1)	5	(4.6)	**1.9**	(0.53)	**-2.9**	(1.22)	**-0.4**	(0.18)
	Liechtenstein	**33**	(8.3)	-10	(7.8)	5	(8.0)	**16**	(5.6)	**1.3**	(0.49)	**-3.4**	(1.38)	**-0.4**	(0.18)
	Lithuania	m	m	m	m	7	(6.8)	**9**	(4.3)	1.1	(0.86)	**4.7**	(1.94)	0.6	(0.55)
	Macao-China	m	m	11	(6.1)	**17**	(5.8)	**22**	(2.9)	**0.8**	(0.39)	**7.7**	(0.63)	**0.8**	(0.23)
	Malaysia	m	m	m	m	m	m	**-16**	(5.1)	**-7.8**	(2.19)	m	m	m	m
	Montenegro	m	m	m	m	**30**	(5.8)	**15**	(3.3)	**5.0**	(0.50)	**4.7**	(1.45)	-0.1	(0.51)
	Peru	**57**	(8.6)	m	m	m	m	**14**	(6.4)	**5.2**	(0.58)	4.7	(2.85)	0.0	(0.31)
	Qatar	m	m	m	m	**75**	(5.8)	**16**	(2.8)	**12.0**	(0.48)	**-2.0**	(0.82)	**-2.4**	(0.47)
	Romania	10	(7.9)	m	m	**42**	(8.3)	**13**	(6.3)	1.1	(0.58)	**13.8**	(2.05)	**1.2**	(0.28)
	Russian Federation	13	(7.8)	**33**	(7.5)	**35**	(7.7)	**16**	(5.2)	**1.1**	(0.48)	**10.7**	(1.40)	**0.8**	(0.19)
	Serbia	m	m	m	m	**45**	(7.4)	4	(5.0)	**7.6**	(0.99)	-4.8	(2.48)	**-2.0**	(0.59)
	Shanghai-China	m	m	m	m	m	m	**14**	(4.5)	**4.6**	(1.50)	m	m	m	m
	Singapore	m	m	m	m	m	m	**16**	(3.1)	**5.4**	(1.04)	m	m	m	m
	Chinese Taipei	m	m	m	m	**27**	(7.2)	**28**	(4.8)	**4.5**	(0.86)	**14.1**	(2.44)	**1.6**	(0.60)
	Thailand	11	(7.4)	**21**	(7.0)	**24**	(6.9)	**20**	(4.8)	**1.1**	(0.42)	**8.2**	(1.18)	**0.7**	(0.20)
	Tunisia	m	m	**29**	(7.7)	**24**	(8.2)	0	(5.9)	**3.8**	(0.62)	2.6	(2.20)	-0.1	(0.30)
	United Arab Emirates*	m	m	m	m	m	m	9	(5.6)	4.7	(2.89)	m	m	m	m
	Uruguay	m	m	**-23**	(7.3)	-1	(7.3)	**-14**	(4.8)	**-1.8**	(0.57)	-0.1	(1.74)	0.2	(0.28)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).
Annualised change is the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. This model considers that Chile, Albania, Argentina, Bulgaria, Indonesia, Peru and Thailand implemented the 2000 assessment in 2001 and Israel and Romania in 2002 as part of the PISA 2000+ and that Costa Rica, Malaysia and the United Arab Emirates (with the exception of Dubai) implemented the PISA 2009 assessment in 2010 as part of PISA 2009+. Dubai implemented the PISA 2009 assessment in 2009.
The curvilinear change is estimated by a regression of time and time-squared on reading performance. The linear term is the estimated annual increase in performance in 2012. The quadratic term is the rate at which changes in performance are accelerating (positive estimate) or decelerating (negative estimate) throughout a country/economy's participation in PISA.
For Costa Rica and Malaysia the change between PISA 2009 and PISA 2012 represents change between 2010 and 2012 because these countries implemented the PISA 2009 assessment in 2010 as part of PISA 2009+.
For Chile, Albania, Argentina, Bulgaria, Indonesia, Peru and Thailand, the change between the PISA 2000 and PISA 2012 represents change between 2001 and 2012 because these countries implemented the PISA 2000 assessment in 2001 as part of PISA 2000+.
For Israel and Romania the change between the PISA 2000 and PISA 2012 represents change between 2002 and 2012 because these countries implemented the PISA 2000 assessment in 2002 as part of PISA 2000+.
In the United Arab Emirates, Dubai took the PISA 2009 assessment in 2009 and the rest of the United Arab Emirates in 2010 as part of PISA 2009+. Results are thus reported separately.
* United Arab Emirates excluding Dubai (see note above).
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[Part 1/1]

Table I.4.3c **Gender differences in reading performance in PISA 2000 and 2012**

		PISA 2000						PISA 2012						Change between 2000 and 2012 (PISA 2012 - PISA 2000)					
		Boys		Girls		Difference (B-G)		Boys		Girls		Difference (B-G)		Boys		Girls		Difference (B-G)	
		Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.
OECD	Australia	513	(4.0)	546	(4.7)	**-34**	(5.4)	495	(2.3)	530	(2.0)	**-34**	(2.9)	**-18**	(7.5)	**-17**	(7.8)	-1	(6.2)
	Austria	476	(3.6)	509	(4.0)	**-33**	(5.7)	471	(4.0)	508	(3.4)	**-37**	(5.0)	-5	(8.0)	-1	(7.9)	-4	(7.7)
	Belgium	492	(4.2)	525	(4.9)	**-33**	(6.0)	493	(3.0)	525	(2.7)	**-32**	(3.5)	0	(7.9)	-1	(8.2)	1	(6.3)
	Canada	519	(1.8)	551	(1.7)	**-32**	(1.6)	506	(2.3)	541	(2.1)	**-35**	(2.1)	**-13**	(6.6)	-10	(6.5)	-3	(2.7)
	Chile	396	(4.3)	421	(4.6)	**-25**	(5.6)	430	(3.8)	452	(2.9)	**-23**	(3.3)	**33**	(8.3)	**31**	(8.1)	2	(6.5)
	Czech Republic	473	(4.1)	510	(2.5)	**-37**	(4.7)	474	(3.3)	513	(3.4)	**-39**	(3.7)	1	(7.9)	3	(7.3)	-1	(5.9)
	Denmark	485	(3.0)	510	(2.9)	**-25**	(3.3)	481	(3.3)	512	(2.6)	**-31**	(2.8)	-5	(7.4)	1	(7.1)	-6	(4.1)
	Finland	520	(3.0)	571	(2.8)	**-51**	(2.6)	494	(3.1)	556	(2.4)	**-62**	(3.1)	**-26**	(7.3)	**-16**	(7.0)	**-10**	(4.0)
	France	490	(3.5)	519	(2.7)	**-29**	(3.4)	483	(3.8)	527	(3.0)	**-44**	(4.2)	-7	(7.9)	8	(7.2)	**-15**	(5.0)
	Germany	468	(3.2)	502	(3.9)	**-35**	(5.2)	486	(2.9)	530	(3.1)	**-44**	(2.5)	**18**	(7.3)	**28**	(7.7)	-9	(6.2)
	Greece	456	(6.1)	493	(4.6)	**-37**	(5.0)	452	(4.1)	502	(3.1)	**-50**	(3.7)	-4	(9.4)	9	(8.1)	**-13**	(6.3)
	Hungary	465	(5.3)	496	(4.3)	**-32**	(5.7)	468	(3.9)	508	(3.3)	**-40**	(3.6)	3	(8.9)	11	(8.0)	-8	(6.9)
	Iceland	488	(2.1)	528	(2.1)	**-40**	(3.1)	457	(2.4)	508	(2.5)	**-51**	(3.3)	**-31**	(6.7)	**-20**	(6.8)	**-11**	(4.0)
	Ireland	513	(4.2)	542	(3.6)	**-29**	(4.6)	509	(3.5)	538	(3.0)	**-29**	(4.2)	-4	(8.0)	-4	(7.5)	0	(5.5)
	Israel	444	(10.9)	459	(8.1)	-16	(9.1)	463	(8.2)	507	(3.9)	**-44**	(7.9)	20	(14.9)	**48**	(10.7)	**-28**	(10.8)
	Italy	469	(5.1)	507	(3.6)	**-38**	(7.0)	471	(2.5)	510	(2.3)	**-39**	(2.6)	2	(8.2)	3	(7.3)	-1	(7.4)
	Japan	507	(6.7)	537	(5.4)	**-30**	(6.4)	527	(4.7)	551	(3.6)	**-24**	(4.1)	19	(10.1)	14	(8.8)	6	(7.4)
	Korea	519	(3.8)	533	(3.7)	**-14**	(6.0)	525	(5.0)	548	(4.5)	**-23**	(5.4)	6	(8.6)	15	(8.3)	-9	(8.4)
	Mexico	411	(4.2)	432	(3.8)	**-20**	(4.3)	411	(1.7)	435	(1.6)	**-24**	(1.4)	0	(7.4)	4	(7.2)	-4	(4.4)
	New Zealand	507	(4.2)	553	(3.8)	**-46**	(6.3)	495	(3.3)	530	(3.5)	**-34**	(5.0)	-11	(8.0)	**-23**	(7.9)	11	(8.5)
	Norway	486	(3.8)	529	(2.9)	**-43**	(4.0)	481	(3.3)	528	(3.9)	**-46**	(3.3)	-4	(7.8)	-1	(7.6)	-3	(5.1)
	Poland	461	(6.0)	497	(5.5)	**-36**	(7.0)	497	(3.7)	539	(3.1)	**-42**	(2.9)	**35**	(9.2)	**41**	(8.7)	-6	(7.2)
	Portugal	458	(5.0)	482	(4.6)	**-25**	(3.8)	468	(4.2)	508	(3.7)	**-39**	(2.7)	11	(8.8)	**25**	(8.4)	**-14**	(4.7)
	Spain	481	(3.4)	505	(2.8)	**-24**	(3.2)	474	(2.3)	503	(1.9)	**-29**	(2.0)	-7	(7.2)	-3	(6.8)	-5	(3.7)
	Sweden	499	(2.6)	536	(2.5)	**-37**	(2.7)	458	(4.0)	509	(2.8)	**-51**	(3.6)	**-41**	(7.6)	**-26**	(7.0)	**-14**	(4.5)
	Switzerland	480	(4.9)	510	(4.5)	**-30**	(4.2)	491	(3.1)	527	(2.5)	**-36**	(2.6)	11	(8.2)	**17**	(7.9)	-6	(5.0)
	United States	490	(8.4)	518	(6.2)	**-29**	(4.1)	482	(4.1)	513	(3.8)	**-31**	(2.6)	-7	(11.1)	-5	(9.4)	-2	(5.4)
	OECD average 2000	480	(0.9)	512	(0.8)	**-32**	(1.0)	479	(0.7)	517	(0.5)	**-38**	(0.7)	-1	(1.5)	**5**	(1.4)	**-6**	(1.1)
Partners	Albania	319	(4.2)	378	(2.7)	**-58**	(3.8)	387	(3.8)	401	(3.7)	**-15**	(4.0)	**68**	(8.2)	**24**	(7.5)	**44**	(5.5)
	Argentina	393	(7.7)	437	(12.3)	**-44**	(10.7)	377	(4.5)	414	(3.6)	**-38**	(3.6)	-17	(10.7)	-23	(14.1)	6	(11.4)
	Brazil	388	(3.9)	404	(3.4)	**-17**	(4.0)	394	(2.4)	425	(2.2)	**-31**	(1.9)	7	(7.5)	**20**	(7.2)	**-14**	(4.5)
	Bulgaria	407	(4.9)	455	(6.3)	**-47**	(5.6)	403	(6.3)	472	(5.6)	**-70**	(5.2)	-5	(10.0)	17	(10.3)	**-22**	(7.4)
	Hong Kong-China	518	(4.8)	533	(3.6)	**-16**	(6.1)	533	(3.8)	558	(3.3)	**-25**	(4.7)	15	(8.5)	**25**	(7.7)	-10	(7.4)
	Indonesia	360	(3.7)	380	(4.6)	**-20**	(3.4)	382	(4.8)	410	(4.3)	**-28**	(3.4)	**22**	(8.5)	**30**	(8.6)	-8	(4.9)
	Latvia	432	(5.5)	485	(5.4)	**-53**	(4.2)	462	(3.3)	516	(2.7)	**-55**	(4.0)	**30**	(8.7)	**32**	(8.5)	-2	(5.6)
	Liechtenstein	468	(7.3)	500	(6.8)	**-31**	(11.5)	504	(6.2)	529	(5.8)	**-24**	(8.7)	**36**	(11.3)	**29**	(10.7)	7	(13.4)
	Peru	324	(6.3)	330	(5.3)	-7	(7.5)	373	(4.0)	395	(5.4)	**-22**	(4.3)	**49**	(9.5)	**64**	(9.6)	-15	(8.4)
	Romania	421	(4.3)	434	(4.2)	**-14**	(4.9)	417	(4.5)	457	(4.2)	**-40**	(4.1)	-4	(8.6)	**23**	(8.4)	**-27**	(6.7)
	Russian Federation	443	(4.5)	481	(4.1)	**-38**	(2.9)	455	(3.5)	495	(3.2)	**-40**	(3.0)	12	(8.2)	14	(7.9)	-2	(4.3)
	Thailand	406	(3.9)	448	(3.1)	**-41**	(3.8)	410	(3.6)	465	(3.3)	**-55**	(3.2)	4	(7.9)	**18**	(7.5)	**-14**	(5.4)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Only countries and economies with comparable results in PISA 2000 and PISA 2012 are presented.

For Chile, Albania, Argentina, Bulgaria, Indonesia, Peru and Thailand, the change between the PISA 2000 and PISA 2012 represents change between 2001 and 2012 because these countries implemented the PISA 2000 assessment in 2001 as part of PISA 2000+.

For Israel and Romania, the change between the PISA 2000 and PISA 2012 represents change between 2002 and 2012 because these countries implemented the PISA 2000 assessment in 2002 as part of PISA 2000+.

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[Part 1/4]

Table I.4.3d **Distribution of scores in reading in PISA 2000 through 2012, by percentiles**

		PISA 2000								PISA 2003							
		10th percentile		25th percentile		75th percentile		90th percentile		10th percentile		25th percentile		75th percentile		90th percentile	
		Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	Australia	394	(4.4)	458	(4.4)	602	(4.6)	656	(4.2)	395	(3.6)	464	(3.0)	594	(2.5)	644	(2.7)
	Austria	359	(5.8)	428	(3.4)	563	(3.4)	614	(3.8)	354	(6.3)	423	(4.9)	565	(4.2)	617	(3.7)
	Belgium	354	(8.9)	437	(6.6)	587	(2.3)	634	(2.5)	355	(6.6)	440	(4.2)	587	(2.1)	635	(2.1)
	Canada	410	(2.4)	472	(2.0)	600	(1.5)	652	(1.9)	410	(3.1)	472	(2.3)	590	(2.1)	636	(2.1)
	Chile	291	(5.3)	350	(4.4)	472	(3.9)	524	(3.8)	m	m	m	m	m	m	m	m
	Czech Republic	368	(4.9)	433	(2.7)	557	(2.8)	610	(3.2)	362	(6.9)	428	(4.7)	555	(4.0)	607	(3.8)
	Denmark	367	(5.0)	434	(3.3)	566	(2.7)	617	(2.9)	376	(4.6)	438	(4.0)	553	(3.0)	600	(2.7)
	Estonia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Finland	429	(5.1)	492	(2.9)	608	(2.6)	654	(2.8)	437	(3.1)	494	(2.4)	599	(1.7)	641	(2.2)
	France	381	(5.2)	444	(4.5)	570	(2.4)	619	(2.9)	367	(7.0)	436	(4.0)	565	(2.8)	614	(2.7)
	Germany	335	(6.3)	417	(4.6)	563	(3.1)	619	(2.8)	341	(6.8)	419	(5.6)	572	(3.4)	624	(3.2)
	Greece	342	(8.4)	409	(7.4)	543	(4.5)	595	(5.1)	333	(6.2)	406	(5.2)	546	(4.4)	599	(4.4)
	Hungary	354	(5.5)	414	(5.3)	549	(4.5)	598	(4.4)	361	(4.2)	422	(3.3)	546	(3.3)	597	(3.4)
	Iceland	383	(3.6)	447	(3.1)	573	(2.1)	621	(3.5)	362	(4.8)	431	(2.3)	560	(2.2)	612	(2.8)
	Ireland	401	(6.4)	468	(4.3)	593	(3.6)	641	(4.0)	401	(4.6)	460	(3.8)	577	(2.8)	622	(3.0)
	Israel	305	(13.0)	379	(11.1)	532	(8.1)	587	(7.1)	m	m	m	m	m	m	m	m
	Italy	368	(5.8)	429	(4.1)	552	(3.2)	601	(2.7)	341	(6.8)	411	(4.4)	547	(2.5)	598	(2.1)
	Japan	407	(9.8)	471	(7.0)	582	(4.4)	625	(4.5)	355	(6.5)	431	(5.4)	574	(3.7)	624	(4.8)
	Korea	433	(4.4)	481	(2.9)	574	(2.6)	608	(2.9)	428	(5.2)	484	(4.1)	590	(2.8)	634	(4.1)
	Luxembourg	m	m	m	m	m	m	m	m	344	(2.9)	416	(2.8)	551	(1.9)	601	(2.1)
	Mexico	311	(3.4)	360	(3.6)	482	(4.8)	535	(5.5)	274	(5.5)	335	(4.9)	467	(4.3)	521	(6.1)
	Netherlands	m	m	m	m	m	m	m	m	400	(5.2)	454	(4.5)	576	(3.2)	621	(2.9)
	New Zealand	382	(5.2)	459	(4.0)	606	(3.0)	661	(4.4)	381	(4.4)	453	(3.5)	596	(2.8)	652	(2.9)
	Norway	364	(5.5)	440	(4.5)	579	(2.7)	631	(3.1)	364	(4.7)	434	(3.8)	571	(3.6)	625	(3.9)
	Poland	343	(6.8)	414	(5.8)	551	(6.0)	603	(6.6)	374	(5.0)	436	(3.6)	563	(3.1)	616	(3.4)
	Portugal	337	(6.2)	403	(6.4)	541	(4.5)	592	(4.2)	351	(7.1)	418	(5.2)	544	(3.5)	592	(3.5)
	Slovak Republic	m	m	m	m	m	m	m	m	348	(5.8)	408	(4.6)	535	(3.2)	587	(3.0)
	Slovenia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Spain	379	(5.0)	436	(4.6)	553	(2.6)	597	(2.6)	354	(4.9)	421	(3.4)	548	(2.8)	597	(2.8)
	Sweden	392	(4.0)	456	(3.1)	581	(3.1)	630	(2.9)	390	(4.3)	453	(3.4)	582	(2.9)	631	(2.9)
	Switzerland	355	(5.8)	426	(5.5)	567	(4.6)	621	(5.5)	373	(5.6)	439	(4.5)	565	(3.7)	615	(3.9)
	Turkey	m	m	m	m	m	m	m	m	324	(5.3)	377	(5.7)	500	(6.6)	562	(11.4)
	United Kingdom	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	United States	363	(11.4)	436	(8.8)	577	(6.8)	636	(6.5)	361	(5.2)	429	(4.1)	568	(3.6)	622	(3.5)
	OECD average 2000	367	(1.2)	433	(1.0)	564	(0.8)	614	(0.8)	368	(1.1)	435	(0.8)	565	(0.6)	615	(0.7)
	OECD average 2003	m	m	m	m	m	m	m	m	366	(1.0)	432	(0.8)	562	(0.6)	612	(0.7)
	OECD average 2006	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	OECD average 2009	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Partners	Albania	216	(6.4)	279	(4.9)	421	(3.2)	476	(2.9)	m	m	m	m	m	m	m	m
	Argentina	270	(11.5)	344	(13.2)	495	(8.8)	554	(9.6)	m	m	m	m	m	m	m	m
	Brazil	288	(4.5)	339	(3.4)	452	(3.4)	507	(4.2)	256	(7.5)	328	(5.5)	479	(5.1)	542	(5.2)
	Bulgaria	295	(6.6)	361	(5.8)	502	(6.6)	560	(7.4)	m	m	m	m	m	m	m	m
	Colombia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Costa Rica	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Croatia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Dubai (UAE)	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Hong Kong-China	413	(7.3)	477	(3.8)	584	(2.7)	624	(2.9)	397	(6.7)	461	(5.1)	569	(2.8)	608	(2.9)
	Indonesia	277	(4.0)	321	(4.3)	422	(5.7)	464	(6.9)	282	(4.9)	332	(3.7)	433	(4.0)	478	(4.6)
	Jordan	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Kazakhstan	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Latvia	322	(8.2)	390	(6.9)	530	(5.2)	586	(5.8)	372	(5.3)	431	(4.9)	554	(3.5)	603	(4.6)
	Liechtenstein	350	(11.8)	419	(9.4)	551	(5.7)	601	(7.1)	405	(11.7)	467	(9.1)	588	(5.7)	636	(11.8)
	Lithuania	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Macao-China	m	m	m	m	m	m	m	m	409	(5.1)	455	(3.5)	544	(4.4)	583	(3.7)
	Malaysia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Montenegro	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Peru	205	(4.9)	259	(5.2)	392	(5.5)	452	(5.6)	m	m	m	m	m	m	m	m
	Qatar	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Romania	295	(6.1)	357	(7.1)	499	(3.4)	559	(3.5)	m	m	m	m	m	m	m	m
	Russian Federation	340	(5.4)	400	(5.1)	526	(4.5)	579	(4.4)	319	(6.1)	381	(5.4)	506	(3.9)	558	(4.4)
	Serbia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Shanghai-China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Singapore	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Chinese Taipei	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Thailand	333	(4.8)	381	(4.0)	482	(3.3)	526	(4.6)	322	(3.4)	366	(3.1)	472	(3.6)	520	(4.5)
	Tunisia	m	m	m	m	m	m	m	m	251	(3.8)	310	(3.2)	441	(3.5)	497	(4.3)
	United Arab Emirates*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Uruguay	m	m	m	m	m	m	m	m	272	(6.0)	355	(4.4)	518	(4.4)	587	(4.5)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Annualised change is the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. This model considers that Chile, Albania, Argentina, Bulgaria, Indonesia, Peru and Thailand implemented the 2000 assessment in 2001 and Israel and Romania in 2002 as part of the PISA 2000+ and that Costa Rica, Malaysia and the United Arab Emirates (with the exception of Dubai) implemented the PISA 2009 assessment in 2010 as part of PISA 2009+. Dubai implemented the PISA 2009 assessment in 2009.

For Costa Rica and Malaysia the change between PISA 2009 and PISA 2012 represents change between 2010 and 2012 because these countries implemented the PISA 2009 assessment in 2010 as part of PISA 2009+.

For Chile, Albania, Argentina, Bulgaria, Indonesia, Peru and Thailand, the change between the PISA 2000 and PISA 2012 represents change between 2001 and 2012 because these countries implemented the PISA 2000 assessment in 2001 as part of PISA 2000+.

For Israel and Romania, the change between the PISA 2000 and PISA 2012 represents change between 2002 and 2012 because these countries implemented the PISA 2000 assessment in 2002 as part of PISA 2000+.

* United Arab Emirates excluding Dubai.

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[Part 2/4]

Table I.4.3d Distribution of scores in reading in PISA 2000 through 2012, by percentiles

		PISA 2006								PISA 2009							
		10th percentile		25th percentile		75th percentile		90th percentile		10th percentile		25th percentile		75th percentile		90th percentile	
		Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	Australia	388	(3.4)	453	(2.4)	579	(2.3)	628	(2.9)	384	(3.1)	450	(2.9)	584	(2.7)	638	(3.2)
	Austria	348	(9.4)	421	(5.5)	568	(3.7)	621	(3.1)	m	m	m	m	m	m	m	m
	Belgium	347	(8.3)	433	(4.7)	581	(2.3)	631	(2.2)	368	(4.3)	436	(3.8)	583	(2.2)	631	(2.7)
	Canada	402	(3.9)	468	(3.0)	593	(2.6)	644	(2.7)	406	(2.7)	464	(1.9)	588	(1.7)	637	(1.9)
	Chile	310	(5.8)	373	(5.4)	513	(6.4)	575	(6.7)	342	(5.0)	393	(4.1)	506	(3.3)	556	(3.6)
	Czech Republic	335	(7.0)	408	(6.2)	564	(3.8)	621	(4.2)	357	(4.9)	413	(4.2)	545	(3.3)	598	(3.2)
	Denmark	378	(5.0)	437	(3.9)	557	(2.9)	604	(3.7)	383	(3.7)	440	(2.9)	554	(2.8)	599	(3.0)
	Estonia	389	(5.4)	448	(3.8)	560	(2.8)	606	(3.2)	392	(4.4)	446	(3.3)	559	(2.8)	605	(3.6)
	Finland	441	(3.8)	494	(2.9)	603	(2.2)	649	(2.5)	419	(3.6)	481	(2.7)	597	(2.2)	642	(2.6)
	France	346	(7.5)	421	(6.1)	564	(3.8)	614	(4.0)	352	(7.0)	429	(4.7)	572	(4.0)	624	(3.9)
	Germany	350	(8.0)	429	(5.9)	573	(3.4)	625	(3.7)	367	(5.1)	432	(4.5)	567	(2.8)	615	(3.2)
	Greece	321	(8.5)	398	(5.2)	531	(3.8)	583	(4.2)	355	(8.0)	420	(6.3)	550	(3.1)	601	(3.7)
	Hungary	359	(5.0)	422	(4.8)	549	(3.6)	595	(4.4)	371	(6.9)	435	(4.3)	559	(3.6)	607	(3.5)
	Iceland	356	(4.1)	423	(3.0)	552	(2.8)	603	(3.2)	371	(4.1)	439	(2.9)	567	(2.0)	619	(2.6)
	Ireland	395	(5.5)	457	(4.7)	582	(3.9)	633	(3.5)	373	(4.7)	435	(3.9)	562	(2.8)	611	(2.8)
	Israel	280	(8.0)	356	(6.2)	526	(4.8)	588	(4.9)	322	(7.8)	401	(4.4)	554	(3.4)	611	(4.0)
	Italy	325	(4.8)	402	(3.6)	546	(2.3)	599	(2.9)	358	(2.6)	422	(2.3)	556	(1.7)	604	(1.7)
	Japan	361	(6.6)	433	(6.1)	569	(3.4)	623	(3.5)	386	(7.1)	459	(4.8)	590	(3.0)	639	(3.6)
	Korea	440	(7.9)	503	(4.8)	617	(3.4)	663	(4.3)	435	(5.9)	490	(4.1)	595	(3.4)	635	(3.0)
	Luxembourg	344	(3.3)	415	(2.3)	552	(1.8)	602	(2.5)	332	(3.6)	403	(2.4)	547	(1.7)	600	(2.0)
	Mexico	285	(6.2)	348	(4.2)	478	(2.8)	530	(3.1)	314	(2.9)	370	(2.4)	485	(1.9)	531	(2.2)
	Netherlands	379	(6.4)	446	(4.3)	578	(2.5)	622	(2.4)	390	(5.0)	442	(6.1)	575	(5.4)	625	(4.6)
	New Zealand	381	(4.6)	453	(4.5)	595	(2.9)	651	(2.8)	383	(4.5)	452	(3.1)	595	(2.8)	649	(2.7)
	Norway	346	(5.5)	416	(4.6)	558	(3.0)	613	(4.1)	382	(4.0)	443	(3.6)	568	(2.9)	619	(3.9)
	Poland	374	(4.6)	441	(3.5)	579	(3.2)	633	(3.4)	382	(4.2)	441	(3.4)	565	(3.2)	613	(3.3)
	Portugal	339	(6.3)	408	(5.3)	543	(3.6)	594	(3.7)	373	(4.9)	432	(4.4)	551	(3.4)	599	(3.5)
	Slovak Republic	326	(6.6)	398	(4.3)	542	(3.4)	597	(3.8)	358	(5.2)	416	(4.1)	543	(2.7)	594	(3.2)
	Slovenia	377	(2.6)	437	(1.8)	558	(2.2)	603	(2.1)	359	(2.1)	421	(1.9)	550	(1.7)	598	(2.9)
	Spain	343	(4.1)	405	(2.9)	523	(2.3)	569	(2.7)	364	(3.5)	426	(3.3)	543	(2.0)	588	(2.0)
	Sweden	378	(5.6)	445	(3.8)	575	(3.3)	629	(4.0)	368	(5.5)	437	(3.3)	565	(3.1)	620	(3.7)
	Switzerland	373	(5.1)	440	(3.5)	566	(3.1)	615	(3.6)	374	(4.0)	437	(3.6)	569	(3.0)	617	(3.3)
	Turkey	330	(6.4)	388	(4.4)	510	(5.2)	564	(6.5)	356	(4.3)	409	(3.8)	522	(4.5)	569	(5.2)
	United Kingdom	359	(4.0)	431	(2.8)	566	(2.5)	621	(3.1)	370	(3.1)	430	(2.8)	561	(3.2)	616	(2.6)
	United States	m	m	m	m	m	m	m	m	372	(3.9)	433	(4.0)	569	(4.6)	625	(5.0)
	OECD average 2000	358	(1.2)	426	(0.9)	561	(0.7)	613	(0.7)	372	(1.0)	435	(0.7)	563	(0.6)	613	(0.6)
	OECD average 2003	360	(1.1)	429	(0.8)	562	(0.6)	613	(0.7)	373	(0.9)	435	(0.7)	563	(0.6)	612	(0.6)
	OECD average 2006	358	(1.0)	426	(0.8)	559	(0.6)	611	(0.6)	370	(0.9)	433	(0.7)	560	(0.5)	610	(0.6)
	OECD average 2009	m	m	m	m	m	m	m	m	370	(0.8)	433	(0.7)	561	(0.5)	610	(0.6)
Partners	Albania	m	m	m	m	m	m	m	m	254	(5.4)	319	(4.9)	458	(4.8)	509	(4.9)
	Argentina	209	(10.7)	291	(9.0)	464	(7.1)	527	(7.0)	257	(8.3)	329	(5.8)	473	(6.3)	535	(7.1)
	Brazil	264	(6.0)	326	(4.2)	460	(4.0)	523	(5.3)	293	(3.2)	348	(2.7)	474	(3.9)	537	(4.2)
	Bulgaria	251	(9.0)	321	(8.5)	486	(7.6)	554	(7.8)	276	(7.8)	351	(8.6)	512	(6.5)	572	(7.3)
	Colombia	243	(7.0)	316	(7.2)	462	(5.6)	518	(5.2)	302	(5.2)	355	(4.4)	473	(3.9)	524	(4.1)
	Costa Rica	m	m	m	m	m	m	m	m	339	(4.7)	388	(3.7)	498	(3.8)	544	(4.4)
	Croatia	359	(5.4)	418	(4.1)	540	(3.0)	589	(3.4)	359	(3.6)	416	(4.5)	539	(3.1)	586	(3.5)
	Dubai (UAE)	m	m	m	m	m	m	m	m	317	(2.8)	386	(2.4)	536	(2.3)	596	(2.6)
	Hong Kong-China	426	(5.8)	484	(3.7)	594	(2.4)	636	(2.9)	418	(4.5)	482	(3.0)	592	(2.5)	634	(2.9)
	Indonesia	298	(5.0)	342	(5.3)	444	(8.4)	490	(8.6)	315	(5.0)	357	(4.1)	447	(4.6)	487	(5.0)
	Jordan	277	(6.1)	342	(3.7)	467	(3.8)	514	(4.5)	284	(5.0)	350	(4.1)	468	(3.5)	515	(3.9)
	Kazakhstan	m	m	m	m	m	m	m	m	275	(3.8)	327	(3.1)	452	(4.2)	513	(5.0)
	Latvia	361	(5.4)	419	(4.9)	543	(4.2)	593	(4.0)	379	(4.2)	429	(3.8)	541	(3.3)	584	(3.2)
	Liechtenstein	379	(10.6)	452	(9.9)	578	(6.5)	623	(10.5)	385	(10.6)	442	(6.5)	560	(4.7)	599	(7.9)
	Lithuania	343	(3.9)	405	(4.0)	538	(3.9)	591	(3.9)	353	(4.2)	409	(3.3)	530	(3.1)	580	(3.4)
	Macao-China	394	(2.5)	445	(1.9)	545	(1.6)	587	(1.8)	388	(1.8)	437	(1.4)	540	(1.4)	582	(1.8)
	Malaysia	m	m	m	m	m	m	m	m	304	(4.6)	363	(4.0)	470	(2.9)	513	(3.1)
	Montenegro	276	(3.2)	331	(2.1)	454	(1.9)	506	(2.6)	288	(3.8)	345	(2.6)	473	(2.4)	526	(2.7)
	Peru	m	m	m	m	m	m	m	m	241	(3.9)	302	(4.3)	437	(5.2)	496	(6.4)
	Qatar	181	(2.7)	237	(1.8)	380	(1.9)	456	(3.6)	228	(2.2)	288	(1.3)	450	(1.4)	529	(2.1)
	Romania	274	(7.2)	333	(7.3)	461	(5.2)	512	(5.6)	304	(5.7)	365	(6.0)	488	(4.7)	537	(4.0)
	Russian Federation	316	(6.0)	377	(5.7)	505	(4.2)	556	(3.6)	344	(5.5)	401	(3.6)	519	(3.2)	572	(4.5)
	Serbia	282	(4.6)	339	(4.5)	466	(3.9)	518	(3.7)	331	(3.8)	388	(3.2)	501	(2.5)	547	(2.7)
	Shanghai-China	m	m	m	m	m	m	m	m	450	(4.8)	504	(3.5)	613	(2.8)	654	(2.7)
	Singapore	m	m	m	m	m	m	m	m	394	(3.1)	460	(2.0)	597	(2.1)	648	(2.8)
	Chinese Taipei	381	(5.9)	442	(4.9)	556	(3.0)	598	(3.0)	380	(3.9)	439	(3.2)	555	(2.9)	600	(4.6)
	Thailand	312	(3.9)	363	(3.3)	472	(2.9)	522	(3.7)	331	(3.8)	373	(3.2)	469	(2.6)	514	(4.0)
	Tunisia	252	(5.3)	315	(4.4)	450	(5.0)	502	(5.3)	293	(3.8)	348	(3.4)	462	(3.4)	510	(4.8)
	United Arab Emirates*	m	m	m	m	m	m	m	m	300	(5.4)	359	(4.2)	489	(3.3)	541	(5.2)
	Uruguay	253	(5.8)	333	(5.0)	497	(3.8)	565	(4.3)	297	(4.2)	359	(3.5)	495	(3.1)	552	(3.3)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Annualised change is the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. This model considers that Chile, Albania, Argentina, Bulgaria, Indonesia, Peru and Thailand implemented the 2000 assessment in 2001 and Israel and Romania in 2002 as part of the PISA 2000+ and that Costa Rica, Malaysia and the United Arab Emirates (with the exception of Dubai) implemented the PISA 2009 assessment in 2010 as part of PISA 2009+. Dubai implemented the PISA 2009 assessment in 2009.

For Costa Rica and Malaysia the change between PISA 2009 and PISA 2012 represents change between 2010 and 2012 because these countries implemented the PISA 2009 assessment in 2010 as part of PISA 2009+.

For Chile, Albania, Argentina, Bulgaria, Indonesia, Peru and Thailand, the change between the PISA 2000 and PISA 2012 represents change between 2001 and 2012 because these countries implemented the PISA 2000 assessment in 2001 as part of PISA 2000+.

For Israel and Romania, the change between the PISA 2000 and PISA 2012 represents change between 2002 and 2012 because these countries implemented the PISA 2000 assessment in 2002 as part of PISA 2000+.

* United Arab Emirates excluding Dubai.

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[Part 3/4]

Table I.4.3d **Distribution of scores in reading in PISA 2000 through 2012, by percentiles**

		PISA 2012							
		10th percentile		25th percentile		75th percentile		90th percentile	
		Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	Australia	386	(2.4)	448	(2.2)	579	(1.9)	634	(2.3)
	Austria	365	(5.1)	427	(3.9)	557	(3.0)	603	(2.5)
	Belgium	373	(4.3)	444	(3.2)	583	(2.2)	633	(2.3)
	Canada	403	(2.8)	464	(2.2)	587	(2.2)	638	(2.6)
	Chile	339	(4.2)	388	(3.8)	496	(3.3)	541	(3.3)
	Czech Republic	378	(4.7)	434	(3.7)	554	(3.6)	604	(3.8)
	Denmark	385	(5.1)	442	(3.5)	555	(2.4)	602	(2.8)
	Estonia	412	(3.4)	463	(3.0)	571	(2.4)	618	(2.8)
	Finland	399	(4.3)	463	(3.5)	590	(2.3)	639	(2.5)
	France	358	(5.4)	435	(4.3)	584	(3.6)	639	(3.9)
	Germany	384	(4.8)	447	(3.6)	574	(3.1)	621	(3.2)
	Greece	346	(6.0)	416	(4.5)	545	(3.4)	597	(3.9)
	Hungary	363	(5.2)	427	(4.6)	555	(3.3)	603	(3.9)
	Iceland	352	(4.1)	422	(2.9)	551	(2.9)	602	(2.4)
	Ireland	410	(5.7)	469	(3.6)	582	(2.7)	631	(3.2)
	Israel	329	(7.5)	414	(6.8)	568	(4.5)	624	(4.5)
	Italy	359	(2.9)	427	(2.6)	559	(2.1)	609	(2.2)
	Japan	409	(6.5)	475	(4.8)	607	(3.8)	658	(4.4)
	Korea	424	(6.2)	483	(4.3)	596	(4.1)	640	(4.0)
	Luxembourg	347	(2.7)	418	(2.4)	564	(2.2)	620	(2.3)
	Mexico	319	(2.5)	370	(1.9)	479	(1.8)	525	(1.9)
	Netherlands	386	(6.6)	451	(5.1)	579	(3.7)	625	(3.6)
	New Zealand	374	(4.9)	443	(3.2)	586	(3.1)	645	(4.0)
	Norway	375	(4.8)	442	(4.0)	573	(3.4)	627	(3.9)
	Poland	404	(4.6)	461	(3.2)	579	(3.6)	626	(4.8)
	Portugal	362	(6.0)	429	(4.9)	554	(3.5)	604	(3.5)
	Slovak Republic	321	(8.4)	396	(6.8)	538	(4.1)	591	(5.2)
	Slovenia	362	(2.5)	420	(1.9)	548	(2.1)	598	(2.5)
	Spain	367	(3.6)	430	(2.6)	552	(2.1)	601	(2.3)
	Sweden	343	(5.4)	416	(4.3)	558	(3.3)	614	(4.2)
	Switzerland	388	(3.9)	451	(3.3)	573	(2.8)	622	(3.2)
	Turkey	365	(4.6)	417	(4.0)	534	(5.6)	588	(6.8)
	United Kingdom	372	(7.0)	438	(4.8)	567	(3.4)	619	(3.8)
	United States	378	(4.8)	436	(4.5)	561	(3.9)	614	(4.0)
	OECD average 2000	373	(0.9)	437	(0.7)	564	(0.6)	615	(0.7)
	OECD average 2003	373	(0.9)	437	(0.7)	565	(0.6)	616	(0.7)
	OECD average 2006	372	(0.9)	435	(0.7)	563	(0.6)	613	(0.6)
	OECD average 2009	372	(0.9)	436	(0.7)	563	(0.6)	614	(0.6)
Partners	Albania	247	(7.2)	325	(4.8)	473	(3.2)	536	(3.4)
	Argentina	274	(5.4)	332	(4.5)	462	(4.1)	516	(4.4)
	Brazil	302	(2.8)	353	(2.4)	468	(2.7)	520	(3.0)
	Bulgaria	275	(8.0)	353	(8.2)	523	(6.0)	585	(6.1)
	Colombia	295	(5.4)	348	(4.0)	460	(3.7)	509	(4.5)
	Costa Rica	344	(5.4)	391	(4.3)	490	(4.2)	536	(5.0)
	Croatia	370	(5.1)	427	(4.4)	546	(3.8)	593	(4.9)
	Dubai (UAE)	335	(3.3)	401	(2.6)	538	(2.7)	594	(3.4)
	Hong Kong-China	430	(5.4)	493	(4.4)	604	(3.0)	648	(3.4)
	Indonesia	299	(6.1)	346	(4.7)	447	(4.6)	492	(6.1)
	Jordan	280	(6.4)	343	(4.5)	462	(3.2)	510	(4.6)
	Kazakhstan	297	(4.4)	344	(3.1)	444	(3.4)	487	(3.5)
	Latvia	375	(5.6)	434	(3.0)	548	(2.9)	593	(2.8)
	Liechtenstein	391	(9.5)	452	(7.8)	584	(6.9)	630	(10.6)
	Lithuania	363	(4.0)	419	(3.9)	538	(2.8)	585	(3.1)
	Macao-China	400	(2.4)	457	(1.8)	566	(1.4)	611	(1.6)
	Malaysia	288	(4.4)	343	(3.7)	457	(3.9)	503	(4.3)
	Montenegro	301	(3.0)	360	(2.5)	487	(1.8)	540	(3.4)
	Peru	263	(5.1)	319	(4.7)	447	(5.2)	504	(6.4)
	Qatar	242	(2.0)	310	(1.7)	465	(1.9)	535	(2.3)
	Romania	322	(4.4)	375	(4.4)	501	(5.5)	555	(5.3)
	Russian Federation	359	(4.5)	415	(4.0)	537	(3.9)	592	(4.2)
	Serbia	325	(5.5)	384	(4.4)	509	(4.1)	566	(4.6)
	Shanghai-China	463	(4.6)	518	(3.6)	626	(2.8)	667	(3.5)
	Singapore	408	(2.9)	475	(2.1)	614	(2.1)	668	(3.2)
	Chinese Taipei	399	(5.2)	467	(4.4)	587	(2.8)	633	(3.6)
	Thailand	341	(4.4)	389	(3.5)	494	(3.7)	541	(4.4)
	Tunisia	286	(7.1)	346	(5.9)	466	(4.5)	515	(5.6)
	United Arab Emirates*	311	(4.6)	370	(3.7)	497	(3.6)	547	(4.3)
	Uruguay	285	(5.3)	348	(4.3)	477	(3.0)	534	(4.1)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Annualised change is the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. This model considers that Chile, Albania, Argentina, Bulgaria, Indonesia, Peru and Thailand implemented the 2000 assessment in 2001 and Israel and Romania in 2002 as part of the PISA 2000+ and that Costa Rica, Malaysia and the United Arab Emirates (with the exception of Dubai) implemented the PISA 2009 assessment in 2010 as part of PISA 2009+. Dubai implemented the PISA 2009 assessment in 2009.

For Costa Rica and Malaysia the change between PISA 2009 and PISA 2012 represents change between 2010 and 2012 because these countries implemented the PISA 2009 assessment in 2010 as part of PISA 2009+.

For Chile, Albania, Argentina, Bulgaria, Indonesia, Peru and Thailand, the change between the PISA 2000 and PISA 2012 represents change between 2001 and 2012 because these countries implemented the PISA 2000 assessment in 2001 as part of PISA 2000+.

For Israel and Romania, the change between the PISA 2000 and PISA 2012 represents change between 2002 and 2012 because these countries implemented the PISA 2000 assessment in 2002 as part of PISA 2000+.

* United Arab Emirates excluding Dubai.

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Table I.4.3d Distribution of scores in reading in PISA 2000 through 2012, by percentiles

		Change in percentiles between 2000 and 2012 (PISA 2012 - PISA 2000)								Annualised change in percentiles across PISA assessments							
		10th percentile		25th percentile		75th percentile		90th percentile		10th percentile		25th percentile		75th percentile		90th percentile	
		Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score change	S.E.	Score change	S.E.	Score change	S.E.	Score change	S.E.
OECD	Australia	-9	(7.7)	-10	(7.7)	**-23**	(7.7)	**-21**	(7.6)	**-0.9**	(0.19)	**-1.3**	(0.19)	**-1.5**	(0.19)	**-1.2**	(0.19)
	Austria	6	(9.7)	-1	(7.9)	-5	(7.5)	-10	(7.5)	**-0.9**	(0.22)	**-1.3**	(0.19)	**-1.2**	(0.19)	**-1.4**	(0.19)
	Belgium	19	(11.5)	7	(9.5)	-4	(6.7)	-1	(6.8)	**1.8**	(0.23)	**0.4**	(0.20)	-0.4	(0.19)	-0.2	(0.19)
	Canada	-7	(7.0)	-7	(6.7)	**-14**	(6.5)	**-14**	(6.7)	**-0.6**	(0.19)	**-0.8**	(0.19)	**-1.0**	(0.19)	**-1.0**	(0.19)
	Chile	**48**	(9.0)	**38**	(8.3)	**25**	(7.8)	**17**	(7.8)	**4.6**	(0.30)	**3.6**	(0.29)	**2.0**	(0.29)	**0.9**	(0.30)
	Czech Republic	11	(9.0)	0	(7.5)	-4	(7.5)	-6	(7.7)	**0.6**	(0.25)	**-0.5**	(0.24)	**-0.6**	(0.24)	**-0.7**	(0.24)
	Denmark	18	(9.3)	8	(7.6)	-11	(7.0)	**-15**	(7.2)	**1.3**	(0.19)	**0.6**	(0.19)	**-0.6**	(0.19)	**-0.9**	(0.19)
	Estonia	m	m	m	m	m	m	m	m	**4.0**	(1.97)	**2.6**	(0.55)	**1.9**	(0.48)	**1.9**	(0.57)
	Finland	**-30**	(9.0)	**-29**	(7.5)	**-18**	(6.9)	**-15**	(7.0)	**-2.9**	(0.20)	**-2.6**	(0.19)	**-1.2**	(0.19)	**-0.9**	(0.19)
	France	**-23**	(9.5)	-9	(8.6)	14	(7.4)	**20**	(7.6)	**-2.0**	(0.22)	**-0.9**	(0.21)	**1.0**	(0.21)	**1.7**	(0.21)
	Germany	**48**	(9.9)	**30**	(8.3)	11	(7.3)	2	(7.3)	**4.2**	(0.33)	**2.5**	(0.31)	0.6	(0.31)	-0.2	(0.31)
	Greece	3	(11.9)	7	(10.5)	3	(8.2)	2	(8.7)	**1.0**	(0.34)	**0.9**	(0.24)	0.3	(0.21)	0.2	(0.21)
	Hungary	9	(9.6)	12	(9.1)	7	(8.2)	5	(8.3)	**0.9**	(0.20)	**1.3**	(0.20)	**0.9**	(0.19)	**0.7**	(0.19)
	Iceland	**-32**	(8.0)	**-26**	(7.3)	**-21**	(6.9)	**-19**	(7.3)	**-1.8**	(0.19)	**-1.4**	(0.19)	**-1.2**	(0.19)	**-1.0**	(0.19)
	Ireland	9	(10.4)	1	(8.2)	-11	(7.4)	-10	(7.8)	-0.2	(0.20)	**-0.5**	(0.19)	**-1.0**	(0.19)	**-0.9**	(0.19)
	Israel	25	(16.1)	**35**	(14.3)	**36**	(11.0)	**37**	(10.2)	2.9	(6.08)	3.7	(1.92)	**3.6**	(0.48)	**3.6**	(0.30)
	Italy	-8	(8.8)	-1	(7.7)	7	(7.1)	8	(6.9)	**1.9**	(0.21)	**1.6**	(0.20)	**1.2**	(0.20)	**1.0**	(0.20)
	Japan	2	(13.2)	4	(10.3)	**25**	(8.3)	**33**	(8.7)	**1.5**	(0.41)	**1.3**	(0.22)	**2.2**	(0.20)	**2.7**	(0.20)
	Korea	-9	(9.7)	2	(7.8)	**23**	(7.7)	**32**	(7.7)	-0.3	(0.19)	**0.4**	(0.19)	**1.8**	(0.19)	**2.2**	(0.19)
	Luxembourg	m	m	m	m	m	m	m	m	-0.1	(0.18)	0.0	(0.18)	**1.1**	(0.18)	**1.9**	(0.18)
	Mexico	8	(7.3)	10	(7.2)	-3	(7.8)	-9	(8.3)	**4.6**	(0.19)	**3.5**	(0.19)	**1.1**	(0.19)	0.1	(0.19)
	Netherlands	m	m	m	m	m	m	m	m	-1.1	(0.70)	-0.5	(0.39)	0.2	(0.19)	**0.5**	(0.19)
	New Zealand	-8	(9.3)	**-17**	(7.8)	**-20**	(7.3)	-16	(8.4)	**-0.5**	(0.20)	**-1.1**	(0.19)	**-1.3**	(0.19)	**-1.1**	(0.19)
	Norway	11	(9.4)	2	(8.4)	-6	(7.3)	-5	(7.7)	**1.5**	(0.19)	**0.6**	(0.19)	**-0.5**	(0.19)	**-0.5**	(0.19)
	Poland	**61**	(10.1)	**47**	(8.9)	**28**	(9.1)	**23**	(10.0)	**4.3**	(0.26)	**3.2**	(0.23)	**1.8**	(0.23)	**1.3**	(0.23)
	Portugal	**25**	(10.5)	**26**	(10.0)	13	(8.2)	12	(8.0)	**2.5**	(0.21)	**2.2**	(0.19)	**1.1**	(0.19)	**1.1**	(0.19)
	Slovak Republic	m	m	m	m	m	m	m	m	-1.7	(0.98)	-0.6	(0.44)	0.4	(0.32)	0.6	(0.33)
	Slovenia	m	m	m	m	m	m	m	m	**-2.6**	(0.47)	**-3.0**	(0.46)	**-1.9**	(0.46)	-0.9	(0.46)
	Spain	-12	(8.6)	-7	(7.9)	-1	(6.8)	4	(6.9)	**0.8**	(0.20)	**0.8**	(0.20)	**0.6**	(0.20)	**0.8**	(0.20)
	Sweden	**-49**	(9.0)	**-40**	(7.9)	**-24**	(7.5)	**-16**	(7.8)	**-4.0**	(0.20)	**-3.2**	(0.19)	**-2.1**	(0.19)	**-1.4**	(0.19)
	Switzerland	**33**	(9.2)	**24**	(8.7)	6	(8.0)	1	(8.7)	**2.1**	(0.21)	**1.5**	(0.20)	**0.6**	(0.20)	0.2	(0.20)
	Turkey	m	m	m	m	m	m	m	m	**5.0**	(0.40)	**4.6**	(0.32)	**3.8**	(0.61)	2.8	(4.80)
	United Kingdom	m	m	m	m	m	m	m	m	2.2	(1.32)	**1.3**	(0.43)	0.1	(0.27)	-0.2	(0.40)
	United States	15	(13.7)	0	(11.5)	-16	(9.8)	**-22**	(9.7)	**1.5**	(0.26)	0.2	(0.20)	**-1.0**	(0.19)	**-1.2**	(0.19)
	OECD average 2000	**6**	(1.9)	**4**	(1.7)	1	(1.5)	1	(1.5)	**0.9**	(0.23)	**0.5**	(0.08)	**0.2**	(0.04)	**0.1**	(0.04)
	OECD average 2003	m	m	m	m	m	m	m	m	**0.6**	(0.06)	**0.4**	(0.04)	**0.2**	(0.04)	0.2	(0.17)
	OECD average 2006	m	m	m	m	m	m	m	m	**0.9**	(0.21)	**0.6**	(0.07)	**0.4**	(0.05)	**0.4**	(0.15)
	OECD average 2009	m	m	m	m	m	m	m	m	**0.9**	(0.21)	**0.6**	(0.07)	**0.4**	(0.05)	**0.4**	(0.15)
Partners	Albania	**31**	(11.3)	**45**	(9.1)	**52**	(7.4)	**60**	(7.4)	**3.3**	(0.41)	**4.3**	(0.25)	**4.7**	(0.24)	**5.2**	(0.24)
	Argentina	3	(14.0)	-12	(15.1)	**-33**	(11.4)	**-37**	(12.1)	1.7	(1.04)	0.0	(1.76)	**-2.7**	(0.34)	**-3.0**	(0.53)
	Brazil	14	(8.0)	14	(7.3)	**16**	(7.3)	13	(7.8)	**3.2**	(0.20)	**2.0**	(0.20)	**0.8**	(0.20)	0.2	(0.20)
	Bulgaria	-20	(11.9)	-7	(11.6)	**21**	(10.7)	**26**	(11.3)	**-1.3**	(0.45)	-0.3	(0.44)	**2.1**	(0.32)	**2.5**	(0.41)
	Colombia	m	m	m	m	m	m	m	m	6.7	(9.02)	4.0	(2.48)	-0.8	(1.83)	-2.0	(3.50)
	Costa Rica	m	m	m	m	m	m	m	m	2.6	(436.16)	1.2	(112.64)	-3.9	(162.35)	-4.2	(399.95)
	Croatia	m	m	m	m	m	m	m	m	1.6	(3.53)	1.5	(1.26)	0.9	(0.57)	0.7	(0.77)
	Dubai (UAE)	m	m	m	m	m	m	m	m	6.0	(4.20)	**5.0**	(1.44)	0.8	(3.98)	-1.0	(5.49)
	Hong Kong-China	16	(10.9)	16	(8.3)	**20**	(7.2)	**24**	(7.4)	**2.2**	(0.26)	**2.0**	(0.20)	**2.4**	(0.20)	**2.6**	(0.20)
	Indonesia	**23**	(9.4)	**25**	(8.7)	**26**	(9.4)	**28**	(11.0)	**2.8**	(0.27)	**2.7**	(0.26)	**2.3**	(0.27)	**2.3**	(0.28)
	Jordan	m	m	m	m	m	m	m	m	0.5	(7.64)	0.0	(0.94)	-0.7	(0.54)	-0.7	(1.23)
	Kazakhstan	m	m	m	m	m	m	m	m	7.5	(45.80)	5.5	(8.04)	-2.7	(17.61)	-8.7	(31.65)
	Latvia	**53**	(11.5)	**44**	(9.6)	**18**	(8.4)	7	(8.8)	**3.7**	(0.28)	**2.6**	(0.26)	0.5	(0.26)	-0.3	(0.26)
	Liechtenstein	**41**	(16.2)	**33**	(13.6)	**33**	(10.8)	**29**	(14.0)	2.5	(1.54)	**1.3**	(0.27)	**0.9**	(0.25)	0.5	(0.67)
	Lithuania	m	m	m	m	m	m	m	m	**3.5**	(1.05)	**2.4**	(0.95)	0.0	(0.59)	-0.8	(0.57)
	Macao-China	m	m	m	m	m	m	m	m	-0.1	(0.30)	**0.9**	(0.29)	**2.7**	(0.29)	**3.3**	(0.29)
	Malaysia	m	m	m	m	m	m	m	m	-7.9	(228.98)	-10.1	(94.44)	-6.8	(53.04)	-5.1	(102.11)
	Montenegro	m	m	m	m	m	m	m	m	**4.3**	(0.50)	**4.8**	(0.42)	**5.5**	(0.42)	**5.6**	(0.52)
	Peru	**58**	(9.2)	**60**	(9.2)	**55**	(9.6)	**52**	(10.3)	**5.1**	(0.26)	**5.4**	(0.26)	**5.1**	(0.27)	**4.9**	(0.29)
	Qatar	m	m	m	m	m	m	m	m	**9.9**	(0.41)	**12.0**	(0.41)	**13.0**	(0.41)	**11.4**	(0.41)
	Romania	**28**	(9.6)	19	(10.3)	2	(8.8)	-4	(8.7)	**3.4**	(0.64)	**2.7**	(0.32)	**0.7**	(0.30)	0.0	(0.29)
	Russian Federation	**18**	(9.2)	15	(8.8)	11	(8.4)	13	(8.5)	**1.9**	(0.29)	**1.6**	(0.28)	**1.0**	(0.28)	**1.1**	(0.28)
	Serbia	m	m	m	m	m	m	m	m	**7.2**	(1.87)	**7.6**	(1.70)	**7.2**	(1.66)	**8.0**	(1.66)
	Shanghai-China	m	m	m	m	m	m	m	m	4.3	(58.34)	4.9	(11.64)	4.4	(3.78)	4.3	(3.28)
	Singapore	m	m	m	m	m	m	m	m	4.9	(7.67)	**5.1**	(1.27)	**5.7**	(1.24)	6.8	(12.83)
	Chinese Taipei	m	m	m	m	m	m	m	m	2.6	(5.29)	3.7	(2.07)	**5.0**	(0.43)	**5.4**	(0.45)
	Thailand	8	(8.8)	8	(7.9)	12	(7.7)	15	(8.7)	**1.2**	(0.21)	**1.1**	(0.21)	**0.9**	(0.21)	**1.1**	(0.21)
	Tunisia	m	m	m	m	m	m	m	m	**4.9**	(0.48)	**4.7**	(0.33)	**2.9**	(0.30)	**2.1**	(0.39)
	United Arab Emirates*	m	m	m	m	m	m	m	m	5.1	(641.39)	5.2	(208.77)	4.2	(113.17)	2.9	(473.88)
	Uruguay	m	m	m	m	m	m	m	m	**2.7**	(0.50)	0.1	(0.30)	**-4.2**	(0.28)	**-5.8**	(0.29)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Annualised change is the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. This model considers that Chile, Albania, Argentina, Bulgaria, Indonesia, Peru and Thailand implemented the 2000 assessment in 2001 and Israel and Romania in 2002 as part of the PISA 2000+ and that Costa Rica, Malaysia and the United Arab Emirates (with the exception of Dubai) implemented the PISA 2009 assessment in 2010 as part of PISA 2009+. Dubai implemented the PISA 2009 assessment in 2009.

For Costa Rica and Malaysia the change between PISA 2009 and PISA 2012 represents change between 2010 and 2012 because these countries implemented the PISA 2009 assessment in 2010 as part of PISA 2009+.

For Chile, Albania, Argentina, Bulgaria, Indonesia, Peru and Thailand, the change between the PISA 2000 and PISA 2012 represents change between 2001 and 2012 because these countries implemented the PISA 2000 assessment in 2001 as part of PISA 2000+.

For Israel and Romania, the change between the PISA 2000 and PISA 2012 represents change between 2002 and 2012 because these countries implemented the PISA 2000 assessment in 2002 as part of PISA 2000+.

* United Arab Emirates excluding Dubai.

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[Part 1/2]

Table I.4.4 **Trends in reading performance adjusted for demographic changes**

		Adjusted PISA 2000 results		Adjusted PISA 2003 results		Adjusted PISA 2006 results		Adjusted PISA 2009 results		Adjusted PISA 2012 results	
		Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.
OECD	**Australia**	548	(2.9)	534	(1.6)	514	(1.6)	514	(1.9)	512	(1.5)
	Austria	509	(2.6)	505	(2.7)	491	(3.7)	m	m	490	(2.5)
	Belgium	521	(3.3)	511	(1.9)	504	(2.7)	505	(1.9)	509	(2.0)
	Canada	543	(1.5)	533	(1.6)	531	(2.2)	524	(1.3)	523	(1.7)
	Chile	428	(2.7)	m	m	458	(3.6)	450	(2.5)	441	(2.4)
	Czech Republic	512	(2.1)	486	(2.8)	484	(3.7)	477	(2.6)	493	(2.5)
	Denmark	508	(1.9)	504	(2.1)	494	(2.7)	494	(1.7)	496	(2.1)
	Estonia	m	m	m	m	510	(2.7)	502	(2.2)	516	(1.9)
	Finland	560	(2.3)	549	(1.5)	550	(1.9)	533	(2.1)	524	(2.1)
	France	520	(2.4)	508	(2.1)	502	(3.4)	500	(2.8)	506	(2.5)
	Germany	501	(2.6)	505	(2.6)	497	(3.5)	500	(2.1)	508	(2.4)
	Greece	483	(4.0)	478	(3.2)	464	(3.2)	481	(3.5)	477	(2.5)
	Hungary	488	(2.5)	486	(1.9)	485	(2.7)	491	(2.6)	488	(2.5)
	Iceland	520	(1.8)	496	(1.5)	488	(2.0)	501	(1.4)	483	(1.8)
	Ireland	542	(2.7)	528	(2.0)	524	(2.7)	497	(2.5)	523	(2.1)
	Israel	471	(7.4)	m	m	439	(4.5)	476	(3.1)	486	(4.4)
	Italy	494	(2.5)	477	(2.9)	471	(2.3)	485	(1.4)	490	(1.7)
	Japan	538	(3.4)	511	(3.5)	501	(3.5)	520	(3.2)	538	(3.4)
	Korea	461	(21.9)	474	(21.5)	560	(3.2)	540	(2.9)	461	(21.9)
	Luxembourg	m	m	466	(2.5)	480	(1.4)	469	(1.3)	488	(1.6)
	Mexico	426	(2.5)	404	(3.2)	410	(2.2)	423	(1.6)	424	(1.3)
	Netherlands	m	m	524	(2.3)	510	(2.5)	512	(4.4)	511	(3.1)
	New Zealand	529	(2.4)	527	(2.1)	514	(2.6)	515	(2.0)	512	(2.4)
	Norway	512	(2.6)	507	(2.6)	487	(2.9)	499	(2.5)	504	(2.9)
	Poland	497	(4.3)	505	(2.4)	523	(2.5)	504	(2.1)	518	(2.6)
	Portugal	481	(3.6)	486	(2.7)	481	(2.7)	487	(2.2)	488	(3.0)
	Slovak Republic	m	m	468	(2.0)	471	(2.8)	473	(2.4)	463	(3.4)
	Slovenia	m	m	m	m	505	(1.0)	483	(1.0)	481	(1.2)
	Spain	506	(1.9)	486	(2.0)	468	(1.7)	482	(1.6)	488	(1.7)
	Sweden	518	(2.0)	519	(1.9)	507	(3.3)	491	(2.3)	483	(2.8)
	Switzerland	507	(3.6)	511	(2.3)	506	(2.6)	503	(2.0)	509	(2.0)
	Turkey	m	m	430	(4.0)	443	(3.6)	454	(2.8)	476	(3.3)
	United Kingdom	m	m	m	m	501	(2.1)	495	(1.9)	499	(3.0)
	United States	520	(4.6)	500	(2.5)	m	m	498	(2.6)	498	(2.9)
	OECD average 2000	505	(1.0)	501	(1.0)	494	(0.6)	496	(0.5)	495	(0.9)
	OECD average 2003	m	m	497	(0.9)	495	(0.5)	495	(0.4)	496	(0.9)
	OECD average 2006	m	m	m	m	493	(0.5)	493	(0.4)	494	(0.8)
	OECD average 2009	m	m	m	m	m	m	493	(0.4)	494	(0.8)
Partners	**Albania**	c	c	c	c	c	c	c	c	c	c
	Argentina	424	(7.3)	m	m	377	(5.5)	396	(3.4)	396	(3.1)
	Brazil	408	(2.7)	415	(4.0)	401	(3.5)	414	(2.3)	410	(1.9)
	Bulgaria	435	(3.7)	m	m	412	(4.6)	429	(4.5)	436	(4.2)
	Colombia	m	m	m	m	387	(4.2)	412	(3.0)	403	(2.7)
	Costa Rica	m	m	m	m	m	m	444	(4.0)	441	(3.0)
	Croatia	m	m	m	m	480	(2.6)	474	(2.5)	485	(2.9)
	Dubai (UAE)	m	m	m	m	m	m	459	(1.2)	468	(1.3)
	Hong Kong-China	539	(3.3)	516	(3.3)	539	(2.3)	536	(1.9)	544	(2.4)
	Indonesia	373	(3.4)	390	(4.4)	396	(5.8)	402	(3.1)	396	(3.7)
	Jordan	m	m	m	m	402	(3.0)	405	(2.8)	399	(3.1)
	Kazakhstan	m	m	m	m	m	m	394	(2.6)	393	(2.2)
	Latvia	470	(5.3)	490	(3.3)	484	(3.1)	484	(2.4)	489	(2.0)
	Liechtenstein	495	(6.9)	540	(5.1)	520	(4.0)	506	(3.3)	517	(4.1)
	Lithuania	m	m	m	m	475	(2.7)	472	(2.1)	477	(2.0)
	Macao-China	m	m	502	(2.9)	532	(3.1)	487	(0.9)	508	(0.9)
	Malaysia	m	m	m	m	m	m	412	(3.6)	398	(2.9)
	Montenegro	m	m	m	m	406	(2.0)	413	(1.3)	422	(1.2)
	Peru	332	(3.4)	m	m	m	m	368	(2.5)	384	(2.7)
	Qatar	m	m	m	m	332	(1.3)	379	(0.8)	387	(0.9)
	Romania	460	(6.4)	m	m	405	(4.0)	426	(3.3)	438	(3.0)
	Russian Federation	486	(3.4)	458	(3.1)	457	(3.1)	467	(2.7)	475	(2.5)
	Serbia	m	m	m	m	407	(2.8)	443	(2.2)	446	(3.1)
	Shanghai-China	m	m	m	m	m	m	559	(1.8)	570	(2.3)
	Singapore	m	m	m	m	m	m	529	(1.1)	542	(1.2)
	Chinese Taipei	m	m	m	m	503	(2.7)	495	(2.1)	523	(2.2)
	Thailand	444	(2.7)	434	(3.4)	428	(2.4)	424	(2.1)	441	(2.5)
	Tunisia	m	m	386	(2.9)	384	(3.3)	408	(2.5)	404	(3.9)
	United Arab Emirates*	m	m	m	m	m	m	435	(5.0)	432	(2.8)
	Uruguay	m	m	430	(3.0)	409	(3.1)	425	(2.1)	411	(2.6)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).
Annualised change is the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. This model considers that Chile, Albania, Argentina, Bulgaria, Indonesia, Peru and Thailand implemented the 2000 assessment in 2001 and Israel and Romania in 2002 as part of the PISA 2000+ and that Costa Rica, Malaysia and the United Arab Emirates (with the exception of Dubai) implemented the PISA 2009 assessment in 2010 as part of PISA 2009+. Dubai implemented the PISA 2009 assessment in 2009.
Adjusted scores are obtained by estimating a regression of students' demographic characteristics on reading performance with demographic characteristics centred at the 2012 values. Demographic characteristics that entered the model are: students' age, gender, *PISA index of economic, social and cultural status*, immigrant background (first or second generation) and whether students speak a language at home which is different from the language of instruction. Adjusted values therefore represent average scores in previous assessment assuming that demographic characteristics remained unchanged. See Annex A5 for more details on the estimation of adjusted trends.
For Costa Rica and Malaysia the change between PISA 2009 and PISA 2012 represents change between 2010 and 2012 because these countries implemented the PISA 2009 assessment in 2010 as part of PISA 2009+.
For Chile, Albania, Argentina, Bulgaria, Indonesia, Peru and Thailand, the change between the PISA 2000 and PISA 2012 represents change between 2001 and 2012 because these countries implemented the PISA 2000 assessment in 2001 as part of PISA 2000+.
For Israel and Romania, the change between the PISA 2000 and PISA 2012 represents change between 2002 and 2012 because these countries implemented the PISA 2000 assessment in 2002 as part of PISA 2000+.
In the United Arab Emirates, Dubai took the PISA 2009 assessment in 2009 and the rest of the United Arab Emirates in 2010 as part of PISA 2009+. Results are thus reported separately.
* United Arab Emirates excluding Dubai (see note above).
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Table I.4.4 **Trends in reading performance adjusted for demographic changes**

		Change between 2000 and 2012 (PISA 2012 - PISA 2000)		Change between 2003 and 2012 (PISA 2012 - PISA 2003)		Change between 2006 and 2012 (PISA 2012 - PISA 2006)		Change between 2009 and 2012 (PISA 2012 - PISA 2009)		Annualised adjusted change across PISA assessments	
		Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.
OECD	Australia	**-36**	(6.6)	**-22**	(6.0)	-2	(6.0)	-2	(3.6)	**-2.8**	(0.3)
	Austria	**-19**	(7.0)	**-15**	(6.8)	-1	(7.2)	m	m	**-1.6**	(0.4)
	Belgium	-12	(7.0)	-3	(6.1)	5	(6.5)	3	(3.7)	**-1.0**	(0.3)
	Canada	**-20**	(6.3)	-10	(6.0)	-8	(6.3)	-1	(3.4)	**-1.5**	(0.3)
	Chile	13	(7.0)	m	m	**-16**	(6.9)	**-8**	(4.1)	**1.1**	(0.4)
	Czech Republic	**-19**	(6.8)	7	(6.7)	9	(7.2)	**16**	(4.0)	**-1.7**	(0.4)
	Denmark	-12	(6.6)	-8	(6.4)	2	(6.6)	2	(3.7)	**-1.0**	(0.3)
	Estonia	m	m	m	m	6	(6.4)	**14**	(3.8)	0.7	(0.7)
	Finland	**-36**	(6.7)	**-25**	(6.2)	**-26**	(6.1)	**-9**	(3.8)	**-2.9**	(0.3)
	France	**-14**	(6.9)	-3	(6.5)	3	(7.3)	5	(4.7)	**-1.3**	(0.3)
	Germany	7	(7.0)	3	(6.4)	10	(7.1)	8	(4.1)	0.5	(0.4)
	Greece	-5	(7.8)	-1	(6.9)	13	(6.8)	-4	(5.1)	-0.4	(0.4)
	Hungary	0	(690.8)	3	(6.3)	4	(6.7)	-2	(4.1)	0.5	(0.4)
	Iceland	**-37**	(6.4)	**-14**	(6.1)	-5	(6.1)	**-18**	(3.5)	**-2.3**	(0.3)
	Ireland	**-19**	(6.8)	-5	(6.4)	-1	(6.7)	**26**	(4.2)	**-2.2**	(0.3)
	Israel	15	(10.1)	m	m	**47**	(8.5)	10	(6.0)	**2.4**	(0.7)
	Italy	-4	(6.6)	12	(6.5)	**19**	(6.3)	5	(3.4)	0.0	(0.3)
	Japan	0	(761.0)	**27**	(7.2)	**37**	(6.8)	**19**	(5.1)	**3.3**	(0.5)
	Korea	0	(652.6)	-11	(6.7)	**-24**	(7.3)	-4	(5.4)	**-1.9**	(0.5)
	Luxembourg	m	m	**22**	(6.1)	8	(5.9)	**19**	(3.2)	**1.7**	(0.3)
	Mexico	-2	(6.5)	**20**	(6.6)	**13**	(6.2)	0	(3.4)	**0.6**	(0.3)
	Netherlands	m	m	-13	(7.0)	2	(6.9)	-1	(6.3)	**-1.2**	(0.5)
	New Zealand	**-17**	(6.8)	**-15**	(6.5)	-2	(6.5)	-2	(4.2)	**-1.5**	(0.3)
	Norway	-8	(7.0)	-3	(6.9)	**17**	(7.0)	5	(4.3)	**-0.8**	(0.3)
	Poland	**22**	(7.7)	**13**	(6.5)	-5	(6.6)	**14**	(4.3)	**1.5**	(0.4)
	Portugal	7	(7.4)	1	(7.1)	6	(7.0)	1	(4.6)	0.6	(0.4)
	Slovak Republic	m	m	-5	(6.8)	-8	(6.9)	**-10**	(4.9)	-0.5	(0.5)
	Slovenia	m	m	m	m	**-23**	(5.8)	-1	(3.0)	**-4.0**	(0.5)
	Spain	**-18**	(6.3)	1	(6.2)	**20**	(6.1)	6	(3.5)	**-1.3**	(0.3)
	Sweden	**-34**	(6.9)	**-35**	(6.6)	**-24**	(7.1)	-8	(4.4)	**-3.2**	(0.3)
	Switzerland	3	(7.1)	-1	(6.4)	3	(6.4)	6	(3.8)	0.0	(0.3)
	Turkey	m	m	**46**	(7.5)	**33**	(7.4)	**21**	(5.1)	**5.0**	(0.6)
	United Kingdom	m	m	m	m	-2	(6.4)	4	(4.6)	-0.3	(0.6)
	United States	**-22**	(8.0)	-3	(7.1)	m	m	0	(4.6)	**-1.2**	(0.4)
	OECD average 2000	-10	(45.1)	**-3**	(1.2)	**4**	(1.3)	**3**	(0.8)	**-0.7**	(0.1)
	OECD average 2003	m	m	-1	(1.2)	**4**	(1.2)	**3**	(0.8)	**-0.6**	(0.1)
	OECD average 2006	m	m	m	m	**3**	(1.2)	**4**	(0.7)	**-0.5**	(0.1)
	OECD average 2009	m	m	m	m	m	m	**3**	(0.8)	**-0.5**	(0.1)
Partners	Albania	c	c	c	c	c	c	c	c	c	c
	Argentina	**-28**	(9.8)	m	m	**19**	(8.4)	0	(5.1)	**-2.3**	(0.7)
	Brazil	3	(6.8)	-5	(7.0)	9	(6.8)	-4	(4.0)	0.1	(0.3)
	Bulgaria	1	(8.0)	m	m	**24**	(8.5)	7	(6.9)	-0.2	(0.5)
	Colombia	m	m	m	m	**17**	(7.6)	-9	(5.1)	**2.7**	(1.0)
	Costa Rica	m	m	m	m	m	m	-4	(6.1)	-1.3	(2.0)
	Croatia	m	m	m	m	5	(6.8)	**11**	(5.0)	0.8	(0.8)
	Dubai (UAE)	m	m	m	m	m	m	**8**	(3.2)	**2.8**	(1.0)
	Hong Kong-China	5	(7.3)	**29**	(7.0)	6	(6.4)	**8**	(4.1)	**1.4**	(0.4)
	Indonesia	**23**	(7.8)	6	(7.8)	0	(9.0)	-6	(5.0)	**2.0**	(0.5)
	Jordan	m	m	m	m	-3	(7.1)	-6	(5.1)	-0.7	(0.8)
	Kazakhstan	m	m	m	m	m	m	-1	(4.4)	-0.4	(1.4)
	Latvia	**19**	(8.4)	-1	(6.9)	5	(6.7)	5	(4.0)	**1.0**	(0.5)
	Liechtenstein	**22**	(10.1)	**-23**	(8.5)	-3	(7.7)	10	(6.0)	-0.3	(0.6)
	Lithuania	m	m	m	m	2	(6.7)	5	(3.9)	0.3	(0.8)
	Macao-China	m	m	7	(6.3)	**-23**	(6.6)	**22**	(2.9)	-0.4	(0.4)
	Malaysia	m	m	m	m	m	m	**-13**	(5.8)	**-4.5**	(1.9)
	Montenegro	m	m	m	m	**16**	(6.1)	**9**	(3.2)	**2.6**	(0.6)
	Peru	**52**	(7.1)	m	m	m	m	**16**	(4.6)	**4.7**	(0.4)
	Qatar	m	m	m	m	**55**	(5.8)	**8**	(2.9)	**8.6**	(0.5)
	Romania	**-23**	(9.3)	m	m	**33**	(7.7)	**12**	(5.4)	**2.1**	(0.7)
	Russian Federation	-11	(7.3)	**17**	(6.8)	**18**	(7.0)	8	(4.5)	-0.5	(0.4)
	Serbia	m	m	m	m	**39**	(7.3)	4	(4.8)	**6.6**	(0.9)
	Shanghai-China	m	m	m	m	m	m	**11**	(3.7)	**3.6**	(1.2)
	Singapore	m	m	m	m	m	m	**13**	(3.2)	**4.4**	(1.0)
	Chinese Taipei	m	m	m	m	**20**	(6.6)	**28**	(4.1)	**3.4**	(0.7)
	Thailand	-3	(7.0)	7	(7.2)	**13**	(6.5)	**17**	(4.3)	-0.3	(0.4)
	Tunisia	m	m	**18**	(7.4)	**20**	(8.0)	-4	(5.2)	**2.6**	(0.6)
	United Arab Emirates*	m	m	m	m	m	m	-3	(6.8)	-0.9	(2.5)
	Uruguay	m	m	**-18**	(6.7)	2	(7.1)	**-13**	(4.0)	**-1.3**	(0.5)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).
Annualised change is the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. This model considers that Chile, Albania, Argentina, Bulgaria, Indonesia, Peru and Thailand implemented the 2000 assessment in 2001 and Israel and Romania in 2002 as part of the PISA 2000+ and that Costa Rica, Malaysia and the United Arab Emirates (with the exception of Dubai) implemented the PISA 2009 assessment in 2010 as part of PISA 2009+. Dubai implemented the PISA 2009 assessment in 2009.
Adjusted scores are obtained by estimating a regression of students' demographic characteristics on reading performance with demographic characteristics centred at the 2012 values. Demographic characteristics that entered the model are: students' age, gender, *PISA index of economic, social and cultural status*, immigrant background (first or second generation) and whether students speak a language at home which is different from the language of instruction. Adjusted values therefore represent average scores in previous assessment assuming that demographic characteristics remained unchanged. See Annex A5 for more details on the estimation of adjusted trends.
For Costa Rica and Malaysia the change between PISA 2009 and PISA 2012 represents change between 2010 and 2012 because these countries implemented the PISA 2009 assessment in 2010 as part of PISA 2009+.
For Chile, Albania, Argentina, Bulgaria, Indonesia, Peru and Thailand, the change between the PISA 2000 and PISA 2012 represents change between 2001 and 2012 because these countries implemented the PISA 2000 assessment in 2001 as part of PISA 2000+.
For Israel and Romania, the change between the PISA 2000 and PISA 2012 represents change between 2002 and 2012 because these countries implemented the PISA 2000 assessment in 2002 as part of PISA 2000+.
In the United Arab Emirates, Dubai took the PISA 2009 assessment in 2009 and the rest of the United Arab Emirates in 2010 as part of PISA 2009+. Results are thus reported separately.
* United Arab Emirates excluding Dubai (see note above).
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[Part 1/1]

Table I.5.1a **Percentage of students at each proficiency level in science**

		All students													
		Below Level 1 (below 334.94 score points)		Level 1 (from 334.94 to less than 409.54 score points)		Level 2 (from 409.54 to less than 484.14 score points)		Level 3 (from 484.14 to less than 558.73 score points)		Level 4 (from 558.73 to less than 633.33 score points)		Level 5 (from 633.33 to less than 707.93 score points)		Level 6 (above 707.93 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	3.4	(0.3)	10.2	(0.4)	21.5	(0.5)	28.5	(0.7)	22.8	(0.6)	10.9	(0.5)	2.6	(0.3)
	Austria	3.6	(0.5)	12.2	(0.9)	24.3	(1.0)	30.1	(0.9)	21.9	(0.8)	7.0	(0.6)	0.8	(0.2)
	Belgium	5.9	(0.5)	11.8	(0.6)	21.5	(0.6)	28.7	(0.7)	23.0	(0.7)	8.1	(0.4)	0.9	(0.2)
	Canada	2.4	(0.2)	8.0	(0.4)	21.0	(0.7)	32.0	(0.5)	25.3	(0.6)	9.5	(0.5)	1.8	(0.2)
	Chile	8.1	(0.8)	26.3	(1.1)	34.6	(1.1)	22.4	(1.0)	7.5	(0.6)	1.0	(0.1)	0.0	(0.0)
	Czech Republic	3.3	(0.6)	10.5	(1.0)	24.7	(1.0)	31.7	(1.2)	22.2	(1.0)	6.7	(0.5)	0.9	(0.2)
	Denmark	4.7	(0.5)	12.0	(0.7)	25.7	(0.8)	31.3	(0.9)	19.6	(0.8)	6.1	(0.7)	0.7	(0.2)
	Estonia	0.5	(0.1)	4.5	(0.4)	19.0	(0.9)	34.5	(0.9)	28.7	(1.0)	11.1	(0.7)	1.7	(0.3)
	Finland	1.8	(0.3)	5.9	(0.5)	16.8	(0.7)	29.6	(0.8)	28.8	(0.7)	13.9	(0.6)	3.2	(0.4)
	France	6.1	(0.7)	12.6	(0.7)	22.9	(1.1)	29.2	(1.1)	21.3	(0.9)	6.9	(0.7)	1.0	(0.2)
	Germany	2.9	(0.5)	9.3	(0.7)	20.5	(0.8)	28.9	(0.9)	26.2	(1.0)	10.6	(0.8)	1.6	(0.3)
	Greece	7.4	(0.7)	18.1	(1.1)	31.0	(1.1)	28.8	(1.0)	12.2	(0.8)	2.3	(0.4)	0.2	(0.1)
	Hungary	4.1	(0.6)	14.0	(1.0)	26.4	(1.1)	30.9	(1.2)	18.7	(1.0)	5.5	(0.7)	0.5	(0.2)
	Iceland	8.0	(0.6)	16.0	(0.7)	27.5	(0.9)	27.2	(0.9)	16.2	(0.7)	4.6	(0.6)	0.6	(0.2)
	Ireland	2.6	(0.4)	8.5	(0.8)	22.0	(1.2)	31.1	(1.0)	25.0	(0.9)	9.3	(0.6)	1.5	(0.3)
	Israel	11.2	(1.1)	17.7	(0.9)	24.8	(0.9)	24.4	(1.2)	16.1	(1.1)	5.2	(0.6)	0.6	(0.2)
	Italy	4.9	(0.3)	13.8	(0.5)	26.0	(0.6)	30.1	(0.7)	19.1	(0.6)	5.5	(0.4)	0.6	(0.1)
	Japan	2.0	(0.4)	6.4	(0.6)	16.3	(0.8)	27.5	(0.9)	29.5	(1.1)	14.8	(0.9)	3.4	(0.5)
	Korea	1.2	(0.2)	5.5	(0.6)	18.0	(1.0)	33.6	(1.1)	30.1	(1.2)	10.6	(0.9)	1.1	(0.4)
	Luxembourg	7.2	(0.4)	15.1	(0.7)	24.2	(0.6)	26.2	(0.6)	19.2	(0.5)	7.0	(0.5)	1.2	(0.2)
	Mexico	12.6	(0.5)	34.4	(0.6)	37.0	(0.6)	13.8	(0.5)	2.1	(0.2)	0.1	(0.0)	0.0	c
	Netherlands	3.1	(0.5)	10.1	(0.8)	20.1	(1.3)	29.1	(1.3)	25.8	(1.2)	10.5	(1.0)	1.3	(0.3)
	New Zealand	4.7	(0.4)	11.6	(0.8)	21.7	(0.9)	26.4	(0.9)	22.3	(0.9)	10.7	(0.6)	2.7	(0.3)
	Norway	6.0	(0.6)	13.6	(0.7)	24.8	(0.8)	28.9	(0.9)	19.0	(0.8)	6.4	(0.6)	1.1	(0.2)
	Poland	1.3	(0.3)	7.7	(0.7)	22.5	(1.0)	33.1	(0.9)	24.5	(1.0)	9.1	(0.8)	1.7	(0.4)
	Portugal	4.7	(0.7)	14.3	(1.1)	27.3	(1.0)	31.4	(1.3)	17.8	(1.1)	4.2	(0.5)	0.3	(0.1)
	Slovak Republic	9.2	(0.9)	17.6	(1.1)	27.0	(1.3)	26.2	(1.6)	15.0	(1.0)	4.3	(0.6)	0.6	(0.2)
	Slovenia	2.4	(0.2)	10.4	(0.5)	24.5	(1.0)	30.0	(1.0)	23.0	(0.9)	8.4	(0.7)	1.2	(0.2)
	Spain	3.7	(0.3)	12.0	(0.5)	27.3	(0.6)	32.8	(0.6)	19.4	(0.5)	4.5	(0.3)	0.3	(0.1)
	Sweden	7.3	(0.6)	15.0	(0.8)	26.2	(0.8)	28.0	(0.8)	17.2	(0.8)	5.6	(0.4)	0.7	(0.1)
	Switzerland	3.0	(0.3)	9.8	(0.6)	22.8	(0.8)	31.3	(0.7)	23.7	(0.9)	8.3	(0.7)	1.0	(0.2)
	Turkey	4.4	(0.5)	21.9	(1.3)	35.4	(1.4)	25.1	(1.3)	11.3	(1.3)	1.8	(0.3)	0.0	c
	United Kingdom	4.3	(0.5)	10.7	(0.9)	22.4	(1.0)	28.4	(1.0)	23.0	(0.9)	9.3	(0.7)	1.8	(0.3)
	United States	4.2	(0.5)	14.0	(1.1)	26.7	(1.1)	28.9	(1.1)	18.8	(1.1)	6.3	(0.6)	1.1	(0.2)
	OECD total	4.8	(0.2)	14.6	(0.3)	25.7	(0.3)	27.5	(0.3)	19.3	(0.4)	6.9	(0.2)	1.2	(0.1)
	OECD average	4.8	(0.1)	13.0	(0.1)	24.5	(0.2)	28.8	(0.2)	20.5	(0.2)	7.2	(0.1)	1.1	(0.0)
Partners	Albania	23.5	(1.0)	29.6	(0.9)	28.5	(1.2)	14.4	(0.8)	3.6	(0.4)	0.4	(0.1)	0.0	(0.0)
	Argentina	19.8	(1.4)	31.0	(1.5)	31.1	(1.3)	14.8	(1.2)	3.0	(0.4)	0.2	(0.1)	0.0	c
	Brazil	18.6	(0.8)	35.1	(0.8)	30.7	(0.8)	12.5	(0.7)	2.8	(0.4)	0.3	(0.1)	0.0	c
	Bulgaria	14.4	(1.3)	22.5	(1.2)	26.3	(1.1)	22.5	(1.1)	11.2	(0.8)	2.8	(0.5)	0.3	(0.1)
	Colombia	19.8	(1.4)	36.3	(1.1)	30.8	(1.1)	11.0	(0.8)	1.9	(0.2)	0.1	(0.1)	0.0	c
	Costa Rica	8.6	(0.8)	30.7	(1.3)	39.2	(1.3)	17.8	(1.1)	3.4	(0.6)	0.2	(0.1)	0.0	c
	Croatia	3.2	(0.4)	14.0	(0.7)	29.1	(1.0)	31.4	(1.2)	17.6	(1.2)	4.3	(0.7)	0.3	(0.2)
	Cyprus*	14.4	(0.5)	23.7	(0.7)	30.3	(0.9)	21.3	(0.7)	8.4	(0.4)	1.8	(0.3)	0.2	(0.1)
	Hong Kong-China	1.2	(0.2)	4.4	(0.5)	13.0	(0.7)	29.8	(1.1)	34.9	(1.0)	14.9	(0.9)	1.8	(0.4)
	Indonesia	24.7	(2.0)	41.9	(1.4)	26.3	(1.5)	6.5	(1.0)	0.6	(0.3)	0.0		0.0	c
	Jordan	18.2	(1.2)	31.4	(1.0)	32.2	(1.0)	15.0	(0.9)	3.0	(0.6)	0.2	(0.2)	0.0	c
	Kazakhstan	11.3	(1.0)	30.7	(1.5)	36.8	(1.2)	17.8	(1.2)	3.3	(0.4)	0.2	(0.1)	0.0	c
	Latvia	1.8	(0.4)	10.5	(0.9)	28.2	(1.2)	35.1	(1.0)	20.0	(1.0)	4.0	(0.5)	0.3	(0.1)
	Liechtenstein	0.8	(0.7)	9.6	(1.9)	22.0	(3.9)	30.8	(3.8)	26.7	(2.6)	9.1	(1.5)	1.0	(1.0)
	Lithuania	3.4	(0.5)	12.7	(0.8)	27.6	(1.0)	32.9	(1.1)	18.3	(0.9)	4.7	(0.5)	0.4	(0.1)
	Macao-China	1.4	(0.2)	7.4	(0.5)	22.2	(0.6)	36.2	(0.8)	26.2	(0.7)	6.2	(0.3)	0.4	(0.1)
	Malaysia	14.5	(1.1)	31.0	(1.2)	33.9	(1.1)	16.5	(1.1)	3.7	(0.5)	0.3	(0.1)	0.0	c
	Montenegro	18.7	(0.7)	32.0	(1.0)	29.7	(0.9)	15.4	(0.8)	3.8	(0.5)	0.4	(0.1)	0.0	c
	Peru	31.5	(1.6)	37.0	(1.3)	23.5	(1.3)	7.0	(0.9)	1.0	(0.3)	0.0	c	0.0	c
	Qatar	34.6	(0.4)	28.0	(0.6)	19.6	(0.7)	11.2	(0.4)	5.1	(0.4)	1.3	(0.1)	0.1	(0.0)
	Romania	8.7	(0.8)	28.7	(1.3)	34.6	(1.2)	21.0	(1.1)	6.2	(0.8)	0.9	(0.3)	0.0	c
	Russian Federation	3.6	(0.4)	15.1	(1.0)	30.1	(1.1)	31.2	(0.9)	15.7	(1.0)	3.9	(0.5)	0.3	(0.2)
	Serbia	10.3	(1.0)	24.7	(1.2)	32.4	(1.2)	22.8	(1.1)	8.1	(0.6)	1.6	(0.4)	0.1	(0.1)
	Shanghai-China	0.3	(0.1)	2.4	(0.4)	10.0	(0.9)	24.6	(0.9)	35.5	(1.1)	23.0	(1.1)	4.2	(0.6)
	Singapore	2.2	(0.3)	7.4	(0.5)	16.7	(0.7)	24.0	(0.7)	27.0	(0.9)	16.9	(0.9)	5.8	(0.4)
	Chinese Taipei	1.6	(0.3)	8.2	(0.6)	20.8	(0.9)	33.7	(1.0)	27.3	(1.0)	7.8	(0.6)	0.6	(0.1)
	Thailand	7.0	(0.6)	26.6	(1.3)	37.5	(1.1)	21.6	(1.1)	6.4	(0.7)	0.9	(0.3)	0.1	(0.0)
	Tunisia	21.3	(1.5)	34.0	(1.1)	31.1	(1.4)	11.7	(1.0)	1.8	(0.5)	0.1	(0.1)	0.0	c
	United Arab Emirates	11.3	(0.8)	23.8	(1.0)	29.9	(0.8)	22.3	(0.9)	10.1	(0.6)	2.3	(0.2)	0.3	(0.1)
	Uruguay	19.7	(1.1)	27.2	(0.9)	29.3	(1.0)	17.1	(0.9)	5.6	(0.5)	1.0	(0.2)	0.0	(0.0)
	Viet Nam	0.9	(0.3)	5.8	(0.9)	20.7	(1.4)	37.5	(1.5)	27.0	(1.5)	7.1	(0.9)	1.0	(0.3)

* See notes at the beginning of this Annex.

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[Part 1/1]

Table I.5.1b **Percentage of students below Level 2 and at Level 5 or above in science in PISA 2006 through 2012**

		Proficiency levels in PISA 2006				Proficiency levels in PISA 2009				Proficiency levels in PISA 2012				Change between 2006 and 2012 (PISA 2012 - PISA 2006)				Change between 2009 and 2012 (PISA 2012 - PISA 2009)			
		Below Level 2 (less than 409.54 score points)		Level 5 or above (above 633.33 score points)		Below Level 2 (less than 409.54 score points)		Level 5 or above (above 633.33 score points)		Below Level 2 (less than 409.54 score points)		Level 5 or above (above 633.33 score points)		Below Level 2 (less than 409.54 score points)		Level 5 or above (above 633.33 score points)		Below Level 2 (less than 409.54 score points)		Level 5 or above (above 633.33 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	% dif.	S.E.	% dif.	S.E.	% dif.	S.E.	% dif.	S.E.
OECD	Australia	12.9	(0.6)	14.6	(0.7)	12.6	(0.6)	14.5	(0.8)	13.6	(0.5)	13.6	(0.5)	0.8	(1.0)	-1.1	(1.2)	1.1	(0.9)	-1.0	(1.1)
	Austria	16.3	(1.4)	10.0	(0.8)	m	m	m	m	15.8	(1.0)	7.9	(0.7)	-0.6	(2.0)	-2.1	(1.2)	m	m	m	m
	Belgium	17.0	(1.0)	10.1	(0.5)	18.0	(0.8)	10.1	(0.7)	17.7	(0.9)	9.1	(0.4)	0.7	(1.5)	-1.0	(1.0)	-0.3	(1.3)	-1.0	(0.9)
	Canada	10.0	(0.6)	14.4	(0.5)	9.6	(0.5)	12.1	(0.5)	10.4	(0.5)	11.3	(0.5)	0.4	(1.0)	**-3.1**	(1.2)	0.9	(0.7)	-0.8	(0.9)
	Chile	39.7	(2.1)	1.9	(0.3)	32.3	(1.4)	1.1	(0.2)	34.5	(1.6)	1.0	(0.2)	-5.2	(3.0)	**-0.9**	(0.4)	2.2	(2.3)	-0.1	(0.3)
	Czech Republic	15.5	(1.2)	11.6	(0.9)	17.3	(1.2)	8.4	(0.7)	13.8	(1.1)	7.6	(0.6)	-1.8	(1.8)	**-4.0**	(1.3)	**-3.5**	(1.7)	-0.7	(1.0)
	Denmark	18.4	(1.1)	6.8	(0.7)	16.6	(0.8)	6.7	(0.6)	16.7	(1.0)	6.8	(0.7)	-1.7	(1.8)	0.0	(1.1)	0.1	(1.4)	0.0	(1.0)
	Estonia	7.7	(0.6)	11.5	(0.8)	8.3	(0.8)	10.4	(0.8)	5.0	(0.5)	12.8	(0.7)	**-2.6**	(0.9)	1.3	(1.4)	**-3.3**	(1.0)	**2.4**	(1.2)
	Finland	4.1	(0.5)	20.9	(0.8)	6.0	(0.5)	18.7	(0.9)	7.7	(0.6)	17.1	(0.7)	**3.6**	(0.9)	**-3.9**	(1.5)	**1.7**	(0.8)	-1.6	(1.3)
	France	21.2	(1.4)	8.0	(0.7)	19.3	(1.3)	8.1	(0.8)	18.7	(1.0)	7.9	(0.8)	-2.4	(1.9)	-0.1	(1.2)	-0.5	(1.7)	-0.2	(1.2)
	Germany	15.4	(1.3)	11.8	(0.7)	14.8	(1.0)	12.8	(0.8)	12.2	(0.9)	12.2	(1.0)	-3.2	(1.8)	0.3	(1.5)	-2.6	(1.4)	-0.6	(1.3)
	Greece	24.0	(1.3)	3.4	(0.4)	25.3	(1.6)	3.1	(0.4)	25.5	(1.5)	2.5	(0.4)	1.5	(2.3)	-0.9	(0.6)	0.2	(2.3)	-0.6	(0.6)
	Hungary	15.0	(1.0)	6.9	(0.6)	14.1	(1.4)	5.4	(0.6)	18.0	(1.1)	5.9	(0.8)	3.0	(1.8)	-1.0	(1.2)	**3.9**	(1.9)	0.5	(1.0)
	Iceland	20.6	(0.8)	6.3	(0.5)	17.9	(0.7)	7.0	(0.4)	24.0	(0.8)	5.2	(0.6)	**3.4**	(1.5)	-1.1	(0.9)	**6.0**	(1.2)	**-1.7**	(0.8)
	Ireland	15.5	(1.1)	9.4	(0.7)	15.2	(1.1)	8.7	(0.8)	11.1	(0.9)	10.7	(0.6)	**-4.4**	(1.6)	1.3	(1.1)	**-4.1**	(1.5)	2.0	(1.0)
	Israel	36.1	(1.4)	5.2	(0.6)	33.1	(1.2)	3.9	(0.4)	28.9	(1.7)	5.8	(0.6)	**-7.3**	(2.4)	0.6	(1.0)	**-4.2**	(2.1)	**1.9**	(0.8)
	Italy	25.3	(0.9)	4.6	(0.3)	20.6	(0.6)	5.8	(0.3)	18.7	(0.7)	6.1	(0.4)	**-6.6**	(1.5)	**1.5**	(0.7)	-1.9	(1.1)	0.3	(0.6)
	Japan	12.0	(1.0)	15.1	(0.8)	10.7	(1.0)	16.9	(0.9)	8.5	(0.9)	18.2	(1.2)	**-3.6**	(1.5)	3.2	(1.8)	-2.2	(1.4)	1.3	(1.7)
	Korea	11.2	(1.1)	10.3	(1.1)	6.3	(0.8)	11.6	(1.1)	6.6	(0.8)	11.7	(1.1)	**-4.6**	(1.5)	1.4	(1.8)	0.3	(1.2)	0.1	(1.7)
	Luxembourg	22.1	(0.5)	5.9	(0.4)	23.7	(0.8)	6.7	(0.5)	22.2	(0.6)	8.2	(0.5)	0.1	(1.3)	**2.3**	(0.9)	-1.5	(1.1)	1.5	(0.8)
	Mexico	50.9	(1.4)	0.3	(0.1)	47.4	(1.0)	0.2	(0.0)	47.0	(0.8)	0.1	(0.0)	-3.9	(2.6)	-0.1	(0.1)	-0.3	(1.7)	-0.1	(0.1)
	Netherlands	13.0	(1.0)	13.1	(0.9)	13.2	(1.6)	12.7	(1.2)	13.1	(1.1)	11.8	(1.1)	0.2	(1.8)	-1.3	(1.6)	-0.1	(2.0)	-0.9	(1.7)
	New Zealand	13.7	(0.7)	17.6	(0.8)	13.4	(0.7)	17.6	(0.8)	16.3	(0.9)	13.4	(0.7)	2.6	(1.4)	**-4.2**	(1.3)	**2.9**	(1.2)	**-4.3**	(1.1)
	Norway	21.1	(1.3)	6.1	(0.5)	15.8	(0.9)	6.4	(0.6)	19.6	(1.1)	7.5	(0.6)	-1.4	(1.9)	1.5	(0.9)	**3.9**	(1.5)	1.1	(0.9)
	Poland	17.0	(0.8)	6.8	(0.5)	13.1	(0.8)	7.5	(0.5)	9.0	(0.7)	10.8	(1.0)	**-8.0**	(1.3)	**4.1**	(1.4)	**-4.1**	(1.2)	**3.3**	(1.2)
	Portugal	24.5	(1.4)	3.1	(0.4)	16.5	(1.1)	4.2	(0.5)	19.0	(1.4)	4.5	(0.5)	**-5.5**	(2.2)	1.4	(0.8)	2.5	(1.9)	0.4	(0.8)
	Slovak Republic	20.2	(1.0)	5.8	(0.5)	19.3	(1.2)	6.2	(0.6)	26.9	(1.6)	4.9	(0.7)	**6.7**	(2.1)	-0.9	(1.0)	**7.6**	(2.0)	-1.4	(1.0)
	Slovenia	13.9	(0.6)	12.9	(0.6)	14.8	(0.5)	9.9	(0.6)	12.9	(0.6)	9.6	(0.7)	-1.0	(1.2)	**-3.3**	(1.2)	**-1.9**	(0.9)	-0.3	(1.0)
	Spain	19.6	(0.9)	4.9	(0.4)	18.2	(0.9)	4.0	(0.3)	15.7	(0.7)	4.8	(0.3)	**-3.9**	(1.5)	-0.1	(0.7)	**-2.5**	(1.2)	0.8	(0.5)
	Sweden	16.4	(0.8)	7.9	(0.5)	19.1	(1.0)	8.1	(0.6)	22.2	(1.1)	6.3	(0.5)	**5.9**	(1.7)	-1.5	(0.9)	3.1	(1.6)	**-1.8**	(0.8)
	Switzerland	16.1	(0.9)	10.5	(0.8)	14.0	(0.8)	10.7	(0.9)	12.8	(0.7)	9.3	(0.8)	**-3.2**	(1.4)	-1.2	(1.3)	-1.2	(1.1)	-1.4	(1.2)
	Turkey	46.6	(1.6)	0.9	(0.3)	30.0	(1.5)	1.1	(0.3)	26.4	(1.5)	1.8	(0.4)	**-20.2**	(2.7)	0.9	(0.5)	-3.6	(2.3)	0.7	(0.5)
	United Kingdom	16.7	(0.8)	13.7	(0.6)	15.0	(0.8)	11.4	(0.7)	15.0	(1.1)	11.2	(0.8)	-1.8	(1.5)	**-2.6**	(1.3)	0.0	(1.4)	-0.2	(1.2)
	United States	24.4	(1.6)	9.1	(0.7)	18.1	(1.1)	9.2	(1.0)	18.1	(1.3)	7.5	(0.7)	**-6.2**	(2.3)	-1.6	(1.2)	0.0	(1.8)	-1.7	(1.3)
	OECD average 2006	19.8	(0.2)	8.9	(0.1)	17.9	(0.2)	8.5	(0.1)	17.8	(0.2)	8.4	(0.1)	**-2.1**	(0.3)	**-0.5**	(0.2)	0.0	(0.3)	-0.1	(0.2)
	OECD average 2009	m	m	m	m	17.9	(0.2)	8.5	(0.1)	17.8	(0.2)	8.4	(0.1)	m	m	m	m	0.0	(0.3)	-0.1	(0.2)
Partners	Albania	m	m	m	m	57.3	(2.0)	0.1	(0.1)	53.1	(1.2)	0.4	(0.1)	m	m	m	m	-4.2	(2.4)	**0.3**	(0.2)
	Argentina	56.3	(2.5)	0.4	(0.1)	52.4	(1.9)	0.7	(0.2)	50.9	(2.2)	0.2	(0.1)	-5.4	(3.8)	-0.2	(0.2)	-1.5	(3.1)	-0.4	(0.2)
	Brazil	61.0	(1.4)	0.6	(0.2)	54.2	(1.3)	0.6	(0.1)	53.7	(1.1)	0.3	(0.1)	**-7.3**	(2.5)	-0.3	(0.2)	-0.5	(2.0)	-0.3	(0.2)
	Bulgaria	42.6	(2.4)	3.1	(0.6)	38.8	(2.5)	2.6	(0.5)	36.9	(2.0)	3.1	(0.6)	-5.7	(3.4)	0.0	(0.9)	-1.9	(3.3)	0.4	(0.8)
	Colombia	60.2	(1.8)	0.2	(0.1)	54.1	(1.9)	0.1	(0.1)	56.2	(1.6)	0.1	(0.1)	-4.0	(3.1)	0.0	(0.1)	2.1	(2.8)	0.0	(0.1)
	Costa Rica	m	m	m	m	39.0	(1.5)	0.3	(0.1)	39.3	(1.7)	0.2	(0.1)	m	m	m	m	0.3	(2.5)	-0.1	(0.2)
	Croatia	17.0	(0.9)	5.1	(0.5)	18.5	(1.1)	3.7	(0.6)	17.3	(0.9)	4.6	(0.8)	0.3	(1.6)	-0.5	(1.0)	-1.2	(1.6)	0.9	(1.0)
	Dubai (UAE)	m	m	m	m	30.5	(0.6)	5.6	(0.3)	26.7	(0.6)	5.0	(0.4)	m	m	m	m	**-3.9**	(1.1)	-0.6	(0.6)
	Hong Kong-China	8.7	(0.8)	15.9	(0.9)	6.6	(0.7)	16.2	(1.0)	5.6	(0.6)	16.7	(1.0)	**-3.2**	(1.1)	0.8	(2.0)	-1.1	(1.0)	0.5	(1.7)
	Indonesia	61.6	(3.4)	c	c	65.6	(2.3)	c	c	66.6	(2.2)	c	c	5.0	(4.4)	c	c	1.0	(3.3)	c	c
	Jordan	44.3	(1.2)	0.6	(0.2)	45.6	(1.7)	0.5	(0.2)	49.6	(1.5)	0.2	(0.2)	**5.2**	(2.6)	-0.4	(0.3)	3.9	(2.5)	-0.2	(0.2)
	Kazakhstan	m	m	m	m	55.4	(1.6)	0.3	(0.2)	41.9	(1.8)	0.2	(0.1)	m	m	m	m	**-13.5**	(2.6)	-0.1	(0.2)
	Latvia	17.4	(1.2)	4.1	(0.4)	14.7	(1.2)	3.1	(0.5)	12.4	(1.0)	4.4	(0.5)	**-5.1**	(1.8)	0.3	(0.8)	-2.4	(1.6)	1.3	(0.7)
	Liechtenstein	12.9	(2.2)	12.2	(1.7)	11.3	(1.9)	9.7	(1.8)	10.4	(2.0)	10.1	(1.8)	-2.5	(3.0)	-2.1	(2.6)	-0.9	(2.8)	0.4	(2.5)
	Lithuania	20.3	(1.0)	5.0	(0.7)	17.0	(1.1)	4.6	(0.5)	16.1	(1.1)	5.1	(0.5)	**-4.3**	(1.7)	0.1	(1.0)	-0.9	(1.6)	0.5	(0.7)
	Macao-China	10.3	(0.5)	5.3	(0.4)	9.6	(0.4)	4.8	(0.5)	8.8	(0.5)	6.7	(0.4)	-1.5	(1.0)	1.4	(0.8)	-0.9	(0.8)	**1.9**	(0.7)
	Malaysia	m	m	m	m	43.0	(1.5)	0.2	(0.1)	45.5	(1.6)	0.3	(0.1)	m	m	m	m	2.5	(2.4)	0.1	(0.1)
	Montenegro	50.2	(0.9)	0.3	(0.1)	53.6	(1.0)	0.2	(0.1)	50.7	(0.7)	0.4	(0.1)	0.5	(2.0)	0.1	(0.2)	-2.9	(1.6)	0.1	(0.2)
	Peru	m	m	m	m	68.3	(1.7)	0.2	(0.1)	68.5	(2.0)	c	c	m	m	m	m	0.2	(2.7)	c	c
	Qatar	79.1	(0.4)	0.3	(0.1)	65.2	(0.6)	1.4	(0.1)	62.6	(0.5)	1.5	(0.1)	**-16.5**	(1.3)	**1.1**	(0.2)	**-2.6**	(1.0)	0.0	(0.2)
	Romania	46.9	(2.4)	0.5	(0.1)	41.4	(2.1)	0.4	(0.1)	37.3	(1.6)	0.9	(0.3)	**-9.6**	(3.5)	0.5	(0.3)	-4.1	(2.9)	0.5	(0.3)
	Russian Federation	22.2	(1.4)	4.2	(0.5)	22.0	(1.4)	4.4	(0.5)	18.8	(1.1)	4.3	(0.6)	-3.5	(2.2)	0.1	(0.9)	-3.2	(2.0)	-0.1	(0.8)
	Serbia	38.5	(1.6)	0.8	(0.2)	34.4	(1.3)	1.0	(0.2)	35.0	(1.8)	1.7	(0.4)	-3.5	(2.8)	**0.9**	(0.4)	0.6	(2.4)	0.7	(0.4)
	Shanghai-China	m	m	m	m	3.2	(0.4)	24.3	(1.2)	2.7	(0.4)	27.2	(1.3)	m	m	m	m	-0.4	(0.6)	2.9	(2.0)
	Singapore	m	m	m	m	11.5	(0.5)	19.9	(0.6)	9.6	(0.5)	22.7	(0.8)	m	m	m	m	**-1.9**	(0.8)	**2.8**	(1.2)
	Chinese Taipei	11.6	(1.0)	14.6	(0.9)	11.1	(0.7)	8.8	(0.9)	9.8	(0.8)	8.3	(0.6)	-1.8	(1.5)	**-6.3**	(1.3)	-1.2	(1.2)	-0.5	(1.1)
	Thailand	46.1	(1.2)	0.4	(0.1)	42.8	(1.6)	0.6	(0.3)	33.6	(1.6)	0.9	(0.3)	**-12.5**	(2.7)	0.5	(0.3)	**-9.2**	(2.5)	0.3	(0.4)
	Tunisia	62.8	(1.4)	0.1	(0.1)	53.7	(1.4)	0.2	(0.1)	55.3	(1.9)	0.1	(0.1)	**-7.4**	(2.9)	0.0	(0.1)	1.6	(2.6)	0.0	(0.1)
	United Arab Emirates*	m	m	m	m	41.9	(1.6)	1.1	(0.3)	38.2	(1.7)	1.6	(0.3)	m	m	m	m	-3.7	(2.5)	0.5	(0.4)
	Uruguay	42.1	(1.4)	1.4	(0.2)	42.6	(1.1)	1.5	(0.2)	46.9	(1.3)	1.0	(0.2)	**4.8**	(2.3)	-0.4	(0.3)	**4.3**	(1.8)	-0.5	(0.3)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

In the United Arab Emirates, Dubai took the PISA 2009 assessment in 2009 and the rest of the United Arab Emirates in 2010 as part of PISA 2009+. Results are thus reported separately.

For Costa Rica and Malaysia the change between PISA 2009 and PISA 2012 represents change between 2010 and 2012 because these countries implemented the PISA 2009 assessment in 2010 as part of PISA 2009+.

* United Arab Emirates excluding Dubai (see note above).

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[Part 1/2]

Table I.5.2a **Percentage of students at each proficiency level in science, by gender**

		Boys													
		Below Level 1 (below 334.94 score points)		Level 1 (from 334.94 to less than 409.54 score points)		Level 2 (from 409.54 to less than 484.14 score points)		Level 3 (from 484.14 to less than 558.73 score points)		Level 4 (from 558.73 to less than 633.33 score points)		Level 5 (from 633.33 to less than 707.93 score points)		Level 6 (above 707.93 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	3.7	(0.3)	10.2	(0.5)	20.8	(0.7)	27.4	(0.8)	23.0	(0.8)	11.6	(0.7)	3.2	(0.4)
	Austria	3.4	(0.6)	12.8	(1.2)	23.2	(1.3)	28.1	(1.3)	22.8	(1.2)	8.4	(1.0)	1.3	(0.4)
	Belgium	6.8	(0.8)	11.8	(0.8)	19.9	(1.0)	27.4	(0.9)	23.5	(0.9)	9.3	(0.6)	1.2	(0.2)
	Canada	2.8	(0.4)	8.3	(0.5)	20.3	(0.8)	30.5	(0.9)	25.5	(0.9)	10.4	(0.6)	2.1	(0.3)
	Chile	8.2	(1.1)	25.2	(1.4)	33.0	(1.2)	23.9	(1.3)	8.4	(0.9)	1.2	(0.2)	0.1	(0.0)
	Czech Republic	3.7	(0.8)	10.9	(1.2)	23.3	(1.4)	31.2	(2.1)	22.9	(1.3)	7.0	(0.6)	1.0	(0.3)
	Denmark	5.0	(0.8)	11.5	(0.9)	23.4	(1.1)	31.1	(1.3)	21.0	(1.1)	7.1	(0.8)	1.0	(0.3)
	Estonia	0.7	(0.2)	5.3	(0.6)	19.2	(1.2)	33.2	(1.1)	28.3	(1.2)	11.4	(0.9)	1.9	(0.3)
	Finland	2.2	(0.4)	7.4	(0.8)	18.8	(1.0)	28.8	(1.2)	26.8	(1.1)	12.8	(0.8)	3.2	(0.5)
	France	7.3	(1.0)	13.3	(1.0)	21.5	(1.3)	27.3	(1.3)	21.8	(1.0)	7.6	(0.8)	1.2	(0.3)
	Germany	3.2	(0.6)	9.7	(0.9)	20.2	(1.0)	28.6	(1.1)	25.5	(1.4)	11.1	(1.0)	1.8	(0.3)
	Greece	9.8	(1.1)	20.0	(1.3)	28.6	(1.2)	26.5	(1.3)	12.5	(1.0)	2.4	(0.5)	0.2	(0.2)
	Hungary	4.0	(0.7)	14.8	(1.6)	25.5	(1.6)	29.7	(1.5)	18.9	(1.2)	6.4	(0.9)	0.7	(0.3)
	Iceland	9.4	(1.0)	16.2	(1.1)	26.0	(1.2)	26.6	(1.2)	16.0	(1.0)	5.1	(0.8)	0.8	(0.2)
	Ireland	2.8	(0.6)	8.8	(1.0)	20.8	(1.3)	30.7	(1.2)	25.2	(1.2)	9.9	(0.8)	1.8	(0.4)
	Israel	14.1	(1.6)	17.4	(1.3)	21.6	(1.3)	21.5	(1.5)	17.7	(1.6)	6.8	(1.0)	0.9	(0.4)
	Italy	5.4	(0.4)	14.1	(0.6)	24.7	(0.7)	28.8	(0.7)	19.7	(0.8)	6.5	(0.6)	0.7	(0.1)
	Japan	2.2	(0.5)	6.7	(0.8)	15.2	(1.1)	25.2	(1.2)	29.2	(1.3)	16.9	(1.2)	4.5	(0.7)
	Korea	1.3	(0.3)	6.3	(0.9)	17.6	(1.2)	31.4	(1.7)	30.2	(1.7)	11.6	(1.3)	1.6	(0.7)
	Luxembourg	7.0	(0.5)	13.3	(0.9)	23.0	(1.0)	27.0	(0.9)	19.7	(0.8)	8.3	(0.5)	1.7	(0.2)
	Mexico	12.5	(0.6)	32.7	(0.7)	36.9	(0.8)	15.1	(0.7)	2.6	(0.2)	0.2	(0.1)	0.0	c
	Netherlands	3.1	(0.7)	10.1	(0.9)	19.8	(1.7)	28.4	(1.7)	26.0	(1.4)	11.2	(1.3)	1.4	(0.4)
	New Zealand	5.6	(0.7)	11.5	(1.1)	20.3	(1.3)	24.7	(1.5)	23.1	(1.3)	11.6	(0.9)	3.2	(0.4)
	Norway	6.8	(0.7)	14.0	(0.9)	24.8	(1.1)	27.5	(1.1)	19.1	(1.0)	6.7	(0.7)	1.2	(0.4)
	Poland	1.7	(0.4)	8.5	(0.9)	22.5	(1.2)	32.1	(1.3)	23.8	(1.3)	9.5	(1.0)	2.0	(0.5)
	Portugal	5.5	(0.9)	14.7	(1.3)	25.9	(1.2)	30.9	(1.5)	17.7	(1.2)	4.8	(0.8)	0.4	(0.2)
	Slovak Republic	8.5	(1.0)	18.3	(1.3)	26.9	(1.4)	24.7	(1.6)	15.3	(1.3)	5.5	(0.8)	0.8	(0.3)
	Slovenia	3.0	(0.3)	11.9	(0.9)	25.1	(1.7)	28.2	(1.9)	22.2	(1.2)	8.7	(0.9)	1.1	(0.3)
	Spain	4.1	(0.4)	11.8	(0.6)	25.5	(0.9)	31.7	(1.0)	20.9	(0.8)	5.5	(0.4)	0.5	(0.1)
	Sweden	9.0	(1.0)	15.8	(1.1)	24.9	(1.3)	26.4	(1.2)	17.0	(1.0)	6.0	(0.6)	0.9	(0.3)
	Switzerland	3.1	(0.3)	9.9	(0.8)	22.1	(0.9)	30.2	(1.3)	24.1	(1.4)	9.4	(1.2)	1.3	(0.3)
	Turkey	5.6	(0.8)	24.4	(1.7)	34.1	(1.8)	22.9	(1.5)	11.1	(1.4)	1.9	(0.5)	0.1	c
	United Kingdom	3.8	(0.6)	10.1	(1.0)	21.4	(1.2)	27.6	(1.2)	24.5	(1.3)	10.5	(1.1)	2.2	(0.5)
	United States	5.0	(0.7)	14.9	(1.4)	25.0	(1.2)	27.6	(1.4)	19.3	(1.2)	6.8	(0.8)	1.3	(0.3)
	OECD total	5.3	(0.2)	14.9	(0.4)	24.5	(0.4)	26.4	(0.4)	19.7	(0.4)	7.7	(0.3)	1.5	(0.1)
	OECD average	5.3	(0.1)	13.3	(0.2)	23.6	(0.2)	27.7	(0.2)	20.7	(0.2)	7.9	(0.1)	1.4	(0.1)
Partners	Albania	24.7	(1.5)	30.7	(1.3)	27.2	(1.7)	13.7	(1.2)	3.1	(0.5)	0.4	(0.1)	0.0	c
	Argentina	20.9	(1.8)	31.4	(1.8)	31.0	(1.9)	13.4	(1.3)	3.0	(0.5)	0.3	(0.1)	0.0	c
	Brazil	19.3	(0.9)	33.9	(0.9)	30.4	(0.9)	12.9	(0.8)	3.1	(0.5)	0.3	(0.1)	0.0	c
	Bulgaria	17.6	(1.7)	24.2	(1.4)	24.4	(1.2)	20.4	(1.4)	10.7	(1.0)	2.5	(0.5)	0.3	(0.2)
	Colombia	17.4	(1.5)	34.1	(1.6)	31.7	(1.2)	13.7	(1.1)	2.8	(0.4)	0.2	(0.2)	0.0	c
	Costa Rica	8.1	(1.0)	28.3	(1.7)	38.5	(1.6)	20.1	(1.4)	4.5	(0.7)	0.4	(0.2)	0.0	c
	Croatia	3.9	(0.6)	15.6	(1.1)	27.6	(1.3)	29.3	(1.5)	18.4	(1.4)	4.8	(0.8)	0.5	(0.3)
	Cyprus*	18.3	(0.7)	23.6	(1.1)	26.8	(1.1)	20.0	(0.8)	8.8	(0.7)	2.3	(0.4)	0.3	(0.1)
	Hong Kong-China	1.3	(0.3)	4.7	(0.7)	12.9	(0.9)	27.6	(1.5)	34.6	(1.5)	16.4	(1.2)	2.5	(0.6)
	Indonesia	26.2	(2.1)	41.1	(1.8)	25.5	(1.8)	6.7	(1.2)	0.6	(0.3)	0.0	c	0.0	c
	Jordan	26.9	(2.1)	34.0	(1.5)	25.8	(1.7)	10.6	(1.2)	2.5	(0.9)	0.3	(0.3)	0.0	c
	Kazakhstan	13.3	(1.1)	31.4	(1.7)	34.8	(1.7)	17.2	(1.3)	3.2	(0.6)	0.2	(0.1)	0.0	c
	Latvia	2.5	(0.8)	12.7	(1.4)	29.6	(1.5)	32.7	(1.4)	18.0	(1.2)	4.0	(0.6)	0.4	(0.2)
	Liechtenstein	0.7	c	7.6	(2.2)	20.8	(3.9)	33.2	(4.7)	25.1	(3.8)	11.4	(2.6)	1.3	c
	Lithuania	4.3	(0.7)	15.2	(1.2)	28.3	(1.1)	30.2	(1.4)	16.7	(1.0)	5.0	(0.6)	0.4	(0.1)
	Macao-China	1.7	(0.3)	8.4	(0.6)	21.8	(0.8)	34.1	(1.1)	26.4	(0.9)	7.0	(0.6)	0.5	(0.1)
	Malaysia	17.1	(1.7)	31.7	(1.7)	32.2	(1.6)	15.0	(1.4)	3.7	(0.8)	0.4	(0.2)	0.0	c
	Montenegro	22.6	(1.1)	32.1	(1.3)	27.3	(1.1)	14.1	(1.1)	3.5	(0.6)	0.4	(0.2)	0.0	c
	Peru	30.2	(1.8)	37.4	(1.3)	23.9	(1.6)	7.5	(1.0)	0.9	(0.4)	0.0	c	0.0	c
	Qatar	42.8	(0.6)	25.1	(0.7)	16.3	(0.7)	9.9	(0.5)	4.6	(0.4)	1.2	(0.2)	0.1	(0.1)
	Romania	9.6	(0.9)	29.9	(1.7)	33.6	(1.8)	19.5	(1.3)	6.2	(1.0)	1.2	(0.4)	0.1	c
	Russian Federation	4.4	(0.6)	16.0	(1.4)	29.7	(1.5)	29.9	(1.1)	15.6	(1.2)	3.9	(0.6)	0.5	(0.2)
	Serbia	11.1	(1.3)	25.7	(1.5)	31.1	(1.6)	21.9	(1.4)	8.3	(0.7)	1.7	(0.4)	0.1	(0.1)
	Shanghai-China	0.4	(0.2)	2.7	(0.5)	9.7	(1.0)	23.7	(1.4)	34.0	(1.4)	24.5	(1.4)	4.9	(0.7)
	Singapore	2.9	(0.4)	8.1	(0.6)	16.3	(1.0)	22.6	(1.2)	26.3	(1.3)	17.0	(1.1)	6.8	(0.5)
	Chinese Taipei	2.1	(0.4)	9.4	(0.9)	19.3	(1.1)	31.3	(1.4)	28.9	(1.3)	8.4	(1.3)	0.6	(0.2)
	Thailand	9.7	(1.0)	30.0	(1.6)	35.6	(1.6)	18.3	(1.2)	5.6	(0.8)	0.7	(0.3)	0.1	(0.1)
	Tunisia	22.0	(1.8)	33.4	(1.4)	30.0	(1.8)	12.3	(1.3)	2.2	(0.6)	0.1	(0.1)	0.0	c
	United Arab Emirates	16.1	(1.1)	26.6	(1.4)	27.1	(1.2)	18.7	(1.0)	9.0	(0.8)	2.2	(0.3)	0.3	(0.1)
	Uruguay	21.1	(1.6)	26.1	(1.4)	28.0	(1.3)	17.0	(1.3)	6.4	(0.7)	1.3	(0.4)	0.1	(0.1)
	Viet Nam	1.0	(0.3)	6.7	(1.2)	20.2	(1.8)	35.8	(1.9)	26.6	(1.7)	8.4	(1.1)	1.2	(0.4)

* See notes at the beginning of this Annex.

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[Part 2/2]

Table I.5.2a **Percentage of students at each proficiency level in science, by gender**

		Girls													
		Below Level 1 (below 334.94 score points)		Level 1 (from 334.94 to less than 409.54 score points)		Level 2 (from 409.54 to less than 484.14 score points)		Level 3 (from 484.14 to less than 558.73 score points)		Level 4 (from 558.73 to less than 633.33 score points)		Level 5 (from 633.33 to less than 707.93 score points)		Level 6 (above 707.93 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	3.1	(0.3)	10.2	(0.6)	22.2	(0.7)	29.7	(1.0)	22.5	(0.9)	10.2	(0.6)	2.1	(0.2)
OECD	Austria	3.8	(0.7)	11.6	(1.3)	25.5	(1.4)	32.2	(1.4)	21.0	(1.1)	5.7	(0.7)	0.4	(0.2)
OECD	Belgium	5.0	(0.6)	11.8	(0.7)	23.1	(0.9)	30.0	(1.0)	22.5	(0.9)	6.9	(0.4)	0.7	(0.2)
OECD	Canada	2.0	(0.3)	7.7	(0.5)	21.7	(1.0)	33.4	(0.8)	25.2	(0.8)	8.5	(0.5)	1.5	(0.2)
OECD	Chile	8.1	(0.9)	27.5	(1.3)	36.0	(1.5)	20.9	(1.2)	6.7	(0.6)	0.7	(0.2)	0.0	(0.0)
OECD	Czech Republic	2.9	(0.7)	10.0	(1.4)	26.2	(1.3)	32.1	(1.6)	21.5	(1.3)	6.5	(0.7)	0.8	(0.3)
OECD	Denmark	4.4	(0.5)	12.5	(0.9)	27.9	(1.1)	31.5	(1.3)	18.3	(1.1)	5.0	(0.8)	0.4	(0.2)
OECD	Estonia	0.4	(0.2)	3.8	(0.5)	18.7	(1.2)	35.7	(1.2)	29.2	(1.4)	10.8	(0.9)	1.5	(0.3)
OECD	Finland	1.3	(0.3)	4.3	(0.4)	14.7	(0.9)	30.5	(1.0)	31.0	(1.3)	14.9	(0.9)	3.2	(0.4)
OECD	France	5.0	(0.6)	12.0	(0.8)	24.2	(1.3)	31.0	(1.4)	20.8	(1.3)	6.4	(0.8)	0.7	(0.2)
OECD	Germany	2.5	(0.5)	8.9	(0.9)	20.9	(1.2)	29.3	(1.1)	26.9	(1.2)	10.1	(0.9)	1.3	(0.4)
OECD	Greece	5.1	(0.7)	16.2	(1.3)	33.4	(1.5)	31.1	(1.5)	11.9	(0.8)	2.2	(0.5)	0.2	(0.1)
OECD	Hungary	4.1	(0.8)	13.2	(1.3)	27.3	(1.8)	32.0	(1.5)	18.5	(1.1)	4.5	(0.7)	0.3	(0.2)
OECD	Iceland	6.6	(0.7)	15.8	(1.1)	28.9	(1.3)	27.7	(1.1)	16.4	(1.0)	4.1	(0.8)	0.5	(0.2)
OECD	Ireland	2.3	(0.5)	8.2	(1.1)	23.4	(1.6)	31.6	(1.4)	24.7	(1.4)	8.6	(0.8)	1.1	(0.2)
OECD	Israel	8.4	(1.0)	17.9	(1.1)	27.9	(1.3)	27.2	(1.7)	14.6	(1.2)	3.7	(0.5)	0.4	(0.2)
OECD	Italy	4.3	(0.5)	13.5	(0.8)	27.4	(0.8)	31.6	(0.9)	18.4	(0.7)	4.4	(0.4)	0.4	(0.1)
OECD	Japan	1.8	(0.4)	6.1	(0.7)	17.6	(1.1)	30.1	(1.4)	29.7	(1.2)	12.6	(1.0)	2.2	(0.4)
OECD	Korea	1.0	(0.3)	4.5	(0.6)	18.5	(1.5)	36.0	(1.2)	30.0	(1.7)	9.4	(1.2)	0.6	(0.2)
OECD	Luxembourg	7.4	(0.7)	16.8	(1.2)	25.5	(1.3)	25.4	(0.9)	18.7	(0.8)	5.6	(0.8)	0.7	(0.2)
OECD	Mexico	12.7	(0.6)	36.1	(0.7)	37.0	(0.7)	12.5	(0.5)	1.6	(0.2)	0.1	(0.0)	0.0	c
OECD	Netherlands	3.0	(0.6)	10.0	(1.0)	20.5	(1.4)	29.9	(1.4)	25.6	(1.6)	9.7	(1.1)	1.2	(0.4)
OECD	New Zealand	3.6	(0.5)	11.7	(0.9)	23.2	(1.1)	28.1	(1.2)	21.4	(1.1)	9.8	(0.9)	2.1	(0.4)
OECD	Norway	5.2	(0.8)	13.3	(0.9)	24.8	(1.1)	30.5	(1.5)	19.0	(1.2)	6.2	(0.9)	1.1	(0.3)
OECD	Poland	0.9	(0.3)	7.0	(0.8)	22.6	(1.2)	34.2	(1.1)	25.1	(1.2)	8.8	(0.8)	1.4	(0.3)
OECD	Portugal	3.9	(0.6)	13.8	(1.3)	28.7	(1.3)	31.8	(1.9)	17.9	(1.4)	3.7	(0.6)	0.2	(0.2)
OECD	Slovak Republic	10.0	(1.2)	16.9	(1.6)	27.2	(1.7)	27.9	(2.2)	14.8	(1.3)	3.0	(0.6)	0.3	(0.2)
OECD	Slovenia	1.9	(0.3)	8.9	(0.8)	23.9	(1.2)	32.0	(1.2)	23.8	(1.2)	8.1	(0.8)	1.4	(0.4)
OECD	Spain	3.3	(0.4)	12.3	(0.7)	29.2	(0.9)	33.9	(1.0)	17.8	(0.7)	3.4	(0.3)	0.2	(0.1)
OECD	Sweden	5.5	(0.6)	14.1	(1.0)	27.6	(1.0)	29.6	(1.0)	17.4	(0.9)	5.2	(0.5)	0.6	(0.2)
OECD	Switzerland	2.9	(0.4)	9.7	(0.7)	23.6	(1.2)	32.5	(1.1)	23.4	(1.1)	7.2	(0.7)	0.7	(0.2)
OECD	Turkey	3.2	(0.5)	19.4	(1.6)	36.8	(1.8)	27.3	(1.6)	11.6	(1.4)	1.6	(0.4)	0.0	c
OECD	United Kingdom	4.7	(0.7)	11.3	(1.0)	23.5	(1.2)	29.2	(1.2)	21.5	(1.0)	8.3	(0.8)	1.5	(0.4)
OECD	United States	3.3	(0.6)	13.0	(1.3)	28.3	(1.5)	30.3	(1.3)	18.3	(1.2)	5.9	(0.7)	1.0	(0.2)
OECD	OECD total	4.3	(0.2)	14.3	(0.4)	26.9	(0.4)	28.6	(0.4)	18.8	(0.4)	6.2	(0.3)	0.9	(0.1)
OECD	OECD average	4.2	(0.1)	12.7	(0.2)	25.5	(0.2)	30.0	(0.2)	20.2	(0.2)	6.5	(0.1)	0.9	(0.0)
Partners	Albania	22.3	(1.2)	28.3	(1.2)	29.9	(1.2)	15.1	(0.8)	4.0	(0.6)	0.3	(0.2)	0.0	c
Partners	Argentina	18.8	(1.5)	30.7	(1.8)	31.2	(1.4)	16.1	(1.4)	3.0	(0.5)	0.2	(0.1)	0.0	c
Partners	Brazil	18.0	(0.9)	36.2	(1.1)	31.0	(1.1)	12.1	(0.9)	2.4	(0.4)	0.3	(0.1)	0.0	c
Partners	Bulgaria	11.0	(1.3)	20.7	(1.3)	28.4	(1.3)	24.8	(1.2)	11.7	(1.0)	3.2	(0.6)	0.3	(0.1)
Partners	Colombia	21.9	(1.6)	38.3	(1.4)	30.0	(1.4)	8.6	(1.0)	1.1	(0.3)	0.1	(0.0)	0.0	c
Partners	Costa Rica	9.1	(1.1)	32.8	(1.8)	39.8	(1.7)	15.7	(1.2)	2.5	(0.6)	0.1	c	0.0	c
Partners	Croatia	2.6	(0.4)	12.5	(0.9)	30.6	(1.2)	33.7	(1.5)	16.8	(1.4)	3.7	(0.8)	0.2	(0.1)
Partners	Cyprus*	10.3	(0.6)	23.7	(1.0)	34.0	(1.6)	22.6	(1.2)	8.0	(0.6)	1.3	(0.4)	0.1	(0.1)
Partners	Hong Kong-China	1.1	(0.4)	4.0	(0.6)	13.2	(1.1)	32.5	(1.5)	35.3	(1.3)	13.1	(1.2)	1.0	(0.3)
Partners	Indonesia	23.1	(2.1)	42.8	(1.7)	27.1	(1.8)	6.3	(1.2)	0.6	(0.4)	0.0		0.0	c
Partners	Jordan	9.7	(0.9)	28.9	(1.3)	38.5	(1.4)	19.3	(1.4)	3.5	(0.6)	0.2	(0.1)	0.0	c
Partners	Kazakhstan	9.3	(1.2)	30.0	(1.9)	38.8	(1.6)	18.4	(1.5)	3.3	(0.5)	0.2	(0.1)	0.0	c
Partners	Latvia	1.1	(0.4)	8.3	(1.0)	26.7	(1.7)	37.6	(1.4)	21.9	(1.4)	4.1	(0.6)	0.3	(0.1)
Partners	Liechtenstein	1.0	(1.1)	12.0	(3.4)	23.4	(5.8)	28.0	(5.2)	28.5	(4.6)	6.5	(2.3)	0.6	c
Partners	Lithuania	2.4	(0.5)	10.2	(0.9)	27.0	(1.4)	35.6	(1.2)	20.0	(1.1)	4.5	(0.6)	0.3	(0.1)
Partners	Macao-China	0.9	(0.2)	6.3	(0.6)	22.7	(0.9)	38.3	(1.2)	25.9	(1.2)	5.4	(0.6)	0.4	(0.1)
Partners	Malaysia	12.0	(1.0)	30.5	(1.3)	35.5	(1.5)	17.9	(1.3)	3.8	(0.6)	0.3	(0.1)	0.0	c
Partners	Montenegro	14.7	(0.9)	31.9	(1.2)	32.1	(1.2)	16.7	(0.9)	4.2	(0.7)	0.4	(0.2)	0.0	c
Partners	Peru	32.6	(2.2)	36.7	(1.7)	23.1	(1.6)	6.6	(1.1)	1.0	(0.4)	0.0	c	0.0	c
Partners	Qatar	26.0	(0.6)	31.1	(0.8)	23.2	(0.9)	12.7	(0.5)	5.5	(0.5)	1.4	(0.2)	0.2	(0.1)
Partners	Romania	7.8	(1.0)	27.4	(1.5)	35.5	(1.6)	22.5	(1.6)	6.1	(1.1)	0.6	(0.3)	0.0	c
Partners	Russian Federation	2.8	(0.4)	14.2	(0.9)	30.6	(1.2)	32.5	(1.1)	15.7	(1.1)	3.9	(0.6)	0.2	(0.2)
Partners	Serbia	9.6	(1.0)	23.7	(1.4)	33.6	(1.5)	23.7	(1.4)	7.9	(0.8)	1.5	(0.5)	0.1	c
Partners	Shanghai-China	0.2	(0.1)	2.2	(0.4)	10.3	(1.1)	25.4	(1.2)	36.8	(1.7)	21.6	(1.5)	3.6	(0.6)
Partners	Singapore	1.5	(0.3)	6.6	(0.7)	17.2	(0.9)	25.3	(1.0)	27.7	(1.1)	16.9	(1.2)	4.8	(0.6)
Partners	Chinese Taipei	1.1	(0.3)	7.1	(0.6)	22.2	(1.3)	36.1	(1.6)	25.8	(1.4)	7.2	(1.3)	0.5	(0.2)
Partners	Thailand	4.9	(0.6)	24.0	(1.5)	39.0	(1.2)	24.2	(1.5)	7.0	(1.0)	1.0	(0.3)	0.1	(0.1)
Partners	Tunisia	20.8	(1.7)	34.5	(1.6)	32.0	(1.7)	11.2	(1.1)	1.5	(0.5)	0.1	(0.1)	0.0	c
Partners	United Arab Emirates	6.8	(1.0)	21.1	(1.2)	32.6	(1.1)	25.8	(1.3)	11.1	(0.8)	2.3	(0.3)	0.2	(0.1)
Partners	Uruguay	18.4	(1.2)	28.3	(1.1)	30.5	(1.2)	17.1	(1.1)	4.9	(0.6)	0.7	(0.2)	0.0	c
Partners	Viet Nam	0.7	(0.3)	5.0	(0.9)	21.1	(1.5)	39.0	(2.0)	27.3	(1.8)	6.0	(0.9)	0.8	(0.3)

* See notes at the beginning of this Annex.

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[Part 1/2]

Table I.5.2b Percentage of students below Level 2 and at Level 5 or above in science in PISA 2006 and 2012, by gender

		Boys											
		Proficiency levels in PISA 2006				Proficiency levels in PISA 2012				Change between 2006 and 2012 (PISA 2012 - PISA 2006)			
		Below Level 2 (less than 409.54 score points)		Level 5 or above (above 633.33 score points)		Below Level 2 (less than 409.54 score points)		Level 5 or above (above 633.33 score points)		Below Level 2 (less than 409.54 score points)		Level 5 or above (above 633.33 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	% dif.	S.E.	% dif.	S.E.
OECD	Australia	13.9	(0.8)	15.6	(1.0)	13.9	(0.6)	14.8	(0.8)	0.0	(1.0)	-0.8	(1.3)
	Austria	15.2	(1.5)	11.3	(1.0)	16.2	(1.4)	9.7	(1.1)	1.0	(2.0)	-1.6	(1.5)
	Belgium	17.9	(1.3)	11.2	(0.7)	18.6	(1.2)	10.6	(0.6)	0.7	(1.8)	-0.6	(0.9)
	Canada	10.6	(0.8)	15.7	(0.7)	11.1	(0.7)	12.6	(0.7)	0.6	(1.0)	**-3.1**	(1.0)
	Chile	35.8	(2.5)	2.4	(0.6)	33.4	(2.0)	1.3	(0.2)	-2.4	(3.1)	-1.1	(0.6)
	Czech Republic	14.3	(1.3)	11.9	(1.1)	14.6	(1.4)	8.0	(0.7)	0.3	(1.9)	**-3.9**	(1.3)
	Denmark	17.8	(1.3)	7.8	(1.0)	16.4	(1.3)	8.1	(0.8)	-1.4	(1.8)	0.3	(1.3)
	Estonia	8.6	(0.9)	11.8	(1.0)	6.0	(0.7)	13.4	(1.0)	**-2.6**	(1.1)	1.6	(1.4)
	Finland	5.0	(0.6)	21.6	(1.1)	9.7	(0.9)	16.0	(1.0)	**4.7**	(1.1)	**-5.6**	(1.4)
	France	22.0	(1.7)	9.6	(0.9)	20.5	(1.4)	8.8	(1.0)	-1.5	(2.2)	-0.8	(1.3)
	Germany	14.9	(1.5)	13.7	(1.1)	12.9	(1.0)	12.9	(1.1)	-2.0	(1.8)	-0.8	(1.6)
	Greece	28.1	(1.9)	4.0	(0.5)	29.8	(1.8)	2.6	(0.5)	1.7	(2.6)	**-1.4**	(0.7)
	Hungary	15.5	(1.3)	8.4	(1.0)	18.8	(1.6)	7.1	(1.0)	3.2	(2.1)	-1.4	(1.4)
	Iceland	22.4	(1.1)	6.6	(0.7)	25.6	(1.1)	5.8	(0.7)	**3.2**	(1.6)	-0.8	(1.0)
	Ireland	16.5	(1.5)	10.3	(1.0)	11.6	(1.2)	11.7	(0.8)	**-4.9**	(2.0)	1.4	(1.3)
	Israel	37.4	(2.0)	6.6	(0.9)	31.6	(2.6)	7.7	(1.1)	-5.8	(3.3)	1.0	(1.4)
	Italy	25.5	(1.2)	5.4	(0.5)	19.6	(0.7)	7.2	(0.6)	**-5.9**	(1.4)	**1.8**	(0.8)
	Japan	12.8	(1.4)	17.0	(1.1)	9.0	(1.1)	21.3	(1.6)	**-3.8**	(1.7)	**4.4**	(1.9)
	Korea	12.4	(1.5)	11.1	(1.4)	7.6	(1.1)	13.2	(1.5)	**-4.8**	(1.8)	2.1	(2.1)
	Luxembourg	22.0	(1.0)	7.3	(0.6)	20.3	(0.9)	10.0	(0.6)	-1.7	(1.3)	**2.7**	(0.9)
	Mexico	49.5	(1.7)	0.3	(0.1)	45.2	(1.0)	0.2	(0.1)	**-4.3**	(2.0)	-0.1	(0.1)
	Netherlands	12.2	(1.1)	15.0	(1.1)	13.2	(1.3)	12.6	(1.3)	1.0	(1.7)	-2.3	(1.7)
	New Zealand	15.3	(1.1)	18.4	(1.1)	17.1	(1.1)	14.8	(1.0)	1.8	(1.6)	**-3.6**	(1.5)
	Norway	22.4	(1.6)	6.7	(0.7)	20.7	(1.2)	7.8	(0.7)	-1.7	(2.0)	1.2	(1.0)
	Poland	17.3	(1.0)	8.1	(0.7)	10.2	(1.0)	11.5	(1.3)	**-7.2**	(1.4)	**3.3**	(1.5)
	Portugal	24.2	(1.8)	4.0	(0.6)	20.3	(1.6)	5.2	(0.8)	-4.0	(2.4)	1.1	(1.0)
	Slovak Republic	20.1	(1.4)	6.7	(0.8)	26.8	(1.8)	6.3	(0.9)	**6.7**	(2.2)	-0.4	(1.2)
	Slovenia	15.3	(0.8)	12.7	(1.0)	14.8	(0.8)	9.7	(0.9)	-0.4	(1.2)	**-3.0**	(1.3)
	Spain	19.6	(1.1)	5.6	(0.5)	15.9	(0.8)	6.0	(0.4)	**-3.7**	(1.4)	0.3	(0.7)
	Sweden	17.2	(1.2)	8.6	(0.7)	24.8	(1.5)	6.9	(0.7)	**7.6**	(1.9)	-1.7	(1.0)
	Switzerland	15.6	(1.0)	11.1	(0.9)	13.0	(1.0)	10.7	(1.1)	-2.6	(1.4)	-0.4	(1.4)
	Turkey	50.1	(2.0)	0.9	(0.4)	29.9	(2.0)	2.0	(0.5)	**-20.2**	(2.9)	1.0	(0.6)
	United Kingdom	16.7	(1.0)	16.0	(0.9)	13.9	(1.2)	12.6	(1.3)	-2.8	(1.6)	**-3.4**	(1.5)
	United States	25.8	(2.0)	10.0	(1.0)	20.0	(1.6)	8.1	(0.9)	**-5.8**	(2.6)	-1.9	(1.3)
	OECD average 2006	20.3	(0.2)	9.8	(0.1)	18.6	(0.3)	9.3	(0.2)	**-1.7**	(0.4)	-0.5	(0.3)
Partners	Argentina	58.8	(2.6)	0.4	(0.2)	52.3	(2.6)	0.3	(0.1)	-6.5	(3.6)	-0.2	(0.2)
	Brazil	58.4	(1.5)	0.8	(0.3)	53.1	(1.3)	0.3	(0.1)	**-5.2**	(2.0)	-0.4	(0.3)
	Bulgaria	46.7	(2.8)	3.3	(0.8)	41.8	(2.4)	2.8	(0.6)	-5.0	(3.7)	-0.6	(1.0)
	Colombia	57.4	(2.3)	0.2	(0.1)	51.5	(1.8)	0.2	(0.2)	**-5.8**	(2.9)	0.0	(0.2)
	Croatia	18.2	(1.3)	5.4	(0.5)	19.5	(1.4)	5.3	(0.9)	1.3	(1.9)	-0.1	(1.0)
	Hong Kong-China	9.3	(1.1)	17.6	(1.3)	6.0	(0.7)	18.9	(1.5)	**-3.3**	(1.3)	1.4	(2.0)
	Indonesia	58.7	(4.8)	c	c	67.2	(2.4)	c	c	8.6	(5.3)	c	c
	Jordan	50.8	(1.8)	0.6	(0.3)	60.9	(2.7)	0.3	(0.3)	**10.0**	(3.3)	-0.3	(0.4)
	Latvia	19.1	(1.3)	4.3	(0.6)	15.3	(1.4)	4.3	(0.6)	**-3.8**	(1.9)	0.0	(0.9)
	Liechtenstein	13.2	(3.9)	12.2	(2.6)	8.1	(2.2)	12.9	(2.7)	-5.1	(4.5)	0.7	(3.8)
	Lithuania	22.1	(1.2)	4.6	(0.7)	19.5	(1.3)	5.4	(0.6)	-2.6	(1.8)	0.8	(0.9)
	Macao-China	11.3	(0.7)	6.6	(0.6)	10.2	(0.6)	7.5	(0.6)	-1.2	(1.0)	0.9	(0.8)
	Montenegro	50.8	(1.3)	0.3	(0.2)	54.8	(1.1)	0.4	(0.2)	**4.0**	(1.7)	0.1	(0.3)
	Qatar	83.9	(0.6)	0.4	(0.1)	67.9	(0.6)	1.4	(0.2)	**-16.0**	(0.9)	**0.9**	(0.2)
	Romania	48.3	(2.3)	0.7	(0.3)	39.5	(2.0)	1.3	(0.5)	**-8.8**	(3.1)	0.5	(0.5)
	Russian Federation	22.6	(1.6)	5.1	(0.7)	20.5	(1.5)	4.4	(0.7)	-2.1	(2.2)	-0.7	(1.0)
	Serbia	40.8	(1.8)	1.0	(0.3)	36.8	(2.3)	1.8	(0.4)	-4.0	(2.9)	0.8	(0.5)
	Chinese Taipei	11.7	(1.2)	15.8	(1.3)	11.5	(1.1)	9.1	(1.4)	-0.2	(1.6)	**-6.7**	(1.9)
	Thailand	51.8	(1.8)	0.5	(0.2)	39.7	(1.8)	0.8	(0.3)	**-12.1**	(2.6)	0.3	(0.4)
	Tunisia	63.6	(1.6)	0.1	(0.1)	55.4	(2.2)	0.1	(0.1)	**-8.1**	(2.7)	0.0	(0.1)
	Uruguay	44.0	(2.0)	1.9	(0.4)	47.2	(1.6)	1.4	(0.4)	3.2	(2.6)	-0.6	(0.6)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).
Only countries and economies with comparable results in PISA 2006 and PISA 2012 are presented.
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[Part 2/2]

Table I.5.2b Percentage of students below Level 2 and at Level 5 or above in science in PISA 2006 and 2012, by gender

		Girls											
		Proficiency levels in PISA 2006				Proficiency levels in PISA 2012				Change between 2006 and 2012 (PISA 2012 - PISA 2006)			
		Below Level 2 (less than 409.54 score points)		Level 5 or above (above 633.33 score points)		Below Level 2 (less than 409.54 score points)		Level 5 or above (above 633.33 score points)		Below Level 2 (less than 409.54 score points)		Level 5 or above (above 633.33 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	% dif.	S.E.	% dif.	S.E.
OECD	Australia	11.8	(0.7)	13.6	(0.8)	13.4	(0.6)	12.2	(0.7)	1.6	(0.9)	-1.3	(1.1)
	Austria	17.5	(2.0)	8.6	(0.9)	15.4	(1.4)	6.0	(0.8)	-2.2	(2.4)	**-2.6**	(1.2)
	Belgium	16.0	(1.2)	8.9	(0.7)	16.8	(1.0)	7.5	(0.5)	0.8	(1.6)	-1.3	(0.9)
	Canada	9.4	(0.7)	13.2	(0.7)	9.7	(0.5)	10.1	(0.6)	0.3	(0.8)	**-3.1**	(1.0)
	Chile	44.3	(2.2)	1.3	(0.5)	35.5	(1.7)	0.8	(0.2)	**-8.8**	(2.8)	-0.6	(0.5)
	Czech Republic	17.1	(1.6)	11.2	(1.3)	12.9	(1.4)	7.3	(0.8)	**-4.2**	(2.2)	**-4.0**	(1.5)
	Denmark	19.0	(1.4)	5.8	(0.6)	17.0	(1.0)	5.4	(0.8)	-2.1	(1.7)	-0.4	(1.0)
	Estonia	6.7	(0.7)	11.2	(1.0)	4.1	(0.5)	12.3	(1.0)	**-2.5**	(0.9)	1.1	(1.4)
	Finland	3.2	(0.6)	20.2	(1.0)	5.6	(0.5)	18.1	(1.0)	**2.4**	(0.8)	-2.1	(1.4)
	France	20.4	(1.5)	6.5	(0.9)	17.0	(1.0)	7.0	(0.8)	-3.4	(1.8)	0.6	(1.2)
	Germany	15.8	(1.5)	9.8	(0.8)	11.5	(1.1)	11.4	(1.1)	**-4.4**	(1.8)	1.6	(1.4)
	Greece	19.9	(1.3)	2.8	(0.5)	21.3	(1.5)	2.4	(0.5)	1.4	(2.0)	-0.4	(0.7)
	Hungary	14.5	(1.3)	5.2	(0.8)	17.4	(1.4)	4.8	(0.7)	2.9	(2.0)	-0.3	(1.0)
	Iceland	18.7	(1.0)	6.0	(0.7)	22.4	(1.2)	4.6	(0.8)	**3.6**	(1.5)	-1.4	(1.0)
	Ireland	14.5	(1.1)	8.5	(0.8)	10.6	(1.1)	9.7	(0.8)	**-3.9**	(1.5)	1.2	(1.2)
	Israel	34.9	(1.7)	3.9	(0.5)	26.3	(1.6)	4.1	(0.5)	**-8.6**	(2.3)	0.2	(0.7)
	Italy	25.0	(1.1)	3.8	(0.4)	17.8	(1.0)	4.8	(0.4)	**-7.3**	(1.5)	1.0	(0.6)
	Japan	11.3	(1.5)	13.1	(1.0)	7.9	(1.0)	14.8	(1.2)	-3.4	(1.8)	1.7	(1.6)
	Korea	10.1	(1.3)	9.5	(1.1)	5.6	(0.8)	9.9	(1.2)	**-4.5**	(1.5)	0.4	(1.6)
	Luxembourg	22.2	(1.1)	4.4	(0.5)	24.2	(0.9)	6.3	(0.8)	2.0	(1.4)	**1.9**	(1.0)
	Mexico	52.2	(1.4)	0.2	(0.1)	48.7	(0.9)	0.1	(0.0)	**-3.5**	(1.6)	-0.1	(0.1)
	Netherlands	13.7	(1.4)	11.2	(0.8)	13.0	(1.2)	10.9	(1.2)	-0.7	(1.8)	-0.3	(1.5)
	New Zealand	12.2	(0.8)	16.9	(1.1)	15.4	(1.1)	11.8	(1.1)	**3.2**	(1.4)	**-5.0**	(1.6)
	Norway	19.6	(1.3)	5.5	(0.7)	18.5	(1.3)	7.2	(0.8)	-1.1	(1.9)	1.8	(1.1)
	Poland	16.7	(1.0)	5.4	(0.6)	7.9	(0.9)	10.2	(1.0)	**-8.8**	(1.3)	**4.8**	(1.1)
	Portugal	24.7	(1.6)	2.3	(0.3)	17.7	(1.6)	3.9	(0.6)	**-7.0**	(2.2)	**1.6**	(0.7)
	Slovak Republic	20.3	(1.5)	4.8	(0.5)	26.9	(2.1)	3.3	(0.7)	**6.6**	(2.5)	-1.5	(0.9)
	Slovenia	12.5	(0.8)	13.1	(1.0)	10.8	(0.8)	9.4	(0.9)	-1.7	(1.1)	**-3.7**	(1.3)
	Spain	19.7	(1.1)	4.1	(0.5)	15.5	(0.8)	3.6	(0.3)	**-4.2**	(1.3)	-0.5	(0.6)
	Sweden	15.5	(0.9)	7.2	(0.8)	19.6	(1.1)	5.8	(0.5)	**4.2**	(1.4)	-1.4	(1.0)
	Switzerland	16.6	(1.1)	9.8	(1.0)	12.6	(0.8)	7.9	(0.8)	**-4.0**	(1.3)	-1.9	(1.3)
	Turkey	42.3	(2.2)	0.9	(0.4)	22.7	(1.7)	1.6	(0.4)	**-19.6**	(2.8)	0.7	(0.6)
	United Kingdom	16.7	(1.0)	11.5	(0.8)	16.0	(1.3)	9.8	(0.9)	-0.7	(1.6)	-1.7	(1.2)
	United States	23.0	(1.5)	8.2	(0.9)	16.2	(1.5)	6.8	(0.8)	**-6.7**	(2.1)	-1.4	(1.2)
	OECD average 2006	19.4	(0.2)	7.9	(0.1)	16.9	(0.2)	7.4	(0.2)	**-2.5**	(0.4)	**-0.5**	(0.2)
Partners	Argentina	54.0	(3.0)	0.5	(0.2)	49.5	(2.3)	0.2	(0.1)	-4.5	(3.8)	-0.2	(0.2)
	Brazil	63.3	(1.6)	0.4	(0.2)	54.2	(1.3)	0.3	(0.1)	**-9.1**	(2.0)	-0.1	(0.2)
	Bulgaria	38.3	(2.8)	2.8	(0.6)	31.7	(2.0)	3.4	(0.7)	-6.6	(3.4)	0.7	(0.9)
	Colombia	62.6	(2.4)	0.1	(0.1)	60.3	(2.1)	0.1	(0.0)	-2.3	(3.1)	0.0	(0.1)
	Croatia	15.7	(1.3)	4.8	(0.6)	15.0	(1.0)	3.8	(0.8)	-0.7	(1.6)	-0.9	(1.0)
	Hong Kong-China	8.2	(0.9)	14.3	(1.2)	5.1	(0.7)	14.1	(1.3)	**-3.2**	(1.2)	-0.3	(1.8)
	Indonesia	64.7	(2.5)	c	c	66.0	(2.5)	c	c	1.3	(3.5)	c	c
	Jordan	37.9	(1.7)	0.7	(0.2)	38.5	(1.6)	0.2	(0.1)	0.6	(2.4)	-0.5	(0.3)
	Latvia	15.8	(1.3)	3.9	(0.5)	9.4	(1.0)	4.4	(0.6)	**-6.4**	(1.7)	0.5	(0.8)
	Liechtenstein	12.6	(2.7)	12.3	(2.5)	13.0	(3.5)	7.0	(2.6)	0.4	(4.4)	-5.2	(3.6)
	Lithuania	18.5	(1.3)	5.4	(0.8)	12.6	(1.1)	4.9	(0.6)	**-5.9**	(1.7)	-0.5	(1.0)
	Macao-China	9.2	(0.7)	4.0	(0.5)	7.3	(0.6)	5.8	(0.6)	**-2.0**	(0.9)	**1.8**	(0.8)
	Montenegro	49.6	(1.2)	0.2	(0.2)	46.6	(1.0)	0.4	(0.2)	-3.0	(1.6)	0.2	(0.2)
	Qatar	74.2	(0.7)	0.2	(0.1)	57.0	(0.7)	1.6	(0.2)	**-17.2**	(1.0)	**1.4**	(0.2)
	Romania	45.5	(3.0)	0.2	(0.1)	35.3	(1.9)	0.6	(0.2)	**-10.2**	(3.5)	0.4	(0.3)
	Russian Federation	21.8	(1.6)	3.4	(0.5)	17.0	(1.1)	4.1	(0.6)	**-4.8**	(1.9)	0.8	(0.8)
	Serbia	36.2	(2.1)	0.6	(0.2)	33.2	(1.9)	1.6	(0.5)	-3.0	(2.8)	1.0	(0.5)
	Chinese Taipei	11.6	(1.3)	13.4	(1.3)	8.2	(0.8)	7.6	(1.5)	**-3.3**	(1.5)	**-5.7**	(2.0)
	Thailand	41.9	(1.5)	0.4	(0.1)	28.8	(1.8)	1.0	(0.3)	**-13.0**	(2.3)	0.7	(0.4)
	Tunisia	62.0	(1.7)	0.1	(0.1)	55.2	(1.9)	0.1	(0.1)	**-6.8**	(2.6)	0.0	(0.2)
	Uruguay	40.4	(1.5)	1.0	(0.3)	46.7	(1.5)	0.8	(0.2)	**6.3**	(2.1)	-0.2	(0.4)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).
Only countries and economies with comparable results in PISA 2006 and PISA 2012 are presented.
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[Part 1/1]

Table I.5.3a **Mean score, variation and gender differences in student performance in science**

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	Australia	521	(1.8)	100	(1.0)	524	(2.5)	519	(2.1)	5	(3.0)	353	(3.5)	391	(2.6)	453	(2.1)	592	(2.5)	650	(2.7)	682	(2.9)
	Austria	506	(2.7)	92	(1.6)	510	(3.9)	501	(3.4)	9	(5.0)	350	(4.9)	383	(5.3)	442	(3.5)	571	(3.1)	623	(3.4)	650	(3.3)
	Belgium	505	(2.2)	101	(1.5)	507	(3.0)	503	(2.6)	4	(3.6)	326	(5.8)	368	(4.5)	439	(3.3)	577	(2.5)	629	(2.0)	657	(2.7)
	Canada	525	(1.9)	91	(0.9)	527	(2.4)	524	(2.0)	3	(2.1)	370	(3.3)	407	(2.7)	467	(2.1)	588	(2.4)	639	(2.5)	670	(3.3)
	Chile	445	(2.9)	80	(1.5)	448	(3.7)	442	(2.9)	**7**	(3.3)	317	(4.1)	343	(3.8)	388	(3.3)	500	(3.6)	552	(3.7)	581	(3.7)
	Czech Republic	508	(3.0)	91	(2.1)	509	(3.7)	508	(3.5)	1	(4.0)	356	(7.2)	392	(5.5)	449	(4.0)	572	(3.2)	622	(3.7)	650	(3.1)
	Denmark	498	(2.7)	93	(1.7)	504	(3.5)	493	(2.5)	**10**	(2.7)	338	(5.9)	378	(4.3)	438	(3.8)	563	(3.2)	615	(4.1)	644	(3.7)
	Estonia	541	(1.9)	80	(1.1)	540	(2.5)	543	(2.3)	-2	(2.7)	409	(3.0)	439	(3.3)	487	(2.7)	597	(2.6)	645	(3.1)	672	(4.5)
	Finland	545	(2.2)	93	(1.2)	537	(3.0)	554	(2.3)	**-16**	(3.0)	386	(5.7)	424	(3.9)	486	(2.8)	609	(2.4)	662	(2.9)	692	(2.6)
	France	499	(2.6)	100	(2.2)	498	(3.8)	500	(2.4)	-2	(3.7)	323	(7.8)	366	(6.0)	433	(3.4)	570	(3.0)	622	(4.1)	651	(4.7)
	Germany	524	(3.0)	95	(2.0)	524	(3.1)	524	(3.5)	-1	(3.0)	361	(5.6)	397	(4.8)	461	(3.8)	592	(3.1)	642	(3.9)	671	(3.7)
	Greece	467	(3.1)	88	(1.5)	460	(3.8)	473	(3.0)	**-13**	(3.1)	317	(5.2)	352	(5.1)	408	(4.5)	528	(3.5)	578	(3.6)	608	(4.1)
	Hungary	494	(2.9)	90	(1.9)	496	(3.4)	493	(3.3)	3	(3.3)	345	(6.0)	376	(4.6)	432	(4.3)	558	(3.5)	610	(4.7)	639	(4.0)
	Iceland	478	(2.1)	99	(1.5)	477	(2.7)	480	(2.9)	-3	(3.6)	310	(5.0)	348	(3.4)	413	(2.5)	548	(3.2)	603	(3.7)	635	(5.3)
	Ireland	522	(2.5)	91	(1.6)	524	(3.4)	520	(3.1)	4	(4.4)	366	(5.8)	404	(4.8)	462	(3.1)	586	(2.4)	637	(2.6)	666	(3.4)
	Israel	470	(5.0)	108	(2.1)	470	(7.9)	470	(4.0)	-1	(7.6)	286	(8.7)	328	(6.4)	396	(5.7)	548	(5.7)	608	(5.4)	640	(5.1)
	Italy	494	(1.9)	93	(1.1)	495	(2.2)	492	(2.4)	3	(2.5)	336	(3.2)	371	(2.8)	431	(2.5)	559	(2.0)	611	(2.5)	641	(2.6)
	Japan	547	(3.6)	96	(2.2)	552	(4.7)	541	(3.5)	**11**	(4.3)	379	(7.0)	421	(6.4)	485	(4.5)	614	(3.6)	664	(4.3)	693	(4.7)
	Korea	538	(3.7)	82	(1.8)	539	(4.7)	536	(4.2)	3	(5.1)	396	(6.3)	431	(4.9)	485	(4.0)	595	(4.1)	639	(4.3)	664	(5.3)
	Luxembourg	491	(1.3)	103	(1.0)	499	(1.7)	483	(1.7)	**15**	(2.2)	318	(3.6)	355	(3.1)	419	(2.2)	566	(1.9)	624	(2.9)	655	(2.9)
	Mexico	415	(1.3)	71	(0.9)	418	(1.5)	412	(1.3)	**6**	(1.1)	300	(2.6)	325	(2.1)	368	(1.6)	462	(1.5)	505	(1.9)	532	(2.1)
	Netherlands	522	(3.5)	95	(2.2)	524	(3.7)	520	(3.9)	3	(2.9)	357	(5.9)	393	(5.4)	458	(5.0)	591	(3.9)	641	(4.1)	667	(4.0)
	New Zealand	516	(2.1)	105	(1.4)	518	(3.2)	513	(3.3)	5	(4.9)	339	(4.5)	377	(4.5)	444	(3.0)	591	(3.1)	649	(3.0)	682	(3.9)
	Norway	495	(3.1)	100	(1.9)	493	(3.2)	496	(3.7)	-4	(3.2)	325	(6.6)	365	(5.2)	429	(3.7)	564	(3.3)	620	(3.4)	651	(3.9)
	Poland	526	(3.1)	86	(1.5)	524	(3.7)	527	(3.2)	-3	(3.0)	382	(4.7)	415	(4.0)	467	(3.3)	584	(4.0)	637	(5.0)	668	(4.9)
	Portugal	489	(3.7)	89	(1.6)	488	(4.1)	490	(3.8)	-2	(2.6)	337	(6.0)	372	(5.6)	430	(4.8)	551	(3.6)	602	(3.6)	630	(4.1)
	Slovak Republic	471	(3.6)	101	(2.8)	475	(4.3)	467	(4.2)	7	(4.5)	300	(8.5)	339	(5.7)	403	(5.2)	542	(4.0)	599	(4.9)	632	(6.3)
	Slovenia	514	(1.3)	91	(1.2)	510	(1.9)	519	(1.9)	**-9**	(2.8)	364	(3.0)	397	(3.5)	451	(2.2)	578	(2.0)	631	(3.2)	661	(3.3)
	Spain	496	(1.8)	86	(0.9)	500	(2.3)	493	(1.9)	**7**	(2.1)	349	(3.9)	384	(3.1)	440	(2.3)	557	(1.8)	605	(2.0)	632	(2.0)
	Sweden	485	(3.0)	100	(1.5)	481	(3.9)	489	(2.8)	**-7**	(3.3)	314	(5.3)	354	(4.7)	419	(4.1)	554	(3.2)	611	(3.4)	643	(3.1)
	Switzerland	515	(2.7)	91	(1.1)	518	(3.3)	512	(2.7)	**6**	(2.6)	358	(3.8)	394	(3.4)	455	(3.8)	579	(3.1)	630	(3.3)	658	(4.0)
	Turkey	463	(3.9)	80	(1.9)	458	(4.5)	469	(4.3)	**-10**	(4.2)	339	(3.6)	363	(3.5)	407	(3.5)	518	(5.8)	573	(6.3)	602	(5.9)
	United Kingdom	514	(3.4)	100	(1.8)	521	(4.5)	508	(3.7)	**13**	(4.7)	344	(5.8)	384	(4.9)	448	(4.6)	584	(3.5)	639	(3.9)	672	(5.0)
	United States	497	(3.8)	94	(1.5)	497	(4.1)	498	(4.0)	-2	(2.7)	344	(5.4)	377	(4.9)	431	(4.4)	563	(4.2)	619	(4.5)	652	(5.5)
	OECD total	497	(1.2)	98	(0.5)	498	(1.3)	495	(1.2)	**3**	(1.0)	337	(1.6)	371	(1.5)	428	(1.5)	566	(1.4)	623	(1.4)	655	(1.7)
	OECD average	501	(0.5)	93	(0.3)	502	(0.6)	500	(0.5)	**1**	(0.6)	344	(0.9)	380	(0.8)	439	(0.6)	566	(0.6)	619	(0.6)	648	(0.7)
Partners	Albania	397	(2.4)	99	(1.8)	394	(3.0)	401	(2.9)	**-7**	(3.2)	221	(7.0)	271	(5.2)	340	(3.5)	464	(3.0)	517	(3.3)	549	(5.2)
	Argentina	406	(3.9)	86	(2.2)	402	(4.5)	409	(4.0)	-7	(3.4)	262	(7.9)	297	(5.1)	350	(4.6)	464	(4.7)	513	(4.7)	543	(5.2)
	Brazil	405	(2.1)	79	(1.4)	406	(2.3)	404	(2.3)	2	(1.7)	280	(2.9)	306	(2.3)	351	(2.0)	456	(2.8)	507	(3.7)	538	(4.6)
	Bulgaria	446	(4.8)	102	(2.5)	437	(5.6)	457	(4.6)	**-20**	(4.5)	280	(7.5)	315	(5.3)	374	(5.6)	519	(5.1)	580	(6.1)	612	(6.2)
	Colombia	399	(3.1)	76	(1.6)	408	(3.4)	390	(3.6)	**18**	(3.4)	273	(5.2)	302	(4.6)	347	(3.4)	449	(3.5)	497	(4.0)	525	(4.2)
	Costa Rica	429	(2.9)	71	(1.6)	436	(3.5)	424	(3.2)	**12**	(3.2)	315	(4.1)	341	(3.3)	382	(3.6)	476	(3.6)	520	(4.9)	546	(5.5)
	Croatia	491	(3.1)	85	(1.8)	490	(3.9)	493	(3.3)	-2	(3.8)	350	(4.9)	380	(4.0)	433	(3.3)	551	(4.2)	602	(5.2)	630	(5.9)
	Cyprus*	438	(1.2)	97	(1.1)	431	(1.8)	444	(1.7)	**-13**	(2.5)	274	(3.3)	313	(2.9)	373	(2.0)	503	(2.4)	561	(2.5)	594	(3.4)
	Hong Kong-China	555	(2.6)	83	(1.8)	558	(3.6)	551	(3.1)	7	(4.2)	403	(7.1)	446	(5.1)	505	(3.8)	613	(3.0)	655	(3.4)	679	(3.4)
	Indonesia	382	(3.8)	68	(2.3)	380	(4.1)	383	(4.1)	-3	(3.1)	271	(5.5)	297	(4.9)	336	(3.8)	427	(4.7)	471	(6.0)	497	(7.3)
	Jordan	409	(3.1)	83	(2.0)	388	(5.4)	430	(2.9)	**-43**	(6.4)	271	(4.9)	303	(4.4)	355	(3.6)	466	(3.4)	514	(4.2)	542	(6.5)
	Kazakhstan	425	(3.0)	74	(1.5)	420	(3.4)	429	(3.2)	**-9**	(2.9)	303	(4.4)	330	(3.6)	375	(3.4)	475	(3.5)	521	(3.8)	547	(3.8)
	Latvia	502	(2.8)	79	(1.4)	495	(3.6)	510	(2.8)	**-15**	(3.6)	370	(5.5)	400	(4.5)	449	(3.2)	557	(3.6)	603	(3.2)	628	(4.7)
	Liechtenstein	525	(3.5)	86	(4.1)	533	(5.8)	516	(5.7)	17	(9.1)	383	(11.1)	408	(10.0)	464	(8.4)	588	(8.2)	635	(9.3)	656	(12.2)
	Lithuania	496	(2.6)	86	(1.7)	488	(3.0)	503	(2.6)	**-15**	(2.3)	352	(6.3)	383	(4.0)	438	(3.2)	555	(3.0)	605	(3.6)	634	(3.8)
	Macao-China	521	(0.8)	79	(0.7)	520	(1.3)	521	(1.2)	-1	(1.7)	383	(3.9)	416	(2.7)	469	(1.9)	575	(1.7)	619	(1.8)	643	(2.3)
	Malaysia	420	(3.0)	79	(1.4)	414	(3.8)	425	(3.1)	**-11**	(3.5)	293	(3.9)	319	(3.4)	365	(3.4)	473	(3.6)	521	(4.3)	550	(5.2)
	Montenegro	410	(1.1)	84	(1.0)	402	(1.6)	419	(1.6)	**-17**	(2.4)	274	(3.3)	302	(2.9)	352	(1.4)	468	(2.2)	522	(2.3)	552	(3.5)
	Peru	373	(3.6)	78	(1.9)	376	(3.5)	370	(4.6)	6	(4.0)	248	(4.6)	275	(3.8)	321	(3.4)	425	(4.4)	475	(5.4)	504	(6.5)
	Qatar	384	(0.7)	106	(0.7)	367	(1.2)	402	(1.1)	**-35**	(1.7)	222	(1.9)	254	(1.4)	309	(1.3)	453	(1.6)	530	(2.4)	573	(2.8)
	Romania	439	(3.3)	79	(2.0)	436	(3.7)	441	(3.5)	-5	(3.2)	316	(4.0)	340	(3.2)	383	(3.4)	492	(4.6)	543	(5.1)	573	(5.6)
	Russian Federation	486	(2.9)	85	(1.3)	484	(3.5)	489	(2.9)	-6	(2.9)	347	(3.8)	377	(4.1)	428	(3.6)	544	(3.3)	596	(4.9)	627	(5.1)
	Serbia	445	(3.4)	87	(1.9)	443	(4.0)	447	(3.8)	-4	(3.9)	303	(5.6)	333	(5.2)	385	(4.5)	504	(3.5)	558	(3.9)	590	(5.8)
	Shanghai-China	580	(3.0)	82	(1.8)	583	(3.5)	578	(3.1)	5	(2.7)	435	(6.2)	472	(5.4)	527	(3.7)	639	(3.2)	681	(3.2)	704	(3.3)
	Singapore	551	(1.5)	104	(1.2)	551	(2.1)	552	(1.9)	-1	(2.6)	374	(4.0)	412	(3.2)	480	(2.6)	627	(2.6)	681	(3.4)	714	(3.2)
	Chinese Taipei	523	(2.3)	83	(1.4)	524	(3.9)	523	(4.0)	1	(6.4)	379	(4.1)	411	(4.3)	469	(3.8)	582	(2.4)	626	(2.2)	652	(3.1)
	Thailand	444	(2.9)	76	(1.7)	433	(3.3)	452	(3.4)	**-19**	(3.4)	323	(4.3)	349	(3.4)	392	(2.6)	494	(3.8)	544	(5.4)	575	(6.0)
	Tunisia	398	(3.5)	79	(1.9)	399	(3.9)	398	(3.6)	1	(2.9)	267	(4.6)	296	(4.6)	345	(4.1)	452	(4.1)	497	(5.1)	527	(6.5)
	United Arab Emirates	448	(2.8)	94	(1.1)	434	(4.1)	462	(3.7)	**-28**	(5.1)	299	(3.0)	328	(3.2)	382	(3.5)	512	(3.5)	572	(3.4)	605	(3.7)
	Uruguay	416	(2.8)	95	(1.7)	415	(3.4)	416	(3.1)	-1	(3.4)	256	(4.8)	293	(4.2)	352	(3.8)	480	(3.4)	538	(4.3)	572	(5.3)
	Viet Nam	528	(4.3)	77	(2.3)	529	(5.0)	528	(4.1)	1	(2.8)	398	(7.7)	428	(7.0)	478	(5.2)	580	(4.0)	625	(5.5)	652	(6.5)

Note: Values that are statistically significant are indicated in bold (see Annex A3).
* See notes at the beginning of this Annex.
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[Part 1/1]

Table I.5.3b Mean science performance in PISA 2006 through 2012

		PISA 2006		PISA 2009		PISA 2012		Change between 2006 and 2012 (PISA 2012 - PISA 2006)		Change between 2009 and 2012 (PISA 2012 - PISA 2009)		Annualised change in science across PISA assessments		Curvilinear change in science performance			
														Annual change in 2012 (Linear term)		Rate of acceleration or deceleration in performance (Quadratic term)	
		Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score dif.	S.E.	Annual change	S.E.	Coef.	S.E.	Coef.	S.E.
OECD	Australia	527	(2.3)	527	(2.5)	521	(1.8)	-5	(4.5)	-6	(3.7)	-0.9	(0.77)	-3.0	(2.00)	-0.3	(0.36)
OECD	Austria	511	(3.9)	m	m	506	(2.7)	-5	(5.9)	m	m	-0.8	(1.00)	m	m	m	m
OECD	Belgium	510	(2.5)	507	(2.5)	505	(2.2)	-5	(4.8)	-2	(3.9)	-0.9	(0.82)	-0.2	(2.20)	0.1	(0.38)
OECD	Canada	534	(2.0)	529	(1.6)	525	(1.9)	**-9**	(4.5)	-3	(3.2)	**-1.5**	(0.76)	-0.7	(1.67)	0.1	(0.29)
OECD	Chile	438	(4.3)	447	(2.9)	445	(2.9)	7	(6.3)	-3	(4.6)	1.1	(1.03)	-2.8	(2.26)	-0.7	(0.41)
OECD	Czech Republic	513	(3.5)	500	(3.0)	508	(3.0)	-5	(5.8)	8	(4.7)	-1.0	(1.00)	**6.0**	(2.43)	**1.1**	(0.43)
OECD	Denmark	496	(3.1)	499	(2.5)	498	(2.7)	3	(5.4)	-1	(4.2)	0.4	(0.93)	-1.0	(2.37)	-0.2	(0.40)
OECD	Estonia	531	(2.5)	528	(2.7)	541	(1.9)	**10**	(4.7)	**14**	(3.9)	1.5	(0.84)	**7.4**	(1.99)	**1.0**	(0.36)
OECD	Finland	563	(2.0)	554	(2.3)	545	(2.2)	**-18**	(4.6)	**-9**	(3.8)	**-3.0**	(0.77)	-2.8	(1.97)	0.0	(0.33)
OECD	France	495	(3.4)	498	(3.6)	499	(2.6)	4	(5.5)	1	(4.9)	0.6	(0.98)	-0.1	(2.71)	-0.1	(0.47)
OECD	Germany	516	(3.8)	520	(2.8)	524	(3.0)	8	(6.0)	4	(4.5)	1.4	(1.03)	1.1	(2.54)	-0.1	(0.46)
OECD	Greece	473	(3.2)	470	(4.0)	467	(3.1)	-7	(5.7)	-3	(5.5)	-1.1	(0.95)	-1.2	(3.20)	0.0	(0.54)
OECD	Hungary	504	(2.7)	503	(3.1)	494	(2.9)	-10	(5.3)	-8	(4.8)	-1.6	(0.91)	-4.0	(2.60)	-0.4	(0.44)
OECD	Iceland	491	(1.6)	496	(1.4)	478	(2.1)	**-13**	(4.4)	**-17**	(3.2)	**-2.0**	(0.71)	**-9.5**	(1.63)	**-1.2**	(0.28)
OECD	Ireland	508	(3.2)	508	(3.3)	522	(2.5)	**14**	(5.3)	**14**	(4.5)	**2.3**	(0.91)	**7.1**	(2.75)	0.8	(0.47)
OECD	Israel	454	(3.7)	455	(3.1)	470	(5.0)	**16**	(7.1)	**15**	(6.2)	**2.8**	(1.18)	**7.5**	(3.26)	0.8	(0.51)
OECD	Italy	475	(2.0)	489	(1.8)	494	(1.9)	**18**	(4.5)	5	(3.3)	**3.0**	(0.77)	0.1	(1.64)	-0.5	(0.30)
OECD	Japan	531	(3.4)	539	(3.4)	547	(3.6)	**15**	(6.1)	7	(5.4)	**2.6**	(0.90)	2.3	(3.07)	0.0	(0.52)
OECD	Korea	522	(3.4)	538	(3.4)	538	(3.7)	**16**	(6.1)	0	(5.4)	**2.6**	(1.02)	-2.7	(3.34)	-0.9	(0.55)
OECD	Luxembourg	486	(1.1)	484	(1.2)	491	(1.3)	5	(3.9)	**7**	(2.7)	0.9	(0.64)	**4.0**	(1.04)	**0.5**	(0.22)
OECD	Mexico	410	(2.7)	416	(1.8)	415	(1.3)	5	(4.6)	-1	(3.0)	0.9	(0.79)	-1.5	(1.52)	-0.4	(0.30)
OECD	Netherlands	525	(2.7)	522	(5.4)	522	(3.5)	-3	(5.7)	0	(6.8)	-0.5	(0.92)	0.4	(4.16)	0.1	(0.69)
OECD	New Zealand	530	(2.7)	532	(2.6)	516	(2.1)	**-15**	(4.9)	**-16**	(3.9)	**-2.5**	(0.81)	**-8.5**	(2.18)	**-1.0**	(0.40)
OECD	Norway	487	(3.1)	500	(2.6)	495	(3.1)	8	(5.6)	-5	(4.5)	1.3	(0.92)	**-4.9**	(2.41)	**-1.0**	(0.41)
OECD	Poland	498	(2.3)	508	(2.4)	526	(3.1)	**28**	(5.3)	**18**	(4.4)	**4.6**	(0.90)	**7.2**	(2.46)	0.4	(0.39)
OECD	Portugal	474	(3.0)	493	(2.9)	489	(3.7)	**15**	(6.0)	-4	(5.1)	**2.5**	(0.99)	-4.9	(2.94)	**-1.2**	(0.49)
OECD	Slovak Republic	488	(2.6)	490	(3.0)	471	(3.6)	**-17**	(5.7)	**-19**	(5.1)	**-2.7**	(0.90)	**-9.8**	(2.85)	**-1.2**	(0.47)
OECD	Slovenia	519	(1.1)	512	(1.1)	514	(1.3)	-5	(3.9)	2	(2.6)	-0.8	(0.67)	**2.4**	(1.10)	**0.5**	(0.22)
OECD	Spain	488	(2.6)	488	(2.1)	496	(1.8)	8	(4.7)	**8**	(3.4)	1.3	(0.79)	**4.1**	(1.92)	0.5	(0.34)
OECD	Sweden	503	(2.4)	495	(2.7)	485	(3.0)	**-19**	(5.2)	**-10**	(4.5)	**-3.1**	(0.88)	-3.8	(2.43)	-0.1	(0.40)
OECD	Switzerland	512	(3.2)	517	(2.8)	515	(2.7)	4	(5.4)	-1	(4.4)	0.6	(0.91)	-1.5	(2.46)	-0.4	(0.43)
OECD	Turkey	424	(3.8)	454	(3.6)	463	(3.9)	**40**	(6.5)	10	(5.7)	**6.4**	(1.09)	-0.3	(3.18)	**-1.1**	(0.53)
OECD	United Kingdom	515	(2.3)	514	(2.5)	514	(3.4)	-1	(5.4)	0	(4.7)	-0.1	(0.84)	0.4	(2.60)	0.1	(0.42)
OECD	United States	489	(4.2)	502	(3.6)	497	(3.8)	9	(6.7)	-5	(5.6)	1.4	(1.08)	-4.5	(3.10)	-1.0	(0.51)
OECD	**OECD average 2006**	498	(0.5)	501	(0.5)	501	(0.5)	**3**	(0.9)	0	(0.8)	**0.5**	(0.15)	-0.5	(0.42)	**-0.2**	(0.07)
OECD	**OECD average 2009**	m	m	501	(0.5)	501	(0.5)	m	m	0	(0.8)	**0.5**	(0.16)	-0.5	(0.44)	**-0.2**	(0.07)
Partners	Albania	m	m	391	(3.9)	397	(2.4)	m	m	7	(5.1)	2.2	(1.63)	m	m	m	m
Partners	Argentina	391	(6.1)	401	(4.6)	406	(3.9)	14	(8.0)	5	(6.3)	2.4	(1.35)	0.8	(3.75)	-0.3	(0.67)
Partners	Brazil	390	(2.8)	405	(2.4)	405	(2.1)	**14**	(5.0)	-1	(3.8)	**2.3**	(0.81)	-2.9	(2.09)	**-0.9**	(0.38)
Partners	Bulgaria	434	(6.1)	439	(5.9)	446	(4.8)	12	(8.5)	7	(7.8)	2.0	(1.46)	2.7	(4.85)	0.1	(0.85)
Partners	Colombia	388	(3.4)	402	(3.6)	399	(3.1)	11	(5.7)	-3	(5.2)	1.8	(0.97)	-3.8	(3.17)	-0.9	(0.53)
Partners	Costa Rica	m	m	430	(2.8)	429	(2.9)	m	m	-1	(4.5)	-0.6	(2.04)	m	m	m	m
Partners	Croatia	493	(2.4)	486	(2.8)	491	(3.1)	-2	(5.3)	5	(4.7)	-0.3	(0.88)	3.6	(2.73)	0.7	(0.46)
Partners	Dubai (UAE)	m	m	466	(1.2)	474	(1.4)	m	m	**8**	(2.7)	**2.5**	(0.92)	m	m	m	m
Partners	Hong Kong-China	542	(2.5)	549	(2.8)	555	(2.6)	**13**	(5.0)	6	(4.3)	**2.1**	(0.85)	1.8	(2.28)	-0.1	(0.38)
Partners	Indonesia	393	(5.7)	383	(3.8)	382	(3.8)	-12	(7.7)	-1	(5.7)	-1.9	(1.33)	1.5	(2.95)	0.6	(0.55)
Partners	Jordan	422	(2.8)	415	(3.5)	409	(3.1)	**-13**	(5.5)	-6	(5.1)	**-2.1**	(0.91)	-1.9	(2.92)	0.0	(0.49)
Partners	Kazakhstan	m	m	400	(3.1)	425	(3.0)	m	m	**24**	(4.8)	**8.1**	(1.56)	m	m	m	m
Partners	Latvia	490	(3.0)	494	(3.1)	502	(2.8)	**13**	(5.4)	8	(4.6)	**2.0**	(0.90)	3.4	(2.68)	0.2	(0.44)
Partners	Liechtenstein	522	(4.1)	520	(3.4)	525	(3.5)	3	(6.5)	5	(5.3)	0.4	(1.03)	2.8	(2.99)	0.4	(0.51)
Partners	Lithuania	488	(2.8)	491	(2.9)	496	(2.6)	8	(5.1)	4	(4.4)	1.3	(0.94)	1.6	(2.18)	0.0	(0.39)
Partners	Macao-China	511	(1.1)	511	(1.0)	521	(0.8)	**10**	(3.8)	**10**	(2.4)	**1.6**	(0.64)	**4.7**	(1.04)	**0.5**	(0.22)
Partners	Malaysia	m	m	422	(2.7)	420	(3.0)	m	m	-3	(4.5)	-1.4	(1.96)	m	m	m	m
Partners	Montenegro	412	(1.1)	401	(2.0)	410	(1.1)	-2	(3.8)	**9**	(3.0)	-0.3	(0.64)	**6.2**	(1.63)	**1.1**	(0.29)
Partners	Peru	m	m	369	(3.5)	373	(3.6)	m	m	4	(5.4)	1.3	(1.94)	m	m	m	m
Partners	Qatar	349	(0.9)	379	(0.9)	384	(0.7)	**34**	(3.7)	4	(2.3)	**5.4**	(0.61)	**-2.9**	(0.94)	**-1.4**	(0.21)
Partners	Romania	418	(4.2)	428	(3.4)	439	(3.3)	**20**	(6.4)	**11**	(5.1)	**3.4**	(1.08)	3.7	(2.96)	0.0	(0.52)
Partners	Russian Federation	479	(3.7)	478	(3.3)	486	(2.9)	7	(5.8)	8	(4.8)	1.0	(1.00)	4.2	(2.68)	0.5	(0.47)
Partners	Serbia	436	(3.0)	443	(2.4)	445	(3.4)	9	(5.8)	2	(4.6)	1.5	(1.03)	-0.2	(2.61)	-0.3	(0.42)
Partners	Shanghai-China	m	m	575	(2.3)	580	(3.0)	m	m	6	(4.3)	1.8	(1.50)	m	m	m	m
Partners	Singapore	m	m	542	(1.4)	551	(1.5)	m	m	**10**	(2.9)	**3.3**	(0.93)	m	m	m	m
Partners	Chinese Taipei	532	(3.6)	520	(2.6)	523	(2.3)	-9	(5.5)	3	(4.0)	-1.5	(0.92)	3.5	(2.31)	**0.8**	(0.42)
Partners	Thailand	421	(2.1)	425	(3.0)	444	(2.9)	**23**	(5.1)	**19**	(4.6)	**3.9**	(0.82)	**8.6**	(2.76)	0.8	(0.45)
Partners	Tunisia	386	(3.0)	401	(2.7)	398	(3.5)	**13**	(5.7)	-3	(4.8)	**2.2**	(1.03)	-3.8	(2.54)	**-1.0**	(0.42)
Partners	United Arab Emirates*	m	m	429	(3.3)	439	(3.8)	m	m	10	(5.4)	5.1	(2.75)	m	m	m	m
Partners	Uruguay	428	(2.7)	427	(2.6)	416	(2.8)	**-12**	(5.2)	**-11**	(4.3)	**-2.1**	(0.91)	**-5.5**	(2.09)	-0.6	(0.35)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Annualised change is the average change between the earliest available and comparable measurement in PISA and PISA 2012, taking into account all available and comparable measurement in between. This estimate considers that Costa Rica, Malaysia and the United Arab Emirates (with the exception of Dubai) implemented the PISA 2009 assessment in 2010 as part of PISA 2009+. Dubai implemented the PISA 2009 assessment in 2009.

The curvilinear change is estimated by a regression of time and time-squared on science performance. The linear term is the estimated annual increase in performance in 2012. The quadratic term is the rate at which changes in performance are accelerating (positive estimate) or decelerating (negative estimate) throughout a country/economy's participation in PISA.

For Costa Rica and Malaysia the change between PISA 2009 and PISA 2012 represents change between 2010 and 2012 because these countries implemented the PISA 2009 assessment in 2010 as part of PISA 2009+.

In the United Arab Emirates, Dubai took the PISA 2009 assessment in 2009 and the rest of the United Arab Emirates in 2010 as part of PISA 2009+. Results are thus reported separately.

* United Arab Emirates excluding Dubai (see note above).

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Table I.5.3c **Gender differences in science performance in PISA 2006 and 2012**

		PISA 2006						PISA 2012						Change between 2006 and 2012 (PISA 2012 - PISA 2006)					
		Boys		Girls		Difference (B-G)		Boys		Girls		Difference (B-G)		Boys		Girls		Difference (B-G)	
		Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.
OECD	Australia	527	(3.2)	527	(2.7)	0	(3.8)	524	(2.5)	519	(2.1)	5	(3.0)	-3	(5.4)	-8	(4.9)	5	(5.0)
	Austria	515	(4.2)	507	(4.9)	8	(4.9)	510	(3.9)	501	(3.4)	9	(5.0)	-4	(6.8)	-6	(7.0)	1	(7.2)
	Belgium	511	(3.3)	510	(3.2)	1	(4.1)	507	(3.0)	503	(2.6)	4	(3.6)	-4	(5.7)	-7	(5.4)	3	(5.6)
	Canada	536	(2.5)	532	(2.1)	4	(2.2)	527	(2.4)	524	(2.0)	3	(2.1)	-10	(4.9)	-8	(4.5)	-1	(3.0)
	Chile	448	(5.4)	426	(4.4)	**22**	(4.8)	448	(3.7)	442	(2.9)	**7**	(3.3)	0	(7.4)	**15**	(6.3)	**-15**	(6.1)
	Czech Republic	515	(4.2)	510	(4.8)	5	(5.6)	509	(3.7)	508	(3.5)	1	(4.0)	-6	(6.6)	-2	(6.9)	-4	(6.3)
	Denmark	500	(3.6)	491	(3.4)	**9**	(3.2)	504	(3.5)	493	(2.5)	**10**	(2.7)	3	(6.1)	2	(5.5)	1	(4.2)
	Estonia	530	(3.1)	533	(2.9)	-4	(3.1)	540	(2.5)	543	(2.3)	-2	(2.7)	**11**	(5.3)	9	(5.1)	1	(4.1)
	Finland	562	(2.6)	565	(2.4)	-3	(2.9)	537	(3.0)	554	(2.3)	**-16**	(3.0)	**-24**	(5.3)	**-11**	(4.8)	**-13**	(4.2)
	France	497	(4.3)	494	(3.6)	3	(4.0)	498	(3.8)	500	(2.4)	-2	(3.7)	1	(6.7)	6	(5.6)	-5	(5.5)
	Germany	519	(4.6)	512	(3.8)	7	(3.7)	524	(3.1)	524	(3.5)	-1	(3.0)	5	(6.6)	**12**	(6.3)	-8	(5.0)
	Greece	468	(4.5)	479	(3.4)	**-11**	(4.7)	460	(3.8)	473	(3.0)	**-13**	(3.1)	-8	(6.8)	-6	(5.7)	-2	(5.5)
	Hungary	507	(3.3)	501	(3.5)	6	(4.2)	496	(3.4)	493	(3.3)	3	(3.3)	-11	(5.9)	-8	(6.0)	-3	(5.1)
	Iceland	488	(2.6)	494	(2.1)	-6	(3.4)	477	(2.7)	480	(2.9)	-3	(3.6)	**-11**	(5.1)	**-14**	(5.0)	3	(5.4)
	Ireland	508	(4.3)	509	(3.3)	0	(4.3)	524	(3.4)	520	(3.1)	4	(4.4)	**16**	(6.6)	**11**	(5.8)	4	(6.4)
	Israel	456	(5.6)	452	(4.2)	3	(6.5)	470	(7.9)	470	(4.0)	-1	(7.6)	14	(10.3)	**18**	(6.7)	-4	(9.6)
	Italy	477	(2.8)	474	(2.5)	3	(3.5)	495	(2.2)	492	(2.4)	3	(2.5)	**18**	(5.0)	**18**	(4.9)	0	(4.4)
	Japan	533	(4.9)	530	(5.1)	3	(7.4)	552	(4.7)	541	(3.5)	**11**	(4.3)	**19**	(7.6)	11	(7.2)	8	(8.4)
	Korea	521	(4.8)	523	(3.9)	-2	(5.5)	539	(4.7)	536	(4.2)	3	(5.1)	**18**	(7.6)	13	(6.7)	5	(7.4)
	Luxembourg	491	(1.8)	482	(1.8)	**9**	(2.9)	499	(1.7)	483	(1.7)	**15**	(2.2)	8	(4.3)	2	(4.3)	6	(3.5)
	Mexico	413	(3.2)	406	(2.6)	**7**	(2.2)	418	(1.5)	412	(1.3)	**6**	(1.1)	5	(5.0)	5	(4.6)	0	(2.5)
	Netherlands	528	(3.2)	521	(3.1)	**7**	(3.0)	524	(3.7)	520	(3.9)	3	(2.9)	-5	(6.0)	-1	(6.1)	-4	(4.1)
	New Zealand	528	(3.9)	532	(3.6)	-4	(5.2)	518	(3.2)	513	(3.3)	5	(4.9)	-11	(6.2)	**-19**	(6.0)	8	(7.2)
	Norway	484	(3.8)	489	(3.2)	-4	(3.4)	493	(3.2)	496	(3.7)	-4	(3.2)	8	(6.1)	8	(6.0)	1	(4.2)
	Poland	500	(2.7)	496	(2.6)	3	(2.5)	524	(3.7)	527	(3.2)	-3	(3.0)	**25**	(5.8)	**31**	(5.4)	-6	(3.9)
	Portugal	477	(3.7)	472	(3.2)	5	(3.3)	488	(4.1)	490	(3.8)	-2	(2.6)	11	(6.5)	**18**	(6.1)	-7	(4.1)
	Slovak Republic	491	(3.9)	485	(3.0)	6	(4.7)	475	(4.3)	467	(4.2)	7	(4.5)	**-17**	(6.8)	**-18**	(6.2)	1	(6.7)
	Slovenia	515	(2.0)	523	(1.9)	**-8**	(3.2)	510	(1.9)	519	(1.9)	**-9**	(2.8)	-5	(4.5)	-4	(4.4)	-1	(4.0)
	Spain	491	(2.9)	486	(2.7)	4	(2.4)	500	(2.3)	493	(1.9)	**7**	(2.1)	10	(5.1)	6	(4.8)	3	(3.3)
	Sweden	504	(2.7)	503	(2.9)	1	(3.0)	481	(3.9)	489	(2.8)	**-7**	(3.3)	**-23**	(5.9)	**-14**	(5.3)	**-9**	(4.1)
	Switzerland	514	(3.3)	509	(3.6)	**6**	(2.7)	518	(3.3)	512	(2.7)	**6**	(2.6)	4	(5.8)	4	(5.7)	0	(3.8)
	Turkey	418	(4.6)	430	(4.1)	**-12**	(4.1)	458	(4.5)	469	(4.3)	**-10**	(4.2)	**40**	(7.3)	**38**	(6.9)	2	(6.1)
	United Kingdom	520	(3.0)	510	(2.8)	**10**	(3.4)	521	(4.5)	508	(3.7)	**13**	(4.7)	1	(6.4)	-2	(5.8)	3	(6.0)
	United States	489	(5.1)	489	(4.0)	1	(3.5)	497	(4.1)	498	(4.0)	-2	(2.7)	7	(7.4)	10	(6.6)	-2	(4.4)
	OECD average 2006	499	(0.6)	497	(0.6)	**2**	(0.7)	502	(0.7)	500	(0.6)	**1**	(0.7)	2	(1.3)	**3**	(1.2)	-1	(1.1)
Partners	Argentina	384	(6.5)	397	(6.8)	**-13**	(5.6)	402	(4.5)	409	(4.0)	-7	(3.4)	**18**	(8.6)	12	(8.6)	6	(6.5)
	Brazil	395	(3.2)	386	(2.9)	**9**	(2.3)	406	(2.3)	404	(2.3)	2	(1.7)	**10**	(5.3)	**18**	(5.1)	**-7**	(2.9)
	Bulgaria	426	(6.6)	443	(6.9)	**-17**	(5.8)	437	(5.6)	457	(4.6)	**-20**	(4.5)	11	(9.3)	14	(9.0)	-3	(7.0)
	Colombia	393	(4.1)	384	(4.1)	9	(4.6)	408	(3.4)	390	(3.6)	**18**	(3.4)	**15**	(6.4)	6	(6.5)	9	(5.9)
	Croatia	492	(3.3)	494	(3.1)	-2	(4.1)	490	(3.9)	493	(3.3)	-2	(3.8)	-2	(6.2)	-2	(5.7)	0	(6.1)
	Hong Kong-China	546	(3.5)	539	(3.5)	7	(4.9)	558	(3.6)	551	(3.1)	7	(4.2)	**12**	(6.1)	**13**	(5.8)	0	(6.2)
	Indonesia	399	(8.2)	387	(3.7)	12	(6.3)	380	(4.1)	383	(4.1)	-3	(3.1)	-19	(9.9)	-4	(6.6)	**-15**	(7.1)
	Jordan	408	(4.5)	436	(3.3)	**-29**	(5.3)	388	(5.4)	430	(2.9)	**-43**	(6.4)	**-20**	(7.9)	-6	(5.6)	-14	(8.5)
	Latvia	486	(3.5)	493	(3.2)	**-7**	(3.1)	495	(3.6)	510	(2.8)	**-15**	(3.6)	9	(6.1)	**17**	(5.5)	-8	(5.0)
	Liechtenstein	516	(7.6)	527	(6.3)	-11	(11.1)	533	(5.8)	516	(5.7)	17	(9.1)	17	(10.2)	-12	(9.2)	**28**	(13.7)
	Lithuania	483	(3.1)	493	(3.1)	**-9**	(2.8)	488	(3.0)	503	(2.6)	**-15**	(2.3)	5	(5.5)	**11**	(5.4)	-6	(3.8)
	Macao-China	513	(1.8)	509	(1.6)	4	(2.7)	520	(1.3)	521	(1.2)	-1	(1.7)	7	(4.2)	**12**	(4.0)	-5	(3.4)
	Montenegro	411	(1.7)	413	(1.7)	-2	(2.6)	402	(1.6)	419	(1.6)	**-17**	(2.4)	**-9**	(4.2)	6	(4.2)	**-15**	(3.3)
	Qatar	334	(1.2)	365	(1.3)	**-32**	(1.9)	367	(1.2)	402	(1.1)	**-35**	(1.7)	**33**	(3.9)	**36**	(3.9)	-3	(2.6)
	Romania	417	(4.1)	419	(4.8)	-2	(3.3)	436	(3.7)	441	(3.5)	-5	(3.2)	**19**	(6.6)	**22**	(6.9)	-3	(4.0)
	Russian Federation	481	(4.1)	478	(3.7)	3	(2.7)	484	(3.5)	489	(2.9)	-6	(2.9)	3	(6.4)	11	(5.9)	**-8**	(4.0)
	Serbia	433	(3.3)	438	(3.8)	-5	(3.8)	443	(4.0)	447	(3.8)	-4	(3.9)	10	(6.3)	8	(6.4)	1	(5.7)
	Chinese Taipei	536	(4.3)	529	(5.1)	7	(6.0)	524	(3.9)	523	(4.0)	1	(6.4)	-12	(6.7)	-6	(7.4)	-6	(8.3)
	Thailand	411	(3.4)	428	(2.5)	**-17**	(3.9)	433	(3.3)	452	(3.4)	**-19**	(3.4)	**22**	(5.9)	**24**	(5.5)	-3	(5.2)
	Tunisia	383	(3.2)	388	(3.5)	-5	(3.4)	399	(3.9)	398	(3.6)	1	(2.9)	**16**	(6.2)	10	(6.1)	6	(4.1)
	Uruguay	427	(4.0)	430	(2.7)	-3	(4.0)	415	(3.4)	416	(3.1)	-1	(3.4)	-11	(6.3)	**-13**	(5.4)	2	(5.4)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).
Only countries and economies with comparable results in PISA 2006 and PISA 2012 are presented.
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Table I.5.3d Distribution of scores in science in PISA 2006 through 2012, by percentiles

		PISA 2006								PISA 2009							
		10th percentile		25th percentile		75th percentile		90th percentile		10th percentile		25th percentile		75th percentile		90th percentile	
		Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	Australia	395	(3.4)	459	(2.6)	598	(2.5)	653	(2.9)	395	(4.0)	461	(2.8)	597	(2.8)	655	(3.9)
	Austria	378	(6.2)	443	(5.4)	582	(4.1)	633	(3.6)	m	m	m	m	m	m	m	m
	Belgium	374	(5.4)	442	(3.8)	584	(2.4)	634	(2.3)	364	(4.8)	438	(3.6)	583	(2.8)	634	(3.1)
	Canada	410	(3.7)	472	(2.5)	601	(2.2)	651	(2.4)	412	(2.7)	469	(2.0)	593	(1.7)	642	(1.7)
	Chile	323	(4.1)	374	(4.0)	501	(5.9)	560	(6.5)	343	(4.1)	392	(3.5)	502	(3.6)	553	(3.8)
	Czech Republic	385	(5.2)	443	(4.6)	583	(3.9)	641	(4.3)	375	(5.6)	437	(3.9)	568	(3.4)	624	(4.0)
	Denmark	373	(4.8)	432	(4.3)	562	(2.9)	615	(3.7)	379	(3.9)	438	(3.1)	564	(2.9)	615	(3.7)
	Estonia	422	(3.8)	474	(3.2)	589	(3.1)	640	(3.3)	419	(4.7)	472	(3.8)	586	(3.1)	635	(3.5)
	Finland	453	(3.3)	506	(2.9)	622	(2.5)	673	(2.9)	437	(4.2)	496	(3.3)	617	(2.9)	665	(3.0)
	France	359	(5.5)	424	(5.3)	570	(4.0)	623	(4.0)	358	(7.1)	433	(5.6)	572	(3.8)	624	(4.2)
	Germany	381	(7.0)	447	(5.3)	587	(3.6)	642	(3.2)	383	(6.2)	452	(4.1)	594	(3.3)	645	(3.5)
	Greece	353	(5.4)	413	(4.4)	537	(3.3)	589	(4.1)	353	(6.3)	409	(5.3)	535	(3.8)	586	(3.6)
	Hungary	388	(4.2)	442	(3.5)	566	(3.3)	617	(3.1)	388	(7.6)	446	(4.6)	564	(3.7)	609	(3.6)
	Iceland	364	(3.1)	424	(2.6)	560	(2.3)	614	(2.9)	370	(4.3)	435	(2.6)	561	(2.2)	616	(2.9)
	Ireland	385	(4.4)	444	(4.6)	575	(3.4)	630	(3.7)	382	(4.9)	445	(3.7)	576	(3.3)	627	(4.0)
	Israel	310	(5.2)	374	(4.8)	535	(4.6)	601	(4.5)	314	(5.5)	382	(4.5)	531	(3.3)	590	(4.0)
	Italy	351	(2.8)	409	(3.0)	543	(2.4)	598	(2.6)	362	(2.6)	424	(2.3)	557	(2.0)	609	(2.0)
	Japan	396	(6.2)	465	(5.1)	603	(3.1)	654	(3.1)	405	(7.3)	477	(4.8)	610	(3.2)	659	(3.5)
	Korea	403	(5.7)	462	(4.1)	586	(3.8)	635	(4.7)	431	(5.2)	485	(4.2)	595	(3.7)	640	(3.7)
	Luxembourg	358	(2.8)	419	(2.0)	556	(2.4)	609	(2.8)	345	(3.2)	415	(3.1)	558	(2.2)	615	(2.2)
	Mexico	306	(4.2)	354	(3.6)	465	(2.9)	516	(3.0)	318	(2.1)	364	(1.7)	468	(2.1)	517	(2.8)
	Netherlands	395	(5.4)	456	(4.7)	596	(2.6)	646	(3.4)	395	(7.0)	453	(7.6)	594	(5.1)	645	(4.8)
	New Zealand	389	(4.5)	455	(3.6)	608	(2.9)	667	(3.3)	390	(4.3)	461	(4.1)	608	(3.0)	667	(3.3)
	Norway	365	(5.6)	422	(3.9)	553	(3.0)	610	(3.5)	382	(3.4)	440	(3.0)	563	(2.9)	615	(3.7)
	Poland	381	(2.9)	434	(2.7)	562	(3.1)	615	(3.3)	396	(3.3)	448	(2.7)	569	(2.7)	621	(2.9)
	Portugal	357	(4.8)	411	(4.2)	539	(3.0)	588	(2.9)	384	(3.7)	436	(3.7)	551	(3.0)	601	(3.3)
	Slovak Republic	368	(3.7)	426	(3.2)	555	(4.0)	609	(4.1)	371	(4.9)	427	(3.9)	556	(3.4)	612	(4.1)
	Slovenia	391	(2.8)	449	(2.7)	589	(2.1)	647	(3.3)	387	(2.3)	446	(2.0)	580	(2.3)	633	(3.0)
	Spain	370	(3.7)	427	(3.0)	552	(3.1)	604	(3.0)	373	(3.2)	431	(3.0)	549	(2.2)	597	(2.2)
	Sweden	381	(4.0)	439	(3.3)	569	(2.8)	622	(2.6)	367	(4.6)	429	(3.8)	564	(3.4)	622	(3.9)
	Switzerland	378	(4.9)	445	(3.9)	584	(3.5)	636	(3.8)	388	(3.6)	452	(3.5)	585	(3.4)	637	(3.8)
	Turkey	325	(3.2)	366	(2.6)	475	(5.8)	540	(9.7)	350	(4.2)	397	(3.3)	510	(4.6)	560	(5.8)
	United Kingdom	376	(4.3)	441	(3.2)	590	(3.1)	652	(2.9)	385	(3.6)	447	(3.7)	583	(3.1)	640	(3.3)
	United States	349	(5.9)	412	(5.4)	567	(4.6)	628	(4.3)	374	(4.5)	433	(3.9)	572	(4.7)	629	(5.1)
	OECD average 2006	373	(0.8)	432	(0.7)	566	(0.6)	620	(0.7)	378	(0.8)	439	(0.7)	567	(0.6)	619	(0.6)
	OECD average 2009	m	m	m	m	m	m	m	m	378	(0.8)	439	(0.7)	567	(0.6)	619	(0.6)
Partners	Albania	m	m	m	m	m	m	m	m	276	(4.7)	331	(4.5)	454	(4.8)	504	(4.9)
	Argentina	259	(9.0)	324	(7.2)	461	(6.6)	520	(6.5)	271	(7.6)	334	(5.5)	471	(5.5)	530	(6.6)
	Brazil	281	(3.2)	328	(2.3)	447	(4.5)	510	(5.6)	302	(3.1)	348	(2.3)	458	(3.4)	517	(4.0)
	Bulgaria	300	(7.1)	358	(6.4)	509	(7.8)	577	(8.2)	302	(7.0)	367	(7.6)	514	(6.8)	575	(5.7)
	Colombia	280	(4.5)	332	(4.8)	445	(4.7)	496	(4.6)	298	(6.2)	348	(4.7)	457	(3.6)	506	(3.6)
	Costa Rica	m	m	m	m	m	m	m	m	336	(3.7)	380	(3.4)	480	(3.3)	526	(4.6)
	Croatia	383	(3.8)	433	(3.1)	553	(2.7)	604	(3.2)	377	(4.0)	429	(3.7)	546	(3.5)	595	(4.0)
	Dubai (UAE)	m	m	m	m	m	m	m	m	330	(2.5)	391	(1.6)	542	(1.9)	606	(3.0)
	Hong Kong-China	418	(6.1)	482	(3.6)	609	(2.8)	655	(3.5)	432	(4.9)	494	(3.9)	610	(2.9)	655	(2.9)
	Indonesia	307	(3.5)	345	(4.2)	438	(8.0)	488	(11.8)	296	(4.0)	336	(3.7)	428	(4.6)	472	(6.2)
	Jordan	309	(4.0)	362	(2.8)	484	(3.5)	537	(4.5)	301	(5.4)	357	(4.4)	477	(3.9)	526	(4.4)
	Kazakhstan	m	m	m	m	m	m	m	m	293	(4.3)	342	(3.4)	458	(3.8)	515	(5.1)
	Latvia	380	(4.2)	432	(3.7)	547	(3.5)	597	(3.5)	392	(4.5)	440	(4.1)	548	(3.2)	593	(4.0)
	Liechtenstein	393	(12.8)	457	(7.3)	591	(7.1)	643	(9.4)	403	(9.6)	458	(7.4)	583	(6.0)	631	(9.3)
	Lithuania	370	(3.2)	425	(3.3)	551	(3.5)	604	(4.2)	382	(4.9)	434	(3.7)	549	(3.2)	600	(3.9)
	Macao-China	409	(2.5)	458	(1.9)	566	(1.8)	611	(1.8)	411	(1.9)	461	(2.0)	564	(1.7)	608	(2.5)
	Malaysia	m	m	m	m	m	m	m	m	324	(3.5)	371	(3.0)	474	(3.0)	519	(4.0)
	Montenegro	312	(2.1)	355	(2.2)	466	(2.2)	517	(3.0)	290	(4.1)	343	(3.0)	461	(1.9)	512	(3.0)
	Peru	m	m	m	m	m	m	m	m	256	(4.5)	310	(3.7)	428	(4.2)	484	(6.4)
	Qatar	253	(1.4)	292	(1.8)	396	(1.4)	462	(2.6)	257	(1.7)	306	(1.5)	443	(1.7)	524	(2.5)
	Romania	314	(5.0)	361	(5.2)	473	(5.7)	526	(5.7)	327	(4.2)	373	(4.4)	483	(4.0)	530	(4.2)
	Russian Federation	364	(5.4)	418	(4.4)	541	(4.2)	596	(3.9)	364	(4.7)	418	(4.0)	539	(3.5)	594	(4.6)
	Serbia	327	(4.0)	377	(3.8)	495	(3.9)	545	(3.8)	334	(4.4)	387	(3.1)	501	(3.0)	548	(3.3)
	Shanghai-China	m	m	m	m	m	m	m	m	467	(4.3)	523	(3.0)	632	(2.8)	674	(3.4)
	Singapore	m	m	m	m	m	m	m	m	401	(3.1)	471	(2.0)	617	(2.0)	673	(3.0)
	Chinese Taipei	402	(5.0)	466	(5.3)	602	(3.4)	651	(2.7)	404	(3.6)	464	(3.1)	581	(3.3)	628	(4.3)
	Thailand	325	(3.4)	368	(2.8)	471	(3.3)	524	(3.8)	326	(4.8)	373	(3.2)	477	(3.3)	527	(4.1)
	Tunisia	283	(3.4)	328	(2.9)	440	(4.2)	495	(6.0)	296	(3.6)	345	(3.2)	458	(3.3)	504	(4.5)
	United Arab Emirates*	m	m	m	m	m	m	m	m	316	(4.6)	368	(3.8)	490	(3.8)	543	(4.2)
	Uruguay	306	(4.9)	363	(4.1)	493	(3.3)	550	(3.6)	303	(3.6)	362	(3.4)	493	(3.5)	551	(3.8)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Annualised change is the average change between the earliest available and comparable measurement in PISA and PISA 2012, taking into account all available and comparable measurement in between. This estimate considers that Costa Rica, Malaysia and the United Arab Emirates (with the exception of Dubai) implemented the PISA 2009 assessment in 2010 as part of PISA 2009+. Dubai implemented the PISA 2009 assessment in 2009.

For Costa Rica and Malaysia the change between PISA 2009 and PISA 2012 represents change between 2010 and 2012 because these countries implemented the PISA 2009 assessment in 2010 as part of PISA 2009+.

In the United Arab Emirates, Dubai took the PISA 2009 assessment in 2009 and the rest of the United Arab Emirates in 2010 as part of PISA 2009+. Results are thus reported separately.

* United Arab Emirates excluding Dubai (see note above).

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[Part 2/3]

Table I.5.3d **Distribution of scores in science in PISA 2006 through 2012, by percentiles**

		PISA 2012							
		10th percentile		25th percentile		75th percentile		90th percentile	
		Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	Australia	391	(2.6)	453	(2.1)	592	(2.5)	650	(2.7)
	Austria	383	(5.3)	442	(3.5)	571	(3.1)	623	(3.4)
	Belgium	368	(4.5)	439	(3.3)	577	(2.5)	629	(2.0)
	Canada	407	(2.7)	467	(2.1)	588	(2.4)	639	(2.5)
	Chile	343	(3.8)	388	(3.3)	500	(3.6)	552	(3.7)
	Czech Republic	392	(5.5)	449	(4.0)	572	(3.2)	622	(3.7)
	Denmark	378	(4.3)	438	(3.8)	563	(3.2)	615	(4.1)
	Estonia	439	(3.3)	487	(2.7)	597	(2.6)	645	(3.1)
	Finland	424	(3.9)	486	(2.8)	609	(2.4)	662	(2.9)
	France	366	(6.0)	433	(3.4)	570	(3.0)	622	(4.1)
	Germany	397	(4.8)	461	(3.8)	592	(3.1)	642	(3.9)
	Greece	352	(5.1)	408	(4.5)	528	(3.5)	578	(3.6)
	Hungary	376	(4.6)	432	(4.3)	558	(3.5)	610	(4.7)
	Iceland	348	(3.4)	413	(2.5)	548	(3.2)	603	(3.7)
	Ireland	404	(4.8)	462	(3.1)	586	(2.4)	637	(2.6)
	Israel	328	(6.4)	396	(5.7)	548	(5.7)	608	(5.4)
	Italy	371	(2.8)	431	(2.5)	559	(2.0)	611	(2.5)
	Japan	421	(6.4)	485	(4.5)	614	(3.6)	664	(4.3)
	Korea	431	(4.9)	485	(4.0)	595	(4.1)	639	(4.3)
	Luxembourg	355	(3.1)	419	(2.2)	566	(1.9)	624	(2.9)
	Mexico	325	(2.1)	368	(1.6)	462	(1.5)	505	(1.9)
	Netherlands	393	(5.4)	458	(5.0)	591	(3.9)	641	(4.1)
	New Zealand	377	(4.5)	444	(3.0)	591	(3.1)	649	(3.0)
	Norway	365	(5.2)	429	(3.7)	564	(3.3)	620	(3.4)
	Poland	415	(4.0)	467	(3.3)	584	(4.0)	637	(5.0)
	Portugal	372	(5.6)	430	(4.8)	551	(3.6)	602	(3.6)
	Slovak Republic	339	(5.7)	403	(5.2)	542	(4.0)	599	(4.9)
	Slovenia	397	(3.5)	451	(2.2)	578	(2.0)	631	(3.2)
	Spain	384	(3.1)	440	(2.3)	557	(1.8)	605	(2.0)
	Sweden	354	(4.7)	419	(4.1)	554	(3.2)	611	(3.4)
	Switzerland	394	(3.4)	455	(3.8)	579	(3.1)	630	(3.3)
	Turkey	363	(3.5)	407	(3.5)	518	(5.8)	573	(6.3)
	United Kingdom	384	(4.9)	448	(4.6)	584	(3.5)	639	(3.9)
	United States	377	(4.9)	431	(4.4)	563	(4.2)	619	(4.5)
	OECD average 2006	380	(0.8)	439	(0.6)	566	(0.6)	619	(0.6)
	OECD average 2009	380	(0.8)	439	(0.6)	566	(0.6)	619	(0.7)
Partners	Albania	271	(5.2)	340	(3.5)	464	(3.0)	517	(3.3)
	Argentina	297	(5.1)	350	(4.6)	464	(4.7)	513	(4.7)
	Brazil	306	(2.3)	351	(2.0)	456	(2.8)	507	(3.7)
	Bulgaria	315	(5.3)	374	(5.6)	519	(5.1)	580	(6.1)
	Colombia	302	(4.6)	347	(3.4)	449	(3.5)	497	(4.0)
	Costa Rica	341	(3.3)	382	(3.6)	476	(3.6)	520	(4.9)
	Croatia	380	(4.0)	433	(3.3)	551	(4.2)	602	(5.2)
	Dubai (UAE)	348	(2.7)	404	(1.9)	544	(2.2)	600	(2.9)
	Hong Kong-China	446	(5.1)	505	(3.8)	613	(3.0)	655	(3.4)
	Indonesia	297	(4.9)	336	(3.8)	427	(4.7)	471	(6.0)
	Jordan	303	(4.4)	355	(3.6)	466	(3.4)	514	(4.2)
	Kazakhstan	330	(3.6)	375	(3.4)	475	(3.5)	521	(3.8)
	Latvia	400	(4.5)	449	(3.2)	557	(3.6)	603	(3.2)
	Liechtenstein	408	(10.0)	464	(8.4)	588	(8.2)	635	(9.3)
	Lithuania	383	(4.0)	438	(3.2)	555	(3.0)	605	(3.6)
	Macao-China	416	(2.7)	469	(1.9)	575	(1.7)	619	(1.8)
	Malaysia	319	(3.4)	365	(3.4)	473	(3.6)	521	(4.3)
	Montenegro	302	(2.9)	352	(1.4)	468	(2.2)	522	(2.3)
	Peru	275	(3.8)	321	(3.4)	425	(4.4)	475	(5.4)
	Qatar	254	(1.4)	309	(1.3)	453	(1.6)	530	(2.4)
	Romania	340	(3.2)	383	(3.4)	492	(4.6)	543	(5.1)
	Russian Federation	377	(4.1)	428	(3.6)	544	(3.3)	596	(4.9)
	Serbia	333	(5.2)	385	(4.5)	504	(3.5)	558	(3.9)
	Shanghai-China	472	(5.4)	527	(3.7)	639	(3.2)	681	(3.2)
	Singapore	412	(3.2)	480	(2.6)	627	(2.6)	681	(3.4)
	Chinese Taipei	411	(4.3)	469	(3.8)	582	(2.4)	626	(2.2)
	Thailand	349	(3.4)	392	(2.6)	494	(3.8)	544	(5.4)
	Tunisia	296	(4.6)	345	(4.1)	452	(4.1)	497	(5.1)
	United Arab Emirates*	323	(3.9)	376	(4.2)	501	(4.9)	558	(5.3)
	Uruguay	293	(4.2)	352	(3.8)	480	(3.4)	538	(4.3)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Annualised change is the average change between the earliest available and comparable measurement in PISA and PISA 2012, taking into account all available and comparable measurement in between. This estimate considers that Costa Rica, Malaysia and the United Arab Emirates (with the exception of Dubai) implemented the PISA 2009 assessment in 2010 as part of PISA 2009+. Dubai implemented the PISA 2009 assessment in 2009.

For Costa Rica and Malaysia the change between PISA 2009 and PISA 2012 represents change between 2010 and 2012 because these countries implemented the PISA 2009 assessment in 2010 as part of PISA 2009+.

In the United Arab Emirates, Dubai took the PISA 2009 assessment in 2009 and the rest of the United Arab Emirates in 2010 as part of PISA 2009+. Results are thus reported separately.

* United Arab Emirates excluding Dubai (see note above).

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[Part 3/3]

Table I.5.3d **Distribution of scores in science in PISA 2006 through 2012, by percentiles**

		Change in percentiles between 2006 and 2012 (PISA 2012 - PISA 2006)								Annualised change in percentiles across PISA assessments							
		10th percentile		25th percentile		75th percentile		90th percentile		10th percentile		25th percentile		75th percentile		90th percentile	
		Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score change	S.E.	Score change	S.E.	Score change	S.E.	Score change	S.E.
OECD	Australia	-4	(5.5)	-6	(4.9)	-6	(5.0)	-4	(5.2)	-0.6	(0.62)	-1.0	(0.60)	-1.1	(0.60)	-0.6	(0.62)
	Austria	5	(8.8)	-2	(7.3)	-11	(6.2)	-10	(6.1)	0.8	(6.68)	-0.3	(1.50)	**-1.8**	(0.79)	**-1.7**	(0.74)
	Belgium	-6	(7.8)	-3	(6.2)	-7	(4.9)	-5	(4.6)	-0.9	(2.95)	-0.6	(0.76)	-1.2	(0.60)	-0.8	(0.60)
	Canada	-2	(5.8)	-5	(4.8)	**-13**	(4.8)	**-12**	(4.9)	-0.4	(0.64)	-0.9	(0.59)	**-2.2**	(0.60)	**-2.0**	(0.59)
	Chile	**20**	(6.6)	**14**	(6.3)	-1	(7.8)	-9	(8.2)	**3.2**	(0.80)	**2.2**	(0.69)	-0.3	(1.67)	-1.4	(2.77)
	Czech Republic	8	(8.3)	6	(7.0)	-11	(6.1)	**-19**	(6.7)	1.1	(3.82)	0.9	(1.29)	**-1.9**	(0.74)	**-3.2**	(0.83)
	Denmark	4	(7.3)	6	(6.7)	1	(5.6)	0	(6.6)	0.6	(1.58)	0.9	(0.87)	0.1	(0.63)	0.0	(1.04)
	Estonia	**17**	(6.2)	**13**	(5.5)	9	(5.4)	5	(5.7)	**2.8**	(0.84)	**2.2**	(0.65)	**1.4**	(0.62)	0.8	(0.76)
	Finland	**-29**	(6.2)	**-21**	(5.4)	**-13**	(4.9)	**-11**	(5.4)	**-4.7**	(0.67)	**-3.4**	(0.60)	**-2.2**	(0.60)	**-1.8**	(0.62)
	France	7	(8.9)	9	(7.2)	1	(6.1)	-1	(6.7)	1.1	(6.48)	1.6	(1.58)	0.1	(0.77)	-0.2	(1.39)
	Germany	17	(9.2)	**15**	(7.4)	5	(5.9)	1	(6.2)	2.8	(3.28)	2.5	(1.94)	0.7	(0.76)	0.1	(0.70)
	Greece	-1	(8.2)	-5	(7.2)	-10	(6.0)	-11	(6.5)	-0.2	(4.15)	-0.8	(1.13)	**-1.6**	(0.65)	**-1.9**	(0.87)
	Hungary	-12	(7.2)	-11	(6.6)	-8	(6.0)	-7	(6.7)	-2.0	(1.69)	-1.7	(1.11)	**-1.4**	(0.67)	-1.2	(0.82)
	Iceland	**-16**	(5.8)	**-11**	(5.1)	**-12**	(5.3)	-11	(5.9)	**-2.7**	(0.69)	**-1.9**	(0.60)	**-2.0**	(0.60)	**-1.8**	(0.62)
	Ireland	**19**	(7.4)	**18**	(6.6)	**11**	(5.4)	6	(5.7)	3.1	(2.01)	**3.1**	(1.10)	**1.8**	(0.60)	1.1	(0.70)
	Israel	**18**	(8.9)	**22**	(8.2)	13	(8.1)	7	(7.8)	3.0	(4.60)	3.6	(3.13)	2.3	(3.01)	1.3	(3.36)
	Italy	**19**	(5.3)	**22**	(5.2)	**17**	(4.7)	**13**	(5.0)	**3.2**	(0.61)	**3.5**	(0.61)	**2.6**	(0.60)	**2.0**	(0.61)
	Japan	**24**	(9.6)	**20**	(7.7)	11	(5.9)	9	(6.4)	4.1	(5.10)	**3.3**	(1.22)	**1.8**	(0.63)	1.5	(0.81)
	Korea	**27**	(8.3)	**22**	(6.7)	9	(6.6)	4	(7.2)	**4.6**	(1.88)	**3.8**	(0.87)	1.4	(0.83)	0.7	(1.39)
	Luxembourg	-3	(5.4)	0	(4.6)	**10**	(4.6)	**15**	(5.3)	-0.5	(0.61)	0.1	(0.59)	**1.7**	(0.59)	**2.5**	(0.59)
	Mexico	**19**	(5.9)	**14**	(5.3)	-3	(4.8)	**-11**	(5.0)	**3.2**	(0.67)	**2.3**	(0.61)	-0.6	(0.59)	**-1.9**	(0.60)
	Netherlands	-2	(8.4)	2	(7.7)	-5	(5.9)	-5	(6.4)	-0.3	(3.14)	0.4	(1.99)	-0.8	(0.64)	-0.9	(0.63)
	New Zealand	-12	(7.2)	**-12**	(5.9)	**-18**	(5.5)	**-18**	(5.7)	-1.9	(1.07)	**-1.9**	(0.73)	**-2.9**	(0.62)	**-2.9**	(0.62)
	Norway	0	(8.4)	7	(6.4)	10	(5.6)	9	(6.0)	0.2	(3.14)	1.2	(0.77)	**1.7**	(0.61)	**1.5**	(0.69)
	Poland	**34**	(6.1)	**33**	(5.5)	**23**	(6.2)	**23**	(6.9)	**5.6**	(0.67)	**5.5**	(0.63)	**3.8**	(0.72)	**3.7**	(1.18)
	Portugal	14	(8.2)	**19**	(7.3)	**13**	(5.9)	**14**	(5.8)	2.3	(2.79)	**3.1**	(1.45)	**2.1**	(0.62)	**2.3**	(0.61)
	Slovak Republic	**-28**	(7.6)	**-22**	(7.0)	-13	(6.7)	-10	(7.3)	**-4.6**	(1.63)	**-3.6**	(1.21)	**-2.1**	(0.76)	-1.7	(1.45)
	Slovenia	6	(5.7)	2	(4.9)	**-10**	(4.6)	**-16**	(5.8)	1.0	(0.61)	0.4	(0.61)	**-1.7**	(0.60)	**-2.7**	(0.63)
	Spain	**14**	(6.0)	**13**	(5.1)	5	(5.0)	2	(5.0)	**2.3**	(0.62)	**2.2**	(0.61)	0.9	(0.60)	0.5	(0.60)
	Sweden	**-27**	(7.1)	**-19**	(6.3)	**-15**	(5.5)	**-11**	(5.5)	**-4.5**	(1.37)	**-3.2**	(0.71)	**-2.5**	(0.62)	**-1.8**	(0.64)
	Switzerland	**16**	(6.9)	9	(6.5)	-4	(5.8)	-5	(6.1)	2.6	(1.40)	1.6	(0.86)	-0.7	(0.65)	-0.9	(0.82)
	Turkey	**38**	(5.9)	**40**	(5.6)	**43**	(8.9)	**33**	(12.0)	**6.4**	(0.68)	**6.7**	(0.61)	7.2	(6.73)	5.5	(22.85)
	United Kingdom	9	(7.5)	7	(6.6)	-6	(5.9)	**-13**	(5.9)	1.5	(0.79)	1.2	(0.77)	-1.0	(0.64)	**-2.2**	(0.66)
	United States	**28**	(8.4)	**20**	(7.8)	-4	(7.1)	-9	(7.2)	4.6	(2.84)	**3.2**	(1.64)	-0.8	(1.14)	-1.5	(1.07)
	OECD average 2006	**7**	(1.3)	**6**	(1.1)	0	(1.0)	-2	(1.1)	**1.1**	(0.46)	**1.1**	(0.20)	0.0	(0.25)	-0.3	(0.70)
	OECD average 2009	m	m	m	m	m	m	m	m	**1.1**	(0.43)	**1.1**	(0.20)	0.1	(0.25)	-0.2	(0.72)
Partners	Albania	m	m	m	m	m	m	m	m	-1.7	(64.92)	3.0	(15.06)	3.3	(25.64)	4.0	(23.35)
	Argentina	**38**	(11.0)	**26**	(9.2)	3	(8.8)	-6	(8.8)	6.6	(17.74)	4.4	(5.75)	0.3	(3.67)	-1.4	(3.77)
	Brazil	**25**	(5.3)	**23**	(4.7)	9	(6.4)	-3	(7.6)	**3.7**	(0.60)	**3.4**	(0.59)	1.0	(0.69)	-1.1	(1.55)
	Bulgaria	15	(9.5)	16	(9.2)	9	(10.0)	3	(10.8)	2.6	(7.57)	2.7	(5.07)	1.5	(9.33)	0.6	(18.60)
	Colombia	**22**	(7.4)	**16**	(6.9)	4	(6.8)	2	(7.0)	3.4	(2.15)	**2.2**	(1.07)	0.0	(1.32)	-0.3	(1.26)
	Costa Rica	m	m	m	m	m	m	m	m	2.1	(48.90)	1.0	(50.91)	-1.6	(90.66)	-2.6	(467.22)
	Croatia	-4	(6.5)	-1	(5.7)	-2	(6.1)	-3	(7.0)	-0.6	(0.74)	-0.1	(0.61)	-0.3	(0.76)	-0.4	(0.97)
	Dubai (UAE)	m	m	m	m	m	m	m	m	5.8	(3.57)	**4.3**	(0.84)	0.4	(1.39)	-2.0	(4.04)
	Hong Kong-China	**28**	(8.7)	**23**	(6.3)	4	(5.4)	0	(6.0)	4.6	(2.95)	**3.9**	(0.76)	0.6	(0.61)	0.0	(0.78)
	Indonesia	-11	(7.0)	-9	(6.7)	-11	(9.9)	-18	(13.7)	-2.1	(1.18)	-1.6	(1.18)	-1.9	(14.37)	-3.0	(88.48)
	Jordan	-7	(6.9)	-7	(5.8)	**-19**	(6.0)	**-23**	(7.1)	-1.1	(1.49)	-1.2	(0.65)	**-3.1**	(0.67)	**-3.9**	(1.09)
	Kazakhstan	m	m	m	m	m	m	m	m	12.4	(23.88)	11.0	(11.86)	5.7	(14.72)	1.7	(28.38)
	Latvia	**20**	(7.1)	**17**	(6.0)	10	(6.1)	6	(5.9)	3.4	(2.03)	**2.7**	(0.71)	**1.6**	(0.73)	1.0	(0.63)
	Liechtenstein	15	(16.6)	7	(11.7)	-3	(11.4)	-8	(13.7)	2.3	(64.23)	0.9	(16.36)	-0.6	(7.22)	-1.4	(45.69)
	Lithuania	**13**	(6.2)	**14**	(5.8)	4	(5.8)	0	(6.6)	**2.3**	(0.87)	**2.3**	(0.76)	0.6	(0.71)	0.1	(1.01)
	Macao-China	8	(5.1)	**11**	(4.4)	**9**	(4.3)	8	(4.3)	**1.3**	(0.62)	**1.9**	(0.60)	**1.6**	(0.60)	**1.4**	(0.60)
	Malaysia	m	m	m	m	m	m	m	m	-2.7	(73.36)	-3.2	(35.12)	-0.6	(47.42)	0.9	(140.55)
	Montenegro	-10	(5.0)	-3	(4.4)	2	(4.7)	5	(5.2)	**-1.7**	(0.59)	-0.4	(0.59)	0.4	(0.59)	0.8	(0.60)
	Peru	m	m	m	m	m	m	m	m	6.4	(38.97)	3.5	(15.03)	-1.0	(47.72)	-3.2	(186.75)
	Qatar	2	(4.0)	**17**	(4.1)	**57**	(4.1)	**68**	(5.0)	0.2	(0.58)	**2.7**	(0.58)	**9.0**	(0.58)	**10.6**	(0.66)
	Romania	**26**	(6.9)	**22**	(7.1)	**19**	(8.2)	**17**	(8.4)	**4.4**	(1.41)	**3.7**	(1.39)	3.2	(2.62)	2.7	(2.29)
	Russian Federation	13	(7.6)	10	(6.7)	3	(6.4)	-1	(7.2)	2.1	(2.17)	**1.6**	(0.82)	0.5	(0.89)	-0.1	(1.18)
	Serbia	6	(7.4)	8	(6.9)	9	(6.3)	13	(6.5)	1.1	(1.63)	1.4	(1.15)	1.5	(1.02)	**2.1**	(0.95)
	Shanghai-China	m	m	m	m	m	m	m	m	1.6	(63.17)	1.2	(11.36)	2.4	(8.25)	2.3	(8.95)
	Singapore	m	m	m	m	m	m	m	m	3.9	(6.13)	2.9	(1.63)	**3.4**	(1.14)	2.7	(10.47)
	Chinese Taipei	9	(7.5)	2	(7.4)	**-20**	(5.4)	**-24**	(4.9)	1.5	(1.71)	0.3	(1.62)	**-3.4**	(0.61)	**-4.2**	(0.60)
	Thailand	**23**	(6.0)	**24**	(5.2)	**23**	(6.1)	**19**	(7.5)	**4.0**	(0.65)	**4.0**	(0.60)	**3.8**	(0.66)	**3.3**	(1.11)
	Tunisia	**13**	(6.7)	**16**	(6.2)	13	(6.9)	2	(8.6)	**2.3**	(1.05)	**2.7**	(0.78)	1.9	(1.24)	0.4	(4.80)
	United Arab Emirates *	m	m	m	m	m	m	m	m	3.6	(290.94)	4.0	(197.75)	5.4	(302.84)	7.4	(566.29)
	Uruguay	-13	(7.4)	-11	(6.6)	**-13**	(5.9)	-11	(6.6)	-2.2	(2.13)	-1.9	(1.04)	**-2.1**	(0.69)	-1.9	(1.05)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Annualised change is the average change between the earliest available and comparable measurement in PISA and PISA 2012, taking into account all available and comparable measurement in between. This estimate considers that Costa Rica, Malaysia and the United Arab Emirates (with the exception of Dubai) implemented the PISA 2009 assessment in 2010 as part of PISA 2009+. Dubai implemented the PISA 2009 assessment in 2009.

For Costa Rica and Malaysia the change between PISA 2009 and PISA 2012 represents change between 2010 and 2012 because these countries implemented the PISA 2009 assessment in 2010 as part of PISA 2009+.

In the United Arab Emirates, Dubai took the PISA 2009 assessment in 2009 and the rest of the United Arab Emirates in 2010 as part of PISA 2009+. Results are thus reported separately.

* United Arab Emirates excluding Dubai (see note above).

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[Part 1/1]

Table I.5.4 **Trends in science performance adjusted for demographic changes**

		Adjusted PISA 2006 results		Adjusted PISA 2009 results		Adjusted PISA 2012 results		Change between 2006 and 2012 (PISA 2012 - PISA 2006)		Change between 2009 and 2012 (PISA 2012 - PISA 2009)		Annualised adjusted change across PISA assessments	
		Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.
OECD	Australia	528	(1.9)	527	(2.2)	522	(1.6)	-6	(4.3)	-6	(3.4)	-1.1	(0.72)
	Austria	511	(3.1)	m	m	506	(2.3)	-5	(5.3)	m	m	-0.9	(0.89)
	Belgium	512	(2.1)	506	(2.1)	505	(1.8)	-8	(4.5)	-1	(3.4)	-1.3	(0.76)
	Canada	537	(1.8)	527	(1.4)	525	(1.7)	**-12**	(4.3)	-2	(3.0)	**-1.9**	(0.72)
	Chile	452	(2.8)	447	(2.5)	445	(2.4)	-7	(5.1)	-2	(3.7)	-1.0	(0.86)
	Czech Republic	512	(3.1)	498	(2.9)	508	(2.6)	-3	(5.4)	**10**	(4.0)	-0.9	(0.94)
	Denmark	495	(2.5)	499	(2.2)	499	(2.1)	4	(4.9)	-1	(3.8)	0.6	(0.82)
	Estonia	540	(2.3)	528	(2.4)	541	(1.8)	1	(4.6)	**14**	(3.5)	0.0	(0.80)
	Finland	568	(1.8)	552	(2.2)	545	(1.9)	**-22**	(4.4)	-7	(3.5)	**-3.7**	(0.73)
	France	510	(2.7)	503	(3.0)	499	(2.4)	**-11**	(5.3)	-4	(4.3)	**-1.8**	(0.89)
	Germany	518	(2.8)	524	(2.1)	524	(2.6)	7	(5.2)	1	(3.9)	1.2	(0.89)
	Greece	478	(2.6)	469	(3.5)	467	(2.6)	**-11**	(5.1)	-2	(4.7)	**-1.8**	(0.85)
	Hungary	504	(2.2)	498	(2.6)	494	(2.3)	**-10**	(4.8)	-4	(3.9)	**-1.7**	(0.81)
	Iceland	495	(1.7)	496	(1.4)	478	(2.1)	**-17**	(4.2)	**-18**	(3.3)	**-2.7**	(0.71)
	Ireland	516	(2.5)	510	(3.0)	522	(2.1)	6	(4.8)	**12**	(4.3)	1.0	(0.81)
	Israel	454	(3.6)	457	(2.7)	470	(4.2)	**16**	(6.4)	**13**	(5.2)	**2.7**	(1.08)
	Italy	478	(1.9)	488	(1.6)	494	(1.7)	**15**	(4.4)	6	(3.1)	**2.5**	(0.75)
	Japan	535	(3.1)	539	(3.2)	547	(3.3)	**12**	(5.3)	7	(5.0)	**2.0**	(0.88)
	Korea	526	(3.0)	539	(3.1)	475	(18.7)	**11**	(5.6)	-1	(5.2)	1.8	(0.94)
	Luxembourg	486	(1.2)	480	(1.3)	492	(1.4)	5	(3.9)	**12**	(2.6)	0.9	(0.65)
	Mexico	410	(2.0)	414	(1.5)	415	(1.1)	5	(4.3)	1	(2.7)	0.9	(0.71)
	Netherlands	528	(2.1)	527	(4.5)	522	(3.2)	-6	(5.0)	-5	(6.1)	-1.0	(0.85)
	New Zealand	524	(2.5)	525	(2.3)	516	(2.1)	-8	(4.6)	**-10**	(3.7)	-1.3	(0.77)
	Norway	489	(2.8)	495	(2.5)	495	(2.8)	6	(5.2)	0	(4.1)	0.9	(0.87)
	Poland	512	(2.1)	512	(2.0)	526	(2.5)	**14**	(4.9)	**14**	(3.9)	**2.2**	(0.82)
	Portugal	483	(2.3)	491	(2.2)	489	(2.9)	6	(5.2)	-2	(4.1)	0.9	(0.87)
	Slovak Republic	492	(2.2)	487	(2.8)	471	(2.7)	**-21**	(4.7)	**-16**	(4.4)	**-3.5**	(0.81)
	Slovenia	531	(1.3)	511	(1.2)	514	(1.3)	**-17**	(4.0)	3	(2.6)	**-2.8**	(0.68)
	Spain	496	(1.9)	489	(1.7)	496	(1.7)	1	(4.3)	**8**	(3.4)	0.1	(0.72)
	Sweden	502	(2.3)	489	(2.2)	485	(2.7)	**-17**	(5.1)	-4	(3.9)	**-3.0**	(0.86)
	Switzerland	517	(2.7)	518	(2.3)	515	(2.1)	-2	(5.0)	-3	(3.7)	-0.3	(0.84)
	Turkey	419	(3.1)	445	(2.9)	463	(3.4)	**45**	(5.8)	**19**	(4.8)	**7.4**	(0.96)
	United Kingdom	521	(2.1)	515	(2.0)	514	(2.9)	-7	(4.7)	0	(4.1)	-1.1	(0.79)
	United States	488	(3.2)	500	(2.6)	497	(2.8)	10	(5.4)	-2	(4.3)	1.7	(0.91)
	OECD average 2006	502	(0.4)	500	(0.4)	499	(0.7)	-1	(0.9)	1	(0.7)	-0.2	(0.14)
	OECD average 2009	m	m	500	(0.4)	499	(0.7)	m	m	1	(0.7)	-0.1	(0.14)
Partners	Albania	m	m	m	m	m	m	m	m	m	m	m	m
	Argentina	395	(4.6)	399	(3.5)	406	(3.2)	11	(6.6)	7	(5.1)	1.8	(1.09)
	Brazil	398	(2.5)	408	(2.0)	405	(1.9)	6	(4.7)	-3	(3.4)	1.0	(0.77)
	Bulgaria	444	(4.2)	439	(4.4)	446	(3.7)	3	(6.8)	7	(6.0)	0.3	(1.16)
	Colombia	389	(3.0)	401	(3.0)	399	(2.6)	9	(5.2)	-2	(4.6)	1.5	(0.87)
	Costa Rica	m	m	432	(3.7)	429	(2.6)	m	m	-2	(5.4)	-0.7	(1.79)
	Croatia	496	(2.3)	483	(2.6)	491	(2.9)	-5	(4.9)	8	(4.6)	-0.8	(0.83)
	Dubai (UAE)	m	m	467	(1.3)	474	(1.3)	m	m	**7**	(2.8)	**2.3**	(0.94)
	Hong Kong-China	547	(2.4)	552	(2.5)	555	(2.2)	8	(4.9)	2	(4.0)	1.4	(0.82)
	Indonesia	396	(5.4)	383	(3.4)	382	(3.3)	-15	(7.5)	-1	(4.6)	-2.3	(1.24)
	Jordan	424	(2.6)	416	(3.1)	409	(2.8)	**-15**	(5.2)	-6	(4.7)	**-2.4**	(0.87)
	Kazakhstan	m	m	403	(2.9)	425	(2.6)	m	m	**22**	(4.3)	**7.2**	(1.43)
	Latvia	494	(2.7)	494	(2.6)	502	(2.4)	8	(5.0)	8	(4.3)	1.2	(0.86)
	Liechtenstein	534	(4.6)	528	(3.7)	525	(3.6)	-8	(6.5)	-3	(5.6)	-1.4	(1.06)
	Lithuania	493	(2.3)	495	(2.7)	496	(2.2)	3	(5.0)	1	(3.8)	0.5	(0.85)
	Macao-China	538	(3.2)	512	(1.1)	520	(0.9)	**-18**	(5.0)	**9**	(2.5)	**-1.4**	(0.71)
	Malaysia	m	m	416	(3.5)	420	(2.7)	m	m	3	(5.3)	1.1	(1.77)
	Montenegro	423	(1.7)	405	(1.7)	410	(1.1)	**-12**	(4.0)	5	(2.9)	**-1.8**	(0.68)
	Peru	m	m	368	(2.5)	373	(2.3)	m	m	5	(4.1)	1.8	(1.38)
	Qatar	368	(0.9)	387	(0.9)	383	(0.8)	**15**	(3.7)	-4	(2.4)	**2.0**	(0.62)
	Romania	427	(3.7)	429	(2.9)	439	(2.6)	**12**	(5.8)	**10**	(4.5)	**2.0**	(0.99)
	Russian Federation	497	(2.8)	486	(2.9)	486	(2.5)	**-10**	(5.1)	1	(4.3)	**-2.0**	(0.88)
	Serbia	441	(2.7)	443	(2.1)	445	(3.1)	3	(5.7)	1	(4.6)	0.6	(0.96)
	Shanghai-China	m	m	577	(1.9)	580	(2.5)	m	m	3	(3.8)	1.0	(1.26)
	Singapore	m	m	545	(1.4)	551	(1.2)	m	m	**6**	(2.7)	**2.1**	(0.92)
	Chinese Taipei	538	(2.9)	520	(2.2)	523	(1.7)	**-15**	(4.9)	3	(3.5)	**-2.4**	(0.82)
	Thailand	432	(2.1)	428	(2.5)	444	(2.5)	**12**	(4.6)	**16**	(4.2)	**2.1**	(0.76)
	Tunisia	389	(2.5)	405	(2.4)	398	(3.0)	9	(5.5)	-7	(4.3)	1.6	(0.92)
	United Arab Emirates*	m	m	440	(4.8)	439	(3.1)	m	m	-1	(6.7)	-0.4	(2.37)
	Uruguay	424	(2.5)	426	(2.1)	416	(2.3)	-8	(5.2)	**-10**	(3.8)	-1.3	(0.87)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Annualised change is the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. This model considers that Costa Rica, Malaysia and the United Arab Emirates (with the exception of Dubai) implemented the PISA 2009 assessment in 2010 as part of PISA 2009+. Dubai implemented the PISA 2009 assessment in 2009.

Adjusted scores are obtained by estimating a regression of students' demographic characteristics on science performance with demographic characteristics centred at the 2012 values. Demographic characteristics that entered the model are: students' age, gender, *PISA index of economic, social and cultural status*, immigrant background (first or second generation) and whether students speak a language at home which is different from the language of instruction. Adjusted values therefore represent average scores in previous assessment assuming that demographic characteristics remained unchanged. See Annex A5 for more details on the estimation of adjusted trends.

For Costa Rica and Malaysia the change between PISA 2009 and PISA 2012 represents change between 2010 and 2012 because these countries implemented the PISA 2009 assessment in 2010 as part of PISA 2009+.

In the United Arab Emirates, Dubai took the PISA 2009 assessment in 2009 and the rest of the United Arab Emirates in 2010 as part of PISA 2009+. Results are thus reported separately.

* United Arab Emirates excluding Dubai (see note above).

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ANNEX B2

RESULTS FOR REGIONS WITHIN COUNTRIES

[Part 1/2]

Table B2.I.1 Percentage of students at each proficiency level in mathematics, by region

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	5.6	(1.0)	9.9	(1.3)	19.8	(1.8)	25.2	(1.7)	21.0	(1.7)	13.3	(1.6)	5.2	(1.0)
	New South Wales	6.5	(0.6)	13.1	(0.9)	21.0	(1.2)	23.8	(1.1)	18.0	(0.9)	11.4	(0.8)	6.1	(0.9)
	Northern Territory	18.1	(2.3)	17.8	(3.4)	22.8	(3.5)	23.7	(3.1)	11.0	(2.9)	5.0	(2.1)	1.5	(0.9)
	Queensland	5.7	(0.8)	14.0	(0.8)	21.9	(1.3)	24.7	(1.4)	19.2	(1.1)	10.9	(1.1)	3.7	(0.5)
	South Australia	7.2	(0.8)	16.1	(1.2)	23.8	(1.6)	25.1	(1.5)	17.3	(1.4)	8.4	(1.0)	1.9	(0.4)
	Tasmania	10.2	(1.0)	16.4	(1.4)	25.3	(1.8)	24.4	(1.5)	14.6	(1.4)	7.1	(1.1)	2.0	(0.6)
	Victoria	5.7	(0.8)	13.7	(1.2)	22.8	(1.2)	26.1	(1.3)	19.6	(1.1)	8.9	(0.9)	3.2	(0.7)
	Western Australia	4.3	(0.6)	11.7	(1.0)	21.0	(1.4)	22.8	(1.4)	22.6	(1.4)	12.8	(1.1)	4.6	(0.7)
	Belgium														
	Flemish Community•	5.5	(0.7)	9.9	(0.7)	16.5	(0.8)	21.5	(1.0)	21.4	(0.9)	16.5	(1.0)	8.8	(0.7)
	French Community	9.0	(1.0)	14.8	(0.9)	21.0	(1.1)	23.6	(1.1)	19.5	(1.0)	9.4	(0.8)	2.6	(0.4)
	German-speaking Community	6.0	(0.7)	10.1	(1.1)	18.7	(1.6)	27.8	(1.9)	23.4	(1.8)	11.2	(1.4)	2.9	(0.7)
	Canada														
	Alberta	3.9	(0.7)	11.3	(1.4)	20.6	(1.6)	24.9	(1.7)	22.4	(1.4)	12.5	(1.2)	4.5	(0.7)
	British Columbia	2.6	(0.6)	9.6	(1.0)	20.3	(1.3)	27.4	(1.3)	23.5	(1.4)	12.1	(1.2)	4.4	(0.7)
	Manitoba	6.3	(1.0)	14.9	(1.6)	25.5	(1.3)	24.9	(1.4)	18.1	(1.1)	7.9	(0.8)	2.3	(0.5)
	New Brunswick	4.2	(0.7)	12.0	(1.1)	23.9	(1.5)	29.5	(2.2)	20.2	(1.8)	8.0	(1.4)	2.1	(0.7)
	Newfoundland and Labrador	6.4	(1.5)	14.9	(1.4)	24.4	(1.8)	27.1	(1.5)	17.8	(1.4)	7.8	(1.1)	1.6	(0.6)
	Nova Scotia	4.3	(1.1)	13.5	(1.8)	25.5	(3.0)	28.9	(1.9)	18.9	(1.8)	7.4	(1.1)	1.6	(0.5)
	Ontario	3.8	(0.6)	10.0	(0.9)	22.6	(1.5)	27.3	(1.2)	21.3	(1.2)	11.0	(1.0)	4.0	(0.7)
	Prince Edward Island	6.1	(1.0)	18.4	(1.3)	26.1	(1.7)	26.8	(1.6)	15.8	(1.2)	5.6	(0.9)	1.1	(0.4)
	Quebec	3.0	(0.4)	8.2	(0.7)	16.4	(1.0)	24.2	(1.0)	25.9	(1.0)	16.2	(1.1)	6.2	(0.6)
	Saskatchewan	3.9	(0.6)	11.5	(1.0)	24.4	(1.3)	27.2	(1.7)	20.9	(1.4)	9.9	(1.1)	2.2	(0.7)
	Italy														
	Abruzzo	9.8	(2.0)	16.9	(1.6)	25.8	(1.9)	24.8	(1.7)	15.7	(1.9)	5.8	(1.1)	1.2	(0.4)
	Basilicata	10.2	(1.3)	20.4	(1.6)	27.4	(1.3)	24.5	(1.5)	12.7	(1.3)	3.6	(0.6)	1.2	(0.3)
	Bolzano	5.0	(0.6)	12.6	(1.3)	20.1	(1.4)	28.7	(1.4)	20.3	(1.2)	10.1	(0.9)	3.2	(0.4)
	Calabria	21.5	(2.5)	24.3	(1.8)	26.4	(1.8)	18.3	(1.6)	6.9	(1.0)	2.2	(0.6)	0.5	(0.2)
	Campania	14.6	(2.0)	21.1	(2.3)	27.8	(2.1)	20.7	(2.5)	11.2	(2.0)	3.8	(1.0)	0.7	(0.3)
	Emilia Romagna	7.1	(1.2)	12.8	(1.6)	23.3	(2.1)	23.5	(1.8)	19.4	(1.8)	10.3	(1.6)	3.7	(1.0)
	Friuli Venezia Giulia	3.4	(1.1)	9.1	(1.5)	18.3	(1.7)	28.2	(1.7)	23.8	(1.9)	12.6	(1.6)	4.5	(0.7)
	Lazio	9.9	(1.5)	18.4	(1.9)	25.9	(1.9)	23.6	(2.0)	14.2	(1.7)	6.6	(1.2)	1.5	(0.5)
	Liguria	7.3	(1.3)	16.0	(1.5)	24.4	(1.8)	25.9	(1.7)	16.1	(1.8)	7.8	(1.3)	2.5	(0.6)
	Lombardia	3.2	(0.8)	10.8	(1.8)	20.3	(2.1)	27.6	(2.3)	22.8	(1.9)	11.8	(1.9)	3.6	(1.0)
	Marche	5.2	(1.4)	14.1	(1.5)	24.5	(1.8)	27.3	(1.9)	18.9	(1.7)	8.1	(1.2)	1.9	(0.5)
	Molise	9.8	(0.9)	20.1	(1.6)	27.5	(2.5)	25.1	(2.2)	12.4	(1.4)	3.9	(0.9)	1.2	(0.6)
	Piemonte	5.7	(0.8)	13.6	(1.8)	22.4	(1.8)	28.3	(1.5)	18.6	(1.5)	9.2	(1.3)	2.2	(0.6)
	Puglia	8.2	(1.5)	18.1	(1.7)	25.5	(1.8)	24.9	(1.6)	16.4	(1.5)	6.0	(1.1)	1.0	(0.3)
	Sardegna	12.3	(1.7)	21.0	(2.0)	27.4	(2.0)	22.5	(1.9)	12.5	(1.5)	3.7	(0.7)	0.5	(0.2)
	Sicilia	13.6	(1.6)	23.6	(2.1)	29.2	(1.9)	21.9	(1.8)	9.1	(1.2)	2.1	(0.6)	0.4	(0.2)
	Toscana	6.8	(0.9)	15.3	(1.8)	21.8	(2.1)	25.1	(1.6)	19.0	(1.6)	9.5	(1.2)	2.5	(0.6)
	Trento	2.3	(0.7)	7.9	(1.2)	20.5	(1.7)	28.4	(1.7)	24.3	(1.9)	13.1	(1.2)	3.4	(0.7)
	Umbria	7.7	(2.2)	13.1	(1.8)	22.9	(1.6)	27.6	(1.9)	19.4	(1.6)	7.6	(1.2)	1.7	(0.5)
	Valle d'Aosta	5.1	(1.0)	14.6	(1.4)	26.2	(2.2)	28.5	(1.7)	16.6	(1.7)	6.8	(0.9)	2.1	(0.7)
	Veneto	3.7	(1.0)	9.8	(1.6)	19.4	(2.0)	25.5	(2.3)	22.9	(1.5)	13.8	(2.2)	4.8	(1.5)
	Mexico														
	Aguascalientes	13.9	(2.2)	28.4	(1.9)	32.0	(2.6)	17.9	(2.0)	6.2	(1.1)	1.6	(0.7)	0.0	c
	Baja California	21.4	(2.5)	33.7	(2.2)	27.0	(1.9)	13.2	(1.9)	4.3	(1.0)	0.4	(0.4)	0.0	c
	Baja California Sur	22.4	(3.2)	32.1	(2.0)	27.8	(2.2)	13.3	(1.7)	3.9	(0.8)	0.5	(0.3)	0.0	c
	Campeche	29.6	(2.5)	35.4	(2.2)	24.4	(1.9)	8.1	(1.0)	2.0	(0.5)	0.4	(0.2)	0.0	c
	Chiapas	42.4	(4.5)	32.0	(3.0)	18.3	(2.5)	5.6	(1.2)	1.2	(0.5)	0.4	(0.2)	0.0	c
	Chihuahua	17.4	(2.9)	29.1	(2.7)	30.5	(2.4)	15.1	(2.0)	6.6	(1.5)	1.2	(0.6)	0.1	c
	Coahuila	20.6	(3.5)	32.2	(4.6)	28.6	(2.8)	13.6	(2.6)	4.5	(1.5)	0.5	(0.4)	0.0	c
	Colima	18.1	(1.8)	28.5	(1.9)	29.3	(2.3)	17.0	(2.2)	5.7	(1.1)	1.2	(0.5)	0.3	(0.1)
	Distrito Federal	16.8	(1.9)	30.3	(2.7)	30.5	(2.2)	15.9	(2.3)	5.6	(1.1)	0.9	(0.4)	0.0	c
	Durango	18.3	(2.8)	30.1	(3.0)	28.6	(2.7)	18.0	(2.7)	4.5	(0.9)	0.4	(0.3)	0.0	c
	Guanajuato	24.2	(3.1)	31.0	(2.2)	27.2	(2.2)	13.3	(1.5)	4.0	(1.0)	0.4	(0.3)	0.0	c
	Guerrero	46.9	(2.4)	32.9	(2.3)	15.1	(1.8)	4.3	(0.7)	0.8	(0.4)	0.1	(0.1)	0.0	c
	Hidalgo	25.2	(2.8)	32.7	(2.2)	27.0	(3.0)	11.9	(1.8)	2.7	(0.6)	0.3	(0.3)	0.0	c
	Jalisco	13.9	(2.2)	28.6	(2.4)	32.3	(2.3)	18.9	(2.0)	5.3	(1.2)	1.0	(0.4)	0.1	c
	Mexico	18.1	(2.5)	33.8	(2.4)	32.2	(2.1)	13.2	(1.7)	2.1	(0.8)	0.5	(0.4)	0.1	c
	Morelos	20.5	(3.5)	31.1	(2.7)	27.9	(2.6)	13.6	(1.5)	5.1	(1.8)	1.5	(1.0)	0.2	(0.3)
	Nayarit	23.7	(3.0)	29.8	(2.4)	27.8	(2.2)	13.9	(1.5)	4.4	(1.0)	0.4	(0.3)	0.0	c
	Nuevo León	14.7	(2.7)	28.8	(2.7)	30.2	(2.4)	18.5	(2.9)	6.7	(1.5)	1.1	(0.5)	0.0	c
	Puebla	21.1	(2.6)	31.9	(2.2)	28.8	(2.1)	13.7	(2.3)	4.1	(0.8)	0.4	(0.3)	0.0	c
	Querétaro	15.1	(2.4)	29.1	(2.1)	30.1	(2.2)	18.2	(2.7)	6.1	(1.4)	1.3	(0.5)	0.1	(0.1)
	Quintana Roo	23.3	(2.8)	32.8	(1.5)	28.1	(1.7)	12.6	(1.6)	2.7	(0.6)	0.4	(0.2)	0.0	c
	San Luis Potosí	25.9	(2.9)	29.4	(2.6)	27.1	(2.1)	13.0	(1.9)	3.9	(1.2)	0.6	(0.3)	0.0	c
	Sinaloa	22.6	(2.3)	34.4	(1.8)	27.5	(2.1)	12.2	(1.6)	2.9	(0.6)	0.4	(0.2)	0.0	c
	Tabasco	38.8	(2.7)	35.3	(1.8)	18.4	(1.7)	6.2	(1.2)	1.2	(0.4)	0.1	(0.1)	0.0	c
	Tamaulipas	23.9	(3.0)	32.4	(2.6)	26.9	(2.3)	12.3	(2.3)	3.8	(1.4)	0.7	(0.5)	0.0	c
	Tlaxcala	22.6	(2.5)	32.9	(1.8)	29.1	(2.0)	11.6	(1.6)	3.3	(0.8)	0.4	(0.3)	0.0	c
	Veracruz	28.5	(2.9)	32.0	(2.2)	24.7	(2.0)	11.4	(2.0)	2.9	(0.9)	0.4	(0.4)	0.0	c
	Yucatán	24.5	(2.7)	32.7	(2.1)	25.9	(2.4)	13.0	(1.6)	3.3	(0.8)	0.5	(0.3)	0.1	c
	Zacatecas	23.7	(2.2)	33.7	(1.6)	26.5	(1.7)	13.4	(1.6)	2.5	(0.6)	0.3	(0.2)	0.0	c

• PISA adjudicated region.
Note: See Table I.2.1a for national data.
StatLink http://dx.doi.org/10.1787/888932935762



[Part 2/2]

Table B2.I.1 Percentage of students at each proficiency level in mathematics, by region

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**														
	Alentejo	7.4	(2.1)	15.2	(3.0)	24.8	(2.2)	26.0	(3.2)	16.9	(2.7)	7.6	(1.9)	2.1	(1.1)
	Spain														
	Andalusia•	8.5	(1.2)	18.9	(1.5)	27.9	(2.2)	24.3	(1.8)	14.6	(1.4)	4.7	(0.8)	1.0	(0.3)
	Aragon•	7.9	(1.3)	13.4	(1.5)	21.2	(1.3)	25.3	(1.5)	20.8	(1.6)	9.5	(1.2)	2.0	(0.6)
	Asturias•	6.8	(1.3)	11.9	(1.4)	22.9	(1.1)	26.4	(1.3)	19.2	(1.8)	10.4	(1.3)	2.4	(0.7)
	Balearic Islands•	9.6	(1.5)	16.9	(1.5)	25.5	(1.5)	25.2	(1.6)	17.0	(1.5)	5.1	(0.8)	0.6	(0.3)
	Basque Country•	5.0	(0.5)	10.5	(0.6)	22.0	(0.8)	28.9	(0.9)	23.1	(1.1)	8.6	(0.6)	1.9	(0.2)
	Cantabria•	7.2	(1.1)	14.8	(1.2)	24.0	(1.3)	25.5	(1.2)	17.9	(1.2)	8.8	(0.9)	1.8	(0.4)
	Castile and Leon•	4.3	(0.8)	10.5	(1.0)	22.0	(1.4)	28.1	(1.5)	23.2	(1.6)	10.3	(1.1)	1.7	(0.5)
	Catalonia•	5.6	(1.0)	14.4	(1.6)	24.5	(1.7)	27.8	(2.0)	19.0	(1.6)	7.2	(1.0)	1.5	(0.5)
	Extremadura•	13.9	(1.6)	19.1	(1.4)	24.9	(1.5)	23.4	(1.2)	13.1	(1.2)	4.7	(0.7)	1.0	(0.3)
	Galicia•	7.0	(1.0)	14.9	(1.4)	23.2	(1.7)	28.4	(1.6)	18.6	(1.5)	6.8	(0.9)	1.2	(0.4)
	La Rioja•	8.3	(0.7)	11.6	(1.0)	20.3	(1.3)	24.1	(1.3)	20.5	(1.2)	11.5	(0.9)	3.7	(0.5)
	Madrid•	5.3	(0.8)	12.4	(1.2)	20.9	(1.3)	27.0	(1.4)	22.9	(1.8)	9.7	(1.4)	1.7	(0.5)
	Murcia•	12.4	(1.3)	18.6	(1.6)	27.9	(1.6)	22.9	(1.3)	12.6	(1.3)	4.8	(1.0)	0.8	(0.4)
	Navarre•	3.9	(0.7)	9.8	(0.9)	19.4	(1.5)	27.6	(1.5)	24.8	(1.1)	11.9	(1.4)	2.7	(0.5)
	United Kingdom														
	England	8.0	(0.9)	13.7	(0.9)	22.8	(0.9)	24.5	(1.0)	18.7	(0.9)	9.3	(0.7)	3.1	(0.5)
	Northern Ireland	8.6	(1.1)	15.5	(1.3)	23.8	(1.1)	24.3	(1.4)	17.5	(1.0)	8.1	(0.7)	2.2	(0.4)
	Scotland•	4.9	(0.6)	13.3	(1.0)	24.8	(1.1)	27.2	(1.0)	18.8	(1.0)	8.5	(0.7)	2.4	(0.4)
	Wales	9.6	(0.7)	19.4	(0.7)	27.5	(0.9)	25.1	(1.0)	13.1	(0.7)	4.3	(0.5)	1.0	(0.2)
	United States														
	Connecticut•	6.8	(1.2)	13.8	(1.3)	20.0	(1.3)	24.3	(1.4)	18.6	(1.8)	11.5	(1.5)	4.9	(0.8)
	Florida•	9.7	(1.4)	20.6	(1.9)	27.9	(1.4)	23.0	(1.6)	13.0	(1.3)	4.9	(1.0)	0.9	(0.4)
	Massachusetts•	5.3	(0.8)	12.5	(1.2)	20.4	(1.6)	24.3	(1.5)	18.9	(1.2)	12.7	(1.6)	5.8	(1.1)
Partners	**Argentina**														
	Ciudad Autónoma de Buenos Aires•	23.7	(2.7)	23.1	(2.6)	28.5	(2.3)	17.1	(1.7)	6.6	(1.2)	1.0	(0.3)	0.0	c
	Brazil														
	Acre	52.2	(3.4)	29.5	(2.9)	14.8	(1.8)	2.9	(1.1)	0.5	(0.4)	0.1	c	0.0	c
	Alagoas	63.5	(3.8)	23.6	(3.0)	9.3	(1.9)	2.9	(1.2)	0.7	(0.6)	0.0	c	0.0	c
	Amapá	49.2	(5.6)	33.6	(4.7)	14.2	(3.0)	2.7	(1.6)	0.3	c	0.0	c	0.0	c
	Amazonas	55.3	(3.1)	29.9	(2.5)	10.6	(2.0)	3.2	(1.2)	0.7	(0.7)	0.2	(0.3)	0.0	c
	Bahia	45.4	(5.4)	28.6	(3.6)	16.5	(3.7)	6.8	(1.6)	2.0	(1.0)	0.7	(0.7)	0.0	c
	Ceará	42.0	(4.0)	31.5	(3.2)	17.0	(2.3)	5.9	(1.8)	2.5	(1.3)	1.0	(0.6)	0.1	c
	Espírito Santo	27.8	(2.8)	30.8	(3.2)	19.8	(2.7)	12.7	(2.3)	6.7	(2.4)	2.0	(0.9)	0.2	c
	Federal District	27.0	(5.1)	27.5	(3.6)	23.9	(3.3)	14.3	(2.4)	5.9	(1.9)	1.2	(0.9)	0.2	c
	Goiás	41.7	(4.1)	32.9	(3.2)	16.6	(2.5)	6.6	(1.6)	1.9	(0.8)	0.3	c	0.0	c
	Maranhão	61.3	(6.9)	23.4	(2.8)	10.3	(3.8)	3.9	(2.4)	1.0	(0.9)	0.3	(0.3)	0.0	c
	Mato Grosso	46.5	(5.2)	31.6	(3.5)	15.0	(2.6)	4.2	(1.8)	2.4	(1.4)	0.3	(0.4)	0.0	c
	Mato Grosso do Sul	25.9	(4.0)	34.0	(2.9)	23.5	(2.8)	11.9	(1.6)	4.4	(1.4)	0.3	(0.4)	0.0	c
	Minas Gerais	26.5	(3.5)	34.4	(2.2)	25.1	(2.9)	11.2	(2.2)	2.4	(1.0)	0.4	(0.3)	0.0	c
	Pará	51.6	(3.6)	29.3	(3.3)	15.2	(2.0)	3.4	(0.7)	0.5	(0.5)	0.0	c	0.0	c
	Paraíba	33.0	(4.8)	31.7	(3.2)	21.2	(4.3)	9.9	(2.0)	3.6	(1.5)	0.5	(0.4)	0.1	c
	Paraná	32.0	(3.6)	31.3	(3.2)	20.5	(2.5)	9.6	(1.6)	4.9	(2.8)	1.7	(1.8)	0.1	c
	Pernambuco	49.4	(5.0)	32.0	(3.6)	14.3	(2.3)	3.3	(1.0)	0.9	(0.7)	0.2	(0.2)	0.0	c
	Piauí	41.0	(3.8)	32.1	(3.8)	14.1	(2.6)	7.9	(1.4)	3.9	(2.1)	0.7	(0.6)	0.3	(0.2)
	Rio de Janeiro	34.3	(4.1)	35.1	(3.2)	20.8	(2.9)	7.9	(1.8)	1.6	(0.8)	0.3	(0.3)	0.0	c
	Rio Grande do Norte	44.9	(3.6)	29.3	(3.8)	13.6	(2.5)	7.0	(2.1)	3.4	(1.6)	1.5	(0.9)	0.3	(0.4)
	Rio Grande do Sul	25.3	(3.3)	33.1	(2.4)	27.4	(2.7)	11.8	(2.3)	2.1	(0.7)	0.3	(0.3)	0.0	c
	Rondônia	34.9	(3.4)	38.4	(2.5)	21.2	(2.4)	4.5	(1.2)	1.0	(0.6)	0.1	c	0.0	c
	Roraima	52.9	(3.6)	26.8	(2.5)	13.7	(2.6)	5.3	(2.0)	1.2	(0.6)	0.1	c	0.0	c
	Santa Catarina	23.4	(3.6)	30.2	(2.9)	27.4	(2.1)	14.2	(2.6)	4.4	(1.4)	0.4	(0.3)	0.0	c
	São Paulo	29.3	(1.7)	32.4	(1.7)	22.7	(1.4)	10.7	(1.2)	3.8	(0.8)	1.1	(0.5)	0.0	c
	Sergipe	38.9	(4.8)	32.8	(3.6)	18.1	(2.0)	8.5	(3.0)	1.3	(0.8)	0.3	(0.3)	0.0	c
	Tocantins	47.6	(3.7)	30.8	(2.6)	13.7	(1.7)	6.0	(1.5)	1.6	(0.8)	0.3	c	0.0	c
	Colombia														
	Bogotá	29.8	(1.9)	37.8	(1.5)	23.7	(1.5)	7.2	(1.0)	1.2	(0.6)	0.3	(0.2)	0.0	c
	Cali	38.9	(3.8)	34.0	(2.1)	19.0	(2.7)	6.8	(1.6)	1.2	(0.5)	0.0	c	0.0	c
	Manizales	27.1	(2.2)	34.8	(2.6)	23.5	(2.2)	10.8	(1.6)	3.3	(0.9)	0.4	(0.3)	0.0	c
	Medellín	36.4	(3.2)	30.8	(1.8)	19.0	(2.1)	8.8	(1.4)	3.5	(1.3)	1.2	(0.6)	0.4	(0.3)
	Russian Federation														
	Perm Territory region•	7.4	(1.3)	15.6	(1.3)	27.2	(1.9)	26.0	(2.1)	15.7	(1.3)	5.9	(1.1)	2.2	(1.0)
	United Arab Emirates														
	Abu Dhabi•	24.6	(1.6)	27.3	(1.2)	24.4	(1.2)	14.2	(1.0)	6.8	(0.8)	2.4	(0.5)	0.3	(0.2)
	Ajman	28.1	(5.0)	31.3	(3.5)	25.1	(2.6)	12.6	(1.8)	2.7	(0.9)	0.3	(0.3)	0.0	c
	Dubai•	13.6	(0.4)	19.7	(0.6)	24.5	(1.0)	21.8	(0.8)	13.6	(0.7)	5.5	(0.5)	1.3	(0.3)
	Fujairah	26.6	(4.0)	28.2	(2.4)	25.6	(3.1)	14.1	(2.6)	4.7	(1.4)	0.7	(0.4)	0.1	c
	Ras al-Khaimah	23.5	(3.5)	30.5	(2.6)	26.9	(2.5)	14.5	(1.7)	3.7	(1.0)	0.8	(0.5)	0.0	c
	Sharjah	17.1	(2.9)	27.2	(3.2)	25.5	(2.3)	18.4	(2.5)	9.0	(1.9)	2.4	(0.8)	0.5	(0.4)
	Umm al-Quwain	30.6	(3.6)	33.8	(3.3)	22.7	(3.2)	9.8	(2.4)	1.8	(1.1)	1.1	(0.8)	0.1	c

• PISA adjudicated region.
Note: See Table I.2.1a for national data.
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[Part 1/4]

Table B2.I.2 Percentage of students at each proficiency level in mathematics, by gender and region

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	6.4	(1.5)	9.8	(1.8)	19.2	(2.2)	24.8	(2.5)	19.3	(2.8)	14.0	(2.9)	6.4	(1.5)
	New South Wales	6.9	(0.9)	12.4	(1.0)	21.2	(1.7)	22.6	(1.3)	16.8	(1.4)	12.7	(1.4)	7.5	(1.4)
	Northern Territory	19.2	(3.7)	14.8	(3.5)	19.1	(5.6)	26.0	(5.2)	12.9	(3.9)	5.7	(3.0)	2.3	(1.6)
	Queensland	5.6	(1.0)	13.1	(1.2)	21.8	(1.9)	24.2	(1.5)	19.8	(1.7)	11.5	(1.5)	4.1	(0.7)
	South Australia	7.2	(1.2)	13.9	(1.8)	23.6	(2.5)	24.9	(1.9)	18.1	(1.9)	10.0	(1.5)	2.2	(0.8)
	Tasmania	10.3	(1.5)	13.3	(1.7)	26.3	(2.4)	24.3	(2.2)	15.8	(2.2)	7.9	(1.7)	2.1	(0.8)
	Victoria	5.0	(0.8)	12.4	(1.6)	21.6	(2.0)	25.6	(1.9)	20.6	(1.6)	10.0	(1.2)	4.7	(1.3)
	Western Australia	3.2	(0.8)	9.8	(1.2)	20.0	(1.9)	21.9	(1.9)	24.1	(2.0)	15.1	(1.6)	5.9	(1.2)
	Belgium														
	Flemish Community•	5.3	(1.1)	9.5	(0.9)	15.5	(1.1)	20.6	(1.2)	20.8	(1.3)	17.8	(1.2)	10.5	(0.9)
	French Community	9.0	(1.2)	14.6	(1.5)	19.1	(1.7)	22.6	(1.6)	20.1	(1.4)	11.3	(1.2)	3.2	(0.6)
	German-speaking Community	7.3	(1.0)	11.3	(1.7)	17.7	(2.7)	25.8	(2.8)	21.5	(2.0)	12.5	(1.9)	4.0	(1.0)
	Canada														
	Alberta	3.9	(0.9)	9.9	(1.9)	19.9	(1.9)	25.6	(2.0)	21.4	(1.9)	13.5	(1.5)	5.8	(1.1)
	British Columbia	2.2	(0.7)	8.7	(1.3)	19.3	(1.5)	26.6	(1.8)	24.2	(1.9)	13.6	(1.7)	5.3	(1.1)
	Manitoba	6.4	(1.5)	14.4	(3.0)	25.2	(2.4)	24.4	(2.0)	17.7	(1.5)	9.0	(1.5)	2.9	(0.7)
	New Brunswick	4.4	(0.9)	12.7	(1.7)	21.7	(1.9)	30.3	(2.4)	20.1	(2.2)	8.3	(1.8)	2.5	(0.9)
	Newfoundland and Labrador	7.2	(2.1)	15.2	(2.5)	22.6	(1.9)	26.3	(2.3)	18.5	(1.9)	8.3	(1.7)	2.0	(0.9)
	Nova Scotia	4.7	(1.5)	12.2	(2.6)	23.5	(3.2)	27.7	(2.6)	21.2	(1.8)	8.8	(1.5)	1.8	(0.7)
	Ontario	3.9	(0.8)	10.0	(1.3)	21.5	(1.7)	25.5	(1.7)	20.9	(1.5)	12.7	(1.5)	5.5	(1.2)
	Prince Edward Island	6.8	(1.3)	18.4	(2.0)	23.8	(2.6)	26.0	(2.4)	16.7	(1.9)	7.2	(1.4)	1.2	(0.6)
	Quebec	3.0	(0.8)	7.5	(1.2)	15.7	(1.4)	23.7	(1.8)	24.9	(1.5)	17.8	(1.4)	7.5	(0.9)
	Saskatchewan	4.1	(0.7)	10.6	(1.4)	23.9	(1.6)	25.5	(2.4)	22.7	(2.0)	10.6	(1.5)	2.6	(0.9)
	Italy														
	Abruzzo	10.0	(2.6)	15.4	(2.7)	25.3	(2.6)	23.2	(2.2)	17.4	(2.2)	7.0	(1.6)	1.7	(0.8)
	Basilicata	8.7	(1.7)	18.4	(2.5)	25.0	(1.7)	25.2	(2.2)	16.0	(2.0)	4.9	(0.9)	1.8	(0.6)
	Bolzano	4.3	(0.8)	12.3	(1.8)	17.7	(1.4)	26.2	(1.5)	21.1	(2.1)	13.3	(1.2)	5.2	(0.8)
	Calabria	18.8	(2.9)	23.4	(2.3)	25.4	(2.6)	20.2	(2.2)	8.2	(1.3)	3.2	(0.9)	0.8	(0.4)
	Campania	13.6	(2.1)	19.1	(2.5)	27.5	(2.3)	21.0	(2.7)	12.3	(2.4)	5.4	(1.3)	1.0	(0.5)
	Emilia Romagna	7.6	(1.8)	11.6	(2.7)	19.8	(2.4)	22.3	(2.3)	20.3	(2.1)	13.4	(2.5)	4.9	(1.5)
	Friuli Venezia Giulia	3.4	(1.2)	9.4	(2.3)	15.6	(2.7)	24.3	(2.4)	25.0	(2.2)	15.9	(2.0)	6.3	(1.2)
	Lazio	9.3	(1.8)	16.2	(2.2)	24.3	(2.1)	23.1	(2.6)	16.4	(1.8)	8.5	(1.5)	2.2	(0.7)
	Liguria	6.9	(1.9)	15.9	(2.1)	23.6	(2.4)	25.0	(2.9)	15.4	(2.2)	9.4	(1.8)	3.8	(0.9)
	Lombardia	3.7	(1.1)	9.1	(1.6)	17.4	(2.5)	25.3	(2.8)	24.3	(2.5)	14.7	(2.5)	5.5	(1.5)
	Marche	3.1	(1.2)	13.5	(2.5)	21.0	(1.8)	27.0	(2.1)	21.8	(2.6)	10.8	(2.0)	2.8	(0.9)
	Molise	9.6	(1.5)	17.1	(2.4)	26.2	(3.5)	25.5	(3.2)	15.1	(2.2)	4.7	(1.3)	1.8	(0.8)
	Piemonte	4.8	(1.3)	10.4	(1.3)	20.9	(2.7)	28.6	(2.3)	20.8	(2.2)	11.6	(1.8)	3.0	(0.7)
	Puglia	8.2	(1.8)	14.6	(2.0)	22.6	(2.1)	26.0	(2.6)	19.2	(2.0)	8.2	(1.4)	1.3	(0.5)
	Sardegna	12.0	(1.6)	20.2	(2.0)	26.9	(2.7)	22.0	(2.0)	13.6	(1.7)	4.6	(1.1)	0.6	(0.4)
	Sicilia	13.1	(1.8)	22.0	(2.6)	28.5	(2.5)	23.0	(2.3)	9.9	(1.8)	2.9	(1.0)	0.5	(0.4)
	Toscana	7.3	(1.4)	15.5	(3.1)	21.7	(2.6)	23.5	(2.3)	18.5	(2.1)	10.5	(1.7)	3.0	(0.8)
	Trento	2.5	(1.0)	8.3	(1.8)	20.2	(1.9)	26.1	(2.6)	22.8	(2.2)	15.2	(1.8)	4.8	(1.1)
	Umbria	7.1	(2.6)	10.9	(2.3)	20.3	(1.9)	27.2	(2.6)	22.4	(2.3)	9.4	(1.9)	2.7	(0.8)
	Valle d'Aosta	5.2	(1.1)	12.7	(1.6)	24.3	(2.2)	27.7	(2.5)	18.6	(2.5)	9.0	(1.6)	2.5	(1.1)
	Veneto	3.6	(1.1)	9.3	(2.4)	17.6	(2.2)	22.1	(2.3)	22.7	(2.1)	17.5	(2.5)	7.2	(1.9)
	Mexico														
	Aguascalientes	13.0	(2.6)	27.6	(3.1)	30.8	(4.0)	18.5	(2.9)	7.9	(1.7)	2.2	(1.2)	0.0	c
	Baja California	18.1	(3.1)	34.4	(3.5)	28.1	(3.2)	14.0	(2.5)	4.6	(1.1)	0.6	(0.5)	0.0	c
	Baja California Sur	20.1	(3.7)	29.8	(2.8)	30.0	(3.3)	14.4	(2.4)	5.0	(1.1)	0.7	(0.5)	0.0	c
	Campeche	27.1	(2.8)	34.6	(3.2)	26.2	(2.6)	8.9	(1.6)	2.6	(0.9)	0.5	(0.4)	0.1	c
	Chiapas	40.4	(4.9)	33.6	(3.8)	18.2	(3.1)	5.7	(1.3)	1.6	(0.6)	0.6	(0.5)	0.0	c
	Chihuahua	14.4	(3.5)	29.0	(3.6)	31.1	(3.2)	15.2	(2.1)	8.5	(2.1)	1.7	(0.9)	0.2	c
	Coahuila	20.0	(3.8)	29.7	(4.8)	28.6	(2.9)	15.5	(2.9)	5.3	(1.7)	0.8	(0.6)	0.0	c
	Colima	17.4	(2.1)	27.1	(3.0)	30.0	(2.9)	16.7	(2.6)	6.5	(1.2)	1.9	(0.8)	0.4	(0.2)
	Distrito Federal	12.6	(2.0)	26.3	(3.7)	32.3	(3.0)	20.1	(3.4)	7.4	(1.4)	1.2	(0.8)	0.0	c
	Durango	17.1	(3.7)	27.9	(3.9)	28.4	(3.5)	20.2	(3.9)	5.9	(1.5)	0.6	(0.4)	0.1	c
	Guanajuato	22.0	(3.2)	28.3	(2.8)	27.4	(3.1)	15.5	(2.1)	6.3	(1.8)	0.6	(0.7)	0.0	c
	Guerrero	44.7	(3.2)	33.5	(3.6)	16.8	(2.7)	4.0	(0.9)	0.8	(0.6)	0.2	(0.2)	0.0	c
	Hidalgo	22.5	(3.1)	31.4	(3.2)	27.8	(3.3)	14.1	(2.4)	3.5	(1.1)	0.6	(0.5)	0.0	c
	Jalisco	13.9	(2.7)	26.1	(3.3)	30.9	(4.3)	20.7	(3.5)	7.0	(1.6)	1.4	(0.6)	0.1	c
	Mexico	15.5	(2.9)	31.8	(3.1)	33.2	(3.3)	15.7	(2.7)	2.7	(1.2)	0.9	(0.6)	0.2	c
	Morelos	20.4	(5.0)	29.5	(4.1)	27.3	(3.3)	14.8	(2.3)	6.1	(1.9)	1.4	(1.0)	0.4	(0.6)
	Nayarit	21.0	(3.8)	28.5	(3.5)	28.9	(3.0)	16.0	(2.0)	5.2	(1.2)	0.6	(0.5)	0.0	c
	Nuevo León	11.8	(2.9)	25.6	(3.2)	31.6	(3.2)	20.8	(3.7)	8.8	(2.0)	1.4	(0.9)	0.0	c
	Puebla	18.9	(3.5)	28.8	(2.9)	30.9	(3.5)	15.7	(3.2)	5.0	(1.2)	0.6	(0.5)	0.1	c
	Querétaro	12.1	(2.7)	28.3	(3.7)	29.1	(3.6)	21.1	(3.1)	7.4	(2.1)	1.8	(0.7)	0.1	(0.2)
	Quintana Roo	21.8	(3.5)	31.3	(2.3)	29.1	(2.5)	14.0	(2.1)	3.2	(0.9)	0.5	(0.3)	0.0	c
	San Luis Potosí	26.1	(3.8)	28.1	(3.9)	27.5	(3.0)	12.7	(2.1)	4.6	(1.5)	1.1	(0.6)	0.0	c
	Sinaloa	21.5	(3.1)	34.4	(3.4)	27.2	(3.1)	12.4	(1.9)	4.0	(1.0)	0.5	(0.4)	0.0	c
	Tabasco	37.0	(3.3)	33.1	(2.6)	20.6	(2.5)	7.7	(1.8)	1.3	(0.6)	0.3	(0.3)	0.0	c
	Tamaulipas	20.6	(4.1)	30.1	(3.6)	28.5	(3.3)	14.3	(3.2)	5.3	(2.1)	1.1	(1.0)	0.0	c
	Tlaxcala	21.0	(2.7)	31.1	(3.4)	30.5	(2.9)	13.1	(1.8)	3.6	(0.9)	0.7	(0.5)	0.0	c
	Veracruz	27.4	(3.2)	29.3	(2.9)	26.5	(2.5)	13.2	(2.6)	3.1	(1.0)	0.5	(0.6)	0.0	c
	Yucatán	20.3	(3.3)	31.9	(3.1)	26.8	(3.5)	15.8	(2.5)	4.3	(1.1)	0.7	(0.5)	0.1	c
	Zacatecas	21.4	(2.6)	32.4	(2.4)	27.2	(2.5)	15.7	(2.6)	3.0	(1.0)	0.3	(0.2)	0.0	c

• PISA adjudicated region.

Note: See Table I.2.2a for national data.

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[Part 2/4]

Table B2.I.2 Percentage of students at each proficiency level in mathematics, by gender and region

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**														
	Alentejo	6.0	(2.1)	14.1	(3.8)	23.1	(3.2)	27.3	(4.3)	16.6	(3.4)	9.9	(3.0)	3.0	(1.9)
	Spain														
	Andalusia•	8.5	(1.7)	17.0	(2.4)	25.6	(3.0)	24.7	(2.3)	16.5	(1.7)	6.0	(1.1)	1.6	(0.6)
	Aragon•	6.7	(1.3)	13.6	(1.6)	19.9	(2.0)	22.4	(1.8)	22.8	(2.2)	11.9	(1.7)	2.7	(1.0)
	Asturias•	7.6	(1.7)	11.0	(1.6)	21.6	(1.9)	24.4	(1.7)	20.1	(1.8)	12.2	(1.8)	3.1	(0.9)
	Balearic Islands•	9.6	(1.8)	15.7	(1.6)	24.2	(1.7)	26.2	(2.1)	17.7	(1.8)	5.8	(1.2)	0.9	(0.5)
	Basque Country•	4.6	(0.7)	9.8	(0.8)	20.4	(0.9)	27.9	(1.3)	24.5	(1.4)	10.4	(0.9)	2.3	(0.4)
	Cantabria•	7.5	(1.3)	13.5	(1.5)	20.9	(1.8)	24.5	(1.7)	20.9	(1.7)	10.4	(1.4)	2.3	(0.6)
	Castile and Leon•	4.4	(1.1)	10.1	(1.3)	19.7	(1.8)	24.6	(2.4)	24.7	(2.3)	14.0	(1.6)	2.6	(0.8)
	Catalonia•	4.9	(1.0)	13.0	(2.3)	22.9	(2.9)	26.1	(2.5)	20.8	(2.1)	10.2	(1.7)	2.1	(0.7)
	Extremadura•	13.9	(1.9)	19.2	(2.3)	22.1	(1.8)	22.7	(1.6)	14.6	(1.4)	6.2	(1.2)	1.4	(0.5)
	Galicia•	7.4	(1.3)	15.6	(1.6)	21.9	(2.2)	26.4	(2.4)	19.8	(1.7)	7.9	(1.3)	1.0	(0.5)
	La Rioja•	9.0	(1.2)	9.8	(1.2)	18.3	(1.6)	21.5	(1.8)	21.1	(1.9)	14.6	(1.7)	5.7	(1.0)
	Madrid•	5.2	(0.9)	12.1	(1.7)	18.0	(1.6)	26.1	(1.7)	24.3	(2.6)	11.6	(2.0)	2.6	(0.9)
	Murcia•	13.2	(1.8)	16.9	(2.3)	25.4	(2.4)	21.8	(2.0)	14.9	(1.4)	6.6	(1.5)	1.2	(0.6)
	Navarre•	4.6	(1.2)	9.2	(1.4)	17.6	(1.6)	27.4	(1.9)	25.8	(1.8)	12.2	(1.6)	3.2	(1.0)
	United Kingdom														
	England	7.3	(1.1)	12.2	(1.1)	21.7	(1.2)	25.0	(1.4)	19.7	(1.3)	10.7	(1.2)	3.3	(0.7)
	Northern Ireland	8.0	(1.3)	14.2	(1.7)	23.0	(1.7)	25.4	(1.8)	18.3	(1.5)	8.5	(1.1)	2.5	(0.6)
	Scotland•	4.3	(0.7)	11.9	(1.2)	23.4	(1.3)	27.5	(1.6)	20.6	(1.4)	9.6	(0.8)	2.7	(0.5)
	Wales	9.4	(1.0)	17.5	(1.3)	26.8	(1.4)	25.8	(1.4)	14.2	(1.3)	5.1	(0.8)	1.2	(0.3)
	United States														
	Connecticut•	5.7	(1.3)	13.6	(1.9)	19.1	(1.6)	23.1	(1.8)	19.9	(2.2)	12.8	(1.9)	5.8	(1.1)
	Florida•	9.2	(1.7)	19.1	(2.2)	25.8	(2.2)	24.4	(2.0)	14.7	(2.0)	5.6	(1.4)	1.1	(0.4)
	Massachusetts•	5.1	(0.9)	12.0	(1.4)	19.3	(2.1)	23.9	(2.1)	19.5	(1.5)	13.3	(1.8)	6.9	(1.4)
Partners	**Argentina**														
	Ciudad Autónoma de Buenos Aires•	21.9	(2.8)	21.3	(3.4)	28.7	(2.8)	18.4	(2.3)	8.2	(2.0)	1.4	(0.6)	0.1	c
	Brazil														
	Acre	46.9	(5.5)	32.9	(4.1)	15.7	(3.1)	3.7	(1.7)	0.6	(0.6)	0.2	c	0.0	c
	Alagoas	58.6	(5.4)	26.5	(3.7)	10.4	(3.0)	3.7	(1.9)	0.8	(0.9)	0.0	c	0.0	c
	Amapá	42.2	(7.1)	36.0	(4.8)	17.0	(4.5)	4.5	(2.6)	0.4	c	0.0	c	0.0	c
	Amazonas	50.2	(4.9)	31.9	(3.9)	11.9	(2.5)	4.4	(1.5)	1.0	(1.0)	0.5	(0.6)	0.0	c
	Bahia	41.6	(5.3)	30.7	(5.4)	16.2	(3.9)	7.7	(2.0)	2.7	(1.9)	1.2	(1.4)	0.0	c
	Ceará	37.1	(3.9)	33.4	(3.9)	16.8	(3.3)	7.7	(2.3)	3.2	(2.0)	1.8	(1.0)	0.1	c
	Espírito Santo	23.6	(3.3)	30.2	(4.5)	21.4	(3.9)	14.6	(2.5)	7.4	(2.5)	2.4	(1.2)	0.3	c
	Federal District	23.9	(5.9)	27.5	(4.4)	23.0	(3.5)	15.3	(3.2)	7.9	(2.1)	2.0	(1.1)	0.3	c
	Goiás	35.5	(4.5)	34.3	(3.8)	17.7	(2.5)	8.5	(2.4)	3.5	(1.5)	0.5	c	0.0	c
	Maranhão	55.8	(7.6)	24.8	(3.9)	10.3	(3.3)	6.4	(3.9)	2.1	(2.0)	0.7	(0.6)	0.0	c
	Mato Grosso	44.1	(5.5)	31.8	(4.4)	17.2	(3.3)	4.6	(1.8)	2.0	(1.5)	0.3	c	0.0	c
	Mato Grosso do Sul	21.6	(4.6)	31.4	(4.4)	26.2	(3.2)	14.8	(3.0)	5.5	(2.3)	0.5	(0.5)	0.0	c
	Minas Gerais	23.8	(4.4)	32.4	(3.6)	27.5	(4.0)	13.1	(3.5)	2.5	(1.2)	0.7	(0.6)	0.0	c
	Pará	46.8	(3.7)	31.3	(4.0)	16.8	(2.7)	4.1	(1.3)	1.0	(1.0)	0.0	c	0.0	c
	Paraíba	28.3	(5.2)	34.0	(4.9)	21.3	(4.5)	9.4	(3.1)	5.7	(2.3)	1.2	(0.8)	0.1	c
	Paraná	27.3	(4.8)	30.1	(3.9)	22.0	(3.1)	11.5	(2.2)	7.3	(3.4)	1.8	(2.2)	0.0	c
	Pernambuco	42.6	(5.3)	33.2	(4.6)	17.2	(3.7)	5.2	(2.2)	1.4	(1.4)	0.4	(0.4)	0.0	c
	Piauí	36.1	(4.6)	31.9	(5.2)	16.8	(4.0)	9.2	(1.9)	4.6	(2.4)	0.8	(0.9)	0.7	(0.4)
	Rio de Janeiro	30.5	(4.2)	35.2	(4.0)	21.4	(3.3)	10.0	(2.3)	2.6	(1.3)	0.3	c	0.0	c
	Rio Grande do Norte	38.1	(4.1)	31.4	(4.3)	15.4	(3.5)	7.7	(3.2)	4.8	(1.9)	2.3	(2.0)	0.3	c
	Rio Grande do Sul	22.4	(4.0)	30.8	(3.9)	28.9	(3.6)	14.8	(3.8)	2.7	(1.1)	0.4	c	0.0	c
	Rondônia	33.4	(3.8)	37.0	(3.9)	22.4	(3.3)	5.4	(1.9)	1.8	(1.2)	0.1	c	0.0	c
	Roraima	48.8	(4.8)	28.9	(3.8)	16.2	(4.7)	5.1	(2.6)	0.8	(0.6)	0.2	c	0.0	c
	Santa Catarina	21.7	(3.6)	28.8	(3.5)	26.4	(3.5)	17.0	(3.5)	5.7	(1.7)	0.4	(0.3)	0.0	c
	São Paulo	26.2	(2.1)	31.4	(2.3)	24.7	(1.8)	11.5	(1.6)	4.6	(1.0)	1.6	(0.7)	0.1	c
	Sergipe	32.9	(5.7)	32.2	(4.7)	19.3	(2.6)	12.2	(4.5)	2.6	(1.6)	0.7	(0.7)	0.0	c
	Tocantins	43.0	(4.4)	29.6	(2.8)	16.6	(2.5)	8.2	(2.3)	2.3	(1.3)	0.3	c	0.0	c
	Colombia														
	Bogotá	21.1	(2.4)	37.5	(2.4)	28.0	(2.4)	10.5	(1.4)	2.2	(1.1)	0.6	(0.5)	0.0	c
	Cali	35.1	(4.1)	34.1	(3.2)	20.1	(2.9)	8.8	(2.3)	2.0	(0.9)	0.0	c	0.0	c
	Manizales	21.1	(2.5)	32.0	(3.3)	25.9	(3.1)	14.9	(2.5)	5.2	(1.6)	0.9	(0.7)	0.1	c
	Medellín	29.3	(3.6)	31.4	(2.6)	22.7	(2.8)	11.0	(2.0)	3.6	(1.3)	1.5	(1.0)	0.6	(0.5)
	Russian Federation														
	Perm Territory region•	7.7	(1.6)	14.9	(1.7)	26.1	(2.5)	25.1	(2.4)	16.4	(1.4)	6.9	(1.3)	3.0	(1.4)
	United Arab Emirates														
	Abu Dhabi•	29.7	(2.1)	26.0	(1.9)	21.7	(1.4)	12.9	(1.1)	6.7	(1.1)	2.7	(0.7)	0.3	(0.2)
	Ajman	33.9	(8.0)	31.5	(5.7)	22.0	(3.7)	11.1	(2.3)	1.3	(0.8)	0.1	c	0.0	c
	Dubai•	14.6	(0.7)	18.5	(1.1)	21.9	(1.1)	21.6	(1.1)	14.9	(1.2)	6.7	(1.0)	1.9	(0.4)
	Fujairah	34.9	(5.3)	30.5	(3.0)	18.8	(4.5)	10.1	(2.6)	4.8	(1.8)	0.8	(0.6)	0.2	c
	Ras al-Khaimah	27.8	(3.6)	31.7	(4.1)	24.4	(3.4)	12.7	(2.2)	2.9	(1.0)	0.5	(0.3)	0.1	c
	Sharjah	16.2	(5.1)	25.0	(4.3)	25.5	(4.4)	19.0	(3.9)	10.3	(3.5)	3.0	(1.7)	0.9	(0.8)
	Umm al-Quwain	41.9	(5.5)	33.5	(5.2)	16.9	(3.7)	4.7	(2.7)	0.0	c	1.5	(1.3)	1.4	c

• PISA adjudicated region.
Note: See Table I.2.2a for national data.
StatLink http://dx.doi.org/10.1787/888932935762



[Part 3/4]

Table B2.I.2 Percentage of students at each proficiency level in mathematics, by gender and region

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	4.8	(1.3)	9.9	(1.8)	20.3	(2.6)	25.6	(3.4)	22.6	(2.9)	12.6	(2.2)	4.0	(1.2)
	New South Wales	6.1	(0.8)	13.9	(1.5)	20.8	(1.5)	25.1	(1.5)	19.3	(1.3)	10.1	(1.0)	4.8	(1.1)
	Northern Territory	17.1	(2.5)	20.7	(4.8)	26.3	(5.5)	21.5	(5.4)	9.2	(4.0)	4.4	(2.7)	0.9	(0.9)
	Queensland	5.8	(1.0)	14.8	(1.2)	22.1	(1.6)	25.1	(2.1)	18.5	(1.3)	10.3	(1.3)	3.2	(0.9)
	South Australia	7.3	(1.0)	18.3	(1.7)	24.1	(2.5)	25.4	(2.0)	16.5	(2.3)	6.9	(1.3)	1.6	(0.6)
	Tasmania	10.1	(1.5)	19.8	(2.4)	24.3	(2.5)	24.5	(2.2)	13.4	(1.6)	6.2	(1.7)	1.8	(0.8)
	Victoria	6.5	(1.1)	15.1	(1.3)	24.0	(1.7)	26.5	(1.8)	18.5	(1.8)	7.7	(1.2)	1.6	(0.5)
	Western Australia	5.6	(0.9)	13.8	(1.7)	22.1	(2.3)	23.9	(2.1)	21.0	(2.1)	10.4	(1.7)	3.2	(0.7)
	Belgium														
	Flemish Community•	5.6	(0.8)	10.3	(1.0)	17.4	(1.2)	22.3	(1.3)	22.0	(1.2)	15.2	(1.2)	7.1	(0.8)
	French Community	8.9	(1.1)	15.0	(1.3)	23.0	(1.4)	24.7	(1.5)	18.9	(1.3)	7.5	(1.0)	1.9	(0.3)
	German-speaking Community	4.5	(1.0)	8.9	(1.6)	19.8	(2.5)	29.9	(3.1)	25.4	(2.9)	9.8	(1.7)	1.7	(0.8)
	Canada														
	Alberta	3.8	(0.9)	12.8	(1.7)	21.4	(2.2)	24.1	(2.3)	23.5	(1.9)	11.3	(1.5)	3.0	(0.7)
	British Columbia	3.0	(0.6)	10.6	(1.6)	21.4	(1.9)	28.2	(1.8)	22.7	(1.9)	10.6	(1.6)	3.5	(0.9)
	Manitoba	6.3	(1.4)	15.4	(1.7)	25.9	(2.0)	25.5	(2.2)	18.5	(1.5)	6.8	(1.0)	1.7	(0.6)
	New Brunswick	4.0	(0.9)	11.4	(1.6)	26.1	(2.7)	28.8	(3.4)	20.4	(2.4)	7.7	(1.6)	1.6	(1.2)
	Newfoundland and Labrador	5.5	(1.7)	14.7	(2.0)	26.3	(3.3)	27.9	(2.5)	17.0	(1.9)	7.3	(1.1)	1.3	(0.7)
	Nova Scotia	3.8	(1.2)	14.7	(2.3)	27.5	(4.1)	30.1	(2.5)	16.5	(2.8)	5.9	(1.4)	1.5	(0.8)
	Ontario	3.6	(0.7)	10.0	(1.1)	23.7	(1.9)	29.0	(1.4)	21.6	(1.6)	9.4	(1.2)	2.6	(0.7)
	Prince Edward Island	5.3	(1.2)	18.4	(1.8)	28.5	(2.0)	27.7	(2.2)	15.0	(1.5)	4.0	(1.0)	1.0	(0.5)
	Quebec	3.0	(0.6)	8.8	(0.9)	17.1	(1.3)	24.7	(1.3)	26.8	(1.4)	14.6	(1.1)	4.9	(0.7)
	Saskatchewan	3.6	(0.9)	12.4	(1.4)	25.0	(1.8)	29.2	(2.2)	18.9	(1.7)	9.1	(1.4)	1.8	(0.8)
	Italy														
	Abruzzo	9.6	(2.0)	18.3	(2.0)	26.2	(2.1)	26.4	(2.7)	14.1	(2.4)	4.6	(1.2)	0.8	(0.4)
	Basilicata	11.6	(1.9)	22.2	(2.1)	29.8	(2.1)	23.9	(1.8)	9.5	(1.4)	2.2	(0.7)	0.7	(0.4)
	Bolzano	5.8	(0.8)	12.9	(1.6)	22.6	(2.4)	31.3	(2.0)	19.5	(1.7)	6.9	(1.1)	1.1	(0.5)
	Calabria	24.4	(3.8)	25.1	(2.5)	27.3	(2.6)	16.4	(2.1)	5.5	(1.3)	1.1	(0.5)	0.1	c
	Campania	15.6	(2.9)	23.2	(3.7)	28.0	(3.3)	20.4	(3.2)	10.2	(2.3)	2.2	(1.1)	0.3	(0.3)
	Emilia Romagna	6.5	(1.6)	14.0	(2.0)	27.0	(2.6)	24.6	(2.3)	18.4	(2.4)	7.1	(1.8)	2.4	(0.8)
	Friuli Venezia Giulia	3.5	(1.7)	8.8	(1.5)	21.3	(2.7)	32.4	(2.5)	22.5	(2.4)	9.1	(1.6)	2.5	(0.8)
	Lazio	10.7	(1.9)	21.1	(2.7)	27.9	(2.9)	24.1	(2.2)	11.4	(2.1)	4.2	(1.1)	0.7	(0.4)
	Liguria	7.7	(1.8)	16.0	(1.8)	25.2	(2.4)	26.9	(1.9)	16.9	(2.3)	6.1	(1.3)	1.2	(0.5)
	Lombardia	2.6	(0.9)	12.6	(2.7)	23.3	(2.9)	30.1	(2.9)	21.2	(2.3)	8.6	(1.8)	1.6	(0.7)
	Marche	7.3	(2.2)	14.7	(1.8)	28.0	(2.6)	27.6	(2.3)	16.0	(2.0)	5.5	(1.5)	1.0	(0.5)
	Molise	10.0	(1.4)	23.2	(2.0)	28.7	(3.4)	24.7	(3.0)	9.6	(1.7)	3.0	(1.3)	0.7	(0.6)
	Piemonte	6.6	(1.5)	16.8	(3.0)	23.8	(3.0)	28.0	(2.8)	16.4	(2.3)	6.9	(1.4)	1.5	(0.6)
	Puglia	8.3	(2.2)	21.5	(2.4)	28.4	(2.4)	23.8	(2.1)	13.6	(2.1)	3.8	(1.0)	0.7	(0.4)
	Sardegna	12.5	(2.7)	21.8	(3.0)	28.0	(2.8)	23.1	(3.0)	11.4	(2.0)	2.8	(0.8)	0.3	(0.3)
	Sicilia	14.2	(2.2)	25.5	(2.7)	30.1	(2.2)	20.7	(2.5)	8.1	(1.4)	1.2	(0.5)	0.2	c
	Toscana	6.3	(1.4)	15.0	(2.6)	21.9	(2.5)	27.2	(2.8)	19.6	(3.0)	8.2	(1.9)	1.8	(0.6)
	Trento	2.1	(1.0)	7.5	(2.2)	20.7	(2.4)	31.1	(2.6)	26.2	(3.5)	10.6	(1.8)	1.6	(0.7)
	Umbria	8.2	(2.3)	15.3	(2.5)	25.5	(2.2)	27.9	(2.2)	16.5	(2.1)	5.8	(1.3)	0.8	(0.4)
	Valle d'Aosta	5.1	(1.5)	16.6	(2.4)	28.3	(3.6)	29.3	(2.5)	14.5	(2.4)	4.5	(1.2)	1.6	(0.8)
	Veneto	3.8	(1.7)	10.4	(2.0)	21.3	(2.7)	29.1	(3.0)	23.0	(2.2)	10.0	(2.1)	2.3	(1.0)
	Mexico														
	Aguascalientes	14.7	(2.8)	29.3	(2.6)	33.2	(2.7)	17.3	(2.3)	4.5	(1.1)	1.0	(0.8)	0.0	c
	Baja California	24.8	(3.1)	33.0	(3.2)	25.9	(2.5)	12.2	(2.0)	3.9	(1.5)	0.3	c	0.0	c
	Baja California Sur	24.7	(3.6)	34.6	(2.4)	25.5	(2.6)	12.1	(2.1)	2.8	(1.0)	0.3	(0.3)	0.0	c
	Campeche	32.2	(3.2)	36.2	(2.8)	22.6	(3.1)	7.3	(1.9)	1.5	(0.6)	0.3	(0.3)	0.0	c
	Chiapas	44.5	(4.8)	30.4	(3.7)	18.5	(3.2)	5.5	(1.7)	0.9	(0.6)	0.1	c	0.0	c
	Chihuahua	20.5	(3.1)	29.3	(3.2)	29.9	(3.4)	15.0	(2.7)	4.6	(1.2)	0.6	(0.5)	0.0	c
	Coahuila	21.2	(4.1)	34.7	(5.5)	28.7	(4.1)	11.6	(3.2)	3.6	(1.9)	0.2	c	0.0	c
	Colima	18.7	(2.3)	29.9	(2.1)	28.6	(2.8)	17.3	(2.6)	5.0	(1.5)	0.5	(0.4)	0.2	c
	Distrito Federal	21.0	(3.0)	34.1	(3.4)	28.7	(2.2)	11.8	(2.0)	3.9	(1.6)	0.5	(0.5)	0.0	c
	Durango	19.4	(3.1)	32.2	(3.2)	28.9	(3.7)	15.9	(3.1)	3.3	(1.1)	0.3	(0.2)	0.0	c
	Guanajuato	26.2	(3.7)	33.5	(3.3)	27.0	(2.9)	11.2	(1.5)	1.9	(0.7)	0.1	c	0.0	c
	Guerrero	49.0	(3.0)	32.2	(2.5)	13.4	(2.6)	4.7	(1.1)	0.7	(0.5)	0.0	c	0.0	c
	Hidalgo	27.5	(3.6)	33.9	(2.7)	26.3	(3.8)	10.1	(2.2)	2.0	(0.7)	0.1	c	0.0	c
	Jalisco	13.9	(2.4)	30.8	(2.3)	33.5	(2.4)	17.2	(2.4)	3.9	(1.5)	0.6	(0.5)	0.0	c
	Mexico	20.6	(3.0)	35.7	(2.8)	31.3	(3.4)	10.8	(2.0)	1.4	(0.9)	0.2	c	0.0	c
	Morelos	20.6	(3.0)	32.5	(3.7)	28.6	(2.9)	12.6	(2.4)	4.2	(2.2)	1.5	(1.2)	0.0	c
	Nayarit	26.4	(3.7)	31.1	(2.8)	26.8	(2.9)	12.0	(2.0)	3.6	(1.5)	0.2	c	0.0	c
	Nuevo León	18.0	(2.9)	32.3	(3.0)	28.5	(2.8)	15.9	(2.7)	4.3	(1.1)	0.8	(0.6)	0.0	c
	Puebla	23.1	(3.2)	35.0	(3.2)	26.8	(2.8)	11.8	(2.0)	3.2	(0.8)	0.1	c	0.0	c
	Querétaro	17.9	(3.1)	29.8	(3.5)	30.9	(3.8)	15.5	(3.1)	5.0	(1.3)	0.9	(0.5)	0.0	c
	Quintana Roo	24.8	(3.0)	34.3	(2.2)	27.1	(2.8)	11.1	(2.0)	2.3	(0.9)	0.4	(0.3)	0.0	c
	San Luis Potosí	25.7	(4.1)	30.6	(3.5)	26.9	(2.7)	13.3	(2.4)	3.4	(1.3)	0.2	c	0.0	c
	Sinaloa	23.7	(2.4)	34.5	(2.9)	27.7	(3.4)	12.1	(2.0)	1.9	(0.7)	0.2	(0.2)	0.0	c
	Tabasco	40.5	(2.9)	37.3	(2.8)	16.3	(2.3)	4.9	(1.1)	1.1	(0.4)	0.0	c	0.0	c
	Tamaulipas	27.5	(3.3)	34.9	(3.5)	25.2	(2.9)	10.1	(2.1)	2.2	(1.0)	0.1	c	0.0	c
	Tlaxcala	24.1	(3.0)	34.7	(2.3)	27.8	(2.5)	10.1	(1.9)	3.1	(1.2)	0.2	(0.2)	0.0	c
	Veracruz	29.7	(3.5)	35.0	(3.0)	22.8	(3.0)	9.5	(2.2)	2.6	(1.3)	0.3	c	0.0	c
	Yucatán	29.0	(3.4)	33.5	(2.7)	24.9	(3.0)	10.1	(1.7)	2.2	(0.9)	0.3	(0.3)	0.0	c
	Zacatecas	25.9	(2.6)	34.9	(2.7)	25.9	(2.2)	11.0	(1.7)	2.0	(0.6)	0.3	c	0.0	c

• PISA adjudicated region.

Note: See Table I.2.2a for national data.

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[Part 4/4]

Table B2.I.2 Percentage of students at each proficiency level in mathematics, by gender and region

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**														
	Alentejo	8.8	(2.5)	16.3	(2.8)	26.4	(2.2)	24.7	(3.3)	17.3	(3.5)	5.3	(1.6)	1.2	(0.8)
	Spain														
	Andalusia•	8.5	(1.5)	21.0	(2.0)	30.5	(2.2)	23.8	(2.1)	12.5	(1.9)	3.3	(0.9)	0.3	(0.4)
	Aragon•	9.0	(1.7)	13.2	(2.0)	22.4	(2.1)	28.1	(2.3)	18.9	(2.1)	7.1	(1.2)	1.2	(0.5)
	Asturias•	5.9	(1.3)	12.8	(1.7)	24.2	(1.8)	28.4	(1.9)	18.4	(2.5)	8.6	(1.3)	1.8	(0.6)
	Balearic Islands•	9.6	(2.0)	18.2	(2.1)	26.8	(2.3)	24.3	(2.3)	16.3	(2.1)	4.4	(1.0)	0.4	(0.3)
	Basque Country•	5.5	(0.7)	11.1	(0.9)	23.7	(1.3)	29.9	(1.1)	21.7	(1.3)	6.7	(0.7)	1.4	(0.3)
	Cantabria•	6.9	(1.2)	16.1	(1.6)	27.3	(1.9)	26.6	(2.1)	14.8	(1.7)	7.1	(1.0)	1.3	(0.5)
	Castile and Leon•	4.2	(1.0)	11.0	(1.6)	24.2	(1.8)	31.6	(1.9)	21.8	(1.7)	6.5	(1.1)	0.8	(0.4)
	Catalonia•	6.4	(1.6)	16.0	(2.1)	26.3	(2.3)	29.6	(2.4)	16.9	(1.8)	4.0	(1.0)	0.8	(0.4)
	Extremadura•	13.9	(1.8)	19.0	(2.3)	27.7	(2.5)	24.1	(2.1)	11.5	(1.4)	3.2	(0.8)	0.6	(0.4)
	Galicia•	6.7	(1.1)	14.1	(2.0)	24.5	(2.6)	30.3	(2.3)	17.3	(2.2)	5.7	(0.9)	1.3	(0.6)
	La Rioja•	7.7	(1.0)	13.2	(1.7)	22.2	(1.9)	26.5	(1.8)	19.9	(2.0)	8.7	(1.7)	1.9	(0.8)
	Madrid•	5.3	(1.2)	12.8	(1.4)	23.8	(2.1)	27.9	(2.0)	21.5	(1.7)	7.8	(1.4)	0.8	(0.4)
	Murcia•	11.6	(1.6)	20.3	(1.6)	30.4	(2.4)	24.0	(1.8)	10.4	(1.7)	3.0	(0.9)	0.4	(0.3)
	Navarre•	3.1	(0.8)	10.5	(1.1)	21.0	(2.2)	27.8	(1.9)	23.8	(1.8)	11.6	(2.2)	2.1	(0.6)
	United Kingdom														
	England	8.6	(1.3)	15.1	(1.3)	23.8	(1.3)	24.1	(1.2)	17.7	(1.1)	7.9	(1.0)	2.8	(0.7)
	Northern Ireland	9.2	(1.4)	17.0	(1.9)	24.6	(1.7)	23.1	(1.8)	16.6	(1.5)	7.7	(1.2)	1.8	(0.4)
	Scotland•	5.6	(0.9)	14.8	(1.7)	26.3	(1.9)	26.9	(1.3)	17.0	(1.2)	7.4	(0.9)	2.0	(0.5)
	Wales	9.8	(1.0)	21.3	(1.6)	28.1	(1.5)	24.4	(1.3)	12.1	(0.9)	3.5	(0.5)	0.8	(0.3)
	United States														
	Connecticut•	8.0	(1.4)	13.9	(1.8)	21.0	(1.9)	25.5	(1.8)	17.3	(2.2)	10.3	(1.6)	4.0	(1.1)
	Florida•	10.3	(1.7)	22.3	(2.2)	29.9	(2.1)	21.6	(2.2)	11.1	(1.5)	4.2	(1.3)	0.6	(0.5)
	Massachusetts•	5.5	(1.2)	13.0	(1.6)	21.5	(2.1)	24.7	(1.9)	18.4	(1.7)	12.2	(1.9)	4.8	(1.3)
Partners	**Argentina**														
	Ciudad Autónoma de Buenos Aires•	25.4	(3.1)	24.7	(2.9)	28.3	(2.4)	16.0	(2.1)	5.1	(1.0)	0.6	(0.3)	0.0	c
	Brazil														
	Acre	56.9	(4.3)	26.4	(3.0)	14.0	(2.8)	2.1	(1.3)	0.5	(0.4)	0.0	c	0.0	c
	Alagoas	67.3	(3.7)	21.3	(3.5)	8.6	(2.1)	2.3	(1.3)	0.5	(0.5)	0.0	c	0.0	c
	Amapá	55.1	(5.4)	31.6	(6.0)	11.8	(3.6)	1.3	(1.2)	0.3	c	0.0	c	0.0	c
	Amazonas	60.1	(3.7)	28.1	(3.2)	9.4	(2.4)	2.0	(1.2)	0.5	(0.5)	0.0	c	0.0	c
	Bahia	48.6	(7.4)	26.9	(4.8)	16.7	(6.0)	6.0	(2.5)	1.5	(1.2)	0.2	c	0.0	c
	Ceará	46.5	(5.7)	29.9	(4.0)	17.2	(3.0)	4.2	(1.9)	1.8	(0.9)	0.4	(0.3)	0.0	c
	Espírito Santo	31.4	(4.2)	31.4	(3.6)	18.4	(2.7)	10.9	(3.2)	6.1	(2.8)	1.6	(1.0)	0.1	c
	Federal District	29.8	(5.1)	27.6	(3.6)	24.6	(4.3)	13.3	(2.8)	4.0	(2.2)	0.6	c	0.0	c
	Goiás	47.2	(4.9)	31.7	(3.8)	15.5	(3.5)	4.9	(1.8)	0.5	(0.5)	0.2	c	0.0	c
	Maranhão	65.4	(7.1)	22.3	(3.8)	10.3	(4.8)	2.0	(1.4)	0.1	c	0.0	c	0.0	c
	Mato Grosso	48.8	(6.0)	31.3	(3.9)	13.0	(2.9)	3.7	(2.1)	2.7	(1.5)	0.4	c	0.0	c
	Mato Grosso do Sul	29.3	(4.5)	35.9	(3.7)	21.4	(3.3)	9.7	(2.9)	3.5	(1.4)	0.2	c	0.0	c
	Minas Gerais	29.0	(3.7)	36.3	(2.6)	22.8	(3.2)	9.4	(2.3)	2.4	(1.2)	0.1	c	0.0	c
	Pará	55.2	(4.7)	27.8	(3.7)	14.0	(2.8)	2.9	(1.0)	0.1	c	0.0	c	0.0	c
	Paraíba	37.0	(5.7)	29.7	(4.2)	21.1	(5.1)	10.4	(3.5)	1.8	(1.3)	0.0	c	0.0	c
	Paraná	36.6	(4.2)	32.5	(4.3)	19.0	(3.4)	7.7	(2.6)	2.6	(2.4)	1.5	(1.6)	0.2	c
	Pernambuco	54.9	(5.4)	30.9	(4.3)	11.9	(2.4)	1.7	(0.9)	0.5	(0.5)	0.1	c	0.0	c
	Piauí	44.8	(4.3)	32.2	(3.9)	12.0	(2.2)	6.9	(1.9)	3.4	(2.2)	0.7	c	0.0	c
	Rio de Janeiro	37.9	(5.1)	35.1	(4.4)	20.2	(3.6)	6.0	(2.8)	0.7	(0.8)	0.2	(0.3)	0.0	c
	Rio Grande do Norte	50.3	(4.8)	27.7	(4.9)	12.2	(2.7)	6.5	(2.1)	2.3	(1.8)	0.7	(0.6)	0.3	(0.4)
	Rio Grande do Sul	27.9	(4.1)	35.2	(3.7)	26.1	(3.1)	9.1	(2.2)	1.6	(0.9)	0.1	c	0.0	c
	Rondônia	36.4	(4.5)	39.7	(3.8)	20.0	(3.1)	3.6	(1.8)	0.3	c	0.0	c	0.0	c
	Roraima	56.9	(4.0)	24.7	(3.3)	11.1	(2.6)	5.6	(2.4)	1.7	(1.3)	0.0	c	0.0	c
	Santa Catarina	25.0	(4.6)	31.6	(4.0)	28.4	(3.2)	11.4	(2.5)	3.1	(1.4)	0.5	c	0.0	c
	São Paulo	32.3	(2.1)	33.3	(2.0)	20.6	(1.8)	10.0	(1.5)	3.1	(0.9)	0.6	(0.5)	0.0	c
	Sergipe	43.7	(6.0)	33.2	(5.3)	17.1	(3.6)	5.6	(2.9)	0.3	c	0.0	c	0.0	c
	Tocantins	52.1	(4.1)	32.1	(3.9)	10.9	(2.1)	3.7	(1.0)	1.0	(0.5)	0.2	c	0.0	c
	Colombia														
	Bogotá	37.7	(2.3)	38.0	(2.0)	19.8	(1.6)	4.1	(1.1)	0.4	(0.3)	0.0	c	0.0	c
	Cali	41.9	(4.4)	34.0	(2.7)	18.2	(3.9)	5.3	(1.7)	0.7	(0.4)	0.0	c	0.0	c
	Manizales	32.6	(3.4)	37.4	(3.6)	21.4	(2.8)	7.0	(2.0)	1.5	(0.8)	0.0	c	0.0	c
	Medellín	43.2	(4.0)	30.2	(2.6)	15.4	(2.4)	6.7	(1.6)	3.5	(1.8)	0.8	(0.5)	0.3	(0.3)
	Russian Federation														
	Perm Territory region•	7.0	(1.5)	16.3	(1.7)	28.5	(2.2)	26.9	(2.5)	15.0	(1.7)	4.9	(1.1)	1.4	(0.7)
	United Arab Emirates														
	Abu Dhabi•	19.6	(2.3)	28.4	(1.7)	27.1	(1.8)	15.6	(1.4)	7.0	(1.0)	2.2	(0.6)	0.2	c
	Ajman	22.6	(6.2)	31.2	(3.3)	27.9	(4.1)	14.0	(2.8)	3.9	(1.5)	0.4	c	0.0	c
	Dubai•	12.7	(0.7)	21.0	(1.0)	27.2	(1.6)	21.9	(1.4)	12.2	(1.0)	4.2	(0.6)	0.8	(0.4)
	Fujairah	18.2	(3.6)	25.8	(3.7)	32.5	(3.8)	18.2	(3.6)	4.7	(1.8)	0.5	(0.6)	0.1	c
	Ras al-Khaimah	19.5	(5.8)	29.4	(3.4)	29.3	(3.4)	16.2	(2.7)	4.5	(1.7)	1.1	(0.9)	0.0	c
	Sharjah	17.8	(3.0)	28.9	(4.2)	25.5	(2.2)	18.0	(3.1)	7.9	(2.4)	1.8	(0.7)	0.1	c
	Umm al-Quwain	19.7	(3.3)	34.0	(4.7)	28.3	(4.7)	14.8	(3.6)	2.2	(1.6)	1.0	c	0.0	c

• PISA adjudicated region.

Note: See Table I.2.2a for national data.

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[Part 1/2]

Table B2.I.3 Mean score, variation and gender differences in student performance in mathematics, by region

		All students				Gender differences						Percentiles									
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	**Australia**																						
	Australian Capital Territory	518	(3.6)	97	(2.9)	518	(5.5)	517	(4.6)	1	(7.2)	352	(10.3)	391	(7.6)	453	(5.8)	586	(5.1)	644	(6.6)	671	(8.3)
	New South Wales	509	(3.6)	102	(2.6)	513	(5.6)	505	(4.0)	7	(6.7)	345	(5.4)	380	(4.7)	438	(3.7)	579	(5.2)	645	(7.0)	680	(8.7)
	Northern Territory	452	(10.4)	109	(6.1)	459	(9.9)	445	(15.0)	14	(14.6)	255	(20.0)	310	(15.7)	388	(12.6)	527	(10.4)	581	(19.5)	624	(20.8)
	Queensland	503	(2.9)	94	(1.8)	507	(3.9)	500	(3.6)	7	(4.7)	351	(7.7)	384	(5.2)	436	(4.0)	571	(3.9)	626	(4.4)	656	(5.0)
	South Australia	489	(3.3)	91	(2.0)	495	(4.3)	483	(3.9)	**12**	(4.7)	341	(8.0)	373	(5.4)	424	(4.4)	553	(6.1)	609	(6.1)	640	(6.0)
	Tasmania	478	(3.4)	95	(2.4)	482	(4.9)	473	(4.9)	10	(7.1)	319	(7.8)	357	(7.5)	415	(4.6)	541	(5.6)	603	(6.3)	636	(8.7)
	Victoria	501	(3.7)	91	(2.3)	509	(5.1)	491	(3.7)	**19**	(5.3)	352	(6.3)	384	(5.4)	437	(4.4)	563	(5.0)	618	(7.1)	650	(7.9)
	Western Australia	516	(3.4)	94	(1.8)	528	(5.3)	504	(4.5)	**24**	(7.3)	364	(6.0)	394	(4.5)	449	(4.5)	584	(4.5)	638	(4.8)	666	(5.3)
	Belgium																						
	Flemish Community•	531	(3.3)	104	(2.1)	537	(4.5)	525	(4.2)	**12**	(5.8)	353	(6.9)	392	(4.8)	460	(4.8)	608	(4.1)	663	(3.6)	691	(3.4)
	French Community	493	(2.9)	96	(2.0)	498	(3.4)	488	(3.5)	**10**	(3.8)	332	(6.4)	363	(5.9)	424	(5.0)	563	(2.9)	616	(3.9)	645	(4.1)
	German-speaking Community	511	(2.1)	90	(2.0)	510	(3.5)	512	(3.1)	-2	(5.0)	349	(7.6)	389	(6.5)	453	(4.4)	572	(3.7)	624	(4.2)	652	(7.0)
	Canada																						
	Alberta	517	(4.6)	91	(1.8)	522	(5.0)	512	(5.1)	**11**	(4.0)	368	(6.0)	398	(6.0)	453	(5.6)	582	(5.5)	635	(5.1)	665	(5.8)
	British Columbia	522	(4.4)	86	(2.0)	529	(4.8)	515	(5.9)	**14**	(6.1)	381	(7.0)	410	(5.8)	464	(4.1)	582	(5.2)	635	(6.3)	665	(5.3)
	Manitoba	492	(2.9)	89	(2.1)	495	(3.6)	489	(4.5)	6	(5.7)	350	(6.3)	378	(4.9)	431	(3.7)	554	(4.0)	608	(5.9)	640	(6.5)
	New Brunswick	502	(2.6)	82	(1.9)	504	(3.9)	500	(3.8)	3	(5.7)	365	(5.7)	396	(4.8)	446	(4.1)	559	(5.0)	608	(5.4)	640	(7.8)
	Newfoundland and Labrador	490	(3.7)	86	(2.2)	491	(5.2)	490	(3.9)	1	(5.6)	346	(9.4)	376	(7.1)	431	(6.1)	550	(4.8)	604	(5.8)	636	(6.6)
	Nova Scotia	497	(4.1)	81	(2.3)	503	(3.9)	492	(6.1)	11	(6.1)	364	(8.2)	393	(6.8)	442	(5.6)	552	(5.7)	601	(7.1)	632	(7.6)
	Ontario	514	(4.1)	87	(1.8)	520	(4.9)	509	(4.0)	**10**	(3.7)	370	(5.6)	401	(5.1)	456	(4.0)	574	(5.2)	628	(5.4)	660	(6.4)
	Prince Edward Island	481	(2.5)	82	(1.8)	484	(3.6)	478	(3.3)	6	(4.8)	351	(7.6)	376	(4.1)	421	(4.5)	538	(3.5)	588	(4.8)	621	(6.6)
	Quebec	536	(3.4)	91	(1.7)	541	(4.3)	531	(3.8)	**10**	(4.3)	380	(6.3)	413	(5.2)	475	(4.4)	600	(3.9)	650	(3.8)	678	(4.9)
	Saskatchewan	506	(3.0)	84	(2.0)	510	(3.9)	502	(3.6)	8	(4.5)	368	(6.4)	400	(4.0)	448	(3.6)	566	(4.8)	616	(5.2)	644	(6.9)
	Italy																						
	Abruzzo	476	(6.4)	90	(4.2)	481	(7.4)	471	(7.1)	9	(7.3)	323	(19.8)	359	(12.0)	416	(6.2)	537	(8.4)	590	(9.4)	622	(11.1)
	Basilicata	466	(4.3)	85	(2.0)	477	(6.0)	454	(4.3)	**23**	(5.9)	331	(7.3)	356	(6.4)	407	(4.9)	521	(4.4)	576	(5.7)	605	(5.6)
	Bolzano	506	(2.1)	89	(1.3)	518	(3.1)	494	(2.6)	**23**	(3.9)	358	(4.9)	387	(4.1)	446	(4.0)	567	(3.2)	620	(4.0)	652	(4.4)
	Calabria	430	(5.7)	88	(3.4)	441	(6.6)	419	(7.0)	**22**	(8.0)	286	(9.7)	319	(9.0)	368	(7.1)	490	(6.8)	542	(6.2)	574	(10.6)
	Campania	453	(7.7)	89	(3.4)	461	(7.7)	444	(9.6)	**16**	(7.8)	308	(8.2)	336	(9.6)	391	(8.3)	512	(10.5)	570	(11.6)	603	(8.8)
	Emilia Romagna	500	(6.4)	97	(4.0)	510	(9.5)	490	(6.8)	20	(10.7)	340	(10.3)	376	(8.9)	436	(7.0)	568	(9.2)	626	(9.7)	657	(10.2)
	Friuli Venezia Giulia	523	(4.4)	88	(3.2)	533	(5.6)	512	(5.9)	**21**	(7.9)	374	(12.1)	409	(9.5)	465	(7.4)	582	(5.3)	633	(5.4)	666	(6.0)
	Lazio	475	(6.8)	90	(2.9)	485	(7.5)	462	(7.1)	**23**	(6.7)	328	(7.1)	358	(8.2)	411	(7.8)	536	(8.3)	597	(9.7)	627	(10.3)
	Liguria	488	(6.2)	91	(2.9)	493	(8.1)	482	(6.8)	11	(8.5)	342	(8.3)	372	(8.2)	425	(7.0)	548	(7.6)	609	(7.9)	641	(8.3)
	Lombardia	517	(7.6)	86	(3.1)	528	(8.9)	505	(7.7)	**24**	(8.2)	373	(8.6)	403	(7.8)	459	(9.3)	577	(9.3)	629	(9.8)	659	(10.8)
	Marche	496	(5.5)	85	(3.4)	511	(6.2)	482	(6.3)	**29**	(6.2)	356	(11.8)	386	(9.1)	437	(6.7)	555	(6.6)	607	(7.3)	638	(7.5)
	Molise	466	(2.3)	85	(2.3)	475	(3.1)	458	(3.5)	**17**	(4.6)	329	(6.5)	359	(4.2)	407	(4.0)	524	(4.0)	573	(6.2)	608	(10.0)
	Piemonte	499	(5.8)	88	(2.6)	512	(5.1)	486	(6.9)	**25**	(5.3)	353	(6.5)	384	(6.6)	438	(7.2)	558	(7.9)	613	(7.1)	641	(9.3)
	Puglia	478	(6.1)	86	(3.2)	489	(6.1)	467	(6.5)	**22**	(5.6)	337	(9.6)	366	(7.4)	416	(7.1)	540	(7.0)	591	(6.6)	622	(9.4)
	Sardegna	458	(5.3)	87	(2.4)	462	(5.5)	454	(7.1)	8	(7.2)	316	(9.6)	347	(8.4)	398	(6.6)	518	(6.4)	572	(5.0)	601	(6.1)
	Sicilia	447	(5.1)	82	(2.9)	452	(6.2)	441	(5.6)	10	(6.3)	314	(9.0)	343	(6.9)	391	(6.0)	504	(6.6)	552	(6.4)	580	(8.3)
	Toscana	495	(4.9)	93	(2.5)	496	(7.3)	495	(8.3)	2	(12.1)	345	(7.4)	373	(4.8)	429	(6.7)	561	(6.4)	616	(7.0)	648	(6.4)
	Trento	524	(4.1)	82	(2.3)	528	(5.6)	520	(6.6)	8	(9.1)	385	(9.7)	418	(7.2)	469	(6.0)	583	(4.1)	631	(6.6)	656	(6.5)
	Umbria	493	(6.8)	88	(3.8)	504	(9.7)	482	(6.2)	**22**	(8.5)	340	(13.9)	370	(15.4)	435	(11.3)	555	(4.8)	604	(5.5)	634	(7.1)
	Valle d'Aosta	492	(2.2)	83	(2.1)	501	(3.6)	482	(3.3)	**18**	(5.3)	356	(10.0)	386	(6.0)	434	(4.5)	546	(4.4)	600	(6.3)	633	(7.4)
	Veneto	523	(7.6)	91	(4.0)	534	(8.4)	511	(8.1)	**23**	(7.9)	372	(11.6)	405	(8.0)	460	(8.0)	587	(10.3)	641	(10.8)	668	(12.3)
	Mexico																						
	Aguascalientes	437	(4.5)	73	(3.0)	442	(5.8)	432	(4.8)	10	(5.6)	322	(8.9)	345	(6.9)	386	(6.2)	484	(5.2)	533	(6.2)	565	(10.7)
	Baja California	415	(5.8)	72	(2.6)	421	(6.6)	409	(6.0)	**13**	(4.7)	301	(8.7)	324	(6.6)	365	(6.4)	463	(8.2)	513	(8.6)	543	(11.1)
	Baja California Sur	414	(5.4)	72	(2.3)	422	(6.6)	406	(5.3)	**16**	(5.2)	299	(9.4)	322	(8.2)	364	(7.7)	461	(5.1)	512	(7.0)	540	(7.0)
	Campeche	396	(3.9)	71	(2.4)	402	(3.9)	389	(4.8)	**12**	(4.0)	282	(8.5)	308	(10.1)	349	(4.7)	440	(4.3)	485	(5.6)	516	(9.7)
	Chiapas	373	(7.2)	75	(3.6)	377	(7.7)	369	(7.6)	9	(5.0)	252	(9.7)	279	(10.0)	322	(9.6)	421	(7.8)	469	(9.2)	497	(10.9)
	Chihuahua	428	(7.8)	78	(2.8)	437	(9.0)	419	(7.5)	**18**	(6.2)	304	(11.1)	332	(10.0)	376	(8.5)	478	(8.1)	531	(12.2)	564	(11.7)
	Coahuila	418	(8.1)	72	(3.6)	424	(8.3)	413	(9.4)	11	(6.7)	305	(7.0)	328	(7.4)	367	(7.8)	465	(10.5)	515	(12.8)	544	(12.8)
	Colima	429	(4.5)	77	(2.6)	433	(5.0)	425	(5.2)	7	(4.8)	307	(6.3)	331	(6.2)	373	(5.6)	480	(5.6)	530	(7.6)	560	(12.5)
	Distrito Federal	428	(5.0)	73	(2.7)	442	(6.1)	414	(5.7)	**27**	(6.9)	312	(11.5)	337	(5.9)	378	(4.7)	475	(7.5)	525	(9.5)	554	(8.0)
	Durango	424	(5.7)	73	(2.3)	431	(7.4)	418	(5.5)	**13**	(5.7)	306	(7.9)	332	(8.1)	372	(6.7)	477	(9.2)	520	(5.5)	544	(9.5)
	Guanajuato	412	(5.4)	75	(2.6)	421	(5.9)	402	(5.7)	**19**	(4.0)	291	(11.0)	316	(8.8)	360	(7.3)	463	(5.9)	510	(5.6)	540	(7.6)
	Guerrero	367	(3.4)	67	(2.4)	369	(4.0)	365	(4.5)	4	(5.3)	265	(10.0)	286	(6.4)	321	(5.0)	408	(4.7)	453	(6.4)	483	(6.4)
	Hidalgo	406	(5.8)	74	(2.6)	413	(6.9)	401	(6.0)	**13**	(5.7)	285	(7.0)	312	(6.6)	358	(6.1)	456	(7.0)	503	(9.0)	529	(7.8)
	Jalisco	435	(5.9)	72	(2.2)	440	(7.6)	430	(5.3)	10	(5.2)	316	(9.9)	342	(7.4)	386	(6.4)	483	(6.6)	527	(8.8)	555	(9.9)
	Mexico	417	(5.6)	67	(3.2)	425	(6.5)	409	(5.8)	**16**	(5.2)	307	(6.5)	332	(7.1)	373	(6.4)	460	(7.5)	502	(8.3)	526	(10.1)
	Morelos	421	(8.5)	79	(6.3)	425	(9.9)	419	(8.5)	6	(6.8)	300	(17.7)	327	(12.2)	369	(9.0)	469	(9.8)	523	(17.6)	562	(23.5)
	Nayarit	414	(5.9)	77	(3.0)	422	(5.8)	406	(7.2)	**15**	(5.7)	287	(10.3)	315	(10.1)	361	(8.0)	467	(6.2)	513	(7.5)	543	(7.9)
	Nuevo León	436	(8.2)	74	(2.2)	447	(9.4)	424	(7.2)	**23**	(5.5)	321	(9.8)	342	(8.0)	384	(7.8)	486	(10.4)	533	(9.3)	562	(11.1)
	Puebla	415	(4.9)	74	(3.2)	423	(7.0)	408	(5.2)	**15**	(7.1)	292	(15.8)	321	(9.0)	367	(6.2)	464	(5.8)	511	(5.8)	542	(7.8)
	Querétaro	434	(6.4)	75	(3.2)	444	(7.4)	426	(6.4)	**18**	(4.5)	314	(9.3)	338	(8.0)	384	(8.2)	484	(8.2)	532	(9.0)	563	(11.3)
	Quintana Roo	411	(5.4)	71	(2.0)	414	(6.6)	407	(5.2)	7	(4.8)	295	(11.0)	320	(7.9)	361	(6.5)	458	(5.5)	504	(6.6)	532	(6.9)
	San Luis Potosí	412	(7.4)	75	(2.8)	413	(7.8)	410	(8.0)	3	(5.9)	298	(8.4)	319	(5.8)	356	(5.9)	463	(8.8)	512	(9.7)	541	(10.4)
	Sinaloa	411	(4.2)	69	(1.9)	414	(5.6)	408	(4.5)	6	(5.5)	304	(6.3)	325	(6.5)	362	(4.6)	458	(5.5)	501	(5.8)	530	(6.5)
	Tabasco	378	(3.8)	71	(3.1)	384	(5.1)	373	(3.8)	**11**	(4.6)	264	(8.1)	289	(5.8)	331	(5.2)	422	(4.6)	467	(7.5)	503	(10.0)
	Tamaulipas	411	(7.4)	75	(3.3)	421	(9.8)	400	(6.5)	**21**	(7.7)	293	(10.0)	317	(9.6)	360	(6.3)	460	(9.3)	508	(10.9)	541	(14.6)
	Tlaxcala	411	(5.0)	72	(2.0)	417	(5.1)	406	(5.5)	**11**	(3.7)	295	(9.0)	320	(7.0)	364	(6.4)	457	(5.0)	503	(5.0)	532	(9.7)
	Veracruz	402	(6.3)	75	(2.8)	407	(6.3)	397	(7.8)	10	(6.4)	286	(7.5)	308	(7.5)	350	(6.1)	452	(7.6)	503	(11.3)	532	(10.7)
	Yucatán	410	(4.6)	74	(2.1)	421	(5.6)	399	(5.3)	**22**	(5.9)	294	(5.5)	318	(5.9)	359	(6.1)	459	(5.2)	508	(6.2)	534	(7.5)
	Zacatecas	408	(4.2)	72	(2.1)	414	(5.1)	403	(4.4)	**11**	(4.4)	290	(8.1)	318	(6.1)	361	(5.3)	457	(5.3)	504	(4.3)	528	(6.8)

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

See Table I.2.3a for national data.

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[Part 2/2]

Table B2.I.3 Mean score, variation and gender differences in student performance in mathematics, by region

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	**Portugal**																						
	Alentejo	489	(10.3)	90	(3.7)	498	(12.2)	479	(9.6)	**18**	(7.3)	344	(11.8)	372	(11.6)	428	(14.1)	550	(10.9)	606	(9.8)	639	(12.5)
	Spain																						
	Andalusia•	472	(3.8)	85	(1.8)	480	(5.1)	463	(3.6)	**16**	(4.7)	334	(8.5)	365	(5.6)	414	(4.2)	529	(5.1)	583	(6.8)	613	(6.6)
	Aragon•	496	(5.4)	93	(2.4)	505	(5.8)	488	(6.4)	**17**	(5.5)	337	(9.9)	369	(8.4)	434	(7.6)	564	(5.9)	612	(6.1)	641	(8.4)
	Asturias•	500	(4.3)	93	(2.8)	504	(6.1)	495	(3.7)	9	(5.5)	343	(10.1)	380	(9.5)	440	(5.6)	563	(4.8)	619	(5.2)	646	(7.8)
	Balearic Islands•	475	(4.8)	87	(2.2)	479	(5.6)	471	(5.3)	8	(4.9)	330	(7.9)	359	(7.2)	416	(6.5)	539	(5.4)	585	(5.4)	613	(6.5)
	Basque Country•	505	(2.5)	84	(1.0)	512	(3.1)	498	(2.9)	**14**	(3.3)	357	(4.7)	395	(3.7)	451	(3.3)	564	(3.0)	609	(3.0)	635	(3.7)
	Cantabria•	491	(3.5)	90	(2.0)	499	(4.1)	484	(4.7)	**15**	(5.6)	345	(6.2)	375	(6.7)	429	(4.5)	555	(4.6)	609	(4.7)	636	(5.4)
	Castile and Leon•	509	(4.2)	84	(2.1)	518	(5.8)	500	(4.1)	**18**	(5.2)	364	(7.0)	398	(6.6)	452	(5.8)	570	(4.6)	615	(4.2)	642	(5.7)
	Catalonia•	493	(5.2)	84	(2.0)	504	(6.2)	481	(5.7)	**22**	(6.1)	352	(7.7)	380	(6.6)	434	(6.7)	552	(6.0)	602	(6.1)	630	(6.4)
	Extremadura•	461	(4.4)	93	(2.1)	466	(5.4)	456	(4.5)	**10**	(4.5)	307	(8.8)	339	(7.7)	397	(5.5)	526	(5.0)	579	(5.8)	613	(6.6)
	Galicia•	489	(4.2)	86	(1.9)	489	(4.7)	488	(5.0)	2	(4.8)	343	(5.8)	375	(6.6)	431	(6.7)	549	(4.0)	596	(5.3)	626	(6.3)
	La Rioja•	503	(1.9)	100	(2.3)	513	(3.4)	494	(3.1)	**19**	(5.2)	328	(7.9)	369	(6.9)	438	(4.7)	576	(3.0)	629	(4.3)	658	(5.9)
	Madrid•	504	(3.5)	87	(2.2)	511	(4.3)	496	(3.8)	**15**	(4.2)	356	(7.9)	388	(6.3)	443	(4.8)	567	(4.4)	612	(4.8)	639	(5.3)
	Murcia•	462	(4.7)	90	(2.7)	469	(6.2)	456	(4.1)	**13**	(4.6)	312	(7.9)	346	(7.0)	403	(5.0)	524	(5.8)	578	(9.0)	611	(8.1)
	Navarre•	517	(3.1)	86	(2.1)	520	(3.8)	514	(3.7)	6	(4.4)	369	(7.5)	400	(5.8)	460	(4.4)	576	(3.6)	625	(5.5)	650	(6.0)
	United Kingdom																						
	England	495	(3.9)	96	(2.0)	502	(5.0)	489	(4.5)	**13**	(5.5)	335	(5.7)	370	(6.0)	430	(5.0)	562	(4.2)	618	(4.9)	652	(5.8)
	Northern Ireland	487	(3.1)	93	(2.0)	492	(5.0)	481	(5.4)	10	(8.3)	332	(6.9)	365	(6.2)	422	(3.7)	553	(4.2)	609	(5.5)	638	(3.9)
	Scotland•	498	(2.6)	86	(1.6)	506	(3.0)	491	(3.2)	**14**	(3.3)	358	(4.8)	388	(4.7)	439	(3.5)	558	(3.1)	611	(3.7)	640	(4.8)
	Wales	468	(2.2)	85	(1.3)	473	(2.6)	464	(2.9)	**9**	(3.4)	329	(4.9)	360	(3.6)	410	(2.7)	526	(2.8)	578	(3.4)	610	(5.0)
	United States																						
	Connecticut•	506	(6.2)	99	(2.4)	513	(6.9)	499	(6.3)	**14**	(4.4)	342	(9.6)	376	(7.1)	435	(9.0)	577	(8.0)	636	(8.3)	668	(6.5)
	Florida•	467	(5.8)	85	(2.4)	474	(6.3)	460	(6.0)	**14**	(4.1)	333	(6.9)	359	(7.3)	406	(6.2)	524	(6.8)	581	(8.9)	613	(9.7)
	Massachusetts•	514	(6.2)	98	(2.9)	518	(6.3)	509	(7.1)	**10**	(4.9)	355	(7.0)	387	(4.8)	445	(6.3)	583	(9.7)	643	(9.4)	675	(8.7)
Partners	**Argentina**																						
	Ciudad Autónoma de Buenos Aires•	418	(7.3)	95	(7.1)	426	(8.1)	411	(7.6)	**15**	(5.7)	244	(23.9)	296	(16.0)	362	(8.4)	481	(7.1)	532	(7.9)	561	(8.5)
	Brazil																						
	Acre	359	(5.6)	67	(3.5)	366	(8.2)	352	(6.6)	14	(9.6)	255	(8.1)	277	(6.3)	311	(6.8)	404	(8.6)	446	(8.6)	470	(12.0)
	Alagoas	342	(6.0)	70	(5.4)	353	(7.9)	334	(5.9)	**19**	(6.2)	240	(10.5)	261	(9.4)	295	(6.2)	384	(9.5)	433	(14.3)	467	(19.4)
	Amapá	360	(8.6)	65	(4.1)	371	(10.3)	351	(7.9)	**21**	(6.7)	255	(13.5)	279	(10.5)	317	(9.2)	402	(8.7)	443	(14.3)	469	(16.3)
	Amazonas	356	(5.5)	65	(6.0)	365	(7.4)	348	(4.6)	**17**	(5.8)	262	(7.4)	281	(6.0)	312	(6.4)	392	(6.2)	438	(8.6)	469	(26.5)
	Bahia	373	(8.7)	80	(6.4)	380	(7.4)	367	(13.0)	13	(12.4)	253	(19.7)	278	(14.9)	321	(10.5)	422	(11.2)	479	(11.5)	513	(20.1)
	Ceará	378	(8.8)	80	(6.9)	389	(10.4)	369	(9.5)	**20**	(9.2)	258	(10.7)	283	(9.6)	323	(7.9)	424	(11.8)	477	(23.4)	526	(28.7)
	Espírito Santo	414	(9.7)	86	(5.5)	425	(9.1)	405	(13.0)	20	(10.9)	292	(8.3)	311	(5.7)	350	(6.9)	469	(19.0)	539	(19.2)	574	(21.4)
	Federal District	416	(9.1)	84	(6.8)	425	(10.4)	407	(8.9)	**18**	(6.5)	290	(14.9)	312	(11.4)	354	(10.1)	472	(12.2)	530	(17.5)	563	(16.3)
	Goiás	379	(5.9)	72	(3.4)	391	(6.8)	369	(6.5)	**22**	(6.5)	273	(10.7)	294	(8.3)	329	(8.2)	421	(7.1)	477	(8.2)	511	(13.0)
	Maranhão	343	(13.2)	77	(8.2)	356	(16.0)	333	(11.8)	**23**	(7.2)	228	(7.4)	252	(8.6)	291	(7.7)	388	(19.7)	448	(28.0)	484	(29.9)
	Mato Grosso	370	(9.0)	73	(6.8)	373	(8.6)	368	(10.4)	5	(6.2)	263	(11.8)	287	(10.2)	321	(7.8)	411	(12.1)	462	(19.1)	503	(32.3)
	Mato Grosso do Sul	408	(7.5)	74	(3.5)	419	(9.9)	400	(6.6)	**19**	(7.9)	295	(11.2)	318	(8.8)	356	(7.6)	456	(8.0)	512	(11.7)	543	(12.0)
	Minas Gerais	403	(6.7)	72	(3.2)	410	(8.2)	396	(6.5)	**14**	(5.4)	288	(10.7)	312	(8.7)	354	(7.1)	451	(8.1)	498	(11.2)	527	(12.4)
	Pará	360	(4.2)	68	(2.7)	368	(4.9)	354	(5.3)	**14**	(5.9)	253	(7.9)	275	(7.1)	312	(6.9)	406	(5.7)	452	(7.7)	475	(9.7)
	Paraíba	395	(6.7)	79	(6.3)	404	(8.4)	388	(8.9)	15	(10.7)	274	(19.7)	301	(14.3)	342	(9.3)	443	(8.1)	500	(12.1)	534	(18.5)
	Paraná	403	(11.6)	81	(10.9)	415	(11.8)	393	(12.7)	**22**	(7.0)	290	(9.1)	311	(8.4)	345	(7.0)	449	(14.9)	516	(34.1)	563	(43.1)
	Pernambuco	363	(7.5)	67	(4.1)	375	(8.2)	354	(7.5)	**22**	(4.2)	261	(9.9)	284	(9.7)	319	(8.2)	404	(10.6)	449	(10.2)	477	(12.1)
	Piauí	385	(7.4)	81	(7.2)	396	(8.3)	377	(7.6)	**18**	(5.0)	273	(5.9)	293	(7.6)	329	(6.9)	426	(9.4)	504	(21.9)	543	(30.0)
	Rio de Janeiro	389	(6.7)	70	(4.0)	397	(7.8)	381	(7.3)	**17**	(6.5)	280	(8.6)	302	(8.3)	339	(8.0)	433	(9.9)	481	(9.6)	513	(13.4)
	Rio Grande do Norte	380	(9.1)	84	(8.7)	394	(10.8)	370	(8.8)	**24**	(6.9)	269	(7.3)	286	(7.2)	323	(7.5)	421	(14.5)	501	(27.8)	546	(35.4)
	Rio Grande do Sul	407	(5.5)	68	(2.6)	415	(6.8)	400	(5.8)	**16**	(5.8)	301	(8.0)	321	(6.4)	357	(6.5)	453	(6.8)	497	(6.9)	520	(9.9)
	Rondônia	382	(5.3)	64	(2.4)	387	(5.5)	377	(6.5)	10	(5.8)	278	(6.2)	299	(8.6)	340	(5.2)	423	(6.4)	461	(8.3)	486	(10.8)
	Roraima	362	(5.7)	72	(3.3)	366	(6.5)	358	(7.9)	8	(8.8)	256	(8.4)	274	(6.9)	313	(5.8)	406	(9.6)	462	(18.4)	496	(14.4)
	Santa Catarina	415	(8.3)	75	(3.8)	423	(8.0)	408	(9.7)	**15**	(6.8)	299	(10.2)	322	(10.0)	361	(8.7)	467	(11.5)	513	(12.1)	542	(14.2)
	São Paulo	404	(4.4)	78	(3.4)	411	(4.7)	396	(4.8)	**15**	(3.5)	287	(6.1)	310	(4.2)	349	(3.3)	452	(6.3)	509	(10.2)	544	(13.8)
	Sergipe	384	(8.9)	71	(5.4)	397	(11.7)	373	(8.3)	**24**	(8.2)	279	(10.9)	300	(9.5)	335	(7.9)	430	(15.0)	483	(19.8)	513	(18.1)
	Tocantins	366	(7.3)	77	(4.8)	376	(9.1)	355	(6.6)	**20**	(7.1)	248	(8.9)	271	(7.1)	312	(7.1)	410	(9.1)	469	(15.3)	503	(18.5)
	Colombia																						
	Bogotá	393	(3.4)	66	(2.4)	410	(5.0)	377	(3.2)	**32**	(5.1)	289	(4.2)	308	(3.6)	349	(3.9)	435	(3.8)	476	(6.7)	505	(9.4)
	Cali	379	(6.1)	70	(2.5)	388	(6.4)	372	(6.7)	**16**	(4.4)	267	(6.1)	291	(6.6)	332	(6.3)	425	(8.5)	472	(9.1)	499	(9.2)
	Manizales	404	(4.1)	72	(4.0)	421	(6.9)	389	(3.4)	**32**	(7.1)	298	(5.7)	316	(4.5)	354	(4.0)	450	(6.7)	503	(10.3)	534	(11.7)
	Medellín	393	(7.5)	83	(5.8)	406	(8.2)	381	(9.7)	**26**	(9.7)	275	(5.9)	297	(6.6)	335	(5.4)	441	(10.4)	504	(16.6)	545	(25.1)
	Russian Federation																						
	Perm Territory region•	484	(5.5)	89	(4.4)	487	(6.6)	480	(5.1)	7	(4.6)	341	(10.4)	372	(8.0)	425	(4.8)	542	(6.2)	597	(10.4)	633	(16.7)
	United Arab Emirates																						
	Abu Dhabi•	421	(4.0)	88	(2.3)	414	(5.1)	429	(5.1)	**-15**	(6.6)	286	(6.3)	314	(4.7)	359	(4.0)	478	(5.4)	542	(7.2)	578	(8.3)
	Ajman	403	(7.9)	75	(4.4)	391	(11.5)	415	(11.4)	-24	(16.5)	283	(14.3)	305	(11.5)	352	(12.7)	455	(7.3)	502	(8.5)	527	(10.8)
	Dubai•	464	(1.2)	94	(1.1)	468	(1.9)	459	(1.6)	**9**	(2.6)	314	(2.7)	342	(2.5)	396	(2.0)	530	(2.6)	587	(3.5)	620	(4.3)
	Fujairah	411	(9.9)	82	(2.6)	394	(9.3)	428	(9.9)	**-33**	(9.5)	280	(12.9)	305	(11.9)	352	(11.9)	469	(11.0)	519	(12.8)	549	(12.1)
	Ras al-Khaimah	416	(6.7)	75	(3.1)	406	(6.2)	424	(11.4)	-18	(12.3)	298	(10.7)	321	(9.5)	362	(9.0)	466	(7.5)	514	(7.7)	543	(10.6)
	Sharjah	439	(9.0)	84	(3.7)	446	(15.9)	434	(10.6)	12	(20.4)	310	(8.5)	335	(8.1)	379	(8.3)	496	(12.4)	554	(12.4)	586	(12.8)
	Umm al-Quwain	398	(4.0)	75	(4.1)	379	(5.7)	416	(5.0)	**-37**	(7.1)	284	(8.8)	306	(6.7)	347	(6.4)	442	(6.9)	497	(11.5)	526	(12.3)

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

See Table I.2.3a for national data.

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[Part 1/2]

Table B2.I.4 Percentage of students at each proficiency level on the mathematics subscale *formulating*, by region

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	7.9	(1.2)	12.3	(1.3)	17.9	(1.7)	21.1	(2.2)	19.8	(1.8)	13.1	(1.6)	7.9	(1.2)
	New South Wales	10.2	(0.8)	14.9	(0.9)	19.8	(0.9)	20.2	(1.0)	15.8	(0.9)	10.5	(0.7)	8.7	(1.2)
	Northern Territory	20.3	(2.4)	15.8	(3.7)	21.2	(4.4)	23.7	(4.0)	11.8	(2.7)	4.9	(2.8)	2.3	(1.1)
	Queensland	9.2	(0.9)	15.3	(1.0)	20.9	(1.1)	21.1	(1.1)	17.0	(1.0)	10.5	(0.9)	6.0	(0.6)
	South Australia	11.6	(1.2)	18.1	(1.5)	21.8	(1.5)	22.1	(1.3)	15.0	(1.2)	8.0	(1.0)	3.4	(0.6)
	Tasmania	13.1	(1.3)	18.4	(1.3)	24.0	(2.0)	21.2	(1.8)	13.6	(1.4)	6.8	(0.9)	2.9	(0.7)
	Victoria	9.1	(0.8)	15.2	(1.1)	21.8	(1.1)	22.7	(1.0)	16.7	(1.2)	9.5	(1.1)	5.0	(1.0)
	Western Australia	7.8	(1.0)	13.2	(1.2)	19.7	(1.3)	20.6	(1.3)	20.2	(1.4)	11.9	(0.9)	6.6	(0.9)
	Belgium														
	Flemish Community•	6.3	(0.7)	10.1	(0.7)	16.3	(0.8)	20.0	(1.0)	20.6	(0.9)	15.5	(0.9)	11.2	(0.8)
	French Community	11.6	(1.0)	15.8	(1.1)	21.0	(0.9)	21.9	(1.0)	17.1	(1.1)	9.2	(0.7)	3.5	(0.5)
	German-speaking Community	5.8	(0.9)	11.6	(1.2)	19.6	(1.4)	25.2	(1.8)	21.7	(1.9)	11.6	(1.2)	4.5	(0.8)
	Canada														
	Alberta	7.0	(1.0)	12.4	(1.2)	19.2	(1.2)	22.4	(1.5)	19.8	(1.3)	12.5	(1.1)	6.8	(1.0)
	British Columbia	5.9	(0.9)	10.9	(0.9)	20.4	(1.3)	24.2	(1.1)	19.5	(1.2)	12.4	(1.1)	6.7	(0.9)
	Manitoba	9.2	(1.0)	17.1	(1.3)	23.1	(1.4)	22.5	(1.6)	15.8	(1.0)	8.8	(0.8)	3.6	(0.6)
	New Brunswick	5.6	(0.8)	12.8	(1.2)	22.0	(1.7)	26.8	(2.1)	19.9	(1.6)	9.0	(1.1)	3.9	(0.8)
	Newfoundland and Labrador	9.3	(1.8)	17.2	(1.3)	24.0	(1.9)	23.5	(2.3)	15.8	(2.1)	7.3	(1.1)	2.7	(0.8)
	Nova Scotia	6.3	(1.4)	15.3	(2.9)	23.8	(2.9)	25.2	(1.6)	18.6	(1.9)	7.9	(1.3)	2.8	(0.8)
	Ontario	5.8	(0.6)	12.1	(0.9)	22.1	(1.4)	23.4	(1.3)	19.1	(1.1)	11.3	(0.9)	6.2	(0.9)
	Prince Edward Island	9.9	(1.0)	17.9	(1.7)	25.5	(1.3)	23.6	(1.8)	15.1	(1.3)	5.7	(1.0)	2.3	(0.5)
	Quebec	4.4	(0.7)	8.7	(0.9)	15.9	(1.0)	21.7	(1.1)	22.7	(1.0)	16.7	(0.9)	9.8	(0.9)
	Saskatchewan	6.6	(0.8)	13.7	(0.9)	22.5	(1.3)	24.2	(1.6)	18.2	(1.2)	10.9	(1.1)	4.0	(0.8)
	Italy														
	Abruzzo	15.6	(2.0)	18.0	(1.8)	22.9	(2.1)	21.0	(1.6)	14.0	(1.6)	6.6	(1.3)	2.0	(0.6)
	Basilicata	12.8	(1.7)	20.5	(2.1)	26.8	(2.2)	22.0	(1.6)	12.5	(1.2)	4.1	(0.7)	1.3	(0.4)
	Bolzano	5.4	(0.6)	11.4	(1.2)	21.9	(1.4)	25.1	(1.3)	20.0	(1.1)	11.4	(1.0)	4.8	(0.6)
	Calabria	23.7	(2.3)	25.1	(1.5)	26.0	(1.6)	16.7	(1.5)	6.2	(0.9)	2.0	(0.5)	0.4	(0.2)
	Campania	19.0	(2.4)	21.1	(2.0)	25.9	(2.0)	18.5	(2.3)	10.6	(1.5)	3.9	(1.2)	1.1	(0.5)
	Emilia Romagna	10.6	(1.6)	15.0	(1.7)	21.6	(1.8)	22.2	(2.0)	17.2	(1.5)	9.1	(1.5)	4.3	(1.0)
	Friuli Venezia Giulia	5.7	(1.2)	11.0	(1.4)	18.2	(1.7)	25.3	(1.5)	21.5	(1.6)	11.9	(1.4)	6.4	(0.9)
	Lazio	15.4	(2.2)	19.2	(2.1)	24.2	(1.9)	20.3	(1.6)	12.8	(1.6)	6.2	(1.0)	1.9	(0.6)
	Liguria	10.6	(1.5)	17.8	(1.7)	23.5	(2.0)	23.6	(1.8)	14.6	(1.6)	6.6	(1.1)	3.3	(0.5)
	Lombardia	6.5	(1.2)	12.4	(1.9)	22.0	(2.1)	24.7	(2.0)	19.6	(2.0)	9.6	(1.7)	5.2	(1.2)
	Marche	8.7	(1.6)	16.9	(1.9)	23.4	(1.7)	24.3	(1.6)	16.6	(1.4)	7.7	(1.0)	2.4	(0.6)
	Molise	14.1	(1.4)	20.9	(2.1)	26.5	(1.8)	22.4	(1.6)	10.8	(1.2)	3.7	(0.8)	1.7	(0.6)
	Piemonte	11.1	(1.6)	15.5	(1.7)	22.5	(1.8)	23.0	(1.5)	16.1	(1.5)	8.5	(1.3)	3.3	(0.9)
	Puglia	13.1	(2.1)	18.8	(1.8)	25.6	(2.0)	21.7	(1.8)	13.4	(1.5)	5.9	(1.1)	1.6	(0.5)
	Sardegna	17.3	(2.2)	21.6	(2.0)	24.9	(1.5)	20.2	(1.7)	11.0	(1.1)	4.1	(0.8)	0.8	(0.4)
	Sicilia	16.8	(1.9)	22.8	(1.8)	27.3	(1.9)	20.8	(1.7)	9.1	(1.1)	2.5	(0.6)	0.6	(0.3)
	Toscana	11.3	(1.3)	14.8	(1.7)	21.8	(1.8)	23.3	(1.7)	16.2	(1.4)	9.6	(1.2)	2.9	(0.6)
	Trento	3.3	(0.6)	11.0	(1.3)	20.2	(1.9)	26.5	(1.7)	22.0	(1.6)	12.5	(1.3)	4.6	(0.8)
	Umbria	11.3	(2.4)	14.4	(1.6)	23.5	(1.4)	24.8	(2.1)	17.1	(1.6)	7.1	(1.0)	1.7	(0.4)
	Valle d'Aosta	9.7	(1.1)	16.9	(1.9)	25.2	(1.8)	23.5	(2.3)	14.9	(2.2)	7.3	(1.0)	2.4	(0.5)
	Veneto	6.7	(1.1)	11.6	(1.5)	20.6	(2.1)	22.0	(2.1)	19.8	(1.2)	13.4	(2.0)	5.9	(1.4)
	Mexico														
	Aguascalientes	17.9	(2.9)	27.4	(2.6)	27.6	(2.3)	18.1	(2.0)	6.8	(1.0)	2.0	(0.7)	0.2	(0.2)
	Baja California	29.0	(2.8)	29.0	(2.4)	23.2	(2.1)	12.9	(2.2)	4.8	(1.0)	0.9	(0.3)	0.1	c
	Baja California Sur	25.0	(2.9)	30.3	(2.0)	24.4	(1.9)	14.4	(2.0)	5.2	(1.0)	0.6	(0.3)	0.0	c
	Campeche	35.1	(2.6)	31.1	(1.6)	21.2	(1.4)	9.0	(1.5)	2.8	(0.7)	0.6	(0.3)	0.1	(0.1)
	Chiapas	44.6	(4.3)	27.4	(2.2)	18.8	(2.3)	7.1	(1.5)	1.6	(0.6)	0.5	(0.3)	0.1	c
	Chihuahua	20.8	(3.0)	26.3	(2.6)	26.6	(2.6)	16.0	(2.1)	7.9	(1.9)	2.1	(0.6)	0.3	(0.2)
	Coahuila	24.9	(3.4)	28.9	(3.2)	25.7	(2.4)	14.0	(2.4)	5.5	(1.6)	1.0	(0.6)	0.0	c
	Colima	23.7	(2.0)	25.0	(1.6)	26.0	(2.0)	16.3	(1.9)	6.5	(1.2)	2.2	(0.8)	0.4	(0.2)
	Distrito Federal	22.3	(2.4)	28.9	(2.8)	25.6	(1.7)	15.7	(1.9)	5.9	(1.4)	1.4	(0.7)	0.2	(0.1)
	Durango	26.4	(3.7)	26.7	(3.4)	24.4	(2.2)	15.8	(2.0)	5.4	(1.6)	1.1	(0.6)	0.2	(0.1)
	Guanajuato	28.3	(3.1)	28.8	(2.0)	24.7	(1.8)	12.3	(1.4)	4.8	(1.1)	1.1	(0.6)	0.0	c
	Guerrero	52.2	(2.6)	26.6	(2.2)	15.4	(1.8)	4.5	(0.7)	1.1	(0.4)	0.2	(0.2)	0.0	c
	Hidalgo	30.4	(2.9)	28.1	(2.2)	22.4	(2.8)	13.8	(1.9)	4.2	(0.9)	1.0	(0.4)	0.1	c
	Jalisco	18.9	(3.1)	25.5	(2.3)	28.0	(1.9)	18.1	(2.3)	6.9	(1.0)	2.3	(0.8)	0.2	(0.2)
	Mexico	23.4	(2.7)	28.6	(2.8)	27.6	(2.7)	14.2	(2.2)	4.9	(1.0)	1.0	(0.5)	0.3	(0.2)
	Morelos	26.8	(3.2)	28.3	(2.5)	23.0	(1.9)	13.1	(2.1)	5.4	(1.4)	2.8	(1.6)	0.5	(0.4)
	Nayarit	29.4	(3.0)	28.4	(2.3)	22.7	(1.7)	12.9	(1.4)	5.2	(1.4)	1.1	(0.5)	0.1	c
	Nuevo León	22.1	(3.5)	25.6	(2.4)	25.1	(1.7)	17.3	(2.6)	7.2	(1.4)	2.4	(0.7)	0.4	(0.2)
	Puebla	24.6	(2.3)	28.3	(2.1)	25.2	(2.2)	14.7	(1.8)	5.8	(1.2)	1.3	(0.6)	0.1	c
	Querétaro	20.1	(3.1)	27.0	(2.2)	24.3	(2.2)	17.9	(2.2)	8.1	(1.6)	2.0	(0.6)	0.6	(0.3)
	Quintana Roo	23.9	(2.5)	30.5	(2.4)	25.7	(1.7)	14.2	(1.7)	4.7	(0.9)	1.1	(0.4)	0.1	(0.1)
	San Luis Potosí	30.4	(3.2)	27.2	(2.2)	23.9	(1.8)	13.2	(2.2)	4.0	(1.2)	1.1	(0.6)	0.2	(0.2)
	Sinaloa	27.3	(2.4)	31.4	(1.7)	24.9	(2.1)	11.5	(1.4)	4.1	(0.6)	0.8	(0.5)	0.1	c
	Tabasco	43.2	(2.3)	30.4	(2.0)	17.6	(1.5)	6.5	(1.0)	1.8	(0.4)	0.3	(0.1)	0.0	c
	Tamaulipas	26.0	(3.2)	27.8	(2.1)	25.7	(2.6)	13.8	(2.2)	5.4	(1.5)	1.1	(0.7)	0.2	c
	Tlaxcala	27.3	(3.0)	29.0	(1.8)	26.1	(2.0)	12.7	(1.5)	4.1	(0.8)	0.7	(0.3)	0.1	(0.1)
	Veracruz	29.3	(3.1)	30.1	(2.3)	23.9	(1.7)	11.5	(1.9)	4.4	(1.0)	0.9	(0.5)	0.0	c
	Yucatán	29.8	(2.9)	27.9	(2.0)	23.9	(2.3)	12.5	(1.4)	5.0	(0.9)	0.9	(0.3)	0.1	(0.1)
	Zacatecas	27.9	(2.4)	29.7	(2.0)	24.3	(2.4)	13.3	(1.5)	3.9	(0.8)	0.7	(0.3)	0.1	c

• PISA adjudicated region.

Note: See Table I.2.5 for national data.

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[Part 2/2]

Table B2.I.4 **Percentage of students at each proficiency level on the mathematics subscale *formulating*, by region**

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**														
	Alentejo	10.9	(3.0)	15.8	(3.4)	24.0	(3.0)	23.0	(3.9)	14.2	(2.4)	8.2	(1.7)	3.7	(1.6)
	Spain														
	Andalusia•	13.0	(1.4)	20.4	(1.4)	25.4	(1.4)	20.8	(1.7)	13.7	(1.3)	5.3	(0.9)	1.4	(0.4)
	Aragon•	9.8	(1.4)	14.0	(1.4)	20.8	(1.9)	22.9	(1.5)	19.1	(1.3)	9.5	(1.1)	3.9	(0.6)
	Asturias•	9.8	(1.4)	13.3	(1.2)	21.4	(1.2)	23.5	(1.5)	17.8	(1.2)	9.9	(1.1)	4.3	(0.8)
	Balearic Islands•	14.0	(1.7)	17.5	(1.3)	22.7	(1.5)	23.0	(2.0)	15.0	(1.6)	6.1	(0.9)	1.6	(0.5)
	Basque Country•	6.2	(0.6)	11.9	(0.7)	20.8	(0.9)	25.6	(1.0)	21.0	(0.8)	10.7	(0.8)	3.8	(0.5)
	Cantabria•	11.6	(1.1)	15.8	(1.2)	21.5	(1.8)	21.9	(1.4)	16.7	(1.3)	8.8	(0.9)	3.7	(0.7)
	Castile and Leon•	6.6	(0.9)	13.1	(1.3)	20.0	(1.3)	24.2	(1.4)	21.1	(1.2)	11.3	(1.3)	3.6	(0.8)
	Catalonia•	10.0	(1.3)	15.8	(1.3)	22.5	(1.6)	22.9	(1.3)	16.6	(1.3)	9.2	(1.2)	3.0	(0.7)
	Extremadura•	18.0	(1.7)	19.6	(1.3)	23.1	(1.6)	20.8	(1.1)	12.1	(1.3)	4.9	(0.7)	1.5	(0.3)
	Galicia•	11.0	(1.3)	14.8	(1.5)	23.1	(1.3)	25.0	(1.6)	16.7	(1.4)	7.2	(1.0)	2.3	(0.4)
	La Rioja•	10.3	(0.9)	13.4	(1.4)	18.9	(1.1)	21.1	(1.5)	17.4	(1.5)	12.8	(1.1)	6.2	(0.7)
	Madrid•	9.3	(1.1)	14.3	(1.2)	20.6	(1.2)	23.0	(1.3)	19.6	(1.4)	9.7	(1.1)	3.7	(0.6)
	Murcia•	18.0	(1.5)	20.6	(1.4)	23.3	(1.4)	19.8	(1.3)	11.9	(1.2)	4.7	(0.9)	1.8	(0.7)
	Navarre•	4.8	(0.8)	10.5	(1.2)	18.6	(1.6)	25.5	(1.5)	22.8	(1.6)	13.0	(1.3)	4.9	(0.8)
	United Kingdom														
	England	10.5	(1.3)	15.1	(0.9)	21.9	(1.0)	21.8	(0.9)	16.4	(0.9)	9.6	(0.8)	4.6	(0.6)
	Northern Ireland	11.4	(1.1)	17.1	(1.2)	22.6	(1.4)	22.9	(1.4)	15.7	(0.9)	7.2	(0.9)	3.1	(0.5)
	Scotland•	8.9	(0.8)	15.4	(1.2)	23.3	(1.1)	23.7	(1.0)	16.5	(1.0)	8.3	(0.8)	3.9	(0.5)
	Wales	14.2	(0.9)	20.8	(1.0)	26.0	(1.0)	21.6	(0.9)	12.0	(0.9)	4.3	(0.5)	1.2	(0.2)
	United States														
	Connecticut•	9.6	(1.4)	14.6	(1.4)	19.0	(1.3)	21.0	(1.2)	17.1	(1.2)	11.5	(1.5)	7.2	(1.1)
	Florida•	14.5	(1.8)	21.1	(1.8)	25.4	(1.8)	21.5	(2.1)	11.5	(1.5)	4.9	(0.9)	1.1	(0.3)
	Massachusetts•	8.0	(1.0)	12.3	(1.3)	19.7	(2.0)	22.1	(1.6)	17.9	(1.7)	12.1	(1.3)	8.0	(1.8)
Partners	**Argentina**														
	Ciudad Autónoma de Buenos Aires•	27.2	(2.8)	23.2	(2.2)	26.1	(1.9)	16.1	(2.0)	5.9	(1.0)	1.3	(0.5)	0.1	(0.2)
	Brazil														
	Acre	62.3	(3.7)	24.5	(2.5)	10.3	(2.2)	2.3	(0.9)	0.5	(0.4)	0.1	c	0.0	c
	Alagoas	62.4	(4.9)	22.9	(3.6)	10.6	(2.3)	3.2	(1.2)	0.8	(0.6)	0.1	(0.1)	0.0	c
	Amapá	58.7	(5.1)	26.4	(3.7)	11.0	(2.8)	3.5	(1.6)	0.3	c	0.0	c	0.0	c
	Amazonas	59.3	(3.8)	26.6	(2.8)	10.3	(2.0)	3.0	(1.2)	0.8	(0.7)	0.0	c	0.0	c
	Bahia	57.1	(4.4)	24.6	(3.5)	11.6	(3.1)	3.9	(1.2)	1.9	(1.0)	0.8	(0.8)	0.0	c
	Ceará	49.4	(4.8)	27.2	(2.6)	14.3	(2.1)	5.2	(1.9)	3.0	(1.2)	0.8	(0.6)	0.1	c
	Espírito Santo	35.5	(4.2)	27.0	(2.7)	17.3	(2.0)	11.6	(2.5)	6.3	(2.3)	2.0	(0.7)	0.3	(0.3)
	Federal District	35.3	(4.5)	25.1	(3.3)	20.6	(3.3)	12.2	(2.8)	4.8	(1.6)	1.5	(1.0)	0.5	(0.6)
	Goiás	50.7	(3.8)	26.8	(3.1)	13.3	(1.9)	6.5	(1.2)	2.1	(0.7)	0.5	(0.4)	0.2	c
	Maranhão	73.6	(6.2)	16.6	(3.0)	6.6	(2.6)	2.3	(1.4)	0.4	(0.4)	0.4	(0.3)	0.0	c
	Mato Grosso	52.8	(5.2)	25.4	(2.8)	14.0	(2.4)	5.2	(2.0)	2.0	(1.0)	0.6	(0.4)	0.0	c
	Mato Grosso do Sul	35.3	(3.3)	27.9	(2.7)	20.9	(2.2)	11.0	(2.1)	4.5	(1.3)	0.4	(0.3)	0.0	c
	Minas Gerais	35.0	(3.8)	30.7	(2.6)	22.2	(2.5)	8.9	(1.8)	2.4	(1.0)	0.6	(0.4)	0.1	c
	Pará	55.5	(4.0)	26.4	(2.5)	15.0	(3.0)	2.8	(1.2)	0.4	(0.4)	0.0	c	0.0	c
	Paraíba	40.1	(4.8)	28.5	(3.0)	19.9	(4.5)	7.2	(1.6)	3.0	(1.5)	1.2	(0.5)	0.1	c
	Paraná	37.5	(3.8)	29.9	(2.6)	19.0	(2.4)	6.7	(1.2)	4.4	(2.8)	2.0	(1.9)	0.4	c
	Pernambuco	53.5	(5.1)	30.3	(3.9)	11.6	(2.5)	3.4	(1.1)	0.8	(0.7)	0.3	(0.3)	0.1	c
	Piauí	50.1	(3.4)	25.6	(2.5)	12.0	(2.0)	7.3	(1.5)	3.2	(1.5)	1.3	(0.9)	0.5	(0.4)
	Rio de Janeiro	44.5	(3.7)	29.6	(2.9)	17.7	(2.5)	6.5	(1.7)	1.4	(0.6)	0.3	(0.2)	0.0	c
	Rio Grande do Norte	51.2	(4.7)	22.8	(2.9)	14.1	(2.1)	6.4	(1.8)	3.2	(1.4)	1.7	(1.0)	0.5	(0.6)
	Rio Grande do Sul	31.2	(3.8)	30.3	(3.3)	23.8	(3.0)	11.7	(2.0)	2.4	(0.9)	0.5	(0.4)	0.1	c
	Rondônia	44.8	(2.9)	33.4	(2.7)	16.7	(2.3)	4.0	(1.2)	0.9	(0.5)	0.2	c	0.0	c
	Roraima	54.8	(3.4)	26.5	(2.8)	11.8	(1.7)	5.5	(2.3)	1.4	(0.6)	0.1	c	0.0	c
	Santa Catarina	29.9	(3.9)	29.3	(2.8)	23.1	(2.4)	13.3	(2.7)	3.8	(1.3)	0.7	(0.5)	0.0	c
	São Paulo	37.5	(2.2)	29.0	(1.6)	19.4	(1.3)	9.2	(1.2)	3.6	(0.8)	1.1	(0.5)	0.3	(0.2)
	Sergipe	49.6	(4.9)	26.6	(2.8)	15.7	(2.7)	6.7	(1.8)	1.1	(0.6)	0.2	c	0.0	c
	Tocantins	57.4	(4.5)	24.1	(2.4)	11.7	(2.1)	4.9	(1.8)	1.1	(0.6)	0.6	(0.4)	0.2	(0.2)
	Colombia														
	Bogotá	35.5	(2.4)	33.5	(1.9)	21.2	(1.7)	8.1	(1.3)	1.4	(0.5)	0.2	(0.2)	0.1	(0.1)
	Cali	44.7	(3.7)	29.2	(1.6)	18.5	(2.5)	6.0	(1.3)	1.5	(0.6)	0.0	c	0.0	c
	Manizales	29.5	(2.3)	32.2	(2.8)	23.5	(3.0)	10.2	(1.6)	3.7	(1.0)	0.9	(0.6)	0.1	c
	Medellín	36.8	(3.4)	29.3	(2.2)	18.6	(1.8)	9.0	(1.3)	3.9	(1.2)	1.6	(0.8)	0.8	(0.4)
	Russian Federation														
	Perm Territory region•	9.2	(1.4)	16.0	(1.6)	24.9	(1.7)	24.4	(1.7)	15.3	(1.3)	6.5	(1.0)	3.6	(1.4)
	United Arab Emirates														
	Abu Dhabi•	30.4	(1.7)	25.4	(1.0)	20.7	(1.2)	13.3	(1.0)	6.6	(0.7)	2.8	(0.5)	0.8	(0.3)
	Ajman	31.1	(4.9)	25.7	(3.4)	23.3	(3.0)	14.9	(1.7)	4.2	(1.1)	0.7	(0.4)	0.0	c
	Dubai•	18.7	(0.7)	20.5	(0.7)	21.5	(1.0)	19.3	(1.0)	12.2	(0.6)	5.5	(0.5)	2.3	(0.3)
	Fujairah	29.3	(4.1)	24.2	(2.2)	24.1	(3.4)	14.8	(2.7)	6.2	(1.9)	1.1	(0.6)	0.3	(0.3)
	Ras al-Khaimah	29.1	(3.7)	27.3	(1.9)	24.1	(2.5)	13.4	(2.2)	5.2	(1.2)	0.7	(0.4)	0.2	(0.3)
	Sharjah	24.3	(4.2)	23.1	(2.1)	22.2	(2.5)	17.9	(2.6)	9.2	(2.2)	2.8	(1.0)	0.5	(0.5)
	Umm al-Quwain	32.4	(2.9)	30.0	(3.1)	21.8	(3.7)	11.4	(2.1)	3.2	(1.5)	0.8	(0.6)	0.6	c

• PISA adjudicated region.

Note: See Table I.2.5 for national data.

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[Part 1/4]

Table B2.I.5 Percentage of students at each proficiency level on the mathematics subscale *formulating*, by gender and region

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	7.6	(1.7)	11.1	(2.2)	18.6	(3.4)	21.2	(3.1)	19.5	(2.3)	13.1	(1.9)	9.0	(1.8)
	New South Wales	9.5	(1.0)	14.7	(1.1)	20.2	(1.5)	18.7	(1.5)	15.5	(1.4)	10.8	(1.4)	10.6	(1.9)
	Northern Territory	20.1	(2.7)	13.7	(4.2)	19.1	(5.8)	24.4	(5.0)	14.4	(3.4)	4.5	(2.7)	3.7	(1.8)
	Queensland	7.8	(1.0)	14.6	(1.3)	20.6	(1.8)	21.4	(1.3)	17.8	(1.5)	11.0	(1.2)	6.8	(0.9)
	South Australia	10.1	(1.4)	16.1	(2.1)	20.7	(1.8)	23.5	(1.9)	16.7	(1.9)	8.9	(1.4)	4.0	(1.0)
	Tasmania	11.9	(1.6)	16.7	(2.5)	24.9	(3.1)	21.9	(2.1)	14.0	(2.2)	7.2	(1.3)	3.5	(1.1)
	Victoria	7.8	(1.0)	14.0	(1.3)	20.6	(1.4)	23.1	(1.4)	17.5	(1.5)	10.3	(1.3)	6.6	(1.6)
	Western Australia	5.6	(1.0)	12.0	(1.5)	18.1	(1.6)	20.0	(1.9)	21.6	(1.9)	14.0	(1.4)	8.6	(1.5)
	Belgium														
	Flemish Community•	6.2	(1.2)	9.3	(0.9)	15.7	(1.0)	18.4	(1.1)	20.7	(1.2)	16.6	(1.0)	13.1	(1.0)
	French Community	11.3	(1.1)	14.8	(1.5)	19.4	(1.4)	21.4	(1.6)	17.8	(1.3)	10.7	(1.1)	4.5	(0.7)
	German-speaking Community	6.6	(1.3)	11.4	(1.8)	19.1	(1.8)	24.1	(2.6)	20.3	(2.6)	12.3	(1.7)	6.1	(1.4)
	Canada														
	Alberta	6.9	(1.4)	10.5	(1.4)	18.3	(1.7)	23.0	(2.0)	19.0	(1.6)	13.9	(1.4)	8.5	(1.2)
	British Columbia	4.9	(1.0)	10.0	(1.5)	19.4	(2.2)	23.7	(1.9)	19.2	(2.0)	14.6	(1.4)	8.2	(1.2)
	Manitoba	8.6	(1.4)	16.1	(1.7)	22.9	(2.0)	22.6	(1.9)	15.6	(1.3)	10.1	(1.3)	4.1	(0.8)
	New Brunswick	6.1	(1.4)	12.4	(2.1)	21.4	(2.3)	26.1	(2.5)	20.3	(2.1)	9.4	(1.7)	4.3	(1.2)
	Newfoundland and Labrador	9.7	(2.2)	16.8	(2.3)	22.6	(2.0)	22.8	(2.6)	17.3	(2.4)	7.7	(1.8)	3.2	(1.2)
	Nova Scotia	5.2	(1.7)	14.4	(2.9)	22.4	(3.8)	25.2	(2.8)	20.2	(2.4)	9.3	(2.0)	3.3	(1.0)
	Ontario	5.5	(0.9)	12.7	(1.2)	20.0	(1.6)	22.7	(1.6)	18.4	(1.2)	12.6	(1.1)	8.1	(1.4)
	Prince Edward Island	10.2	(1.8)	16.9	(2.8)	24.4	(2.1)	23.4	(2.4)	15.6	(1.8)	6.8	(1.5)	2.6	(0.7)
	Quebec	4.3	(1.0)	8.3	(1.3)	15.2	(1.4)	20.7	(1.4)	22.2	(1.3)	17.9	(1.2)	11.4	(1.2)
	Saskatchewan	6.2	(1.2)	12.9	(1.4)	21.7	(2.3)	23.0	(2.3)	19.0	(1.6)	12.2	(1.7)	5.0	(1.2)
	Italy														
	Abruzzo	14.0	(2.2)	17.5	(2.0)	22.7	(2.4)	19.5	(2.0)	16.0	(2.2)	7.8	(1.7)	2.4	(0.7)
	Basilicata	11.6	(2.3)	17.8	(2.9)	24.7	(2.3)	23.6	(2.4)	14.8	(1.7)	5.7	(1.2)	1.9	(0.7)
	Bolzano	4.3	(1.0)	9.8	(1.5)	19.6	(1.5)	23.7	(1.5)	20.1	(1.5)	15.0	(1.5)	7.5	(1.0)
	Calabria	19.5	(2.8)	22.7	(1.9)	26.4	(2.8)	19.9	(2.3)	8.1	(1.2)	2.7	(0.8)	0.6	(0.4)
	Campania	17.2	(2.5)	19.7	(2.6)	25.6	(2.9)	18.4	(2.4)	12.4	(1.8)	5.0	(1.4)	1.7	(0.8)
	Emilia Romagna	10.6	(2.1)	12.5	(2.3)	19.1	(2.0)	21.5	(2.7)	18.5	(2.1)	11.9	(2.1)	5.9	(1.5)
	Friuli Venezia Giulia	5.6	(1.4)	10.2	(1.9)	14.7	(1.8)	22.5	(2.3)	22.9	(2.1)	14.9	(2.5)	9.2	(1.7)
	Lazio	14.0	(2.8)	16.7	(2.4)	22.9	(1.9)	21.0	(2.3)	14.7	(2.3)	8.2	(1.6)	2.6	(0.8)
	Liguria	9.7	(2.2)	18.1	(2.6)	22.4	(2.6)	22.3	(2.6)	15.1	(1.9)	8.0	(1.6)	4.5	(0.8)
	Lombardia	6.2	(1.5)	9.8	(1.9)	18.7	(2.4)	23.1	(3.0)	21.6	(2.7)	12.4	(2.1)	8.2	(1.8)
	Marche	5.5	(1.6)	14.9	(2.5)	21.8	(2.1)	24.3	(2.0)	19.4	(1.9)	10.7	(1.6)	3.3	(0.9)
	Molise	12.0	(1.6)	17.7	(2.1)	25.9	(3.1)	24.8	(3.3)	13.1	(2.4)	4.2	(1.4)	2.3	(0.9)
	Piemonte	8.8	(1.9)	12.4	(2.2)	20.7	(1.9)	23.6	(1.6)	19.9	(1.7)	10.3	(1.5)	4.3	(1.3)
	Puglia	10.6	(1.9)	16.1	(2.2)	23.5	(2.1)	23.3	(2.3)	16.2	(2.0)	8.0	(1.9)	2.3	(0.9)
	Sardegna	15.2	(2.4)	20.0	(2.7)	25.7	(2.4)	20.7	(2.0)	11.8	(1.6)	5.0	(1.2)	1.4	(0.5)
	Sicilia	16.9	(2.2)	20.7	(2.0)	26.9	(1.9)	21.5	(2.6)	9.6	(1.5)	3.6	(0.9)	0.8	(0.5)
	Toscana	11.5	(2.2)	13.6	(2.0)	22.3	(2.5)	22.5	(2.3)	16.3	(1.8)	10.5	(1.8)	3.4	(0.9)
	Trento	3.2	(1.0)	11.5	(1.8)	18.8	(1.9)	25.0	(2.0)	20.6	(1.7)	14.4	(1.8)	6.5	(1.2)
	Umbria	10.2	(3.2)	11.9	(2.2)	20.5	(1.8)	26.1	(3.0)	19.3	(2.4)	9.4	(1.7)	2.5	(0.9)
	Valle d'Aosta	8.4	(1.6)	14.5	(2.6)	22.4	(2.5)	25.1	(2.4)	17.2	(2.3)	8.9	(1.5)	3.3	(0.8)
	Veneto	6.5	(1.2)	10.5	(2.0)	17.0	(2.1)	20.3	(2.9)	20.2	(1.7)	16.7	(2.4)	8.7	(1.8)
	Mexico														
	Aguascalientes	16.7	(3.4)	25.7	(2.7)	27.0	(3.1)	19.3	(2.8)	8.2	(1.6)	2.8	(1.0)	0.4	(0.3)
	Baja California	24.4	(3.7)	29.8	(3.0)	24.4	(3.2)	14.5	(2.5)	5.8	(1.3)	1.0	(0.4)	0.2	c
	Baja California Sur	21.4	(3.1)	29.3	(2.6)	25.2	(2.2)	16.0	(2.9)	7.1	(1.5)	0.9	(0.7)	0.1	c
	Campeche	30.5	(2.5)	32.1	(2.4)	23.4	(2.1)	9.5	(2.4)	3.4	(0.9)	1.0	(0.6)	0.1	c
	Chiapas	42.1	(4.9)	29.0	(2.9)	18.9	(3.0)	7.3	(1.8)	1.9	(0.6)	0.6	(0.5)	0.1	c
	Chihuahua	18.0	(3.7)	26.6	(2.9)	27.3	(3.2)	15.8	(2.5)	9.3	(2.2)	2.8	(1.1)	0.2	c
	Coahuila	21.4	(3.7)	28.5	(4.3)	25.9	(3.1)	15.6	(2.5)	6.9	(2.3)	1.7	(1.0)	0.0	c
	Colima	21.4	(2.3)	24.5	(1.9)	26.2	(2.6)	17.1	(2.7)	7.3	(1.5)	3.1	(1.1)	0.5	(0.3)
	Distrito Federal	17.5	(2.4)	26.6	(2.9)	27.4	(2.1)	19.1	(3.3)	7.2	(2.0)	1.9	(1.1)	0.3	(0.3)
	Durango	24.2	(4.3)	25.3	(4.1)	24.6	(2.9)	18.2	(3.2)	5.7	(2.3)	1.8	(1.1)	0.3	(0.2)
	Guanajuato	25.5	(3.2)	27.0	(2.8)	25.1	(2.3)	14.3	(2.0)	6.3	(1.6)	1.8	(0.9)	0.0	c
	Guerrero	49.2	(3.5)	27.6	(3.5)	17.2	(2.9)	4.5	(1.1)	1.2	(0.6)	0.3	c	0.0	c
	Hidalgo	27.3	(3.6)	27.0	(4.0)	22.4	(3.2)	15.9	(2.6)	5.7	(1.3)	1.5	(0.8)	0.1	c
	Jalisco	17.5	(3.3)	21.7	(3.1)	27.6	(3.1)	21.0	(3.4)	8.6	(1.5)	3.2	(1.2)	0.4	(0.3)
	Mexico	19.4	(2.7)	27.5	(3.3)	28.9	(3.1)	15.5	(2.5)	6.7	(1.6)	1.5	(0.8)	0.5	(0.5)
	Morelos	25.0	(4.2)	27.6	(3.6)	22.5	(3.0)	14.4	(2.7)	6.4	(1.8)	3.1	(1.4)	1.0	(0.8)
	Nayarit	24.5	(3.0)	27.3	(2.6)	24.6	(2.4)	15.1	(1.7)	6.4	(2.1)	1.9	(0.7)	0.2	c
	Nuevo León	17.0	(3.3)	23.1	(3.5)	28.0	(2.2)	19.6	(3.7)	8.9	(1.7)	3.0	(1.0)	0.4	(0.3)
	Puebla	20.3	(3.3)	24.7	(2.4)	26.6	(3.7)	18.7	(3.1)	7.6	(1.9)	1.8	(1.0)	0.2	c
	Querétaro	16.0	(4.1)	24.0	(4.3)	24.9	(2.9)	21.1	(3.3)	10.4	(2.4)	2.7	(0.9)	0.9	(0.6)
	Quintana Roo	21.1	(3.2)	29.5	(3.1)	26.8	(2.4)	15.6	(2.4)	5.3	(1.3)	1.6	(0.6)	0.1	c
	San Luis Potosí	27.8	(3.6)	26.9	(2.5)	24.8	(2.7)	14.5	(2.5)	4.3	(1.6)	1.4	(0.9)	0.4	(0.3)
	Sinaloa	24.8	(2.6)	30.1	(2.6)	26.3	(2.6)	12.7	(1.7)	4.9	(1.1)	1.0	(0.9)	0.2	c
	Tabasco	37.9	(2.9)	31.3	(2.7)	19.8	(2.4)	8.7	(1.4)	2.0	(0.7)	0.2	(0.2)	0.1	c
	Tamaulipas	22.3	(4.4)	25.4	(2.7)	27.0	(3.6)	16.5	(2.9)	6.8	(2.4)	1.7	(1.2)	0.3	c
	Tlaxcala	24.5	(2.7)	28.6	(2.7)	27.1	(3.4)	14.4	(2.5)	4.4	(1.1)	0.7	(0.6)	0.2	(0.2)
	Veracruz	27.5	(3.6)	27.7	(3.5)	25.4	(2.9)	13.0	(2.3)	5.2	(1.5)	1.1	(0.7)	0.0	c
	Yucatán	25.4	(3.8)	28.0	(3.1)	24.4	(2.9)	14.0	(2.1)	6.8	(1.3)	1.3	(0.6)	0.1	c
	Zacatecas	24.3	(3.1)	28.8	(2.8)	24.8	(3.8)	16.5	(2.4)	4.6	(1.1)	0.9	(0.4)	0.0	c

• PISA adjudicated region.

Note: See Table I.2.6 for national data.

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[Part 2/4]

Table B2.I.5 Percentage of students at each proficiency level on the mathematics subscale *formulating*, by gender and region

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**														
	Alentejo	9.0	(3.0)	14.9	(4.1)	23.9	(4.0)	23.7	(4.3)	13.6	(2.5)	8.9	(2.3)	5.9	(2.6)
	Spain														
	Andalusia•	12.0	(1.9)	18.3	(2.0)	24.1	(1.8)	21.9	(2.1)	14.9	(1.6)	6.4	(1.3)	2.4	(0.7)
	Aragon•	8.2	(1.4)	13.4	(1.7)	19.3	(2.0)	21.8	(1.8)	20.3	(1.8)	11.7	(1.5)	5.2	(0.9)
	Asturias•	9.9	(1.8)	12.0	(1.7)	20.9	(2.1)	21.5	(2.2)	18.8	(1.7)	11.7	(1.4)	5.2	(1.4)
	Balearic Islands•	13.5	(1.9)	16.6	(1.5)	21.9	(1.7)	23.8	(2.6)	15.4	(1.8)	6.7	(1.3)	2.0	(0.6)
	Basque Country•	5.6	(0.8)	10.8	(1.0)	18.9	(1.3)	25.0	(1.4)	22.6	(1.0)	12.5	(1.1)	4.6	(0.8)
	Cantabria•	10.9	(1.4)	14.7	(1.7)	19.4	(2.0)	20.5	(2.0)	19.1	(1.8)	10.8	(1.6)	4.5	(1.2)
	Castile and Leon•	7.1	(1.5)	11.9	(1.6)	17.7	(1.8)	21.8	(1.9)	22.4	(1.8)	14.0	(1.8)	5.1	(1.2)
	Catalonia•	9.1	(1.7)	14.7	(2.4)	20.4	(2.0)	22.0	(1.6)	17.6	(1.7)	11.9	(1.6)	4.2	(1.2)
	Extremadura•	17.3	(2.3)	18.8	(1.9)	21.7	(2.1)	20.7	(1.7)	13.6	(1.7)	5.6	(1.1)	2.3	(0.6)
	Galicia•	12.2	(1.7)	14.6	(1.8)	22.0	(2.2)	24.9	(2.4)	16.9	(2.0)	7.3	(1.4)	2.1	(0.7)
	La Rioja•	10.4	(1.2)	11.7	(1.9)	17.9	(2.1)	17.7	(2.1)	17.0	(2.1)	16.5	(2.1)	8.8	(1.2)
	Madrid•	8.5	(1.3)	12.5	(1.7)	18.6	(1.9)	22.9	(1.9)	21.0	(2.2)	11.2	(1.1)	5.2	(1.1)
	Murcia•	17.2	(2.2)	18.4	(2.0)	22.4	(1.6)	19.4	(1.6)	13.8	(1.4)	6.0	(1.2)	2.9	(1.2)
	Navarre•	4.8	(1.0)	10.1	(1.6)	17.1	(1.6)	24.9	(2.1)	23.8	(2.3)	13.9	(1.7)	5.5	(1.1)
	United Kingdom														
	England	9.3	(1.7)	14.7	(1.4)	21.2	(1.4)	22.2	(1.2)	16.7	(1.4)	10.9	(1.2)	5.0	(0.8)
	Northern Ireland	10.9	(1.4)	15.7	(1.7)	21.9	(1.6)	24.2	(1.7)	16.0	(1.4)	7.7	(1.0)	3.5	(0.8)
	Scotland•	7.3	(0.9)	14.3	(1.3)	22.3	(1.2)	24.1	(1.2)	18.4	(1.5)	9.3	(1.1)	4.4	(0.7)
	Wales	13.4	(1.3)	19.1	(1.2)	26.2	(1.6)	21.9	(1.2)	13.0	(1.1)	5.1	(0.6)	1.4	(0.3)
	United States														
	Connecticut•	8.3	(1.6)	13.6	(1.9)	18.2	(1.5)	20.7	(1.9)	17.4	(2.1)	13.2	(2.0)	8.6	(1.4)
	Florida•	12.9	(2.1)	19.1	(2.4)	24.8	(2.9)	22.6	(2.1)	13.1	(2.3)	6.0	(0.9)	1.7	(0.5)
	Massachusetts•	7.2	(1.1)	10.8	(1.3)	19.4	(2.3)	21.4	(2.1)	18.9	(1.7)	12.6	(2.0)	9.7	(2.3)
Partners	**Argentina**														
	Ciudad Autónoma de Buenos Aires•	25.6	(2.9)	21.3	(2.4)	25.3	(2.5)	18.3	(2.4)	7.3	(1.7)	2.0	(0.9)	0.2	(0.2)
	Brazil														
	Acre	54.0	(5.9)	28.5	(4.2)	12.7	(3.4)	3.5	(1.5)	1.0	(0.9)	0.2	c	0.0	c
	Alagoas	51.6	(6.1)	28.9	(5.0)	14.0	(4.0)	4.4	(1.8)	0.6	(0.6)	0.4	c	0.0	c
	Amapá	47.7	(5.3)	29.9	(3.3)	15.9	(4.1)	5.8	(2.6)	0.6	c	0.0	c	0.0	c
	Amazonas	50.8	(4.9)	30.1	(4.4)	13.8	(2.9)	4.4	(1.9)	1.0	(0.9)	0.0	c	0.0	c
	Bahia	51.5	(5.7)	27.5	(4.5)	12.9	(3.1)	4.2	(2.3)	2.5	(1.5)	1.3	(1.5)	0.0	c
	Ceará	40.6	(5.6)	29.8	(4.3)	17.2	(2.7)	6.7	(2.9)	4.2	(2.0)	1.3	(0.9)	0.2	c
	Espírito Santo	30.7	(4.8)	26.3	(3.6)	19.3	(3.3)	12.7	(2.8)	7.8	(2.9)	2.8	(1.5)	0.5	c
	Federal District	30.9	(5.6)	24.5	(4.5)	19.6	(3.6)	14.5	(2.8)	7.2	(2.3)	2.5	(1.5)	0.8	(0.8)
	Goiás	43.9	(5.4)	28.2	(4.4)	15.1	(3.4)	8.3	(1.9)	3.2	(1.5)	1.0	(0.7)	0.2	c
	Maranhão	64.6	(8.0)	19.2	(3.7)	10.8	(4.1)	3.6	(2.8)	1.0	(1.0)	0.9	(0.7)	0.0	c
	Mato Grosso	48.2	(5.5)	27.7	(3.8)	15.0	(2.7)	6.4	(2.1)	2.2	(1.4)	0.4	c	0.0	c
	Mato Grosso do Sul	24.7	(3.4)	28.1	(3.9)	26.3	(3.7)	13.5	(3.3)	6.5	(2.5)	0.8	(0.5)	0.1	c
	Minas Gerais	30.0	(4.8)	29.2	(4.1)	24.4	(2.7)	11.8	(2.9)	3.3	(1.7)	1.0	(0.7)	0.3	c
	Pará	49.0	(5.0)	28.7	(4.4)	17.2	(2.5)	4.2	(1.6)	1.0	(0.9)	0.0	c	0.0	c
	Paraíba	35.8	(5.5)	29.1	(5.5)	20.2	(4.2)	8.2	(2.7)	4.3	(2.5)	2.2	(1.2)	0.2	c
	Paraná	29.5	(3.2)	32.2	(3.5)	21.2	(3.4)	7.8	(2.0)	6.4	(3.4)	2.7	(2.6)	0.3	c
	Pernambuco	44.5	(5.3)	33.0	(4.8)	15.9	(4.1)	4.9	(2.2)	1.1	(1.1)	0.5	(0.5)	0.2	c
	Piauí	43.7	(4.4)	27.0	(3.9)	14.2	(4.0)	8.6	(2.5)	4.2	(2.7)	1.4	(1.4)	0.8	(0.5)
	Rio de Janeiro	38.5	(4.2)	31.2	(3.3)	20.1	(3.2)	7.1	(2.3)	2.7	(1.1)	0.4	(0.4)	0.0	c
	Rio Grande do Norte	42.2	(5.9)	25.0	(4.4)	16.8	(3.1)	8.1	(2.9)	4.7	(2.2)	2.1	(1.6)	1.1	(1.3)
	Rio Grande do Sul	26.9	(4.6)	30.1	(4.4)	24.8	(3.9)	14.3	(2.4)	2.8	(1.0)	0.9	(0.6)	0.2	c
	Rondônia	40.9	(3.8)	33.7	(5.4)	18.1	(4.1)	5.1	(2.0)	1.7	(1.1)	0.5	c	0.0	c
	Roraima	50.1	(4.2)	28.3	(3.9)	15.6	(2.8)	4.5	(2.5)	1.3	(1.1)	0.2	c	0.0	c
	Santa Catarina	25.0	(3.9)	30.3	(4.0)	22.5	(3.0)	16.7	(3.3)	4.7	(1.5)	0.9	(0.7)	0.0	c
	São Paulo	32.3	(2.5)	29.5	(2.3)	21.8	(1.7)	10.1	(1.8)	4.6	(1.2)	1.3	(0.6)	0.4	(0.3)
	Sergipe	38.4	(6.0)	28.6	(4.2)	21.3	(3.8)	9.4	(2.8)	1.9	(1.4)	0.5	c	0.0	c
	Tocantins	51.7	(5.3)	25.1	(3.3)	13.9	(2.8)	6.3	(2.5)	1.9	(1.1)	0.6	c	0.5	(0.4)
	Colombia														
	Bogotá	26.3	(3.0)	33.2	(2.6)	25.3	(2.0)	12.2	(1.9)	2.4	(0.8)	0.5	(0.4)	0.2	(0.2)
	Cali	40.6	(3.6)	29.9	(2.5)	19.8	(3.3)	7.3	(2.1)	2.3	(1.0)	0.1	c	0.0	c
	Manizales	23.0	(3.1)	29.5	(3.2)	26.4	(2.9)	13.6	(1.9)	5.8	(1.6)	1.6	(1.2)	0.1	c
	Medellín	28.4	(3.7)	30.6	(3.1)	22.4	(3.1)	10.7	(2.0)	5.1	(1.5)	1.9	(1.1)	0.9	(0.6)
	Russian Federation														
	Perm Territory region•	8.9	(2.0)	14.0	(2.0)	23.4	(2.4)	24.9	(2.2)	15.7	(1.8)	8.0	(1.3)	5.0	(1.9)
	United Arab Emirates														
	Abu Dhabi•	32.4	(2.1)	25.0	(1.5)	19.8	(1.5)	12.2	(1.4)	6.6	(1.0)	3.0	(0.7)	1.0	(0.4)
	Ajman	33.1	(8.7)	25.2	(5.1)	22.0	(4.2)	14.8	(2.8)	4.3	(1.7)	0.6	c	0.0	c
	Dubai•	18.3	(1.0)	18.8	(1.0)	21.2	(1.1)	19.1	(1.1)	13.5	(1.0)	6.0	(0.7)	3.0	(0.6)
	Fujairah	38.0	(5.1)	25.4	(3.5)	19.7	(4.0)	10.9	(2.4)	5.3	(1.4)	0.6	(0.3)	0.1	c
	Ras al-Khaimah	31.6	(4.6)	26.9	(3.0)	23.2	(3.8)	12.8	(2.8)	4.6	(1.6)	0.7	(0.5)	0.3	(0.3)
	Sharjah	20.8	(4.5)	23.0	(3.1)	23.6	(3.5)	19.4	(3.3)	8.9	(3.0)	3.3	(1.9)	1.1	(1.1)
	Umm al-Quwain	38.9	(4.7)	30.7	(5.1)	18.9	(4.8)	7.9	(2.4)	2.4	(1.5)	1.1	c	0.0	c

• PISA adjudicated region.

Note: See Table I.2.6 for national data.

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[Part 3/4]

Table B2.I.5 Percentage of students at each proficiency level on the mathematics subscale *formulating*, by gender and region

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	8.3	(1.6)	13.5	(2.9)	17.2	(3.2)	20.9	(2.5)	20.1	(3.2)	13.0	(2.7)	6.9	(1.8)
	New South Wales	10.9	(1.1)	15.2	(1.2)	19.4	(1.5)	21.7	(1.2)	16.0	(1.5)	10.1	(1.0)	6.7	(1.2)
	Northern Territory	20.4	(3.3)	17.8	(4.8)	23.3	(5.3)	23.1	(5.0)	9.3	(3.4)	5.2	(3.7)	1.0	c
	Queensland	10.7	(1.4)	16.0	(1.3)	21.1	(1.7)	20.7	(1.6)	16.2	(1.3)	10.1	(1.0)	5.2	(0.8)
	South Australia	13.1	(1.8)	20.0	(2.0)	22.8	(2.1)	20.7	(1.9)	13.4	(1.6)	7.1	(1.1)	2.8	(0.8)
	Tasmania	14.5	(1.8)	20.3	(2.1)	23.0	(2.4)	20.4	(3.0)	13.2	(1.9)	6.4	(1.6)	2.2	(1.0)
	Victoria	10.6	(1.2)	16.5	(1.5)	23.2	(1.6)	22.3	(1.9)	15.7	(1.4)	8.6	(1.4)	3.1	(0.9)
	Western Australia	10.3	(1.4)	14.5	(1.7)	21.5	(2.0)	21.2	(1.7)	18.6	(1.9)	9.6	(1.1)	4.3	(1.1)
	Belgium														
	Flemish Community•	6.5	(0.7)	11.0	(1.0)	16.8	(1.2)	21.7	(1.5)	20.4	(1.2)	14.3	(1.3)	9.3	(0.9)
	French Community	11.9	(1.3)	16.8	(1.3)	22.5	(1.3)	22.3	(1.6)	16.4	(1.4)	7.6	(0.8)	2.5	(0.5)
	German-speaking Community	5.0	(1.3)	11.9	(1.7)	20.1	(2.2)	26.3	(3.0)	23.2	(3.1)	10.8	(2.1)	2.8	(0.9)
	Canada														
	Alberta	7.1	(1.3)	14.5	(1.8)	20.2	(1.7)	21.7	(2.0)	20.7	(1.8)	10.9	(1.7)	4.9	(1.1)
	British Columbia	6.9	(1.3)	11.8	(1.3)	21.4	(1.9)	24.6	(1.8)	19.8	(1.7)	10.2	(1.6)	5.2	(1.2)
	Manitoba	9.8	(1.6)	18.1	(1.8)	23.3	(1.9)	22.4	(2.0)	16.0	(1.9)	7.4	(1.2)	3.0	(0.7)
	New Brunswick	5.1	(1.0)	13.3	(1.6)	22.6	(3.0)	27.5	(2.8)	19.5	(1.9)	8.6	(1.3)	3.4	(1.4)
	Newfoundland and Labrador	9.0	(2.2)	17.7	(2.0)	25.4	(3.0)	24.2	(3.2)	14.4	(2.5)	7.0	(1.5)	2.3	(0.9)
	Nova Scotia	7.5	(2.1)	16.2	(4.3)	25.3	(4.1)	25.1	(2.4)	17.0	(2.8)	6.5	(1.4)	2.3	(0.9)
	Ontario	6.1	(0.8)	11.6	(1.2)	24.1	(1.9)	24.1	(1.8)	19.7	(1.5)	10.0	(1.1)	4.4	(0.7)
	Prince Edward Island	9.7	(1.1)	18.9	(1.8)	26.6	(1.9)	23.7	(2.5)	14.5	(1.6)	4.5	(1.1)	2.0	(0.6)
	Quebec	4.5	(0.7)	9.1	(0.9)	16.6	(1.3)	22.6	(1.5)	23.2	(1.6)	15.6	(1.1)	8.3	(1.1)
	Saskatchewan	6.9	(1.1)	14.6	(1.6)	23.4	(2.2)	25.4	(2.1)	17.2	(2.0)	9.5	(1.5)	3.0	(0.9)
	Italy														
	Abruzzo	17.1	(2.5)	18.5	(2.3)	23.0	(2.3)	22.4	(2.4)	12.1	(1.6)	5.4	(1.4)	1.5	(0.7)
	Basilicata	14.1	(1.9)	23.1	(2.4)	28.8	(2.9)	20.5	(1.7)	10.3	(1.5)	2.5	(0.7)	0.7	(0.4)
	Bolzano	6.4	(0.9)	13.0	(1.8)	24.2	(2.3)	26.6	(1.9)	19.8	(1.5)	7.8	(1.2)	2.1	(0.5)
	Calabria	28.0	(3.0)	27.7	(2.5)	25.6	(2.2)	13.3	(1.5)	4.1	(0.9)	1.3	(0.6)	0.1	c
	Campania	20.7	(3.4)	22.4	(2.7)	26.1	(2.6)	18.6	(3.2)	8.9	(1.8)	2.8	(1.5)	0.5	(0.4)
	Emilia Romagna	10.6	(1.8)	17.6	(2.1)	24.2	(2.5)	23.0	(2.2)	15.9	(2.0)	6.2	(1.5)	2.6	(0.8)
	Friuli Venezia Giulia	5.8	(1.9)	11.9	(1.9)	21.8	(2.6)	28.3	(2.7)	20.0	(2.7)	8.7	(1.8)	3.4	(1.2)
	Lazio	17.1	(2.2)	22.4	(2.5)	25.9	(2.9)	19.5	(2.8)	10.5	(1.8)	3.7	(1.2)	1.0	(0.4)
	Liguria	11.7	(1.9)	17.6	(2.1)	24.6	(2.3)	24.9	(2.2)	14.2	(2.2)	5.0	(1.3)	2.1	(0.7)
	Lombardia	6.8	(1.6)	15.2	(2.7)	25.5	(2.7)	26.3	(2.7)	17.5	(2.8)	6.6	(1.7)	2.0	(0.8)
	Marche	12.0	(2.2)	18.8	(1.9)	24.9	(2.5)	24.3	(2.1)	13.9	(1.9)	4.7	(1.2)	1.4	(0.6)
	Molise	16.3	(2.2)	24.0	(3.2)	27.1	(3.5)	19.8	(3.3)	8.5	(1.7)	3.1	(1.1)	1.1	(0.7)
	Piemonte	13.3	(1.8)	18.5	(2.5)	24.1	(2.6)	22.5	(2.4)	12.5	(1.9)	6.8	(1.5)	2.3	(0.8)
	Puglia	15.6	(2.9)	21.4	(2.1)	27.6	(3.0)	20.0	(2.6)	10.6	(1.7)	3.7	(1.1)	1.0	(0.4)
	Sardegna	19.4	(2.9)	23.3	(2.4)	24.1	(1.8)	19.7	(2.1)	10.1	(1.6)	3.2	(0.7)	0.3	(0.3)
	Sicilia	16.7	(2.2)	25.4	(2.6)	27.8	(3.1)	20.1	(2.3)	8.5	(1.3)	1.2	(0.7)	0.3	(0.3)
	Toscana	11.2	(2.3)	16.4	(3.0)	21.1	(2.1)	24.4	(2.5)	16.2	(2.4)	8.5	(1.6)	2.3	(0.7)
	Trento	3.3	(1.5)	10.3	(2.4)	21.8	(2.9)	28.3	(2.8)	23.8	(3.4)	10.1	(2.1)	2.3	(0.7)
	Umbria	12.3	(2.7)	16.8	(2.0)	26.4	(2.6)	23.6	(2.3)	15.0	(1.8)	5.0	(1.3)	0.9	(0.5)
	Valle d'Aosta	11.1	(1.9)	19.4	(3.4)	28.3	(2.3)	21.8	(3.4)	12.4	(3.0)	5.5	(1.4)	1.4	(0.8)
	Veneto	7.0	(1.9)	12.7	(2.2)	24.2	(2.9)	23.8	(2.6)	19.4	(2.1)	10.0	(1.9)	3.0	(1.2)
	Mexico														
	Aguascalientes	19.1	(3.3)	29.2	(3.5)	28.1	(2.7)	17.0	(2.4)	5.4	(1.1)	1.1	(0.7)	0.1	c
	Baja California	33.9	(3.7)	28.2	(3.7)	22.0	(2.4)	11.4	(2.4)	3.8	(1.1)	0.8	(0.5)	0.0	c
	Baja California Sur	28.8	(3.3)	31.3	(2.6)	23.7	(3.1)	12.7	(2.2)	3.2	(1.0)	0.3	(0.3)	0.0	c
	Campeche	39.7	(3.2)	30.2	(2.6)	19.0	(2.4)	8.5	(1.6)	2.2	(0.9)	0.3	(0.3)	0.1	c
	Chiapas	47.0	(4.8)	25.7	(3.2)	18.7	(3.4)	6.9	(1.8)	1.3	(0.7)	0.3	(0.3)	0.0	c
	Chihuahua	23.7	(3.5)	26.1	(3.8)	25.9	(3.3)	16.2	(2.3)	6.6	(2.4)	1.3	(0.7)	0.3	(0.3)
	Coahuila	28.4	(4.7)	29.3	(4.0)	25.5	(3.4)	12.3	(3.4)	4.2	(1.8)	0.3	(0.4)	0.0	c
	Colima	25.9	(2.8)	25.4	(2.5)	25.7	(3.1)	15.6	(2.1)	5.8	(1.5)	1.4	(0.6)	0.3	(0.3)
	Distrito Federal	27.0	(3.6)	31.2	(4.4)	23.8	(3.3)	12.3	(1.9)	4.7	(1.6)	1.0	(0.8)	0.0	c
	Durango	28.5	(4.0)	28.1	(4.3)	24.2	(3.1)	13.7	(2.3)	5.1	(1.5)	0.4	(0.3)	0.0	c
	Guanajuato	30.9	(3.5)	30.4	(2.4)	24.4	(2.3)	10.5	(2.0)	3.3	(1.0)	0.5	(0.4)	0.0	c
	Guerrero	55.2	(3.3)	25.6	(2.3)	13.6	(2.0)	4.4	(1.1)	0.9	(0.5)	0.2	c	0.0	c
	Hidalgo	32.9	(4.1)	29.1	(2.7)	22.5	(3.3)	11.9	(2.1)	2.9	(1.1)	0.6	(0.5)	0.0	c
	Jalisco	20.1	(3.3)	28.8	(2.9)	28.3	(2.7)	15.6	(2.3)	5.4	(1.5)	1.6	(0.9)	0.1	c
	Mexico	27.3	(3.3)	29.8	(3.4)	26.3	(3.2)	12.8	(2.5)	3.3	(1.2)	0.5	(0.4)	0.0	c
	Morelos	28.5	(3.3)	28.9	(3.4)	23.4	(2.4)	12.0	(2.1)	4.5	(1.9)	2.6	(2.0)	0.1	c
	Nayarit	34.1	(4.1)	29.6	(3.0)	21.0	(2.3)	10.8	(1.9)	4.1	(1.2)	0.4	(0.5)	0.0	c
	Nuevo León	27.8	(4.5)	28.4	(2.4)	21.8	(2.7)	14.7	(2.2)	5.3	(1.4)	1.7	(0.7)	0.3	c
	Puebla	28.6	(2.8)	31.8	(3.7)	23.7	(3.1)	11.0	(1.9)	4.1	(1.1)	0.8	(0.6)	0.0	c
	Querétaro	23.9	(3.4)	29.7	(2.9)	23.7	(2.6)	14.9	(2.3)	6.0	(1.6)	1.4	(0.7)	0.3	(0.2)
	Quintana Roo	26.7	(2.9)	31.5	(2.9)	24.5	(1.8)	12.7	(1.8)	4.0	(1.1)	0.5	(0.5)	0.1	c
	San Luis Potosí	32.7	(4.0)	27.6	(3.1)	23.2	(2.5)	12.1	(2.6)	3.6	(1.3)	0.9	(0.6)	0.0	c
	Sinaloa	29.5	(3.3)	32.5	(2.5)	23.7	(2.4)	10.4	(2.0)	3.3	(0.8)	0.6	(0.5)	0.0	c
	Tabasco	48.3	(3.0)	29.6	(2.7)	15.6	(2.0)	4.5	(1.0)	1.7	(0.5)	0.4	(0.3)	0.0	c
	Tamaulipas	30.0	(3.3)	30.5	(2.6)	24.3	(3.0)	10.8	(2.2)	3.9	(1.7)	0.5	(0.4)	0.0	c
	Tlaxcala	29.8	(3.7)	29.3	(2.7)	25.2	(2.1)	11.2	(2.3)	3.7	(1.2)	0.7	(0.4)	0.0	c
	Veracruz	31.2	(3.8)	32.7	(2.4)	22.3	(2.1)	9.8	(2.1)	3.5	(1.2)	0.6	(0.5)	0.0	c
	Yucatán	34.3	(4.3)	27.7	(3.3)	23.4	(3.5)	10.8	(1.6)	3.2	(1.1)	0.4	(0.3)	0.1	c
	Zacatecas	31.4	(2.7)	30.5	(2.6)	23.9	(2.9)	10.1	(1.7)	3.2	(1.2)	0.8	c	0.0	c

• PISA adjudicated region.
Note: See Table I.2.6 for national data.
StatLink http://dx.doi.org/10.1787/888932935762



[Part 4/4]

Table B2.I.5 Percentage of students at each proficiency level on the mathematics subscale *formulating*, by gender and region

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**														
	Alentejo	12.8	(3.6)	16.8	(3.5)	24.1	(3.9)	22.2	(4.6)	14.9	(3.4)	7.5	(1.7)	1.6	(1.0)
	Spain														
	Andalusia•	14.0	(1.4)	22.7	(1.9)	26.8	(2.5)	19.7	(2.0)	12.3	(1.8)	4.1	(1.0)	0.4	(0.3)
	Aragon•	11.4	(1.9)	14.6	(1.7)	22.2	(2.7)	24.0	(2.4)	17.9	(2.0)	7.3	(1.2)	2.6	(0.8)
	Asturias•	9.7	(1.4)	14.6	(1.8)	21.8	(1.7)	25.4	(2.2)	16.8	(1.9)	8.2	(1.2)	3.5	(0.7)
	Balearic Islands•	14.5	(1.9)	18.4	(2.2)	23.4	(2.3)	22.2	(2.0)	14.6	(2.1)	5.5	(1.1)	1.3	(0.6)
	Basque Country•	6.8	(0.7)	12.9	(0.9)	22.6	(1.2)	26.2	(1.0)	19.4	(1.1)	8.9	(0.9)	3.1	(0.5)
	Cantabria•	12.4	(1.5)	17.0	(1.6)	23.7	(2.2)	23.4	(1.9)	14.2	(1.9)	6.7	(1.0)	2.8	(0.8)
	Castile and Leon•	6.2	(1.1)	14.4	(1.5)	22.3	(1.8)	26.7	(2.0)	19.8	(1.7)	8.5	(1.3)	2.1	(0.8)
	Catalonia•	10.9	(1.7)	17.0	(2.4)	24.8	(2.7)	23.9	(2.1)	15.5	(2.0)	6.2	(1.6)	1.7	(0.7)
	Extremadura•	18.7	(1.6)	20.4	(2.3)	24.6	(2.7)	20.9	(2.1)	10.6	(1.6)	4.1	(0.8)	0.8	(0.4)
	Galicia•	9.8	(1.7)	14.9	(1.9)	24.2	(1.6)	25.1	(2.0)	16.5	(1.8)	7.1	(1.2)	2.5	(0.6)
	La Rioja•	10.2	(1.4)	15.0	(2.1)	19.8	(2.0)	24.1	(1.9)	17.7	(1.7)	9.5	(1.3)	3.7	(0.9)
	Madrid•	10.1	(1.7)	16.0	(1.6)	22.5	(2.0)	23.1	(2.1)	18.0	(1.6)	8.1	(1.6)	2.1	(0.6)
	Murcia•	18.8	(1.6)	22.8	(2.0)	24.3	(2.4)	20.1	(1.8)	9.9	(1.5)	3.3	(1.0)	0.8	(0.4)
	Navarre•	4.8	(1.0)	11.0	(1.5)	20.0	(2.4)	26.1	(2.3)	21.8	(1.8)	12.1	(1.6)	4.2	(1.0)
	United Kingdom														
	England	11.6	(1.3)	15.5	(1.0)	22.6	(1.3)	21.5	(1.1)	16.1	(1.1)	8.4	(0.9)	4.3	(0.8)
	Northern Ireland	11.9	(1.6)	18.6	(2.0)	23.3	(2.0)	21.4	(1.9)	15.3	(1.5)	6.7	(1.4)	2.7	(0.5)
	Scotland•	10.6	(1.2)	16.6	(1.5)	24.3	(1.6)	23.2	(1.3)	14.7	(1.2)	7.3	(0.8)	3.3	(0.6)
	Wales	15.0	(1.2)	22.5	(1.6)	25.8	(1.7)	21.2	(1.3)	10.9	(1.0)	3.5	(0.6)	1.0	(0.3)
	United States														
	Connecticut•	10.9	(1.6)	15.5	(1.9)	19.8	(2.1)	21.2	(2.2)	16.8	(1.8)	9.9	(1.6)	5.9	(1.2)
	Florida•	16.1	(2.2)	23.1	(2.0)	26.0	(2.2)	20.4	(2.6)	9.9	(1.4)	3.9	(1.3)	0.6	(0.3)
	Massachusetts•	8.7	(1.3)	13.6	(1.6)	20.0	(2.1)	22.7	(2.2)	16.9	(2.3)	11.6	(1.6)	6.5	(1.7)
Partners	**Argentina**														
	Ciudad Autónoma de Buenos Aires•	28.6	(3.4)	24.8	(3.0)	26.9	(2.7)	14.1	(2.5)	4.7	(1.0)	0.8	(0.4)	0.1	c
	Brazil														
	Acre	69.8	(4.7)	20.9	(3.2)	8.1	(2.6)	1.2	(0.8)	0.1	(0.1)	0.0	c	0.0	c
	Alagoas	70.8	(5.0)	18.3	(3.9)	7.9	(2.3)	2.2	(1.3)	0.9	(0.7)	0.0	c	0.0	c
	Amapá	67.9	(5.6)	23.4	(5.3)	6.9	(3.2)	1.6	(1.3)	0.1	c	0.0	c	0.0	c
	Amazonas	67.2	(3.9)	23.4	(3.9)	7.1	(2.0)	1.8	(0.8)	0.6	(0.6)	0.0	c	0.0	c
	Bahia	61.8	(6.6)	22.2	(4.3)	10.5	(4.3)	3.6	(1.5)	1.5	(1.2)	0.5	c	0.0	c
	Ceará	57.5	(5.5)	24.7	(3.4)	11.7	(2.4)	3.9	(1.5)	1.9	(0.8)	0.2	c	0.0	c
	Espírito Santo	39.9	(4.9)	27.5	(4.2)	15.6	(2.1)	10.6	(3.6)	4.9	(2.2)	1.3	(0.9)	0.2	c
	Federal District	39.4	(5.1)	25.6	(3.7)	21.5	(4.0)	10.0	(3.9)	2.6	(1.4)	0.8	c	0.0	c
	Goiás	56.8	(4.6)	25.4	(3.5)	11.7	(2.4)	4.8	(1.8)	1.0	(0.6)	0.2	c	0.0	c
	Maranhão	80.4	(5.4)	14.7	(3.5)	3.6	(2.3)	1.4	(0.8)	0.0	c	0.0	c	0.0	c
	Mato Grosso	57.1	(5.8)	23.2	(3.3)	13.1	(3.3)	4.1	(2.6)	1.8	(1.0)	0.8	(0.7)	0.0	c
	Mato Grosso do Sul	43.6	(4.3)	27.7	(3.4)	16.6	(2.8)	9.0	(2.4)	2.9	(1.2)	0.1	c	0.0	c
	Minas Gerais	39.8	(4.4)	32.1	(2.8)	20.1	(3.6)	6.1	(1.6)	1.6	(1.2)	0.3	c	0	c
	Pará	60.3	(4.5)	24.7	(3.4)	13.3	(4.3)	1.7	(1.5)	0.0	c	0.0	c	0.0	c
	Paraíba	43.8	(5.5)	28.1	(3.8)	19.6	(5.5)	6.4	(1.8)	1.8	(1.1)	0.3	c	0.0	c
	Paraná	45.5	(5.4)	27.7	(2.9)	16.9	(2.8)	5.7	(2.0)	2.5	(2.2)	1.3	(1.6)	0.4	c
	Pernambuco	60.6	(5.7)	28.2	(4.7)	8.2	(1.9)	2.3	(1.2)	0.5	(0.5)	0.2	c	0.0	c
	Piauí	55.0	(3.8)	24.6	(3.5)	10.3	(2.9)	6.2	(1.8)	2.4	(1.2)	1.2	(0.7)	0.3	c
	Rio de Janeiro	50.3	(4.4)	28.0	(4.1)	15.4	(3.1)	6.0	(1.8)	0.3	c	0.0	c	0.0	c
	Rio Grande do Norte	58.4	(5.0)	21.1	(4.0)	11.9	(2.5)	5.2	(1.9)	2.1	(1.5)	1.3	(0.9)	0.1	c
	Rio Grande do Sul	35.1	(4.3)	30.5	(4.2)	22.8	(3.5)	9.4	(2.5)	2.0	(1.1)	0.2	(0.2)	0.0	c
	Rondônia	48.5	(4.0)	33.1	(2.8)	15.4	(2.8)	2.9	(1.1)	0.2	c	0.0	c	0.0	c
	Roraima	59.4	(4.1)	24.7	(3.5)	7.9	(2.5)	6.5	(2.8)	1.4	(1.0)	0.0	c	0.0	c
	Santa Catarina	34.6	(5.1)	28.3	(3.2)	23.7	(3.2)	9.9	(2.9)	3.0	(1.5)	0.5	(0.6)	0.0	c
	São Paulo	42.7	(2.8)	28.5	(2.3)	17.0	(1.7)	8.3	(1.4)	2.5	(0.7)	0.8	(0.6)	0.2	(0.2)
	Sergipe	58.6	(6.1)	25.0	(4.1)	11.3	(3.3)	4.6	(2.0)	0.5	(0.5)	0.0	c	0.0	c
	Tocantins	63.1	(4.4)	23.0	(2.5)	9.5	(2.3)	3.5	(1.2)	0.3	c	0.6	(0.4)	0.0	c
	Colombia														
	Bogotá	43.8	(2.4)	33.8	(2.6)	17.5	(2.3)	4.3	(1.1)	0.5	(0.3)	0.0	c	0.0	c
	Cali	47.9	(4.5)	28.7	(2.5)	17.4	(3.0)	5.1	(1.5)	0.9	(0.5)	0.0	c	0.0	c
	Manizales	35.4	(3.3)	34.7	(4.2)	20.8	(3.9)	7.1	(2.1)	1.7	(1.1)	0.3	(0.4)	0.0	c
	Medellín	45.0	(4.4)	28.1	(2.9)	14.9	(2.2)	7.4	(1.7)	2.8	(1.5)	1.3	(0.7)	0.6	(0.4)
	Russian Federation														
	Perm Territory region•	9.5	(1.5)	18.3	(2.0)	26.6	(2.0)	23.9	(2.1)	14.9	(1.5)	4.8	(1.1)	2.1	(1.0)
	United Arab Emirates														
	Abu Dhabi•	28.5	(2.3)	25.7	(1.4)	21.6	(1.5)	14.4	(1.2)	6.6	(0.9)	2.6	(0.7)	0.6	(0.3)
	Ajman	29.4	(6.1)	26.1	(4.0)	24.6	(4.0)	15.0	(2.5)	4.1	(1.5)	0.9	(0.6)	0.0	c
	Dubai•	19.1	(0.9)	22.3	(1.1)	21.8	(1.4)	19.6	(1.7)	10.7	(0.9)	5.0	(0.7)	1.5	(0.5)
	Fujairah	20.3	(3.7)	23.0	(3.9)	28.6	(5.3)	18.8	(3.3)	7.3	(2.8)	1.6	(1.0)	0.4	c
	Ras al-Khaimah	26.8	(5.3)	27.6	(3.3)	25.0	(3.5)	13.9	(3.0)	5.8	(2.3)	0.8	(0.8)	0.2	c
	Sharjah	27.1	(6.1)	23.2	(3.2)	21.0	(3.6)	16.8	(3.4)	9.4	(2.9)	2.4	(0.9)	0.1	c
	Umm al-Quwain	26.0	(3.7)	29.2	(4.2)	24.7	(5.1)	14.7	(3.5)	3.9	(2.4)	1.5	c	0.0	c

• PISA adjudicated region.

Note: See Table I.2.6 for national data.

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[Part 1/2]

Table B2.I.6 Mean score, variation and gender differences in student performance on the mathematics subscale *formulating*, by region

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	**Australia**																						
	Australian Capital Territory	515	(4.2)	111	(3.2)	519	(6.5)	511	(5.6)	7	(8.8)	334	(11.1)	372	(9.3)	439	(6.9)	592	(6.5)	656	(7.5)	696	(10.6)
	New South Wales	502	(4.4)	118	(3.4)	508	(6.8)	496	(4.7)	12	(7.8)	316	(7.2)	357	(5.2)	420	(4.0)	582	(5.9)	660	(9.2)	704	(10.7)
	Northern Territory	447	(10.3)	124	(9.2)	454	(9.3)	440	(15.6)	14	(15.2)	228	(37.2)	292	(17.9)	376	(14.0)	525	(13.8)	584	(21.3)	634	(25.0)
	Queensland	499	(3.1)	107	(2.0)	505	(4.1)	492	(4.1)	**13**	(5.4)	328	(7.4)	361	(5.4)	422	(4.4)	575	(4.3)	641	(5.4)	678	(5.8)
	South Australia	479	(3.6)	103	(2.6)	489	(4.5)	470	(4.4)	**18**	(5.2)	316	(8.8)	349	(6.8)	407	(4.5)	550	(5.9)	615	(6.4)	653	(7.3)
	Tasmania	470	(3.7)	103	(2.8)	477	(5.4)	464	(5.1)	13	(7.4)	299	(9.7)	340	(8.5)	400	(4.3)	539	(5.9)	605	(7.8)	645	(9.0)
	Victoria	495	(4.2)	104	(2.9)	505	(5.7)	483	(4.6)	**22**	(6.3)	329	(6.7)	362	(4.9)	422	(4.1)	565	(5.2)	631	(8.0)	669	(11.3)
	Western Australia	510	(4.2)	107	(2.3)	524	(6.6)	494	(5.0)	**31**	(8.4)	336	(7.6)	372	(6.5)	434	(4.8)	586	(5.2)	647	(6.8)	683	(8.2)
	Belgium																						
	Flemish Community•	533	(3.7)	112	(2.2)	540	(5.2)	525	(4.2)	**15**	(5.9)	345	(6.2)	386	(6.2)	456	(5.2)	612	(4.3)	676	(4.3)	710	(3.9)
	French Community	486	(3.4)	105	(2.1)	493	(3.8)	478	(3.9)	**14**	(3.7)	312	(6.7)	348	(5.7)	412	(4.5)	560	(4.4)	620	(3.8)	653	(6.5)
	German-speaking Community	511	(2.5)	96	(2.4)	514	(3.8)	509	(3.9)	4	(5.8)	347	(10.1)	384	(7.7)	447	(5.5)	578	(4.4)	633	(8.2)	666	(7.4)
	Canada																						
	Alberta	514	(5.6)	104	(2.2)	522	(6.1)	505	(6.0)	**17**	(4.6)	342	(10.9)	378	(7.1)	441	(6.8)	586	(6.6)	650	(8.6)	685	(7.6)
	British Columbia	517	(5.2)	100	(2.4)	526	(5.7)	508	(7.0)	**18**	(7.2)	351	(6.8)	387	(6.8)	449	(5.4)	585	(7.6)	648	(7.0)	685	(8.3)
	Manitoba	487	(3.3)	100	(2.3)	492	(4.3)	482	(4.8)	10	(6.3)	328	(7.6)	361	(4.9)	417	(4.2)	555	(4.5)	620	(4.9)	654	(7.3)
	New Brunswick	504	(2.9)	92	(2.4)	505	(4.7)	502	(3.9)	3	(6.4)	353	(8.0)	385	(5.8)	440	(5.8)	564	(4.1)	621	(6.6)	658	(7.9)
	Newfoundland and Labrador	482	(4.6)	95	(3.1)	485	(5.8)	479	(5.1)	6	(6.1)	329	(16.2)	362	(9.5)	415	(6.2)	547	(6.5)	607	(7.8)	644	(9.1)
	Nova Scotia	494	(6.4)	90	(2.5)	502	(5.4)	486	(8.8)	**16**	(7.1)	350	(7.4)	378	(6.0)	430	(9.1)	555	(6.5)	610	(7.6)	645	(10.1)
	Ontario	512	(4.7)	99	(2.0)	518	(5.6)	506	(4.6)	**12**	(4.1)	350	(6.0)	385	(4.9)	444	(4.9)	580	(6.2)	642	(7.5)	681	(7.3)
	Prince Edward Island	476	(2.8)	92	(2.1)	480	(3.9)	472	(3.8)	8	(5.3)	329	(5.4)	358	(4.6)	413	(3.8)	538	(4.4)	596	(5.5)	630	(8.3)
	Quebec	539	(3.9)	102	(2.1)	544	(5.0)	533	(4.3)	**11**	(4.9)	364	(7.5)	402	(6.7)	469	(4.9)	612	(4.5)	668	(5.3)	702	(6.2)
	Saskatchewan	502	(3.3)	96	(2.1)	508	(4.8)	495	(3.8)	**13**	(5.9)	346	(7.2)	379	(4.9)	435	(3.7)	569	(6.1)	628	(5.4)	661	(7.9)
	Italy																						
	Abruzzo	463	(7.7)	107	(4.2)	471	(8.6)	455	(8.6)	15	(8.6)	287	(14.6)	328	(12.4)	393	(8.2)	536	(9.8)	598	(9.6)	634	(11.2)
	Basilicata	460	(5.2)	91	(2.7)	473	(6.9)	449	(5.0)	**24**	(6.4)	312	(10.3)	345	(7.5)	400	(5.9)	521	(5.6)	578	(5.4)	610	(6.0)
	Bolzano	511	(2.2)	95	(1.5)	526	(2.9)	496	(3.0)	**30**	(3.8)	354	(6.7)	389	(4.2)	447	(2.8)	577	(3.2)	635	(3.6)	668	(4.7)
	Calabria	421	(5.6)	93	(3.6)	436	(6.7)	406	(6.1)	**30**	(6.9)	270	(12.8)	305	(8.7)	362	(7.7)	483	(6.0)	537	(6.9)	570	(12.6)
	Campania	444	(8.5)	98	(4.1)	453	(8.3)	435	(10.8)	**18**	(8.7)	284	(7.6)	319	(10.4)	378	(9.4)	508	(11.6)	571	(11.8)	608	(14.2)
	Emilia Romagna	490	(7.0)	105	(4.0)	501	(9.6)	477	(7.7)	**24**	(11.0)	315	(12.0)	354	(8.6)	418	(8.0)	561	(10.1)	626	(10.5)	664	(10.3)
	Friuli Venezia Giulia	518	(5.5)	100	(3.4)	532	(6.6)	503	(6.5)	**29**	(8.1)	349	(12.7)	388	(9.4)	452	(6.6)	585	(5.7)	644	(6.9)	682	(9.6)
	Lazio	461	(7.9)	100	(3.1)	474	(8.8)	446	(8.0)	**28**	(7.6)	299	(10.8)	331	(10.6)	392	(9.5)	530	(10.5)	596	(9.9)	632	(9.5)
	Liguria	479	(6.1)	98	(2.7)	486	(8.3)	471	(6.6)	15	(8.8)	324	(7.8)	354	(7.3)	410	(7.3)	543	(7.6)	606	(9.3)	646	(10.3)
	Lombardia	506	(8.9)	98	(3.3)	522	(10.4)	488	(8.9)	**35**	(9.6)	344	(11.9)	381	(9.4)	439	(9.9)	573	(10.6)	632	(12.2)	672	(13.7)
	Marche	485	(6.0)	94	(2.8)	503	(6.3)	467	(6.8)	**36**	(6.2)	332	(10.4)	364	(8.7)	418	(7.7)	549	(7.4)	607	(6.4)	639	(7.5)
	Molise	457	(2.9)	92	(2.8)	468	(4.3)	445	(3.8)	**24**	(5.6)	308	(9.1)	339	(6.3)	394	(5.4)	516	(4.6)	573	(8.2)	612	(12.3)
	Piemonte	485	(7.1)	101	(3.4)	501	(6.0)	469	(8.4)	**32**	(6.4)	321	(6.9)	352	(9.3)	415	(8.3)	555	(8.9)	616	(9.9)	651	(10.6)
	Puglia	466	(7.4)	96	(3.7)	481	(6.8)	451	(8.5)	**30**	(7.1)	311	(10.8)	344	(11.1)	398	(9.4)	532	(7.6)	592	(7.6)	626	(9.2)
	Sardegna	448	(5.9)	95	(3.0)	457	(6.3)	439	(7.2)	**17**	(7.0)	297	(9.9)	327	(9.6)	382	(7.7)	515	(6.3)	571	(8.0)	607	(10.1)
	Sicilia	443	(5.1)	89	(2.4)	447	(6.4)	437	(5.5)	10	(6.5)	296	(9.7)	329	(7.3)	382	(6.4)	503	(6.6)	554	(5.7)	587	(7.1)
	Toscana	485	(5.1)	102	(2.8)	488	(7.8)	482	(8.7)	6	(12.9)	315	(10.0)	351	(6.7)	416	(6.6)	557	(7.2)	620	(6.3)	651	(6.9)
	Trento	518	(3.9)	91	(2.4)	524	(5.2)	511	(7.2)	13	(9.7)	374	(7.2)	402	(5.9)	455	(5.8)	581	(4.8)	636	(5.6)	667	(6.2)
	Umbria	480	(7.0)	96	(3.8)	494	(9.8)	468	(6.7)	**26**	(8.9)	316	(14.9)	350	(12.9)	417	(10.9)	548	(6.1)	600	(7.0)	634	(6.0)
	Valle d'Aosta	479	(2.9)	97	(2.4)	491	(4.3)	466	(4.1)	**26**	(6.2)	320	(7.6)	359	(6.5)	414	(6.4)	544	(4.8)	606	(6.7)	641	(8.4)
	Veneto	512	(8.4)	106	(4.4)	525	(9.0)	498	(9.3)	**27**	(9.3)	342	(10.7)	382	(8.3)	444	(7.7)	587	(11.8)	645	(10.1)	676	(10.5)
	Mexico																						
	Aguascalientes	433	(5.5)	81	(3.1)	440	(6.9)	426	(6.2)	**15**	(7.3)	303	(10.4)	329	(8.3)	376	(7.7)	488	(5.6)	540	(7.2)	574	(10.8)
	Baja California	407	(6.2)	84	(2.8)	418	(7.1)	396	(6.4)	**22**	(5.2)	276	(9.1)	304	(8.2)	348	(7.2)	463	(7.5)	519	(8.9)	552	(10.2)
	Baja California Sur	413	(5.8)	80	(2.7)	424	(7.0)	401	(6.0)	**23**	(5.4)	283	(12.4)	312	(9.7)	357	(7.2)	467	(7.9)	519	(7.2)	550	(8.2)
	Campeche	391	(5.2)	80	(2.3)	399	(5.5)	383	(6.0)	**16**	(4.7)	267	(8.0)	291	(9.6)	337	(6.1)	441	(5.9)	493	(6.9)	527	(9.6)
	Chiapas	370	(8.1)	87	(3.5)	375	(8.8)	365	(8.6)	10	(5.9)	227	(8.9)	257	(10.3)	313	(9.0)	427	(8.6)	478	(11.5)	510	(10.9)
	Chihuahua	429	(9.0)	87	(3.2)	436	(10.5)	421	(8.9)	15	(7.7)	289	(11.0)	319	(9.8)	370	(9.1)	485	(10.7)	546	(13.0)	577	(13.9)
	Coahuila	415	(8.4)	81	(3.2)	424	(8.7)	406	(9.9)	**18**	(7.2)	286	(7.8)	312	(6.6)	359	(9.3)	470	(11.3)	523	(13.5)	555	(12.6)
	Colima	424	(4.2)	89	(3.2)	431	(5.5)	418	(4.6)	**14**	(5.4)	282	(8.4)	311	(7.3)	362	(5.5)	484	(4.1)	540	(9.7)	574	(12.7)
	Distrito Federal	421	(5.7)	83	(2.9)	435	(6.6)	407	(7.2)	**27**	(7.9)	286	(10.8)	318	(7.6)	363	(5.7)	476	(7.9)	529	(9.2)	562	(10.7)
	Durango	414	(7.4)	87	(3.4)	422	(9.1)	406	(7.0)	**16**	(6.5)	272	(13.8)	302	(9.2)	354	(10.6)	475	(8.6)	528	(9.8)	556	(9.2)
	Guanajuato	407	(5.9)	83	(2.6)	417	(6.5)	398	(6.0)	**19**	(3.9)	273	(7.6)	299	(8.2)	351	(7.9)	461	(6.3)	517	(7.4)	551	(7.6)
	Guerrero	356	(4.6)	80	(2.8)	362	(6.0)	350	(5.6)	11	(7.2)	230	(8.2)	257	(6.5)	302	(5.6)	409	(5.9)	458	(7.8)	487	(6.8)
	Hidalgo	401	(6.9)	91	(5.3)	411	(7.9)	393	(7.7)	**17**	(7.0)	250	(12.9)	289	(8.6)	344	(7.7)	462	(9.1)	518	(9.3)	547	(9.3)
	Jalisco	433	(7.7)	85	(3.0)	443	(9.4)	424	(6.8)	**19**	(5.7)	294	(13.3)	326	(10.6)	376	(9.0)	490	(8.2)	543	(8.1)	577	(10.8)
	Mexico	417	(7.0)	82	(3.3)	429	(7.5)	406	(7.5)	**23**	(5.7)	283	(13.0)	313	(9.7)	362	(7.4)	470	(8.2)	522	(10.1)	554	(12.0)
	Morelos	415	(9.4)	92	(6.7)	422	(10.1)	409	(10.3)	13	(7.7)	273	(9.6)	301	(10.2)	353	(8.9)	473	(12.8)	534	(21.1)	579	(27.6)
	Nayarit	406	(5.9)	87	(2.6)	420	(5.4)	393	(7.7)	**28**	(6.8)	269	(10.2)	296	(6.8)	347	(7.7)	464	(5.7)	521	(9.6)	557	(10.7)
	Nuevo León	428	(9.0)	89	(3.1)	443	(9.1)	413	(9.3)	**30**	(5.9)	286	(10.6)	316	(11.6)	368	(10.9)	488	(11.0)	544	(9.5)	578	(12.9)
	Puebla	416	(5.2)	86	(2.7)	430	(8.0)	403	(5.2)	**26**	(8.2)	274	(11.9)	308	(10.1)	359	(6.2)	474	(6.7)	528	(7.2)	559	(6.8)
	Querétaro	432	(7.4)	89	(3.5)	448	(9.1)	418	(7.7)	**30**	(6.5)	293	(9.3)	322	(7.8)	370	(8.3)	494	(10.6)	549	(10.0)	579	(10.3)
	Quintana Roo	415	(5.6)	81	(2.4)	421	(6.7)	408	(5.7)	**14**	(4.9)	285	(12.4)	315	(9.0)	360	(6.2)	467	(7.6)	520	(8.5)	550	(8.6)
	San Luis Potosí	405	(8.0)	86	(3.0)	411	(8.5)	400	(8.8)	11	(6.2)	268	(8.6)	296	(8.1)	345	(7.3)	463	(9.7)	513	(10.3)	547	(14.2)
	Sinaloa	405	(4.5)	80	(2.2)	413	(5.4)	399	(5.0)	**13**	(5.1)	279	(8.8)	306	(5.0)	352	(6.6)	457	(5.5)	509	(5.5)	546	(7.1)
	Tabasco	372	(4.1)	82	(2.7)	382	(4.6)	362	(5.5)	**21**	(5.9)	241	(9.6)	272	(10.6)	318	(6.3)	423	(4.8)	476	(5.4)	509	(9.7)
	Tamaulipas	413	(8.7)	85	(3.4)	425	(11.0)	400	(7.7)	**25**	(7.5)	278	(11.1)	307	(8.9)	355	(7.4)	470	(10.3)	523	(12.9)	555	(15.5)
	Tlaxcala	406	(5.6)	84	(3.6)	412	(5.3)	400	(6.5)	**12**	(4.1)	263	(12.9)	298	(11.0)	351	(8.5)	461	(5.1)	512	(7.3)	544	(7.9)
	Veracruz	402	(6.8)	85	(3.2)	409	(6.8)	394	(8.5)	**15**	(7.2)	262	(13.0)	294	(10.2)	347	(6.9)	457	(7.7)	511	(11.0)	548	(11.2)
	Yucatán	404	(5.4)	87	(2.4)	416	(5.7)	391	(7.4)	**25**	(7.3)	263	(13.6)	294	(8.8)	346	(7.7)	462	(4.8)	516	(7.8)	550	(5.5)
	Zacatecas	405	(5.1)	85	(2.7)	414	(6.5)	397	(5.5)	**17**	(6.1)	268	(11.8)	298	(8.3)	350	(7.1)	461	(5.9)	513	(8.1)	542	(7.6)

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).
See Table I.2.7 for national data.

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[Part 2/2]

Table B2.I.6 Mean score, variation and gender differences in student performance on the mathematics subscale *formulating*, by region

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	**Portugal**																						
	Alentejo	482	(12.4)	102	(4.5)	492	(14.2)	471	(11.7)	**21**	(7.7)	312	(17.6)	352	(17.3)	414	(16.4)	550	(12.6)	619	(13.9)	658	(19.3)
	Spain																						
	Andalusia•	463	(4.8)	96	(1.8)	472	(6.3)	453	(4.5)	**18**	(5.1)	308	(9.7)	343	(7.9)	397	(5.7)	529	(6.0)	587	(6.1)	621	(8.1)
	Aragon•	494	(5.8)	102	(2.5)	506	(6.1)	482	(6.9)	**23**	(5.8)	320	(9.2)	359	(9.7)	424	(7.6)	566	(5.9)	622	(7.5)	656	(7.6)
	Asturias•	494	(4.7)	106	(2.7)	500	(6.8)	488	(4.1)	12	(6.0)	322	(9.6)	359	(9.4)	426	(6.4)	566	(4.7)	629	(5.7)	662	(8.4)
	Balearic Islands•	468	(5.9)	100	(2.5)	472	(6.1)	464	(6.8)	9	(5.4)	301	(10.4)	338	(8.2)	399	(6.4)	538	(6.8)	592	(7.7)	629	(9.7)
	Basque Country•	507	(3.0)	95	(1.4)	516	(3.5)	499	(3.4)	**17**	(3.5)	347	(5.8)	383	(4.2)	444	(4.0)	573	(3.7)	627	(3.8)	658	(4.5)
	Cantabria•	484	(4.4)	107	(2.3)	493	(5.4)	473	(5.7)	**20**	(6.8)	311	(7.5)	350	(7.2)	412	(6.4)	559	(6.2)	619	(5.2)	656	(9.7)
	Castile and Leon•	505	(5.0)	95	(2.3)	515	(7.0)	496	(4.7)	**19**	(6.3)	346	(7.2)	378	(6.2)	439	(6.4)	573	(6.0)	628	(6.0)	656	(7.3)
	Catalonia•	486	(5.6)	100	(2.4)	497	(6.9)	475	(6.3)	**23**	(7.0)	319	(9.8)	358	(8.5)	417	(6.8)	557	(7.7)	619	(5.8)	649	(7.9)
	Extremadura•	452	(4.7)	103	(2.6)	459	(5.5)	445	(5.1)	**14**	(4.9)	283	(12.5)	320	(9.0)	383	(6.6)	523	(5.2)	582	(6.3)	618	(6.2)
	Galicia•	481	(4.8)	99	(2.4)	479	(5.7)	483	(5.7)	-4	(6.2)	310	(8.5)	351	(9.1)	417	(7.7)	548	(5.3)	605	(5.1)	637	(7.1)
	La Rioja•	502	(2.1)	112	(2.3)	514	(3.8)	491	(3.4)	**23**	(5.9)	317	(9.2)	356	(6.3)	424	(4.3)	583	(4.4)	645	(5.1)	680	(7.4)
	Madrid•	495	(4.1)	102	(2.6)	505	(5.4)	484	(4.5)	**22**	(5.8)	320	(8.6)	362	(7.8)	425	(5.1)	568	(4.6)	622	(6.1)	656	(6.5)
	Murcia•	451	(5.7)	103	(3.5)	461	(7.5)	442	(4.7)	**19**	(5.3)	284	(8.7)	318	(8.2)	383	(6.4)	521	(6.9)	583	(10.2)	624	(14.0)
	Navarre•	519	(3.5)	94	(2.2)	524	(4.1)	515	(4.5)	9	(4.9)	360	(8.6)	392	(6.8)	456	(5.6)	585	(4.4)	637	(4.7)	669	(6.4)
	United Kingdom																						
	England	491	(4.4)	105	(2.3)	497	(5.6)	485	(5.2)	12	(6.2)	319	(7.7)	355	(7.6)	418	(6.0)	563	(4.7)	630	(5.9)	665	(5.8)
	Northern Ireland	479	(3.8)	100	(2.4)	484	(5.4)	474	(5.8)	10	(8.2)	317	(7.2)	350	(6.5)	409	(5.8)	548	(4.5)	609	(5.8)	648	(7.4)
	Scotland•	490	(3.3)	99	(2.1)	499	(3.6)	481	(4.2)	**18**	(4.0)	330	(7.4)	364	(5.4)	423	(5.3)	557	(3.7)	620	(5.1)	658	(5.6)
	Wales	457	(2.4)	93	(1.4)	463	(2.7)	452	(3.2)	**11**	(3.6)	308	(4.3)	339	(3.8)	395	(3.3)	521	(3.0)	577	(4.1)	612	(5.1)
	United States																						
	Connecticut•	504	(7.3)	111	(2.4)	513	(8.0)	494	(7.5)	**20**	(5.1)	324	(10.1)	359	(7.3)	423	(8.3)	583	(9.2)	651	(8.3)	686	(7.3)
	Florida•	458	(6.5)	92	(2.2)	467	(6.7)	448	(6.8)	**19**	(4.0)	313	(6.2)	339	(6.4)	392	(7.1)	521	(7.6)	579	(9.7)	616	(9.3)
	Massachusetts•	512	(7.4)	110	(4.3)	520	(7.4)	504	(8.2)	**16**	(4.8)	333	(9.0)	373	(8.0)	437	(7.0)	587	(10.5)	655	(13.7)	696	(15.5)
Partners	**Argentina**																						
	Ciudad Autónoma de Buenos Aires•	410	(8.0)	101	(7.0)	418	(8.9)	402	(8.2)	**16**	(6.0)	230	(25.4)	279	(16.1)	350	(8.8)	478	(7.8)	531	(8.6)	560	(9.0)
	Brazil																						
	Acre	333	(6.9)	78	(3.7)	350	(10.6)	319	(7.2)	**31**	(11.1)	211	(11.1)	236	(8.9)	280	(7.1)	384	(8.5)	431	(9.9)	461	(14.8)
	Alagoas	335	(8.0)	82	(5.0)	355	(9.6)	320	(8.9)	**35**	(8.3)	203	(12.2)	238	(8.5)	280	(8.7)	386	(11.8)	441	(13.7)	473	(21.7)
	Amapá	343	(8.8)	76	(3.9)	363	(9.4)	326	(9.1)	**38**	(7.2)	220	(10.7)	246	(8.9)	293	(8.7)	391	(10.9)	440	(17.1)	471	(21.2)
	Amazonas	339	(6.4)	79	(4.5)	354	(8.1)	326	(5.5)	**27**	(5.5)	209	(11.0)	240	(9.2)	287	(8.4)	391	(7.1)	438	(12.2)	471	(17.7)
	Bahia	345	(10.5)	93	(7.5)	358	(8.4)	333	(14.9)	**25**	(12.2)	198	(21.9)	231	(18.3)	282	(17.0)	401	(9.7)	457	(18.8)	507	(23.5)
	Ceará	363	(10.2)	90	(7.0)	383	(12.0)	344	(10.4)	**39**	(9.6)	221	(14.1)	251	(10.8)	305	(8.5)	415	(12.5)	476	(21.7)	525	(32.6)
	Espírito Santo	400	(10.6)	96	(5.3)	413	(10.2)	388	(14.4)	**26**	(12.5)	254	(8.0)	282	(9.5)	334	(7.9)	460	(19.6)	536	(21.4)	574	(18.4)
	Federal District	398	(11.5)	95	(9.1)	414	(12.9)	384	(10.9)	**30**	(7.6)	252	(12.4)	282	(14.1)	331	(14.4)	461	(15.7)	525	(24.3)	564	(31.5)
	Goiás	358	(10.2)	97	(12.1)	374	(10.1)	343	(12.0)	**31**	(8.8)	216	(37.1)	257	(16.5)	303	(9.9)	412	(9.3)	476	(10.8)	516	(13.5)
	Maranhão	314	(12.3)	85	(8.2)	334	(16.7)	298	(10.3)	**36**	(10.3)	177	(20.2)	211	(13.6)	262	(9.4)	362	(17.1)	418	(20.8)	456	(29.1)
	Mato Grosso	359	(10.7)	85	(6.4)	366	(10.5)	351	(11.8)	**15**	(6.3)	234	(12.1)	256	(11.5)	300	(9.6)	411	(12.0)	466	(20.2)	509	(24.0)
	Mato Grosso do Sul	395	(7.1)	85	(3.7)	416	(9.2)	379	(6.9)	**37**	(9.0)	264	(12.6)	291	(9.8)	335	(8.8)	453	(8.8)	510	(13.8)	546	(15.1)
	Minas Gerais	389	(8.8)	83	(6.0)	400	(11.5)	378	(7.7)	**22**	(7.7)	256	(18.4)	287	(12.6)	335	(8.5)	443	(10.0)	492	(14.3)	527	(18.7)
	Pará	348	(6.3)	75	(2.8)	362	(6.1)	337	(8.6)	**25**	(8.3)	224	(13.4)	251	(9.9)	296	(8.7)	399	(7.6)	447	(8.7)	470	(7.9)
	Paraíba	384	(7.3)	84	(5.3)	397	(8.5)	373	(9.0)	**25**	(9.5)	255	(13.6)	284	(10.4)	326	(9.1)	435	(8.7)	493	(21.5)	534	(20.0)
	Paraná	392	(13.5)	88	(12.8)	407	(13.3)	377	(14.6)	**31**	(6.5)	265	(7.2)	289	(7.1)	330	(7.5)	439	(15.3)	511	(49.0)	568	(54.6)
	Pernambuco	353	(9.1)	74	(5.5)	369	(9.5)	339	(9.3)	**30**	(5.5)	235	(13.8)	263	(12.1)	303	(10.3)	396	(8.9)	445	(11.2)	478	(17.5)
	Piauí	370	(7.7)	92	(7.6)	383	(8.6)	359	(7.9)	**24**	(5.0)	239	(9.6)	265	(7.0)	308	(8.2)	416	(11.9)	500	(20.0)	545	(29.2)
	Rio de Janeiro	370	(6.8)	79	(3.2)	382	(7.3)	358	(7.4)	**23**	(5.6)	242	(8.6)	268	(9.3)	312	(8.2)	422	(9.1)	474	(10.7)	505	(12.3)
	Rio Grande do Norte	368	(11.6)	96	(9.6)	386	(13.4)	354	(11.1)	**32**	(7.9)	233	(13.2)	256	(9.7)	303	(8.6)	422	(14.8)	496	(31.2)	550	(41.2)
	Rio Grande do Sul	398	(7.1)	79	(4.0)	408	(7.5)	389	(7.9)	**18**	(5.9)	272	(12.0)	297	(8.3)	342	(8.6)	452	(9.4)	502	(10.4)	530	(9.6)
	Rondônia	366	(5.0)	73	(3.6)	374	(6.6)	358	(5.5)	**16**	(6.9)	251	(9.9)	270	(7.1)	316	(5.9)	413	(6.7)	457	(9.1)	483	(11.7)
	Roraima	353	(6.8)	82	(4.3)	359	(7.2)	346	(9.6)	14	(9.7)	222	(12.2)	253	(11.5)	300	(8.6)	402	(8.4)	461	(16.1)	497	(14.4)
	Santa Catarina	401	(9.6)	87	(5.5)	414	(9.2)	389	(11.2)	**25**	(8.0)	265	(17.1)	297	(11.2)	344	(9.8)	460	(12.4)	511	(12.4)	539	(14.4)
	São Paulo	389	(5.5)	87	(4.0)	401	(5.6)	378	(6.4)	**23**	(4.1)	255	(6.2)	283	(4.5)	330	(4.9)	444	(6.9)	504	(11.9)	544	(16.0)
	Sergipe	363	(9.3)	80	(4.3)	385	(10.4)	345	(10.7)	**40**	(9.1)	235	(15.5)	265	(9.1)	310	(9.7)	415	(13.7)	471	(15.1)	499	(11.8)
	Tocantins	347	(9.9)	88	(5.9)	361	(11.7)	333	(8.6)	**28**	(6.7)	215	(9.7)	240	(11.4)	288	(9.0)	401	(13.1)	456	(20.3)	497	(19.3)
	Colombia																						
	Bogotá	386	(4.3)	74	(2.2)	407	(5.7)	367	(3.9)	**39**	(5.0)	268	(6.1)	294	(5.5)	337	(3.9)	433	(5.5)	481	(7.3)	508	(9.1)
	Cali	368	(6.7)	80	(3.1)	378	(6.7)	361	(7.7)	**17**	(4.7)	236	(8.2)	267	(7.1)	315	(7.0)	422	(8.2)	470	(9.2)	498	(11.2)
	Manizales	402	(4.7)	78	(4.5)	420	(6.8)	386	(4.8)	**34**	(7.5)	281	(8.9)	305	(6.4)	349	(5.2)	449	(7.6)	508	(14.1)	542	(11.9)
	Medellín	392	(8.6)	93	(6.6)	409	(9.5)	375	(10.9)	**35**	(11.1)	254	(10.8)	283	(7.3)	330	(7.6)	444	(12.3)	512	(19.9)	560	(28.7)
	Russian Federation																						
	Perm Territory region•	484	(6.0)	97	(5.1)	492	(7.6)	475	(5.3)	**17**	(5.6)	328	(8.7)	362	(7.2)	420	(6.2)	546	(6.4)	607	(13.2)	648	(19.3)
	United Arab Emirates																						
	Abu Dhabi•	413	(4.2)	99	(2.6)	410	(5.4)	416	(5.4)	-6	(6.9)	263	(5.8)	293	(5.0)	343	(4.5)	477	(6.0)	546	(7.2)	589	(9.7)
	Ajman	404	(9.3)	87	(4.9)	401	(15.0)	407	(13.0)	-6	(20.7)	262	(15.6)	290	(17.0)	342	(13.8)	468	(9.4)	517	(8.8)	544	(8.5)
	Dubai•	454	(1.7)	105	(1.2)	460	(2.5)	448	(2.3)	**12**	(3.4)	289	(2.8)	321	(2.6)	380	(2.5)	527	(3.2)	592	(4.0)	629	(3.3)
	Fujairah	411	(11.1)	92	(3.2)	392	(8.9)	431	(12.3)	**-39**	(10.8)	258	(13.1)	293	(11.2)	346	(10.1)	475	(12.6)	528	(18.4)	565	(16.5)
	Ras al-Khaimah	408	(8.1)	86	(3.5)	403	(9.3)	413	(12.2)	-10	(14.4)	272	(13.2)	300	(9.3)	346	(10.5)	465	(10.0)	519	(11.5)	553	(10.2)
	Sharjah	430	(10.8)	95	(4.1)	439	(14.8)	423	(13.9)	16	(20.3)	279	(11.3)	308	(10.1)	361	(13.4)	499	(11.2)	558	(12.4)	593	(12.4)
	Umm al-Quwain	399	(5.1)	84	(3.9)	386	(6.8)	411	(7.0)	**-25**	(9.5)	266	(11.6)	295	(9.4)	343	(7.2)	448	(9.4)	511	(9.4)	538	(16.8)

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

See Table I.2.7 for national data.

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[Part 1/2]

Table B2.I.7 Percentage of students at each proficiency level on the mathematics subscale *employing*, by region

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	5.5	(1.1)	11.0	(1.5)	20.3	(2.2)	24.9	(2.5)	22.9	(1.9)	11.4	(1.3)	4.0	(0.9)
	New South Wales	6.5	(0.7)	13.3	(0.8)	21.3	(0.9)	23.2	(1.3)	19.1	(1.1)	11.5	(0.9)	5.1	(0.9)
	Northern Territory	17.6	(1.9)	18.6	(3.7)	24.2	(4.0)	23.1	(3.2)	10.4	(3.3)	5.1	(1.9)	1.0	(0.7)
	Queensland	6.6	(0.9)	13.8	(0.8)	22.6	(1.2)	24.9	(1.1)	18.5	(1.2)	10.6	(0.9)	3.0	(0.5)
	South Australia	8.2	(1.0)	15.8	(1.3)	25.2	(1.7)	25.0	(1.8)	16.7	(1.5)	7.6	(0.9)	1.6	(0.4)
	Tasmania	10.9	(1.2)	17.2	(1.5)	26.0	(1.8)	23.6	(2.0)	15.4	(1.5)	5.8	(1.2)	1.1	(0.4)
	Victoria	6.4	(0.8)	13.1	(0.9)	24.5	(1.2)	25.6	(1.5)	19.4	(1.3)	8.3	(0.9)	2.6	(0.7)
	Western Australia	4.9	(0.7)	12.0	(1.2)	20.5	(1.5)	24.7	(1.4)	21.8	(1.2)	12.2	(1.0)	3.8	(0.6)
	Belgium														
	Flemish Community•	5.2	(0.7)	9.5	(0.8)	16.3	(0.9)	21.5	(1.0)	22.8	(1.0)	16.8	(0.9)	7.9	(0.6)
	French Community	8.7	(1.0)	14.2	(0.9)	21.4	(1.1)	23.3	(1.2)	20.0	(1.2)	9.9	(0.8)	2.6	(0.3)
	German-speaking Community	5.4	(0.8)	9.6	(1.0)	19.4	(1.5)	27.4	(1.8)	25.8	(1.8)	10.3	(1.3)	2.1	(0.7)
	Canada														
	Alberta	4.1	(0.8)	11.0	(1.2)	20.8	(1.3)	25.7	(1.2)	22.8	(1.3)	12.1	(1.5)	3.6	(0.5)
	British Columbia	2.3	(0.6)	9.5	(1.3)	20.5	(1.8)	28.3	(1.5)	23.2	(1.3)	12.3	(1.3)	3.8	(0.6)
	Manitoba	6.2	(1.1)	15.5	(1.1)	26.5	(1.5)	25.3	(1.3)	17.0	(1.3)	7.3	(0.7)	2.2	(0.5)
	New Brunswick	4.1	(0.7)	12.0	(1.2)	24.3	(1.4)	31.0	(1.7)	18.6	(1.5)	8.5	(1.0)	1.5	(0.6)
	Newfoundland and Labrador	6.6	(1.4)	15.1	(2.1)	24.7	(1.7)	26.2	(2.0)	17.9	(1.3)	7.7	(1.2)	1.8	(0.6)
	Nova Scotia	5.1	(0.8)	13.7	(1.4)	25.6	(2.1)	28.8	(2.1)	19.4	(1.3)	6.2	(1.3)	1.3	(0.5)
	Ontario	4.1	(0.6)	10.2	(1.1)	22.4	(1.5)	27.6	(1.3)	21.8	(1.2)	10.8	(1.2)	3.1	(0.6)
	Prince Edward Island	6.4	(0.8)	18.0	(1.4)	27.1	(1.8)	26.8	(1.3)	15.3	(1.2)	5.6	(0.7)	0.9	(0.3)
	Quebec	2.9	(0.5)	7.9	(0.7)	16.7	(1.0)	24.4	(1.2)	26.1	(1.0)	16.9	(1.0)	5.3	(0.6)
	Saskatchewan	3.8	(0.6)	11.1	(0.9)	24.3	(1.5)	28.4	(1.6)	21.3	(1.6)	9.5	(1.2)	1.7	(0.5)
	Italy														
	Abruzzo	8.8	(1.8)	15.8	(1.7)	26.8	(1.8)	25.6	(1.7)	16.9	(1.9)	4.9	(0.9)	1.2	(0.4)
	Basilicata	9.6	(1.4)	20.0	(1.6)	28.2	(1.4)	23.8	(1.6)	12.6	(1.4)	4.5	(0.7)	1.3	(0.3)
	Bolzano	5.9	(0.7)	11.8	(1.0)	21.2	(1.3)	27.9	(1.9)	21.1	(1.2)	9.5	(0.9)	2.6	(0.5)
	Calabria	21.5	(2.1)	23.2	(1.9)	26.7	(1.6)	18.6	(1.6)	7.6	(1.1)	1.9	(0.5)	0.5	(0.2)
	Campania	15.0	(2.1)	21.4	(2.4)	26.7	(2.0)	21.1	(2.3)	11.2	(1.7)	4.0	(1.0)	0.7	(0.3)
	Emilia Romagna	6.8	(1.2)	12.8	(1.7)	22.7	(2.0)	24.4	(2.1)	19.4	(1.7)	9.9	(1.5)	3.9	(0.9)
	Friuli Venezia Giulia	3.3	(1.2)	9.5	(1.3)	18.9	(1.6)	27.9	(1.6)	24.3	(1.6)	12.1	(1.6)	4.0	(0.6)
	Lazio	9.3	(1.4)	17.6	(1.8)	27.4	(1.8)	23.8	(1.9)	14.2	(1.5)	6.4	(1.2)	1.2	(0.5)
	Liguria	7.4	(1.4)	15.4	(1.7)	24.4	(2.0)	26.2	(1.5)	17.3	(1.7)	7.1	(1.3)	2.3	(0.5)
	Lombardia	3.9	(0.7)	10.0	(1.5)	19.7	(2.2)	28.0	(2.5)	22.8	(2.3)	12.3	(1.9)	3.3	(1.0)
	Marche	5.2	(1.6)	13.3	(1.5)	24.8	(1.8)	27.7	(1.8)	18.9	(1.8)	8.0	(1.1)	2.1	(0.6)
	Molise	10.1	(1.2)	19.4	(1.4)	28.9	(2.0)	24.3	(2.3)	12.2	(1.8)	4.4	(1.2)	0.8	(0.3)
	Piemonte	5.6	(0.9)	12.9	(1.7)	22.4	(2.3)	27.9	(1.9)	21.3	(2.2)	8.2	(1.4)	1.7	(0.6)
	Puglia	8.2	(1.8)	17.3	(1.9)	25.3	(2.1)	24.8	(1.8)	17.1	(2.1)	6.6	(1.2)	0.7	(0.3)
	Sardegna	13.1	(1.9)	21.0	(2.1)	28.4	(1.8)	21.6	(1.6)	12.1	(1.4)	3.4	(0.6)	0.4	(0.2)
	Sicilia	14.0	(2.0)	24.0	(2.2)	29.1	(1.8)	21.5	(2.3)	9.0	(1.4)	2.0	(0.5)	0.4	(0.2)
	Toscana	7.5	(1.1)	14.8	(1.5)	22.0	(1.7)	23.8	(1.8)	19.7	(1.7)	9.7	(1.2)	2.5	(0.6)
	Trento	2.9	(0.7)	8.3	(1.3)	19.2	(1.7)	28.7	(1.8)	25.5	(2.2)	12.9	(1.2)	2.5	(0.5)
	Umbria	7.2	(2.2)	13.9	(2.0)	23.3	(1.9)	26.1	(2.1)	19.4	(1.7)	8.2	(1.1)	1.8	(0.6)
	Valle d'Aosta	4.9	(1.0)	15.2	(2.1)	26.2	(1.8)	27.9	(2.0)	16.9	(1.5)	7.0	(1.1)	1.9	(0.5)
	Veneto	3.6	(0.9)	8.7	(1.1)	19.9	(2.3)	25.6	(2.5)	23.9	(2.0)	13.4	(2.2)	5.0	(1.4)
	Mexico														
	Aguascalientes	16.4	(2.4)	25.9	(1.5)	30.5	(2.6)	18.4	(1.7)	7.0	(1.4)	1.7	(0.7)	0.1	c
	Baja California	22.1	(2.3)	32.6	(2.2)	26.4	(2.1)	13.9	(1.6)	4.3	(1.3)	0.7	(0.6)	0.0	c
	Baja California Sur	23.7	(3.0)	30.5	(2.1)	27.1	(2.2)	14.0	(1.7)	4.3	(0.9)	0.4	(0.3)	0.0	c
	Campeche	31.8	(2.5)	33.4	(2.1)	23.4	(2.4)	8.6	(1.3)	2.5	(0.6)	0.3	(0.2)	0.0	c
	Chiapas	43.4	(4.2)	29.3	(2.7)	19.0	(2.3)	6.2	(1.4)	1.6	(0.6)	0.3	(0.2)	0.1	(0.1)
	Chihuahua	17.2	(2.4)	29.3	(2.5)	29.1	(2.1)	15.8	(2.0)	7.2	(1.6)	1.3	(0.5)	0.1	c
	Coahuila	22.5	(3.1)	29.7	(3.0)	26.9	(2.4)	14.5	(2.5)	5.7	(1.9)	0.6	(0.4)	0.0	c
	Colima	20.3	(2.4)	26.2	(2.4)	27.1	(2.8)	17.7	(2.4)	7.4	(1.6)	1.1	(0.4)	0.2	(0.1)
	Distrito Federal	16.7	(2.1)	29.5	(2.6)	28.8	(2.1)	17.8	(2.2)	6.0	(1.1)	1.3	(0.4)	0.0	c
	Durango	17.7	(2.3)	28.3	(2.0)	28.9	(2.6)	18.6	(2.5)	5.5	(1.1)	1.0	(0.4)	0.0	c
	Guanajuato	23.4	(3.1)	29.0	(2.6)	27.5	(2.7)	14.9	(1.6)	4.7	(0.8)	0.5	(0.2)	0.0	c
	Guerrero	46.3	(2.4)	32.2	(2.4)	16.3	(1.3)	4.0	(0.9)	1.1	(0.4)	0.1	c	0.0	c
	Hidalgo	26.0	(3.0)	31.8	(2.4)	26.4	(2.3)	12.6	(2.0)	2.8	(0.8)	0.4	(0.3)	0.0	c
	Jalisco	15.7	(2.4)	27.0	(2.6)	31.9	(2.1)	18.2	(2.2)	5.8	(1.1)	1.3	(0.6)	0.1	(0.2)
	Mexico	19.6	(2.9)	32.9	(2.8)	31.9	(3.1)	12.8	(1.8)	2.3	(0.7)	0.4	(0.4)	0.1	c
	Morelos	20.6	(3.8)	30.4	(2.6)	27.9	(2.5)	13.9	(1.6)	5.5	(1.7)	1.6	(0.9)	0.2	(0.2)
	Nayarit	25.1	(3.0)	27.2	(2.0)	28.6	(1.9)	13.7	(1.5)	4.8	(1.0)	0.7	(0.3)	0.0	c
	Nuevo León	15.9	(2.8)	27.7	(3.2)	29.5	(2.0)	18.7	(2.7)	7.2	(1.9)	0.9	(0.4)	0.1	c
	Puebla	21.3	(2.7)	30.7	(2.2)	28.1	(1.9)	14.4	(1.5)	4.9	(0.9)	0.6	(0.3)	0.0	c
	Querétaro	18.1	(2.3)	28.0	(2.5)	28.6	(2.5)	17.8	(2.4)	6.1	(1.7)	1.3	(0.5)	0.1	(0.1)
	Quintana Roo	26.4	(2.8)	30.8	(2.9)	26.0	(1.9)	12.8	(1.5)	3.5	(0.6)	0.5	(0.3)	0.0	c
	San Luis Potosí	26.2	(3.2)	28.5	(3.0)	25.8	(2.3)	14.5	(2.3)	4.3	(1.4)	0.6	(0.5)	0.1	(0.1)
	Sinaloa	24.5	(2.3)	33.7	(2.4)	26.5	(2.5)	11.9	(1.5)	3.1	(0.7)	0.3	(0.2)	0.0	c
	Tabasco	41.6	(2.4)	31.6	(2.4)	18.5	(1.7)	6.7	(0.9)	1.4	(0.5)	0.2	c	0.0	c
	Tamaulipas	27.7	(3.9)	29.7	(2.4)	25.8	(2.2)	11.8	(2.1)	4.1	(1.2)	0.9	(0.7)	0.0	c
	Tlaxcala	24.5	(2.9)	31.2	(1.8)	27.3	(2.2)	12.9	(1.6)	3.6	(0.7)	0.5	(0.4)	0.0	c
	Veracruz	30.1	(3.2)	29.9	(2.4)	23.6	(1.7)	12.5	(2.1)	3.4	(1.0)	0.5	(0.4)	0.0	c
	Yucatán	26.6	(2.5)	30.9	(2.3)	24.8	(1.7)	12.6	(1.6)	4.2	(0.7)	0.7	(0.3)	0.1	(0.2)
	Zacatecas	25.8	(2.5)	31.5	(2.1)	25.6	(1.8)	13.1	(1.4)	3.7	(0.8)	0.4	(0.2)	0.0	c

• PISA adjudicated region.

Note: See Table I.2.8 for national data.

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[Part 2/2]

Table B2.I.7 **Percentage of students at each proficiency level on the mathematics subscale *employing*, by region**

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**														
	Alentejo	7.3	(1.9)	14.4	(3.0)	24.0	(2.0)	25.3	(3.2)	18.7	(2.7)	8.5	(1.7)	1.6	(0.8)
	Spain														
	Andalusia•	8.8	(1.3)	19.9	(1.7)	28.0	(2.2)	24.5	(2.0)	13.9	(1.3)	4.3	(0.9)	0.7	(0.3)
	Aragon•	8.4	(1.4)	13.0	(1.4)	21.5	(1.4)	26.5	(1.4)	20.0	(1.3)	8.9	(1.2)	1.7	(0.6)
	Asturias•	6.6	(1.0)	12.4	(1.1)	23.3	(1.2)	27.7	(1.2)	20.0	(1.3)	8.2	(1.0)	1.9	(0.5)
	Balearic Islands•	9.1	(1.4)	17.3	(1.6)	26.0	(1.3)	26.8	(1.7)	16.4	(1.6)	4.1	(0.7)	0.3	(0.2)
	Basque Country•	4.2	(0.4)	11.2	(0.7)	23.1	(1.0)	30.7	(0.9)	22.9	(0.9)	7.0	(0.5)	0.9	(0.2)
	Cantabria•	5.4	(1.0)	14.3	(1.1)	25.8	(1.4)	26.3	(1.3)	19.6	(1.3)	7.5	(0.9)	1.2	(0.3)
	Castile and Leon•	4.2	(0.8)	10.7	(1.1)	22.5	(1.5)	29.0	(1.6)	23.5	(1.4)	8.9	(1.2)	1.2	(0.4)
	Catalonia•	5.9	(1.0)	14.3	(1.6)	23.4	(1.4)	27.9	(1.3)	20.1	(1.6)	7.3	(1.0)	1.2	(0.4)
	Extremadura•	13.7	(1.5)	18.0	(1.1)	25.5	(1.3)	24.7	(1.3)	13.5	(1.4)	4.0	(0.7)	0.6	(0.3)
	Galicia•	8.4	(1.2)	14.1	(1.4)	24.2	(1.4)	28.1	(1.4)	18.6	(1.7)	5.7	(1.2)	0.9	(0.3)
	La Rioja•	8.5	(0.9)	11.8	(1.0)	20.2	(1.6)	24.2	(1.6)	21.6	(1.1)	11.5	(0.9)	2.2	(0.4)
	Madrid•	6.3	(0.9)	12.1	(1.1)	21.5	(1.3)	26.8	(1.7)	23.0	(1.8)	8.9	(1.3)	1.4	(0.3)
	Murcia•	12.8	(1.3)	18.9	(1.7)	26.5	(1.5)	24.4	(1.3)	12.9	(1.2)	3.8	(0.9)	0.8	(0.3)
	Navarre•	4.1	(0.7)	9.4	(0.8)	19.5	(1.6)	29.3	(1.7)	24.6	(1.5)	11.1	(1.0)	1.8	(0.4)
	United Kingdom														
	England	8.0	(0.9)	14.6	(1.0)	22.4	(1.0)	25.0	(1.1)	18.4	(0.9)	9.0	(0.7)	2.7	(0.3)
	Northern Ireland	8.9	(1.0)	16.1	(1.4)	23.1	(1.5)	24.6	(1.4)	17.0	(1.1)	8.3	(1.1)	2.0	(0.4)
	Scotland•	6.3	(0.7)	13.6	(0.9)	24.3	(0.9)	26.1	(0.9)	18.9	(1.0)	8.5	(0.8)	2.2	(0.3)
	Wales	10.5	(0.8)	19.2	(0.8)	28.0	(1.0)	24.3	(0.9)	13.3	(0.8)	4.0	(0.4)	0.8	(0.3)
	United States														
	Connecticut•	7.5	(1.3)	14.1	(1.3)	19.9	(1.5)	23.8	(1.7)	19.5	(1.6)	11.3	(1.4)	3.8	(0.7)
	Florida•	10.2	(1.3)	20.5	(1.6)	26.9	(1.3)	23.5	(1.6)	13.7	(1.4)	4.4	(0.9)	0.9	(0.3)
	Massachusetts•	5.3	(0.9)	12.7	(1.2)	21.2	(1.6)	24.2	(1.5)	20.5	(1.6)	12.1	(1.8)	4.0	(0.9)
Partners	**Argentina**														
	Ciudad Autónoma de Buenos Aires•	23.3	(2.5)	22.5	(1.9)	28.9	(2.1)	17.3	(1.8)	6.6	(1.2)	1.3	(0.5)	0.1	(0.1)
	Brazil														
	Acre	52.8	(3.9)	29.7	(3.0)	13.7	(2.1)	3.0	(1.3)	0.5	(0.5)	0.2	(0.2)	0.0	c
	Alagoas	64.8	(4.2)	21.4	(3.4)	10.0	(2.6)	2.8	(1.2)	0.8	(0.6)	0.1	(0.2)	0.0	c
	Amapá	54.1	(5.4)	29.2	(3.9)	13.2	(2.7)	3.3	(1.4)	0.3	(0.4)	0.0	c	0.0	c
	Amazonas	58.9	(3.7)	28.6	(3.1)	8.4	(1.6)	2.5	(1.0)	1.4	(1.3)	0.1	c	0.0	c
	Bahia	47.9	(5.7)	26.3	(3.2)	15.5	(3.8)	7.3	(1.8)	2.3	(1.4)	0.6	(0.5)	0.0	c
	Ceará	45.3	(4.2)	29.4	(3.5)	14.8	(2.1)	6.3	(2.0)	2.7	(1.4)	1.2	(0.6)	0.3	(0.3)
	Espírito Santo	27.3	(3.5)	29.9	(3.3)	20.6	(2.7)	13.1	(2.6)	7.3	(2.5)	1.7	(0.9)	0.1	c
	Federal District	29.2	(4.2)	26.7	(3.1)	22.2	(2.8)	14.3	(2.2)	6.1	(2.2)	1.3	(0.8)	0.1	c
	Goiás	40.0	(4.1)	34.0	(3.4)	16.4	(2.2)	7.6	(1.5)	1.7	(0.6)	0.2	(0.1)	0.0	c
	Maranhão	61.5	(7.2)	23.7	(3.3)	8.6	(3.2)	4.7	(2.8)	1.4	(1.2)	0.1	c	0.0	c
	Mato Grosso	49.2	(4.8)	30.0	(3.0)	14.4	(2.7)	3.9	(1.8)	2.1	(1.3)	0.5	(0.4)	0.1	c
	Mato Grosso do Sul	27.9	(4.1)	32.0	(3.7)	24.5	(3.0)	10.8	(1.4)	4.2	(1.7)	0.6	(0.6)	0.0	c
	Minas Gerais	28.8	(3.8)	31.5	(2.8)	25.8	(2.7)	11.0	(2.0)	2.4	(1.1)	0.5	c	0.0	c
	Pará	53.8	(3.7)	25.6	(3.2)	16.5	(2.5)	3.7	(1.6)	0.4	(0.4)	0.0	c	0.0	c
	Paraíba	35.4	(4.9)	31.1	(3.8)	20.8	(3.9)	9.2	(1.7)	3.1	(1.6)	0.4	(0.4)	0.1	c
	Paraná	33.3	(3.9)	29.6	(3.3)	20.7	(2.8)	8.9	(1.6)	5.5	(3.1)	1.7	(1.7)	0.1	c
	Pernambuco	51.3	(4.2)	31.0	(2.9)	13.4	(2.4)	3.5	(1.2)	0.7	(0.6)	0.0	c	0.0	c
	Piauí	41.3	(3.8)	30.4	(3.1)	14.6	(2.3)	8.8	(1.8)	3.2	(1.4)	1.5	(1.3)	0.3	(0.1)
	Rio de Janeiro	37.9	(4.1)	31.9	(3.0)	19.0	(2.7)	8.2	(1.8)	2.5	(1.0)	0.4	(0.4)	0.0	c
	Rio Grande do Norte	50.3	(4.0)	25.3	(3.0)	11.8	(2.0)	7.2	(1.6)	3.1	(1.5)	2.0	(1.1)	0.3	(0.3)
	Rio Grande do Sul	28.6	(3.6)	31.9	(2.4)	25.1	(2.6)	11.9	(1.7)	2.0	(0.6)	0.5	(0.3)	0.0	c
	Rondônia	38.3	(3.3)	36.6	(2.5)	18.9	(2.5)	5.1	(1.4)	1.0	(0.5)	0.1	c	0.0	c
	Roraima	54.7	(3.3)	26.0	(2.3)	13.1	(2.1)	4.6	(1.3)	1.5	(0.8)	0.2	(0.2)	0.0	c
	Santa Catarina	22.3	(3.2)	30.7	(2.8)	26.4	(2.3)	14.3	(2.5)	5.5	(1.7)	0.8	(0.4)	0.0	c
	São Paulo	32.1	(1.6)	30.6	(1.5)	22.1	(1.3)	10.3	(1.1)	3.8	(0.9)	1.0	(0.5)	0.2	(0.1)
	Sergipe	38.6	(4.6)	31.7	(3.7)	18.1	(3.2)	9.3	(3.2)	1.8	(1.0)	0.4	(0.4)	0.0	c
	Tocantins	50.9	(3.8)	27.2	(2.7)	14.5	(2.0)	5.1	(1.5)	1.7	(0.7)	0.6	(0.4)	0.0	c
	Colombia														
	Bogotá	35.4	(2.0)	34.4	(1.6)	21.4	(1.5)	7.1	(1.0)	1.3	(0.6)	0.2	(0.2)	0.1	c
	Cali	43.7	(3.8)	30.2	(1.6)	18.3	(2.4)	6.2	(1.3)	1.6	(0.5)	0.0	c	0.0	c
	Manizales	33.7	(2.6)	32.0	(2.6)	21.4	(2.1)	9.4	(1.4)	2.9	(1.0)	0.6	(0.5)	0.0	c
	Medellín	42.3	(3.4)	27.9	(1.9)	16.0	(1.9)	8.8	(1.6)	3.5	(1.1)	1.3	(0.7)	0.3	(0.2)
	Russian Federation														
	Perm Territory region•	7.7	(1.3)	14.9	(1.3)	25.7	(1.4)	25.7	(1.8)	17.1	(1.6)	6.8	(1.2)	2.1	(0.8)
	United Arab Emirates														
	Abu Dhabi•	22.5	(1.5)	26.2	(1.2)	25.3	(1.1)	15.5	(1.0)	7.6	(0.9)	2.5	(0.5)	0.4	(0.2)
	Ajman	28.1	(4.4)	29.1	(3.0)	25.6	(2.9)	13.4	(2.1)	3.2	(1.0)	0.6	(0.5)	0.0	c
	Dubai•	12.4	(0.4)	19.1	(1.0)	23.8	(1.0)	22.1	(0.9)	15.4	(0.7)	5.8	(0.5)	1.5	(0.3)
	Fujairah	25.6	(4.4)	25.9	(2.7)	25.3	(2.6)	15.8	(2.4)	5.9	(1.2)	1.2	(0.6)	0.3	(0.2)
	Ras al-Khaimah	20.4	(3.3)	28.4	(2.3)	27.9	(2.9)	16.0	(2.2)	6.1	(1.5)	1.0	(0.5)	0.1	c
	Sharjah	16.9	(2.9)	25.0	(2.4)	24.7	(2.2)	19.2	(2.8)	10.5	(2.0)	3.1	(1.0)	0.6	(0.4)
	Umm al-Quwain	27.9	(2.5)	34.5	(3.9)	23.9	(3.0)	9.5	(1.8)	3.0	(1.0)	1.3	(0.8)	0.0	c

• PISA adjudicated region.

Note: See Table I.2.8 for national data.

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[Part 1/4]

Table B2.I.8 Percentage of students at each proficiency level on the mathematics subscale *employing*, by gender and region

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	6.3	(1.4)	11.6	(1.9)	19.0	(2.9)	24.4	(3.2)	21.6	(2.4)	12.2	(2.6)	5.0	(1.5)
	New South Wales	6.9	(1.1)	13.7	(1.2)	20.4	(1.4)	22.4	(1.4)	18.5	(1.3)	12.3	(1.3)	5.9	(1.2)
	Northern Territory	18.2	(2.7)	17.7	(4.3)	21.3	(3.7)	23.3	(4.2)	12.1	(4.9)	5.9	(2.9)	1.6	(1.4)
	Queensland	6.0	(1.1)	13.1	(1.2)	22.4	(1.7)	24.7	(1.7)	19.4	(1.8)	11.3	(1.2)	3.0	(0.6)
	South Australia	7.7	(1.2)	14.4	(1.6)	24.7	(2.6)	24.7	(2.7)	18.3	(2.1)	8.4	(1.6)	1.7	(0.6)
	Tasmania	10.9	(1.6)	14.2	(1.7)	26.1	(2.3)	24.5	(2.3)	16.6	(2.5)	6.4	(1.7)	1.3	(0.6)
	Victoria	5.7	(0.7)	11.8	(1.2)	23.1	(1.5)	25.7	(1.7)	20.9	(1.7)	8.9	(1.3)	3.8	(1.2)
	Western Australia	3.8	(0.7)	10.5	(1.5)	20.0	(2.0)	23.6	(1.7)	23.7	(1.8)	14.0	(1.7)	4.7	(1.1)
	Belgium														
	Flemish Community•	5.0	(0.9)	8.7	(1.0)	15.8	(1.0)	20.4	(1.2)	22.5	(1.3)	17.5	(1.1)	10.0	(0.9)
	French Community	8.7	(1.1)	14.0	(1.3)	20.4	(1.3)	22.1	(1.5)	19.9	(1.4)	11.5	(1.2)	3.4	(0.5)
	German-speaking Community	6.5	(1.1)	11.2	(1.6)	18.4	(2.2)	25.4	(2.6)	23.5	(2.4)	11.7	(1.7)	3.3	(0.9)
	Canada														
	Alberta	4.4	(1.2)	9.6	(1.7)	19.8	(1.7)	26.4	(1.7)	22.0	(1.8)	13.5	(1.7)	4.4	(0.8)
	British Columbia	2.3	(0.8)	8.3	(1.3)	19.7	(2.2)	27.6	(1.9)	23.8	(1.9)	13.6	(1.5)	4.7	(0.9)
	Manitoba	5.7	(1.4)	15.1	(1.8)	25.8	(2.7)	25.4	(1.8)	16.9	(1.7)	8.4	(1.0)	2.6	(0.8)
	New Brunswick	4.1	(1.0)	13.1	(1.8)	23.4	(2.1)	30.5	(2.5)	18.4	(2.2)	8.7	(1.5)	1.8	(0.5)
	Newfoundland and Labrador	7.8	(1.9)	15.6	(2.4)	23.0	(2.3)	25.7	(3.3)	17.3	(2.0)	8.4	(1.8)	2.3	(1.0)
	Nova Scotia	5.8	(1.1)	11.8	(1.9)	23.3	(2.4)	29.3	(2.9)	21.4	(2.3)	7.0	(1.7)	1.4	(0.7)
	Ontario	4.2	(0.8)	10.0	(1.6)	20.7	(2.2)	26.3	(2.0)	21.9	(1.7)	12.8	(1.7)	4.1	(1.0)
	Prince Edward Island	6.1	(1.0)	18.9	(2.1)	25.7	(2.6)	25.8	(1.9)	16.0	(1.6)	6.5	(1.2)	0.9	(0.5)
	Quebec	2.7	(0.8)	7.5	(1.0)	16.2	(1.5)	23.2	(1.6)	25.4	(1.7)	18.7	(1.5)	6.3	(0.9)
	Saskatchewan	3.7	(0.9)	11.3	(1.4)	23.5	(2.5)	26.2	(2.9)	22.6	(1.9)	10.8	(1.7)	1.8	(0.8)
	Italy														
	Abruzzo	8.5	(2.5)	14.7	(2.7)	25.1	(2.1)	25.9	(1.8)	18.3	(2.2)	5.8	(1.2)	1.6	(0.6)
	Basilicata	8.4	(1.3)	18.7	(2.3)	24.6	(1.8)	23.9	(2.1)	16.0	(1.9)	6.4	(1.1)	2.0	(0.6)
	Bolzano	5.6	(1.0)	11.3	(1.4)	18.7	(1.6)	25.3	(1.8)	22.0	(1.5)	12.8	(1.4)	4.3	(0.8)
	Calabria	18.5	(2.5)	22.6	(2.7)	25.7	(2.4)	21.1	(2.3)	8.7	(1.7)	2.6	(0.8)	0.8	(0.4)
	Campania	13.9	(2.2)	20.1	(2.5)	25.5	(2.5)	20.8	(2.3)	13.1	(2.0)	5.5	(1.4)	1.1	(0.5)
	Emilia Romagna	6.8	(1.5)	11.7	(2.5)	19.6	(2.4)	23.1	(2.9)	21.0	(2.3)	12.3	(2.1)	5.4	(1.4)
	Friuli Venezia Giulia	3.3	(1.2)	9.9	(1.9)	16.7	(2.3)	24.4	(2.0)	24.5	(2.3)	15.7	(2.1)	5.5	(1.1)
	Lazio	8.1	(1.5)	16.1	(2.4)	26.2	(2.2)	23.0	(2.2)	16.7	(1.6)	8.3	(1.5)	1.7	(0.8)
	Liguria	6.9	(2.0)	15.9	(2.6)	23.4	(2.3)	24.5	(2.2)	17.1	(2.1)	8.7	(1.8)	3.5	(0.7)
	Lombardia	4.9	(1.1)	8.6	(1.5)	16.8	(2.5)	24.9	(2.7)	24.6	(3.1)	15.3	(2.3)	5.0	(1.3)
	Marche	4.0	(1.4)	11.1	(2.1)	22.2	(2.0)	27.7	(2.1)	21.4	(2.2)	10.7	(1.8)	3.1	(0.9)
	Molise	9.4	(1.2)	17.2	(2.1)	27.3	(2.5)	25.6	(3.1)	14.2	(2.3)	5.3	(1.9)	1.1	(0.6)
	Piemonte	4.5	(0.9)	9.4	(1.7)	20.8	(2.5)	28.9	(3.3)	24.1	(3.1)	10.3	(1.7)	2.0	(0.8)
	Puglia	7.8	(2.0)	15.3	(2.3)	21.1	(2.5)	26.5	(2.4)	19.8	(2.6)	8.7	(1.4)	0.9	(0.4)
	Sardegna	13.9	(2.0)	19.3	(2.3)	27.8	(2.5)	21.4	(1.9)	13.4	(1.6)	3.9	(0.9)	0.5	(0.3)
	Sicilia	13.5	(2.2)	22.9	(2.6)	29.0	(2.3)	21.8	(2.3)	9.5	(1.7)	2.9	(0.9)	0.5	(0.3)
	Toscana	7.4	(1.5)	14.7	(3.0)	22.5	(2.0)	22.7	(2.4)	18.8	(2.1)	10.5	(1.7)	3.3	(0.9)
	Trento	3.1	(1.0)	8.8	(1.6)	19.2	(2.2)	26.0	(2.1)	24.0	(2.0)	15.3	(1.9)	3.6	(1.0)
	Umbria	7.0	(2.7)	12.0	(2.6)	21.3	(2.8)	25.0	(3.1)	21.7	(2.7)	10.3	(1.7)	2.8	(1.0)
	Valle d'Aosta	5.2	(1.3)	12.6	(2.1)	24.0	(2.6)	27.4	(3.4)	19.3	(2.0)	9.2	(1.4)	2.3	(0.7)
	Veneto	4.0	(1.2)	8.4	(1.6)	17.2	(2.3)	22.4	(3.0)	23.8	(2.4)	16.6	(2.3)	7.7	(1.9)
	Mexico														
	Aguascalientes	16.6	(2.9)	24.2	(2.3)	28.8	(3.2)	19.6	(2.4)	8.2	(1.8)	2.5	(1.0)	0.2	c
	Baja California	18.7	(3.0)	32.4	(3.9)	28.2	(3.5)	15.4	(2.3)	4.3	(1.3)	0.8	(0.6)	0.1	c
	Baja California Sur	20.9	(3.4)	29.6	(3.0)	27.5	(3.6)	15.5	(2.5)	5.7	(1.2)	0.7	(0.5)	0.1	c
	Campeche	28.2	(3.0)	33.7	(3.0)	25.0	(2.6)	9.4	(1.7)	3.2	(1.1)	0.4	(0.4)	0.0	c
	Chiapas	41.5	(4.8)	30.1	(3.6)	19.4	(3.3)	6.3	(1.5)	2.0	(0.7)	0.5	(0.3)	0.2	(0.2)
	Chihuahua	14.9	(3.4)	28.0	(3.0)	29.7	(3.4)	16.2	(2.7)	9.0	(2.3)	1.9	(0.9)	0.1	c
	Coahuila	22.6	(4.2)	27.2	(3.7)	25.5	(3.0)	17.2	(2.9)	6.4	(2.1)	1.0	(0.7)	0.1	c
	Colima	19.5	(2.7)	26.2	(2.3)	26.7	(2.9)	17.7	(2.8)	8.1	(1.9)	1.4	(0.7)	0.4	(0.3)
	Distrito Federal	13.3	(1.9)	25.2	(3.1)	30.0	(3.0)	21.8	(3.2)	7.7	(1.5)	2.0	(0.7)	0.0	c
	Durango	16.6	(3.0)	25.4	(3.1)	28.6	(2.9)	21.3	(3.5)	6.8	(1.9)	1.3	(0.6)	0.0	c
	Guanajuato	21.3	(3.1)	26.3	(3.5)	27.9	(3.3)	16.7	(2.2)	7.0	(1.6)	0.9	(0.4)	0.0	c
	Guerrero	44.5	(3.7)	32.9	(3.7)	17.5	(1.9)	3.8	(1.2)	1.2	(0.6)	0.1	c	0.0	c
	Hidalgo	22.6	(3.7)	31.1	(3.6)	27.4	(3.2)	14.6	(2.2)	3.6	(1.3)	0.6	(0.4)	0.0	c
	Jalisco	15.4	(2.9)	25.4	(3.5)	30.6	(2.9)	19.2	(3.1)	7.5	(1.7)	1.5	(0.6)	0.3	(0.3)
	Mexico	18.1	(2.9)	31.9	(3.0)	31.0	(3.3)	15.2	(2.1)	2.9	(0.8)	0.7	(0.6)	0.2	c
	Morelos	19.7	(5.1)	29.3	(3.2)	27.5	(3.7)	14.6	(2.6)	6.7	(2.1)	1.8	(1.0)	0.3	(0.4)
	Nayarit	23.0	(2.9)	25.1	(2.3)	30.8	(2.4)	15.1	(2.2)	5.3	(1.4)	0.7	(0.5)	0.0	c
	Nuevo León	13.3	(2.6)	24.5	(3.9)	30.3	(3.0)	21.0	(3.7)	9.5	(3.1)	1.3	(0.5)	0.1	c
	Puebla	20.7	(3.7)	27.9	(2.6)	28.4	(3.0)	15.7	(2.1)	6.4	(1.4)	0.8	(0.5)	0.0	c
	Querétaro	15.6	(2.2)	26.7	(3.7)	29.3	(3.9)	19.3	(3.8)	7.3	(2.2)	1.7	(0.7)	0.1	(0.1)
	Quintana Roo	24.2	(3.4)	31.5	(3.8)	25.9	(2.4)	13.6	(2.3)	4.2	(1.1)	0.6	(0.4)	0.0	c
	San Luis Potosí	26.2	(4.0)	27.3	(4.2)	26.4	(3.9)	14.1	(3.1)	4.8	(1.6)	0.9	(0.7)	0.2	c
	Sinaloa	23.3	(3.1)	33.1	(3.2)	27.1	(2.7)	12.3	(2.1)	3.6	(1.1)	0.5	(0.3)	0.0	c
	Tabasco	39.8	(3.5)	30.6	(3.5)	19.0	(2.5)	8.6	(1.6)	1.7	(0.8)	0.3	c	0.0	c
	Tamaulipas	24.4	(5.0)	27.8	(2.8)	27.3	(3.5)	13.2	(2.5)	5.7	(2.0)	1.6	(1.2)	0.1	c
	Tlaxcala	23.2	(2.8)	29.1	(2.8)	28.7	(2.7)	14.2	(1.8)	4.3	(1.2)	0.5	(0.4)	0.0	c
	Veracruz	29.2	(3.3)	27.2	(2.5)	25.4	(2.7)	13.5	(2.5)	3.9	(1.4)	0.6	(0.5)	0.1	c
	Yucatán	22.5	(3.1)	30.6	(2.9)	25.5	(2.6)	14.5	(2.4)	5.6	(1.2)	1.1	(0.6)	0.2	c
	Zacatecas	24.1	(3.4)	29.7	(2.2)	26.0	(2.4)	15.4	(2.1)	4.3	(1.2)	0.4	(0.3)	0.0	c

• PISA adjudicated region.

Note: See Table I.2.9 for national data.

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[Part 2/4]

Table B2.I.8 Percentage of students at each proficiency level on the mathematics subscale *employing*, by gender and region

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**														
	Alentejo	6.2	(2.0)	13.3	(4.2)	22.8	(3.1)	26.1	(4.3)	19.5	(3.3)	9.6	(2.3)	2.5	(1.4)
	Spain														
	Andalusia•	8.7	(1.8)	18.2	(2.4)	24.9	(2.4)	25.4	(2.5)	15.8	(1.8)	5.9	(1.3)	1.2	(0.5)
	Aragon•	7.6	(1.5)	12.9	(1.7)	20.5	(1.8)	24.1	(1.7)	21.2	(1.7)	11.6	(1.8)	2.2	(1.1)
	Asturias•	7.2	(1.5)	11.0	(1.4)	22.3	(1.8)	26.5	(1.7)	21.0	(1.7)	9.3	(1.4)	2.6	(0.9)
	Balearic Islands•	8.7	(1.7)	16.9	(2.2)	26.0	(1.8)	26.7	(2.2)	16.8	(1.9)	4.4	(1.0)	0.5	(0.3)
	Basque Country•	4.0	(0.7)	10.5	(0.9)	21.2	(1.3)	30.4	(1.3)	24.3	(1.3)	8.6	(0.7)	1.1	(0.3)
	Cantabria•	6.2	(1.3)	13.4	(1.5)	23.1	(1.9)	25.0	(1.9)	21.8	(2.1)	8.9	(1.4)	1.6	(0.5)
	Castile and Leon•	4.6	(1.2)	10.1	(1.4)	20.1	(1.9)	25.1	(2.5)	26.3	(2.3)	11.9	(1.7)	1.9	(0.6)
	Catalonia•	5.3	(1.3)	13.3	(2.2)	22.0	(2.4)	25.3	(2.1)	22.4	(2.3)	9.9	(1.6)	1.8	(0.7)
	Extremadura•	14.3	(2.0)	17.5	(1.7)	22.7	(2.1)	24.5	(2.0)	14.9	(2.2)	5.3	(1.0)	1.0	(0.6)
	Galicia•	8.6	(1.5)	14.5	(1.9)	22.9	(2.2)	27.7	(2.1)	19.2	(1.9)	6.0	(1.7)	1.0	(0.4)
	La Rioja•	8.9	(1.2)	10.9	(1.3)	18.2	(1.6)	21.4	(2.1)	22.0	(1.7)	15.6	(1.6)	3.1	(0.7)
	Madrid•	6.4	(1.1)	11.8	(1.6)	20.0	(2.1)	25.8	(2.3)	23.6	(1.7)	10.4	(1.7)	2.0	(0.7)
	Murcia•	13.0	(1.9)	17.9	(2.8)	24.1	(2.3)	23.1	(2.2)	15.1	(1.8)	5.8	(1.4)	1.0	(0.6)
	Navarre•	4.9	(1.1)	9.0	(1.1)	16.9	(1.8)	29.7	(2.0)	25.4	(1.9)	11.9	(1.5)	2.2	(0.7)
	United Kingdom														
	England	7.2	(1.0)	13.3	(1.3)	21.8	(1.3)	25.4	(1.5)	19.2	(1.3)	10.1	(1.0)	3.1	(0.6)
	Northern Ireland	8.5	(1.3)	14.2	(1.9)	22.8	(2.1)	25.9	(2.1)	17.6	(1.9)	8.8	(1.5)	2.2	(0.6)
	Scotland•	5.5	(0.8)	12.3	(1.0)	22.6	(1.3)	26.2	(1.3)	20.7	(1.3)	10.0	(1.0)	2.7	(0.6)
	Wales	10.2	(1.0)	17.1	(1.2)	27.8	(1.3)	25.1	(1.3)	14.1	(1.1)	4.6	(0.5)	1.0	(0.3)
	United States														
	Connecticut•	7.1	(1.5)	13.8	(1.8)	19.2	(1.6)	23.1	(2.1)	21.0	(1.9)	11.5	(1.5)	4.4	(1.0)
	Florida•	9.7	(1.6)	19.3	(1.9)	24.5	(2.2)	24.7	(2.1)	15.2	(1.9)	5.4	(1.1)	1.2	(0.4)
	Massachusetts•	5.5	(1.2)	11.9	(1.6)	20.7	(1.9)	23.9	(2.2)	21.3	(1.8)	12.2	(2.0)	4.5	(1.2)
Partners	**Argentina**														
	Ciudad Autónoma de Buenos Aires•	22.8	(2.7)	20.7	(2.5)	28.7	(2.7)	18.2	(2.4)	7.9	(1.8)	1.5	(0.7)	0.2	(0.3)
	Brazil														
	Acre	47.6	(5.4)	32.7	(4.5)	14.9	(2.6)	3.5	(1.6)	1.0	(1.0)	0.2	c	0.0	c
	Alagoas	60.6	(6.1)	24.5	(4.9)	10.8	(3.6)	2.8	(1.3)	1.2	(0.9)	0.1	c	0.0	c
	Amapá	50.2	(6.6)	29.3	(5.0)	15.0	(3.7)	5.0	(2.5)	0.5	c	0.0	c	0.0	c
	Amazonas	52.8	(4.2)	31.2	(3.8)	10.4	(2.2)	3.8	(1.6)	1.5	(1.4)	0.3	c	0.0	c
	Bahia	44.6	(6.0)	27.8	(5.8)	16.0	(4.7)	7.9	(2.7)	2.7	(1.7)	1.0	(1.0)	0.1	c
	Ceará	41.1	(4.0)	29.8	(3.6)	15.1	(2.9)	8.0	(2.2)	3.9	(2.1)	1.6	(1.0)	0.5	(0.5)
	Espírito Santo	23.5	(3.7)	30.3	(4.0)	21.3	(3.7)	14.8	(3.2)	7.8	(2.7)	2.2	(1.3)	0.1	c
	Federal District	25.6	(4.6)	27.5	(3.8)	21.7	(3.6)	14.6	(2.8)	8.1	(2.7)	2.1	(1.2)	0.3	c
	Goiás	35.9	(4.7)	33.8	(4.0)	17.5	(3.7)	9.5	(2.5)	3.1	(1.0)	0.3	(0.3)	0.0	c
	Maranhão	56.9	(7.1)	24.0	(4.1)	8.7	(2.9)	7.6	(4.7)	2.6	(2.1)	0.1	c	0.0	c
	Mato Grosso	46.9	(5.2)	31.2	(3.6)	15.0	(3.1)	5.0	(1.8)	1.7	(1.3)	0.1	c	0.0	c
	Mato Grosso do Sul	23.2	(5.0)	29.6	(4.0)	27.5	(3.1)	13.0	(2.4)	6.1	(2.8)	0.6	(0.7)	0.0	c
	Minas Gerais	26.0	(5.0)	30.0	(4.4)	28.5	(3.8)	11.9	(2.7)	2.7	(1.6)	1.0	c	0.0	c
	Pará	49.3	(4.3)	27.5	(4.3)	17.7	(4.0)	4.5	(2.1)	0.9	(1.0)	0.0	c	0.0	c
	Paraíba	31.4	(5.6)	33.8	(6.7)	19.3	(3.6)	10.1	(3.1)	4.5	(2.5)	0.7	(0.7)	0.1	c
	Paraná	29.8	(4.9)	27.5	(3.7)	22.1	(3.4)	10.8	(2.3)	8.0	(3.8)	1.8	(1.9)	0.1	c
	Pernambuco	45.9	(5.2)	32.1	(4.0)	15.4	(3.1)	5.4	(2.0)	1.2	(1.0)	0.1	c	0.0	c
	Piauí	37.6	(4.9)	29.2	(4.2)	17.0	(3.5)	9.7	(2.5)	4.2	(1.7)	1.7	(1.5)	0.6	(0.3)
	Rio de Janeiro	34.6	(4.2)	31.5	(4.2)	19.9	(4.1)	9.4	(3.0)	3.9	(1.6)	0.6	(0.6)	0.0	c
	Rio Grande do Norte	42.2	(5.2)	28.2	(4.1)	14.7	(2.9)	7.0	(2.7)	4.2	(2.3)	3.0	(1.8)	0.7	(0.7)
	Rio Grande do Sul	25.8	(4.7)	30.5	(4.2)	26.1	(3.7)	14.5	(2.0)	2.4	(1.1)	0.8	(0.5)	0.0	c
	Rondônia	34.4	(3.6)	37.4	(3.2)	20.8	(3.0)	5.9	(1.9)	1.3	(0.9)	0.2	c	0.0	c
	Roraima	51.7	(4.5)	27.0	(3.9)	15.6	(3.5)	4.6	(1.6)	0.9	(0.8)	0.2	c	0.0	c
	Santa Catarina	21.0	(3.6)	28.0	(3.3)	26.5	(3.2)	16.5	(3.1)	7.2	(2.0)	0.8	(0.7)	0.0	c
	São Paulo	28.3	(1.7)	30.3	(2.0)	24.1	(1.8)	11.1	(1.5)	4.7	(1.3)	1.3	(0.6)	0.2	(0.1)
	Sergipe	31.7	(5.2)	30.3	(5.9)	20.7	(3.8)	12.8	(4.9)	3.4	(1.8)	1.0	(1.0)	0.1	c
	Tocantins	45.8	(4.7)	27.1	(2.8)	16.7	(2.4)	7.5	(2.2)	2.1	(1.1)	0.8	(0.6)	0.0	c
	Colombia														
	Bogotá	26.5	(2.7)	34.8	(2.6)	25.4	(2.3)	10.5	(1.4)	2.3	(1.2)	0.4	(0.4)	0.2	c
	Cali	39.1	(4.1)	31.0	(2.8)	19.5	(3.1)	8.2	(1.9)	2.2	(0.8)	0.0	c	0.0	c
	Manizales	27.1	(2.7)	30.0	(3.4)	24.7	(2.8)	12.3	(2.2)	4.6	(1.6)	1.3	(1.0)	0.0	c
	Medellín	35.5	(3.6)	29.1	(3.0)	19.0	(2.8)	10.6	(2.4)	3.9	(1.2)	1.5	(0.9)	0.3	(0.3)
	Russian Federation														
	Perm Territory region•	8.0	(1.6)	14.3	(1.9)	24.6	(1.9)	25.1	(2.6)	17.6	(1.9)	7.7	(1.5)	2.6	(1.0)
	United Arab Emirates														
	Abu Dhabi•	27.3	(1.8)	25.7	(1.6)	23.4	(1.4)	13.5	(1.2)	7.0	(1.0)	2.6	(0.7)	0.5	(0.3)
	Ajman	35.0	(7.2)	29.2	(5.9)	22.8	(5.2)	11.0	(2.4)	1.8	(0.9)	0.2	c	0.0	c
	Dubai•	13.2	(0.6)	17.7	(1.0)	21.8	(1.2)	21.3	(1.1)	16.8	(1.1)	7.2	(0.9)	2.1	(0.6)
	Fujairah	33.5	(6.3)	27.1	(3.7)	21.7	(4.0)	9.7	(1.8)	6.4	(1.5)	1.2	(0.7)	0.4	(0.4)
	Ras al-Khaimah	23.8	(3.2)	30.3	(3.8)	26.1	(2.7)	14.3	(3.1)	4.7	(1.9)	0.9	(0.7)	0.0	c
	Sharjah	17.2	(4.6)	23.8	(4.1)	22.7	(3.5)	20.4	(3.8)	11.1	(3.8)	3.6	(1.8)	1.2	(0.8)
	Umm al-Quwain	37.5	(3.6)	37.7	(5.7)	17.0	(4.9)	4.8	(1.8)	1.6	(1.7)	1.4	(1.3)	0.0	c

• PISA adjudicated region.

Note: See Table I.2.9 for national data.

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[Part 3/4]

Table B2.I.8 Percentage of students at each proficiency level on the mathematics subscale *employing*, by gender and region

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	4.7	(1.5)	10.3	(2.0)	21.6	(2.5)	25.5	(3.2)	24.3	(3.3)	10.6	(2.8)	2.9	(1.1)
	New South Wales	6.0	(0.9)	13.0	(1.1)	22.3	(1.4)	24.0	(1.9)	19.7	(2.0)	10.8	(1.1)	4.3	(1.1)
	Northern Territory	17.1	(2.8)	19.5	(6.3)	27.1	(5.8)	22.9	(4.4)	8.7	(3.9)	4.3	(2.7)	0.4	c
	Queensland	7.3	(1.1)	14.4	(1.3)	22.8	(1.9)	25.2	(1.5)	17.5	(1.4)	9.9	(1.3)	2.9	(0.7)
	South Australia	8.6	(1.5)	17.2	(1.6)	25.6	(2.3)	25.4	(1.9)	15.1	(1.8)	6.8	(1.4)	1.4	(0.5)
	Tasmania	10.9	(1.7)	20.5	(2.2)	25.9	(3.0)	22.5	(3.3)	14.1	(1.9)	5.1	(1.5)	0.8	(0.5)
	Victoria	7.2	(1.2)	14.6	(1.2)	26.0	(1.7)	25.4	(2.0)	17.7	(1.5)	7.7	(1.1)	1.2	(0.5)
	Western Australia	6.3	(1.1)	13.7	(1.6)	21.0	(1.8)	26.0	(2.0)	19.8	(1.7)	10.2	(1.5)	2.9	(1.0)
	Belgium														
	Flemish Community•	5.4	(1.0)	10.3	(1.2)	16.8	(1.2)	22.6	(1.3)	23.1	(1.4)	16.1	(1.3)	5.8	(0.6)
	French Community	8.6	(1.2)	14.3	(1.4)	22.5	(1.6)	24.5	(1.8)	20.1	(1.4)	8.2	(0.8)	1.8	(0.4)
	German-speaking Community	4.2	(1.2)	7.9	(1.4)	20.4	(2.4)	29.4	(2.8)	28.3	(2.5)	8.9	(1.9)	0.9	(0.8)
	Canada														
	Alberta	3.7	(0.7)	12.5	(1.6)	21.9	(2.1)	25.1	(1.7)	23.7	(1.5)	10.4	(1.7)	2.7	(0.8)
	British Columbia	2.2	(0.8)	10.7	(1.7)	21.4	(2.0)	29.1	(2.1)	22.6	(1.7)	11.1	(1.8)	2.9	(0.7)
	Manitoba	6.8	(1.5)	15.9	(1.9)	27.1	(2.0)	25.2	(2.2)	17.1	(1.5)	6.1	(1.0)	1.8	(0.6)
	New Brunswick	4.0	(1.1)	10.9	(1.6)	25.3	(1.9)	31.6	(3.0)	18.8	(1.9)	8.3	(1.5)	1.2	(1.0)
	Newfoundland and Labrador	5.4	(1.5)	14.7	(2.8)	26.4	(2.3)	26.7	(2.3)	18.5	(2.2)	7.0	(1.4)	1.2	(0.6)
	Nova Scotia	4.3	(1.1)	15.7	(2.5)	27.9	(3.8)	28.2	(3.0)	17.3	(2.1)	5.4	(1.4)	1.3	(0.7)
	Ontario	4.1	(0.7)	10.3	(1.1)	24.0	(2.0)	28.9	(2.3)	21.7	(1.7)	8.9	(1.3)	2.1	(0.6)
	Prince Edward Island	6.6	(1.1)	17.0	(1.7)	28.6	(2.4)	27.8	(1.9)	14.5	(1.5)	4.6	(1.1)	0.8	(0.4)
	Quebec	3.0	(0.6)	8.2	(0.9)	17.1	(1.3)	25.6	(1.6)	26.7	(1.6)	15.1	(1.3)	4.2	(0.7)
	Saskatchewan	3.8	(0.8)	10.7	(1.4)	25.2	(1.7)	30.8	(2.0)	19.8	(1.9)	8.0	(1.5)	1.6	(0.6)
	Italy														
	Abruzzo	9.2	(1.6)	16.8	(2.1)	28.4	(2.4)	25.4	(2.5)	15.6	(2.2)	3.9	(0.9)	0.7	(0.4)
	Basilicata	10.7	(2.0)	21.3	(2.3)	31.7	(2.0)	23.8	(1.9)	9.3	(1.5)	2.6	(0.7)	0.6	(0.4)
	Bolzano	6.3	(1.0)	12.3	(1.5)	23.7	(2.4)	30.6	(2.8)	20.2	(1.9)	6.1	(1.2)	0.9	(0.5)
	Calabria	24.6	(3.4)	23.9	(2.7)	27.7	(2.2)	16.0	(2.0)	6.5	(1.3)	1.1	(0.6)	0.1	c
	Campania	16.1	(3.0)	22.7	(3.2)	27.9	(2.6)	21.4	(3.2)	9.2	(2.0)	2.4	(1.0)	0.3	(0.2)
	Emilia Romagna	6.8	(1.7)	14.0	(2.5)	26.0	(2.7)	25.7	(2.2)	17.8	(2.1)	7.4	(1.6)	2.2	(0.7)
	Friuli Venezia Giulia	3.3	(1.7)	9.1	(1.4)	21.3	(2.5)	31.6	(2.5)	24.1	(2.1)	8.2	(1.6)	2.5	(0.7)
	Lazio	10.9	(1.7)	19.5	(2.5)	29.0	(3.0)	24.8	(2.6)	11.1	(2.0)	4.1	(1.4)	0.7	(0.4)
	Liguria	7.9	(1.7)	14.9	(1.8)	25.4	(2.7)	27.9	(2.0)	17.4	(2.3)	5.3	(1.2)	1.1	(0.6)
	Lombardia	2.8	(1.1)	11.4	(2.2)	22.7	(3.0)	31.4	(3.1)	21.0	(2.5)	9.2	(1.9)	1.5	(0.8)
	Marche	6.5	(2.1)	15.4	(2.1)	27.4	(2.6)	27.7	(2.1)	16.5	(2.2)	5.3	(1.1)	1.2	(0.5)
	Molise	10.7	(2.0)	21.7	(2.5)	30.5	(2.6)	22.9	(3.0)	10.2	(2.2)	3.5	(1.3)	0.4	(0.4)
	Piemonte	6.7	(1.7)	16.2	(2.7)	24.0	(2.7)	27.0	(2.6)	18.6	(2.4)	6.2	(1.6)	1.4	(0.8)
	Puglia	8.7	(2.2)	19.3	(2.6)	29.6	(2.5)	23.0	(2.2)	14.3	(2.0)	4.5	(1.2)	0.6	(0.4)
	Sardegna	12.4	(2.6)	22.9	(2.7)	29.1	(2.4)	21.9	(2.3)	10.7	(1.9)	2.8	(0.7)	0.2	(0.3)
	Sicilia	14.5	(2.7)	25.5	(3.4)	29.2	(2.5)	21.1	(3.3)	8.5	(1.7)	1.1	(0.4)	0.2	(0.2)
	Toscana	7.6	(1.8)	15.0	(2.5)	21.4	(2.5)	25.2	(3.0)	20.9	(2.6)	8.5	(1.6)	1.4	(0.7)
	Trento	2.7	(1.1)	7.7	(2.3)	19.3	(2.3)	31.7	(3.1)	27.3	(3.4)	10.1	(1.8)	1.1	(0.7)
	Umbria	7.5	(2.1)	15.8	(2.3)	25.2	(2.0)	27.2	(2.1)	17.2	(2.0)	6.2	(1.4)	0.9	(0.5)
	Valle d'Aosta	4.6	(1.3)	17.9	(3.0)	28.6	(3.5)	28.4	(2.8)	14.3	(1.9)	4.7	(1.5)	1.5	(0.7)
	Veneto	3.2	(1.4)	9.0	(1.5)	22.7	(3.4)	28.9	(2.9)	24.0	(2.5)	10.0	(2.5)	2.1	(0.8)
	Mexico														
	Aguascalientes	16.1	(2.8)	27.7	(2.0)	32.1	(2.9)	17.2	(2.3)	5.9	(1.8)	0.8	(0.5)	0.1	c
	Baja California	25.5	(2.6)	32.8	(2.8)	24.4	(2.8)	12.4	(2.1)	4.2	(1.7)	0.6	(0.7)	0.0	c
	Baja California Sur	26.5	(3.3)	31.4	(2.5)	26.8	(2.3)	12.4	(1.7)	2.7	(1.0)	0.2	(0.2)	0.0	c
	Campeche	35.5	(3.2)	33.0	(3.0)	21.8	(3.4)	7.7	(1.5)	1.8	(0.6)	0.2	c	0.0	c
	Chiapas	45.3	(4.4)	28.6	(2.9)	18.6	(2.4)	6.1	(1.7)	1.3	(0.6)	0.2	c	0.0	c
	Chihuahua	19.6	(3.0)	30.6	(3.4)	28.5	(3.4)	15.3	(2.0)	5.3	(1.4)	0.6	(0.4)	0.1	c
	Coahuila	22.5	(3.5)	32.3	(4.3)	28.3	(3.0)	11.8	(3.4)	4.9	(2.3)	0.2	(0.3)	0.0	c
	Colima	21.1	(3.1)	26.3	(3.3)	27.5	(3.3)	17.6	(2.7)	6.8	(1.8)	0.7	(0.5)	0.0	c
	Distrito Federal	20.0	(3.1)	33.6	(4.4)	27.5	(3.9)	13.8	(2.2)	4.4	(1.6)	0.6	(0.7)	0.0	c
	Durango	18.7	(3.0)	31.0	(2.6)	29.3	(3.7)	16.0	(3.0)	4.2	(1.1)	0.8	(0.6)	0.0	c
	Guanajuato	25.5	(3.7)	31.6	(3.0)	27.2	(2.9)	13.1	(2.1)	2.5	(0.8)	0.1	c	0.0	c
	Guerrero	48.2	(3.2)	31.5	(2.9)	15.0	(1.9)	4.3	(1.0)	1.0	(0.5)	0.0	c	0.0	c
	Hidalgo	28.9	(3.9)	32.3	(3.5)	25.6	(2.7)	10.9	(2.3)	2.1	(0.9)	0.2	c	0.0	c
	Jalisco	16.0	(2.5)	28.3	(3.0)	33.0	(2.9)	17.3	(2.1)	4.3	(1.2)	1.1	(0.9)	0.0	c
	Mexico	21.1	(3.6)	33.9	(3.8)	32.7	(4.1)	10.4	(2.1)	1.7	(1.0)	0.2	c	0.0	c
	Morelos	21.3	(3.2)	31.4	(2.8)	28.2	(2.4)	13.2	(2.1)	4.4	(2.0)	1.5	(1.0)	0.0	c
	Nayarit	27.1	(3.7)	29.2	(3.3)	26.5	(3.0)	12.3	(2.0)	4.2	(1.4)	0.7	(0.5)	0.0	c
	Nuevo León	18.8	(3.4)	31.2	(3.5)	28.7	(2.9)	16.1	(2.9)	4.6	(1.3)	0.5	(0.4)	0.1	c
	Puebla	21.9	(2.9)	33.3	(3.1)	27.8	(2.5)	13.1	(1.8)	3.4	(1.1)	0.4	(0.3)	0.0	c
	Querétaro	20.5	(3.1)	29.3	(2.9)	27.9	(4.0)	16.4	(2.6)	4.9	(1.4)	1.0	(0.5)	0.1	c
	Quintana Roo	28.6	(3.3)	30.1	(3.6)	26.2	(2.2)	12.0	(1.6)	2.8	(0.9)	0.4	c	0.0	c
	San Luis Potosí	26.1	(3.3)	29.4	(2.9)	25.3	(2.2)	14.8	(2.5)	3.9	(1.6)	0.4	(0.5)	0.1	c
	Sinaloa	25.5	(2.8)	34.1	(2.9)	26.0	(3.1)	11.6	(1.7)	2.6	(1.0)	0.2	c	0.0	c
	Tabasco	43.4	(3.4)	32.5	(3.2)	17.9	(2.1)	4.9	(0.9)	1.0	(0.5)	0.2	c	0.0	c
	Tamaulipas	31.4	(3.8)	31.8	(3.3)	24.1	(2.8)	10.2	(2.4)	2.3	(1.0)	0.2	(0.2)	0.0	c
	Tlaxcala	25.7	(3.7)	33.2	(3.0)	25.9	(2.6)	11.7	(2.4)	2.9	(1.0)	0.5	(0.5)	0.0	c
	Veracruz	31.0	(3.9)	32.6	(3.4)	21.8	(2.1)	11.4	(2.3)	2.8	(1.2)	0.5	(0.5)	0.0	c
	Yucatán	30.9	(4.1)	31.3	(3.7)	24.1	(2.3)	10.6	(1.6)	2.7	(0.9)	0.3	(0.2)	0.1	c
	Zacatecas	27.5	(2.9)	33.2	(3.6)	25.2	(2.3)	10.8	(1.6)	3.1	(1.2)	0.3	(0.3)	0.0	c

• PISA adjudicated region.
Note: See Table I.2.9 for national data.
StatLink http://dx.doi.org/10.1787/888932935762



[Part 4/4]

Table B2.I.8 Percentage of students at each proficiency level on the mathematics subscale *employing*, by gender and region

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**														
	Alentejo	8.5	(2.4)	15.6	(2.8)	25.2	(2.8)	24.6	(3.7)	17.9	(3.1)	7.5	(1.9)	0.7	(0.7)
	Spain														
	Andalusia•	8.9	(1.3)	21.9	(2.0)	31.3	(2.9)	23.6	(2.2)	11.8	(1.7)	2.4	(0.9)	0.0	c
	Aragon•	9.2	(1.9)	13.2	(2.1)	22.6	(1.8)	28.8	(2.0)	18.8	(1.9)	6.2	(1.3)	1.2	(0.6)
	Asturias•	5.9	(0.9)	13.7	(1.7)	24.3	(1.7)	28.8	(2.0)	19.0	(1.9)	7.0	(1.2)	1.2	(0.4)
	Balearic Islands•	9.5	(1.5)	17.7	(1.9)	25.9	(1.7)	26.9	(2.0)	16.0	(2.1)	3.9	(1.2)	0.1	c
	Basque Country•	4.4	(0.6)	12.0	(1.1)	24.9	(1.2)	31.0	(1.1)	21.5	(1.1)	5.5	(0.6)	0.7	(0.2)
	Cantabria•	4.7	(1.4)	15.2	(1.8)	28.6	(2.0)	27.6	(2.0)	17.2	(1.6)	6.1	(1.0)	0.7	(0.4)
	Castile and Leon•	3.9	(0.9)	11.3	(1.4)	24.9	(2.1)	33.0	(2.3)	20.6	(1.7)	5.9	(1.3)	0.4	(0.5)
	Catalonia•	6.4	(1.5)	15.4	(2.5)	24.9	(2.3)	30.8	(2.0)	17.6	(2.1)	4.4	(1.0)	0.5	(0.3)
	Extremadura•	13.2	(1.5)	18.5	(1.9)	28.3	(1.9)	24.9	(1.9)	12.1	(1.4)	2.7	(0.7)	0.2	(0.2)
	Galicia•	8.2	(1.5)	13.7	(2.0)	25.4	(1.7)	28.5	(2.1)	17.9	(2.1)	5.4	(1.3)	0.9	(0.5)
	La Rioja•	8.1	(1.2)	12.7	(1.8)	22.1	(2.5)	26.7	(2.1)	21.2	(1.8)	7.8	(1.1)	1.4	(0.4)
	Madrid•	6.2	(1.4)	12.5	(1.5)	23.1	(1.7)	27.9	(2.3)	22.3	(2.6)	7.3	(1.2)	0.8	(0.4)
	Murcia•	12.6	(1.5)	19.9	(1.8)	28.9	(2.1)	25.7	(2.2)	10.6	(1.7)	1.8	(0.6)	0.5	(0.3)
	Navarre•	3.4	(0.9)	9.8	(1.1)	22.1	(2.3)	29.0	(2.2)	24.0	(2.0)	10.3	(1.4)	1.5	(0.5)
	United Kingdom														
	England	8.8	(1.1)	15.8	(1.4)	22.9	(1.7)	24.6	(1.6)	17.6	(1.1)	7.9	(0.8)	2.3	(0.5)
	Northern Ireland	9.2	(1.4)	18.1	(2.0)	23.4	(1.8)	23.3	(1.8)	16.3	(1.5)	7.8	(1.3)	1.9	(0.6)
	Scotland•	7.2	(1.1)	14.9	(1.5)	26.0	(1.6)	26.0	(1.3)	17.2	(1.2)	7.1	(0.8)	1.6	(0.3)
	Wales	10.7	(1.0)	21.3	(1.1)	28.1	(1.3)	23.5	(1.4)	12.5	(1.0)	3.3	(0.6)	0.6	(0.3)
	United States														
	Connecticut•	8.0	(1.5)	14.4	(1.4)	20.6	(2.1)	24.5	(2.3)	18.1	(1.9)	11.1	(1.8)	3.3	(0.9)
	Florida•	10.6	(1.5)	21.7	(2.0)	29.3	(2.1)	22.4	(2.0)	12.1	(1.5)	3.4	(1.2)	0.5	(0.3)
	Massachusetts•	5.1	(1.1)	13.5	(1.7)	21.7	(2.0)	24.6	(1.8)	19.7	(2.4)	11.9	(2.2)	3.5	(1.0)
Partners	**Argentina**														
	Ciudad Autónoma de Buenos Aires•	23.7	(3.0)	24.0	(2.7)	29.0	(2.6)	16.6	(2.3)	5.5	(1.2)	1.2	(0.5)	0.0	c
	Brazil														
	Acre	57.6	(4.9)	26.9	(3.5)	12.6	(2.6)	2.6	(1.3)	0.0	c	0.2	(0.2)	0.1	c
	Alagoas	68.1	(4.1)	19.1	(3.5)	9.3	(2.5)	2.8	(1.6)	0.5	(0.5)	0.2	c	0.0	c
	Amapá	57.3	(5.6)	29.1	(4.4)	11.6	(3.2)	1.8	(1.3)	0.2	c	0.0	c	0.0	c
	Amazonas	64.6	(4.8)	26.3	(4.7)	6.5	(1.8)	1.3	(0.9)	1.2	(1.2)	0.0	c	0.0	c
	Bahia	50.7	(8.0)	25.1	(3.8)	15.1	(5.7)	6.7	(3.6)	2.1	(1.5)	0.3	c	0.0	c
	Ceará	49.2	(5.8)	29.1	(5.4)	14.6	(2.6)	4.8	(2.2)	1.6	(1.0)	0.8	(0.3)	0.0	c
	Espírito Santo	30.6	(4.3)	29.5	(4.0)	20.1	(3.2)	11.6	(3.0)	6.8	(3.1)	1.2	(0.9)	0.1	c
	Federal District	32.5	(4.9)	26.1	(4.0)	22.7	(3.3)	14.0	(2.6)	4.3	(2.3)	0.5	c	0.0	c
	Goiás	43.7	(4.8)	34.2	(4.1)	15.5	(2.8)	5.8	(1.7)	0.7	c	0.0	c	0.0	c
	Maranhão	64.9	(7.8)	23.5	(4.0)	8.6	(4.1)	2.5	(1.6)	0.5	(0.5)	0.0	c	0.0	c
	Mato Grosso	51.3	(5.5)	28.8	(3.8)	13.9	(3.4)	2.8	(2.1)	2.4	(1.5)	0.8	(0.6)	0.1	c
	Mato Grosso do Sul	31.5	(4.6)	33.8	(5.1)	22.1	(3.9)	9.1	(1.7)	2.7	(1.3)	0.7	(0.7)	0.0	c
	Minas Gerais	31.4	(3.9)	33.0	(2.9)	23.2	(3.3)	10.1	(2.5)	2.2	(1.0)	0.1	c	0.0	c
	Pará	57.1	(4.4)	24.2	(3.4)	15.6	(4.2)	3.1	(2.3)	0.0	c	0.0	c	0.0	c
	Paraíba	38.7	(5.3)	28.9	(4.2)	22.0	(5.3)	8.4	(2.5)	1.9	(1.1)	0.2	c	0.0	c
	Paraná	36.8	(4.3)	31.7	(4.5)	19.3	(3.7)	7.1	(2.4)	3.2	(2.6)	1.6	(1.8)	0.2	c
	Pernambuco	55.7	(5.3)	30.1	(3.9)	11.8	(2.8)	1.9	(0.9)	0.4	(0.3)	0.0	c	0.0	c
	Piauí	44.1	(3.9)	31.3	(3.8)	12.7	(2.6)	8.1	(2.1)	2.5	(1.7)	1.3	(1.2)	0.1	c
	Rio de Janeiro	41.2	(4.8)	32.3	(3.8)	18.1	(2.3)	7.1	(1.6)	1.2	(1.2)	0.2	c	0.0	c
	Rio Grande do Norte	56.7	(4.4)	23.0	(3.6)	9.5	(1.9)	7.3	(2.0)	2.2	(1.3)	1.2	(0.8)	0.0	c
	Rio Grande do Sul	31.0	(3.6)	33.2	(3.0)	24.2	(4.1)	9.6	(2.1)	1.7	(0.8)	0.3	c	0.0	c
	Rondônia	42.0	(4.7)	35.8	(3.4)	17.2	(3.0)	4.4	(1.8)	0.7	(0.6)	0.0	c	0.0	c
	Roraima	57.6	(4.0)	25.1	(2.9)	10.7	(2.8)	4.5	(2.1)	2.0	(1.8)	0.1	c	0.0	c
	Santa Catarina	23.6	(4.0)	33.4	(3.5)	26.3	(3.0)	12.1	(2.7)	3.8	(1.6)	0.8	(0.7)	0.0	c
	São Paulo	35.8	(2.3)	31.0	(2.1)	20.1	(1.9)	9.4	(1.5)	2.8	(0.9)	0.8	(0.5)	0.2	(0.2)
	Sergipe	44.1	(6.1)	32.8	(4.7)	16.0	(4.4)	6.6	(3.1)	0.6	(0.6)	0.0	c	0.0	c
	Tocantins	56.1	(4.2)	27.2	(3.7)	12.3	(2.5)	2.7	(0.9)	1.3	(0.5)	0.4	(0.3)	0.0	c
	Colombia														
	Bogotá	43.5	(2.6)	34.2	(2.9)	17.9	(1.9)	4.0	(1.0)	0.5	(0.3)	0.0	c	0.0	c
	Cali	47.2	(4.5)	29.7	(2.2)	17.4	(2.7)	4.6	(1.4)	1.1	(0.5)	0.0	c	0.0	c
	Manizales	39.7	(3.9)	33.8	(3.9)	18.4	(2.8)	6.7	(1.7)	1.4	(1.0)	0.0	c	0.0	c
	Medellín	48.9	(4.3)	26.6	(2.6)	13.0	(2.0)	7.0	(1.8)	3.2	(1.5)	1.1	(0.8)	0.2	(0.3)
	Russian Federation														
	Perm Territory region•	7.3	(1.4)	15.6	(1.7)	26.9	(1.8)	26.3	(2.5)	16.4	(2.3)	5.8	(1.5)	1.6	(0.7)
	United Arab Emirates														
	Abu Dhabi•	17.8	(2.1)	26.6	(1.4)	27.2	(1.6)	17.4	(1.5)	8.2	(1.3)	2.5	(0.6)	0.4	(0.3)
	Ajman	21.6	(5.9)	29.0	(2.7)	28.3	(3.6)	15.6	(3.1)	4.5	(1.6)	0.9	(0.9)	0.1	c
	Dubai•	11.5	(0.6)	20.7	(1.6)	25.9	(1.6)	22.9	(1.3)	13.9	(1.0)	4.3	(0.7)	0.8	(0.4)
	Fujairah	17.5	(4.0)	24.7	(4.1)	29.0	(3.4)	22.1	(3.5)	5.3	(1.8)	1.3	(0.9)	0.2	c
	Ras al-Khaimah	17.3	(5.5)	26.7	(3.4)	29.7	(4.4)	17.7	(3.2)	7.5	(2.6)	1.1	(0.8)	0.1	c
	Sharjah	16.7	(3.4)	26.0	(3.9)	26.2	(2.6)	18.2	(3.3)	10.1	(2.6)	2.6	(1.1)	0.2	c
	Umm al-Quwain	18.6	(3.4)	31.4	(4.2)	30.5	(4.2)	14.0	(2.9)	4.3	(2.1)	1.1	(1.1)	0.0	c

• PISA adjudicated region.

Note: See Table I.2.9 for national data.

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[Part 1/2]

Table B2.I.9 Mean score, variation and gender differences in student performance on the mathematics subscale *employing*, by region

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	**Australia**																						
	Australian Capital Territory	513	(3.6)	93	(2.7)	513	(5.6)	512	(4.7)	2	(7.3)	354	(10.2)	391	(7.0)	449	(6.6)	579	(5.3)	632	(6.7)	660	(7.9)
	New South Wales	507	(3.5)	99	(2.2)	508	(5.2)	505	(3.9)	3	(6.1)	345	(5.3)	379	(4.4)	438	(3.8)	577	(5.0)	636	(6.3)	670	(6.7)
	Northern Territory	448	(10.1)	110	(7.9)	452	(9.0)	443	(14.6)	8	(13.3)	256	(32.7)	309	(14.6)	387	(10.0)	520	(15.4)	578	(18.3)	617	(19.9)
	Queensland	499	(3.2)	94	(2.2)	503	(4.1)	496	(4.1)	7	(5.0)	345	(7.7)	378	(5.1)	434	(3.9)	566	(3.5)	623	(4.5)	653	(6.4)
	South Australia	484	(3.4)	90	(2.1)	489	(3.9)	479	(4.1)	**10**	(4.5)	336	(6.4)	367	(5.3)	423	(4.2)	548	(6.1)	602	(5.1)	634	(5.8)
	Tasmania	471	(3.3)	92	(2.5)	477	(4.6)	466	(4.7)	11	(6.6)	313	(8.7)	352	(7.9)	410	(5.2)	535	(5.5)	589	(6.9)	619	(8.2)
	Victoria	497	(4.0)	90	(2.2)	505	(5.2)	487	(4.2)	**18**	(5.5)	348	(6.6)	380	(4.8)	436	(3.5)	559	(5.2)	611	(6.6)	641	(8.1)
	Western Australia	512	(3.7)	92	(1.8)	522	(5.2)	501	(4.6)	**21**	(6.5)	358	(6.2)	391	(4.8)	448	(5.3)	579	(5.3)	630	(4.7)	659	(7.5)
	Belgium																						
	Flemish Community•	531	(3.1)	102	(2.5)	538	(4.2)	524	(4.3)	**14**	(5.8)	356	(7.3)	394	(5.9)	462	(5.1)	606	(3.4)	659	(3.0)	686	(3.4)
	French Community	495	(3.0)	96	(1.9)	499	(3.4)	491	(3.7)	**8**	(3.8)	330	(6.5)	365	(5.9)	429	(4.6)	564	(3.2)	617	(3.2)	647	(3.3)
	German-speaking Community	512	(2.0)	88	(2.5)	510	(3.4)	513	(3.1)	-3	(5.1)	351	(11.6)	393	(5.6)	459	(4.7)	572	(3.6)	619	(6.3)	647	(8.9)
	Canada																						
	Alberta	515	(4.6)	89	(1.6)	519	(4.7)	510	(5.2)	**9**	(3.7)	365	(8.1)	399	(5.8)	453	(5.5)	579	(5.0)	629	(5.2)	657	(5.1)
	British Columbia	522	(4.5)	83	(2.0)	527	(4.7)	517	(6.0)	11	(5.9)	385	(7.0)	413	(5.7)	464	(4.7)	580	(5.9)	631	(6.9)	658	(6.2)
	Manitoba	489	(3.2)	88	(2.4)	493	(4.2)	485	(4.5)	8	(5.9)	349	(6.6)	378	(5.7)	429	(4.3)	549	(4.2)	604	(5.5)	635	(5.8)
	New Brunswick	500	(2.8)	81	(2.2)	500	(4.1)	500	(3.6)	0	(5.4)	366	(6.0)	395	(6.3)	447	(5.2)	553	(4.6)	606	(5.9)	635	(6.8)
	Newfoundland and Labrador	490	(3.8)	88	(2.1)	490	(5.4)	490	(4.2)	0	(5.8)	346	(10.2)	374	(8.3)	429	(6.4)	551	(5.7)	604	(6.9)	633	(7.5)
	Nova Scotia	493	(3.1)	81	(2.4)	497	(3.9)	489	(5.2)	8	(6.7)	357	(6.0)	389	(4.5)	437	(3.3)	549	(3.9)	594	(7.5)	625	(9.1)
	Ontario	512	(4.3)	86	(1.9)	518	(4.8)	507	(4.4)	**11**	(3.7)	367	(6.6)	400	(5.9)	454	(4.6)	572	(5.4)	623	(5.8)	654	(5.9)
	Prince Edward Island	479	(2.5)	82	(1.6)	481	(3.6)	478	(3.4)	4	(4.9)	349	(4.0)	374	(4.1)	422	(4.3)	536	(3.9)	586	(4.7)	618	(5.5)
	Quebec	536	(3.4)	89	(2.0)	540	(4.2)	531	(3.9)	**10**	(4.3)	380	(7.4)	416	(5.7)	476	(4.2)	599	(3.7)	646	(3.9)	671	(5.1)
	Saskatchewan	506	(3.2)	82	(2.0)	508	(4.2)	502	(3.6)	6	(4.6)	370	(6.3)	401	(4.5)	450	(4.0)	564	(4.9)	611	(4.9)	638	(7.0)
	Italy																						
	Abruzzo	477	(6.0)	89	(3.6)	482	(6.8)	471	(6.9)	11	(7.3)	324	(17.8)	363	(9.9)	421	(5.9)	539	(7.7)	588	(6.9)	615	(8.4)
	Basilicata	468	(4.7)	86	(2.0)	480	(6.3)	456	(4.5)	**24**	(5.7)	330	(5.5)	360	(7.3)	408	(6.1)	524	(5.7)	577	(5.7)	616	(8.6)
	Bolzano	503	(2.2)	90	(1.5)	514	(3.0)	492	(2.8)	**22**	(3.7)	351	(6.5)	383	(4.8)	446	(3.8)	565	(3.5)	616	(3.8)	645	(5.3)
	Calabria	431	(5.5)	89	(3.3)	442	(5.8)	419	(7.1)	**23**	(7.5)	289	(8.8)	316	(6.6)	368	(7.1)	492	(6.5)	545	(8.3)	577	(8.7)
	Campania	453	(7.7)	91	(3.5)	462	(7.8)	444	(9.6)	**18**	(7.8)	304	(8.3)	337	(8.3)	390	(8.2)	514	(10.2)	571	(9.5)	605	(9.2)
	Emilia Romagna	501	(6.6)	98	(4.1)	510	(9.9)	490	(6.6)	20	(10.8)	343	(12.2)	377	(8.6)	435	(6.8)	568	(8.4)	625	(8.7)	658	(10.5)
	Friuli Venezia Giulia	521	(4.3)	87	(3.1)	529	(5.7)	512	(5.1)	**17**	(6.8)	375	(11.5)	407	(8.3)	464	(5.8)	580	(5.4)	629	(5.3)	661	(5.3)
	Lazio	475	(6.3)	88	(3.1)	485	(6.6)	462	(7.1)	**23**	(6.4)	332	(9.6)	362	(8.9)	415	(6.7)	534	(8.7)	592	(9.7)	625	(9.9)
	Liguria	488	(6.5)	91	(3.1)	493	(8.6)	483	(7.0)	10	(9.0)	338	(13.8)	374	(8.5)	427	(8.0)	549	(7.4)	604	(8.3)	637	(8.4)
	Lombardia	517	(7.6)	87	(3.2)	527	(8.9)	507	(7.9)	**20**	(8.0)	367	(8.2)	404	(8.5)	459	(9.7)	578	(9.5)	627	(8.9)	657	(10.3)
	Marche	497	(5.6)	85	(3.4)	510	(6.4)	484	(6.3)	**27**	(6.1)	355	(15.3)	388	(9.6)	438	(7.1)	555	(6.7)	607	(8.5)	637	(7.9)
	Molise	466	(2.5)	85	(2.2)	474	(3.2)	457	(3.6)	**17**	(4.5)	329	(7.0)	357	(4.8)	409	(3.3)	522	(5.0)	574	(6.9)	607	(8.1)
	Piemonte	499	(5.8)	86	(2.4)	512	(4.5)	487	(7.3)	**25**	(5.5)	353	(7.5)	383	(6.9)	442	(6.2)	560	(7.1)	607	(8.2)	634	(6.3)
	Puglia	480	(6.5)	87	(3.6)	490	(6.5)	470	(6.8)	**21**	(5.3)	339	(12.1)	367	(10.1)	418	(7.6)	543	(7.6)	594	(7.2)	622	(7.7)
	Sardegna	455	(5.4)	87	(2.8)	458	(5.5)	451	(7.0)	7	(6.7)	314	(10.6)	342	(9.1)	397	(7.0)	516	(6.7)	567	(6.3)	597	(6.2)
	Sicilia	445	(5.4)	83	(3.3)	448	(6.6)	442	(6.3)	6	(7.1)	311	(10.5)	340	(9.2)	391	(5.8)	502	(7.4)	550	(7.0)	579	(8.0)
	Toscana	495	(5.0)	93	(2.4)	497	(7.3)	493	(8.6)	4	(12.4)	339	(8.6)	372	(5.6)	428	(5.8)	563	(6.7)	617	(5.3)	647	(7.4)
	Trento	522	(4.6)	82	(2.5)	525	(5.4)	518	(7.1)	7	(8.6)	381	(11.7)	415	(7.2)	468	(7.1)	580	(5.5)	626	(4.8)	649	(5.3)
	Umbria	494	(7.0)	89	(3.8)	504	(10.1)	484	(6.2)	**20**	(8.7)	342	(12.5)	373	(14.3)	433	(11.5)	558	(6.1)	607	(5.4)	636	(7.7)
	Valle d'Aosta	491	(2.4)	84	(2.1)	500	(3.2)	482	(3.7)	**18**	(4.9)	358	(7.6)	389	(7.0)	433	(4.5)	547	(4.2)	600	(6.1)	636	(8.2)
	Veneto	524	(7.7)	91	(4.2)	534	(8.9)	513	(7.9)	**20**	(8.1)	373	(9.5)	407	(9.0)	462	(8.3)	588	(10.2)	641	(11.1)	669	(10.4)
	Mexico																						
	Aguascalientes	436	(4.9)	78	(3.0)	441	(6.5)	432	(4.8)	9	(6.2)	311	(8.2)	335	(8.4)	382	(5.8)	488	(5.5)	540	(7.7)	570	(9.1)
	Baja California	416	(5.9)	75	(2.8)	423	(6.6)	408	(6.0)	**15**	(4.8)	298	(10.1)	322	(5.9)	364	(5.1)	466	(8.2)	518	(8.1)	544	(9.5)
	Baja California Sur	413	(5.6)	77	(2.5)	422	(6.8)	404	(5.4)	**17**	(4.9)	287	(10.5)	315	(9.9)	360	(6.4)	464	(5.7)	514	(7.5)	543	(6.7)
	Campeche	393	(4.0)	76	(2.6)	400	(4.3)	386	(5.0)	**14**	(4.6)	268	(11.3)	298	(7.9)	343	(5.5)	444	(4.5)	488	(5.0)	522	(6.4)
	Chiapas	373	(7.6)	80	(4.2)	378	(8.1)	367	(8.1)	10	(5.4)	243	(11.6)	271	(11.5)	318	(10.2)	425	(7.4)	473	(10.2)	501	(10.7)
	Chihuahua	429	(6.1)	81	(3.3)	438	(7.8)	420	(6.3)	**18**	(7.6)	299	(10.8)	331	(9.7)	377	(6.3)	481	(8.8)	538	(10.9)	565	(7.4)
	Coahuila	418	(8.6)	78	(3.8)	424	(9.0)	412	(9.9)	11	(7.5)	296	(8.8)	321	(7.0)	363	(7.5)	470	(13.1)	524	(14.8)	555	(15.3)
	Colima	429	(5.3)	82	(2.4)	432	(5.9)	426	(6.0)	6	(5.5)	296	(8.8)	323	(7.2)	369	(5.6)	486	(6.4)	537	(8.6)	569	(9.3)
	Distrito Federal	431	(5.2)	77	(3.1)	444	(6.5)	418	(5.8)	**26**	(7.1)	308	(12.2)	335	(8.8)	378	(5.4)	483	(7.8)	531	(7.4)	561	(7.9)
	Durango	430	(5.7)	76	(2.2)	437	(7.5)	424	(5.2)	**14**	(5.6)	308	(8.3)	333	(7.3)	376	(5.8)	483	(7.6)	530	(7.0)	556	(7.6)
	Guanajuato	416	(5.8)	77	(2.6)	426	(6.5)	406	(6.0)	**20**	(4.3)	290	(10.4)	316	(8.0)	361	(7.2)	467	(6.4)	517	(5.6)	547	(7.6)
	Guerrero	366	(3.0)	70	(2.2)	369	(4.1)	364	(3.8)	5	(5.1)	254	(7.1)	278	(5.6)	318	(5.0)	411	(4.6)	458	(5.3)	483	(8.1)
	Hidalgo	406	(6.0)	76	(2.9)	413	(7.4)	400	(6.0)	**13**	(5.7)	278	(10.6)	310	(9.5)	355	(7.5)	456	(6.8)	502	(7.8)	530	(9.9)
	Jalisco	433	(6.0)	76	(2.7)	438	(7.5)	430	(5.6)	8	(5.2)	309	(10.7)	337	(8.2)	384	(6.8)	483	(7.4)	529	(6.8)	561	(8.4)
	Mexico	415	(5.6)	70	(3.4)	421	(6.1)	410	(6.3)	**11**	(5.2)	299	(10.1)	326	(8.1)	369	(6.8)	462	(7.8)	503	(8.0)	526	(9.0)
	Morelos	422	(8.6)	81	(6.0)	426	(10.3)	418	(8.5)	7	(7.2)	291	(16.8)	321	(15.4)	368	(9.1)	472	(9.2)	528	(16.5)	564	(22.0)
	Nayarit	413	(6.0)	81	(3.0)	420	(5.6)	407	(7.6)	**13**	(6.1)	279	(13.0)	309	(9.5)	358	(7.6)	468	(5.4)	519	(7.3)	549	(8.4)
	Nuevo León	435	(8.5)	76	(3.0)	446	(10.2)	423	(7.5)	**23**	(7.0)	314	(9.2)	337	(9.7)	380	(8.9)	488	(10.8)	537	(12.0)	563	(10.8)
	Puebla	417	(5.2)	79	(3.5)	422	(6.9)	412	(5.7)	10	(7.1)	279	(17.1)	317	(11.6)	368	(7.1)	469	(5.3)	517	(6.3)	548	(8.0)
	Querétaro	431	(6.4)	78	(2.9)	439	(6.9)	424	(6.9)	**15**	(4.9)	307	(8.9)	333	(7.8)	377	(8.1)	483	(8.9)	531	(9.4)	562	(11.5)
	Quintana Roo	408	(5.4)	77	(2.4)	411	(7.0)	404	(4.8)	7	(5.1)	286	(11.5)	308	(9.8)	354	(6.9)	460	(5.6)	508	(6.9)	537	(5.8)
	San Luis Potosí	412	(7.7)	79	(3.3)	414	(8.4)	411	(8.1)	3	(6.1)	287	(7.6)	313	(8.4)	355	(8.0)	468	(10.8)	515	(10.9)	545	(13.7)
	Sinaloa	409	(4.6)	71	(2.4)	412	(5.6)	405	(5.2)	7	(5.7)	299	(8.0)	322	(5.8)	359	(4.9)	455	(5.4)	502	(6.4)	532	(7.6)
	Tabasco	375	(3.8)	76	(3.0)	381	(5.5)	370	(4.4)	12	(6.4)	252	(10.1)	280	(8.3)	323	(5.2)	424	(4.8)	475	(7.2)	504	(7.4)
	Tamaulipas	407	(8.5)	80	(3.6)	418	(10.9)	396	(7.2)	**22**	(7.3)	281	(11.9)	309	(9.1)	351	(9.1)	458	(9.7)	512	(13.7)	545	(13.3)
	Tlaxcala	410	(5.7)	76	(2.5)	415	(5.5)	405	(6.4)	**10**	(4.1)	285	(9.6)	313	(9.6)	359	(6.8)	461	(6.6)	506	(6.0)	538	(8.0)
	Veracruz	402	(6.5)	80	(3.9)	407	(6.4)	397	(7.7)	9	(5.7)	277	(9.4)	301	(8.7)	348	(6.6)	456	(8.4)	510	(10.5)	538	(9.0)
	Yucatán	408	(4.6)	80	(2.4)	419	(5.6)	397	(5.7)	**23**	(6.8)	286	(8.1)	312	(8.1)	353	(6.3)	460	(6.9)	514	(6.7)	544	(6.4)
	Zacatecas	407	(4.2)	77	(2.3)	413	(5.7)	402	(4.3)	**11**	(5.5)	280	(7.9)	307	(8.1)	356	(5.3)	459	(5.1)	509	(6.1)	538	(6.0)

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).
See Table I.2.10 for national data.

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[Part 2/2]

Table B2.I.9 Mean score, variation and gender differences in student performance on the mathematics subscale *employing*, by region

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	**Portugal**																						
	Alentejo	492	(9.6)	89	(3.6)	500	(11.3)	483	(9.3)	**16**	(7.0)	343	(11.0)	373	(14.3)	431	(14.7)	556	(10.8)	607	(10.9)	637	(9.8)
	Spain																						
	Andalusia•	469	(4.0)	84	(2.2)	477	(5.1)	459	(4.1)	**18**	(4.8)	335	(7.9)	362	(5.7)	411	(4.8)	526	(5.7)	579	(5.6)	606	(5.6)
	Aragon•	494	(5.2)	92	(2.4)	501	(5.6)	486	(6.0)	**15**	(4.9)	334	(8.5)	366	(9.7)	431	(7.1)	561	(5.1)	609	(5.1)	636	(7.7)
	Asturias•	496	(3.9)	89	(2.3)	501	(5.6)	491	(3.4)	10	(5.1)	345	(8.6)	382	(7.8)	440	(5.7)	558	(4.6)	607	(6.5)	635	(7.9)
	Balearic Islands•	473	(4.6)	84	(2.2)	475	(5.3)	471	(5.1)	4	(4.9)	329	(8.7)	362	(6.4)	416	(6.5)	534	(4.8)	580	(5.7)	603	(5.6)
	Basque Country•	502	(2.4)	78	(1.2)	507	(2.9)	496	(2.6)	**11**	(2.8)	364	(4.7)	397	(3.7)	451	(3.2)	557	(2.6)	598	(2.3)	622	(2.9)
	Cantabria•	492	(3.1)	85	(1.9)	498	(4.0)	486	(4.4)	**11**	(5.5)	354	(7.8)	384	(5.6)	434	(4.1)	553	(4.1)	601	(4.1)	628	(5.5)
	Castile and Leon•	506	(4.1)	81	(2.0)	514	(5.7)	497	(4.0)	**16**	(5.1)	366	(7.1)	398	(5.3)	451	(5.1)	564	(4.6)	607	(4.2)	632	(5.1)
	Catalonia•	493	(5.3)	84	(2.3)	502	(6.4)	483	(5.9)	**19**	(6.3)	351	(8.4)	379	(7.5)	435	(7.1)	553	(5.4)	600	(5.9)	627	(7.0)
	Extremadura•	461	(4.3)	90	(2.0)	465	(5.4)	457	(3.8)	**8**	(3.9)	308	(8.4)	340	(7.4)	401	(5.9)	525	(4.3)	576	(5.1)	603	(5.5)
	Galicia•	484	(4.6)	88	(2.3)	485	(5.1)	484	(5.6)	1	(5.4)	333	(7.0)	367	(8.0)	428	(7.2)	545	(3.8)	592	(4.5)	615	(5.9)
	La Rioja•	500	(2.0)	99	(2.5)	508	(3.3)	493	(3.0)	**15**	(4.7)	327	(8.2)	369	(7.0)	437	(3.8)	572	(3.8)	621	(4.4)	645	(4.5)
	Madrid•	500	(3.5)	87	(2.3)	505	(4.7)	495	(3.9)	10	(5.0)	346	(7.5)	383	(6.1)	444	(5.0)	564	(4.3)	608	(5.2)	634	(6.0)
	Murcia•	461	(4.7)	89	(2.5)	468	(6.2)	455	(4.1)	**13**	(4.6)	311	(6.8)	343	(7.6)	402	(5.5)	524	(6.0)	574	(7.4)	603	(8.2)
	Navarre•	514	(3.0)	83	(2.1)	516	(3.6)	511	(4.0)	5	(4.6)	367	(7.8)	401	(5.0)	459	(5.4)	572	(3.7)	617	(3.7)	641	(5.4)
	United Kingdom																						
	England	493	(3.6)	95	(1.8)	499	(4.7)	487	(4.2)	**12**	(5.2)	335	(5.9)	369	(5.5)	428	(5.4)	559	(3.8)	615	(4.3)	647	(4.8)
	Northern Ireland	486	(3.1)	93	(2.1)	491	(5.1)	481	(5.6)	10	(8.8)	334	(4.9)	364	(4.9)	420	(4.5)	552	(4.5)	609	(5.6)	638	(5.4)
	Scotland•	496	(2.8)	89	(1.7)	504	(3.4)	488	(3.3)	**16**	(3.6)	347	(5.5)	380	(5.8)	436	(4.0)	558	(3.1)	611	(3.9)	640	(4.8)
	Wales	466	(2.2)	85	(1.3)	470	(2.7)	461	(2.7)	**9**	(3.2)	325	(4.0)	356	(4.1)	408	(3.1)	524	(3.0)	574	(3.3)	605	(3.9)
	United States																						
	Connecticut•	502	(6.1)	97	(2.5)	507	(6.8)	498	(6.2)	9	(4.5)	339	(8.3)	374	(9.9)	432	(8.1)	573	(6.6)	628	(6.3)	658	(7.5)
	Florida•	466	(5.4)	86	(2.5)	473	(6.0)	459	(5.6)	**13**	(4.5)	329	(6.6)	357	(5.5)	405	(5.5)	526	(6.3)	578	(7.1)	610	(9.0)
	Massachusetts•	509	(5.8)	94	(2.9)	512	(5.7)	507	(6.6)	5	(4.4)	354	(9.1)	386	(5.0)	443	(5.9)	576	(8.3)	632	(7.8)	661	(7.6)
Partners	**Argentina**																						
	Ciudad Autónoma de Buenos Aires•	419	(7.7)	99	(8.2)	424	(8.2)	415	(8.2)	9	(5.7)	243	(30.1)	296	(17.8)	363	(8.4)	483	(7.0)	536	(7.5)	565	(9.2)
	Brazil																						
	Acre	355	(5.5)	71	(4.2)	362	(8.0)	348	(6.4)	14	(9.0)	244	(6.5)	266	(6.2)	305	(5.3)	403	(7.6)	446	(11.4)	475	(12.6)
	Alagoas	334	(8.4)	78	(6.0)	344	(10.0)	326	(8.4)	**18**	(6.6)	213	(15.9)	242	(10.8)	282	(8.9)	382	(10.4)	438	(18.7)	473	(19.0)
	Amapá	350	(8.5)	71	(4.1)	358	(10.6)	343	(8.4)	15	(8.7)	238	(14.0)	261	(9.6)	301	(8.2)	395	(9.8)	443	(10.1)	472	(14.2)
	Amazonas	345	(6.3)	71	(6.5)	355	(7.8)	336	(5.3)	**19**	(4.9)	235	(10.6)	259	(8.9)	297	(6.0)	385	(6.4)	429	(12.7)	468	(28.3)
	Bahia	370	(10.1)	85	(6.9)	376	(8.1)	365	(15.7)	12	(15.5)	245	(17.1)	271	(12.6)	311	(11.7)	423	(15.5)	484	(11.8)	513	(22.5)
	Ceará	373	(8.9)	87	(7.4)	383	(11.0)	364	(9.0)	**20**	(9.0)	240	(13.5)	267	(11.7)	318	(7.6)	421	(11.5)	486	(27.6)	535	(28.8)
	Espírito Santo	414	(10.7)	88	(6.5)	422	(9.6)	407	(13.6)	15	(9.7)	281	(13.6)	307	(10.2)	353	(8.4)	471	(18.6)	538	(21.4)	575	(18.4)
	Federal District	413	(8.6)	86	(5.9)	422	(9.5)	404	(8.7)	**18**	(6.5)	284	(15.6)	306	(10.7)	348	(10.2)	472	(12.8)	529	(18.0)	568	(20.5)
	Goiás	380	(6.4)	72	(3.4)	389	(7.2)	371	(7.0)	**18**	(6.6)	271	(11.4)	292	(9.4)	331	(7.4)	423	(8.2)	479	(11.2)	510	(9.3)
	Maranhão	342	(13.7)	79	(8.8)	355	(16.2)	333	(12.5)	**22**	(6.7)	221	(11.6)	247	(8.5)	290	(10.6)	387	(18.0)	447	(38.7)	493	(36.3)
	Mato Grosso	366	(9.2)	74	(7.4)	369	(8.6)	364	(10.7)	5	(6.2)	258	(12.8)	280	(11.0)	317	(8.5)	408	(11.1)	459	(19.2)	496	(33.3)
	Mato Grosso do Sul	406	(7.7)	76	(4.0)	417	(10.8)	397	(6.6)	**20**	(8.8)	289	(11.7)	313	(11.5)	352	(8.1)	455	(8.3)	510	(13.2)	544	(12.0)
	Minas Gerais	402	(7.1)	74	(3.1)	408	(8.2)	396	(7.2)	**12**	(5.2)	284	(8.9)	308	(8.2)	348	(8.6)	453	(8.9)	495	(10.4)	523	(14.0)
	Pará	355	(4.4)	72	(3.9)	363	(6.3)	350	(4.9)	13	(7.0)	245	(9.7)	268	(8.2)	305	(6.4)	406	(7.8)	455	(9.3)	477	(12.8)
	Paraíba	389	(7.1)	81	(6.9)	398	(9.7)	382	(8.9)	15	(11.6)	261	(18.2)	292	(14.0)	336	(10.5)	440	(7.9)	498	(12.9)	532	(15.9)
	Paraná	401	(11.8)	86	(11.4)	411	(12.3)	391	(12.5)	**20**	(6.7)	277	(12.1)	300	(11.1)	340	(8.3)	449	(14.7)	515	(43.9)	572	(45.9)
	Pernambuco	358	(7.1)	68	(3.6)	369	(7.6)	350	(7.6)	**20**	(5.2)	248	(11.2)	271	(12.4)	314	(7.2)	403	(9.2)	445	(9.5)	473	(15.6)
	Piauí	385	(8.1)	86	(7.8)	394	(8.3)	378	(8.5)	**17**	(4.4)	268	(9.6)	286	(9.3)	324	(7.1)	430	(9.1)	505	(21.2)	544	(29.8)
	Rio de Janeiro	385	(7.4)	76	(4.6)	394	(8.2)	377	(7.5)	**18**	(5.3)	266	(12.2)	293	(8.4)	331	(8.5)	434	(11.2)	487	(15.2)	519	(17.2)
	Rio Grande do Norte	373	(9.8)	90	(9.0)	389	(12.1)	360	(8.9)	**29**	(7.0)	253	(9.5)	274	(6.1)	311	(6.9)	418	(15.8)	499	(26.0)	552	(38.9)
	Rio Grande do Sul	401	(6.0)	74	(2.6)	409	(6.9)	394	(6.6)	**15**	(5.6)	284	(11.3)	308	(8.9)	351	(7.1)	453	(7.0)	499	(6.8)	524	(7.2)
	Rondônia	377	(5.7)	68	(3.3)	385	(5.5)	370	(7.4)	**14**	(6.3)	265	(9.1)	290	(9.9)	333	(6.3)	420	(6.8)	461	(8.9)	490	(9.4)
	Roraima	356	(5.9)	76	(3.5)	361	(6.2)	352	(8.4)	9	(8.8)	240	(8.5)	265	(8.5)	304	(5.8)	402	(7.6)	458	(12.0)	495	(15.1)
	Santa Catarina	417	(8.6)	79	(3.5)	426	(8.3)	409	(10.0)	**17**	(7.2)	294	(10.0)	317	(8.5)	364	(7.5)	469	(12.1)	523	(13.5)	554	(13.7)
	São Paulo	399	(4.5)	83	(3.7)	407	(4.7)	391	(5.3)	**17**	(4.0)	274	(4.8)	300	(4.2)	343	(3.3)	450	(5.8)	508	(11.2)	545	(15.9)
	Sergipe	384	(9.4)	75	(5.7)	401	(11.5)	371	(9.4)	**30**	(8.5)	270	(8.4)	293	(8.2)	333	(7.3)	432	(13.7)	489	(16.1)	514	(21.2)
	Tocantins	363	(7.4)	80	(4.5)	374	(9.1)	351	(6.6)	**24**	(6.7)	238	(10.3)	265	(9.8)	310	(8.5)	411	(9.9)	467	(13.4)	503	(16.7)
	Colombia																						
	Bogotá	384	(3.8)	72	(2.4)	402	(5.3)	368	(3.6)	**34**	(5.2)	268	(5.6)	294	(4.6)	335	(3.8)	431	(4.8)	476	(6.4)	503	(8.5)
	Cali	371	(7.0)	78	(2.9)	382	(7.3)	363	(7.7)	**19**	(5.0)	248	(7.9)	272	(6.9)	319	(7.3)	423	(9.1)	473	(9.7)	503	(10.2)
	Manizales	394	(4.8)	78	(4.2)	410	(8.0)	379	(3.7)	**31**	(7.8)	272	(6.1)	297	(5.8)	339	(5.8)	443	(6.6)	497	(11.1)	532	(12.3)
	Medellín	384	(7.9)	88	(5.5)	397	(8.2)	371	(10.4)	**25**	(10.1)	258	(7.3)	281	(6.2)	322	(7.0)	436	(12.4)	505	(16.7)	545	(20.0)
	Russian Federation																						
	Perm Territory region•	486	(5.6)	90	(3.7)	489	(6.6)	483	(5.3)	5	(4.4)	337	(7.4)	372	(8.8)	426	(5.7)	547	(5.8)	601	(10.8)	632	(12.0)
	United Arab Emirates																						
	Abu Dhabi•	428	(3.9)	89	(2.3)	419	(5.0)	436	(5.1)	**-17**	(6.6)	290	(5.6)	317	(4.1)	364	(4.1)	486	(5.8)	548	(6.9)	584	(6.8)
	Ajman	406	(7.9)	77	(4.2)	391	(11.0)	420	(11.4)	-29	(16.2)	284	(14.4)	307	(13.0)	351	(10.6)	460	(9.0)	506	(7.3)	531	(11.5)
	Dubai•	469	(1.4)	95	(1.0)	474	(1.9)	464	(1.7)	**10**	(2.5)	314	(2.9)	346	(2.6)	402	(2.4)	537	(3.1)	592	(3.0)	624	(3.5)
	Fujairah	418	(10.2)	87	(3.0)	402	(10.1)	434	(10.4)	**-32**	(10.9)	275	(14.4)	305	(14.3)	356	(11.4)	478	(9.9)	531	(9.2)	562	(12.7)
	Ras al-Khaimah	424	(7.1)	79	(3.7)	416	(5.2)	432	(12.7)	-16	(13.1)	299	(12.4)	324	(9.7)	369	(9.0)	477	(9.0)	528	(11.0)	560	(14.1)
	Sharjah	445	(9.0)	88	(3.7)	449	(16.2)	441	(11.4)	8	(21.4)	310	(9.0)	337	(9.1)	380	(10.0)	505	(13.2)	564	(11.8)	597	(11.1)
	Umm al-Quwain	402	(4.1)	77	(3.6)	382	(5.5)	422	(5.5)	**-39**	(7.4)	282	(9.7)	308	(7.9)	351	(5.4)	450	(8.5)	502	(13.3)	539	(14.9)

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

See Table I.2.10 for national data.

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[Part 1/2]

Table B2.I.10 Percentage of students at each proficiency level on the mathematics subscale *interpreting*, by region

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	4.6	(0.8)	9.4	(1.4)	16.9	(1.5)	21.7	(2.1)	22.8	(1.8)	15.8	(1.5)	8.8	(1.2)
	New South Wales	6.4	(0.7)	11.6	(0.8)	19.5	(1.0)	23.5	(1.3)	19.6	(0.9)	11.6	(0.7)	7.7	(1.0)
	Northern Territory	18.8	(2.5)	18.0	(4.0)	20.5	(3.6)	22.1	(2.9)	13.9	(2.9)	5.2	(2.2)	1.7	(1.1)
	Queensland	5.9	(0.8)	11.6	(0.9)	21.4	(1.4)	22.9	(1.1)	19.6	(1.0)	12.4	(0.8)	6.2	(0.7)
	South Australia	7.3	(0.9)	12.9	(1.2)	21.7	(1.6)	24.2	(1.7)	19.5	(1.3)	9.9	(1.4)	4.5	(0.6)
	Tasmania	9.1	(1.0)	14.1	(1.5)	23.6	(1.9)	22.3	(1.7)	17.0	(1.6)	9.3	(1.2)	4.7	(0.9)
	Victoria	4.9	(0.7)	12.0	(1.2)	20.6	(1.3)	24.7	(1.1)	21.7	(1.0)	11.7	(0.9)	4.4	(0.7)
	Western Australia	4.9	(0.8)	10.7	(1.2)	17.5	(1.2)	22.0	(1.2)	22.4	(1.3)	14.4	(1.0)	8.1	(0.9)
	Belgium														
	Flemish Community•	6.4	(0.7)	11.0	(0.8)	17.0	(0.8)	20.8	(1.0)	20.5	(0.8)	15.5	(0.8)	8.7	(0.7)
	French Community	9.1	(1.0)	14.2	(0.9)	20.3	(0.9)	22.0	(1.0)	20.3	(1.2)	10.2	(0.8)	3.8	(0.4)
	German-speaking Community	7.4	(0.9)	10.8	(1.3)	16.9	(1.4)	27.7	(1.6)	21.1	(1.5)	12.1	(1.2)	3.9	(0.6)
	Canada														
	Alberta	4.4	(0.7)	10.3	(1.0)	18.8	(1.5)	24.8	(1.5)	21.6	(1.4)	14.3	(1.4)	5.9	(0.7)
	British Columbia	2.5	(0.6)	9.0	(0.9)	18.7	(1.2)	26.7	(1.4)	24.3	(1.2)	13.0	(1.3)	5.7	(1.0)
	Manitoba	6.4	(1.0)	12.5	(1.4)	23.5	(1.4)	24.5	(1.3)	19.6	(1.6)	10.2	(1.2)	3.3	(0.5)
	New Brunswick	5.6	(0.8)	11.9	(1.1)	23.2	(1.8)	27.3	(1.9)	20.1	(1.4)	9.0	(1.2)	2.9	(0.6)
	Newfoundland and Labrador	6.1	(1.0)	14.1	(1.3)	22.8	(1.4)	25.3	(2.0)	19.4	(1.6)	9.5	(1.5)	2.8	(0.7)
	Nova Scotia	5.0	(0.9)	10.0	(1.0)	23.2	(2.0)	28.6	(2.5)	21.2	(2.7)	9.1	(1.2)	2.8	(0.8)
	Ontario	4.2	(0.6)	9.8	(1.0)	21.2	(1.3)	27.2	(1.1)	21.4	(1.1)	11.9	(1.4)	4.5	(0.7)
	Prince Edward Island	7.2	(0.9)	15.9	(1.6)	25.0	(1.8)	25.5	(1.4)	17.5	(1.2)	6.6	(0.9)	2.2	(0.4)
	Quebec	4.2	(0.6)	8.6	(0.7)	15.8	(1.0)	23.5	(0.9)	24.2	(0.9)	15.9	(1.0)	8.0	(0.8)
	Saskatchewan	4.1	(0.6)	11.1	(0.9)	22.9	(1.3)	28.0	(1.8)	21.0	(1.3)	10.1	(1.1)	2.8	(0.6)
	Italy														
	Abruzzo	11.4	(1.8)	14.1	(1.6)	21.8	(1.6)	23.1	(1.8)	17.9	(1.7)	9.1	(1.4)	2.6	(0.6)
	Basilicata	13.0	(1.6)	18.0	(1.3)	24.9	(2.1)	20.7	(1.9)	14.4	(1.2)	6.3	(0.8)	2.7	(0.5)
	Bolzano	7.2	(0.6)	11.6	(0.9)	17.6	(1.7)	22.5	(2.0)	21.4	(1.0)	12.7	(0.9)	6.9	(0.7)
	Calabria	24.5	(3.1)	20.2	(1.8)	23.5	(2.0)	17.9	(1.6)	9.4	(1.3)	3.0	(0.7)	1.4	(0.6)
	Campania	16.0	(2.3)	18.9	(2.1)	22.2	(1.9)	21.7	(1.7)	12.9	(1.5)	6.2	(1.0)	2.1	(0.7)
	Emilia Romagna	7.9	(1.4)	10.9	(1.5)	18.3	(1.7)	21.7	(1.6)	19.1	(1.6)	14.6	(1.4)	7.6	(1.1)
	Friuli Venezia Giulia	5.5	(1.4)	8.8	(1.0)	14.4	(1.6)	21.9	(1.8)	23.7	(1.9)	16.5	(1.5)	9.2	(1.1)
	Lazio	10.1	(1.6)	15.9	(1.9)	22.8	(1.6)	22.3	(1.5)	15.9	(1.6)	9.0	(1.3)	4.0	(0.9)
	Liguria	8.7	(1.3)	13.7	(1.5)	20.0	(1.8)	21.8	(1.6)	18.6	(1.7)	10.3	(1.7)	6.8	(1.3)
	Lombardia	4.1	(0.8)	8.8	(1.5)	16.9	(1.8)	22.8	(2.1)	23.3	(1.8)	15.3	(1.9)	8.7	(1.5)
	Marche	6.3	(1.6)	11.6	(1.4)	21.0	(1.7)	24.7	(1.6)	20.2	(1.6)	11.5	(1.3)	4.8	(1.0)
	Molise	11.7	(1.4)	18.3	(1.7)	24.7	(2.0)	23.1	(2.0)	14.3	(1.5)	5.3	(0.9)	2.6	(0.7)
	Piemonte	6.9	(1.0)	11.9	(2.0)	18.5	(1.7)	23.7	(1.6)	20.1	(1.6)	12.3	(1.6)	6.5	(1.3)
	Puglia	8.6	(1.6)	14.6	(2.1)	24.1	(1.8)	23.1	(1.6)	18.2	(1.4)	8.5	(1.2)	2.9	(0.7)
	Sardegna	13.1	(1.9)	17.3	(1.8)	23.3	(1.6)	21.8	(1.9)	15.9	(1.5)	6.6	(0.8)	2.0	(0.5)
	Sicilia	15.3	(1.9)	19.4	(1.9)	24.7	(1.6)	21.8	(1.8)	13.2	(1.4)	4.4	(0.8)	1.4	(0.5)
	Toscana	8.9	(1.7)	12.8	(1.6)	17.8	(1.6)	22.5	(1.6)	19.4	(1.5)	12.8	(1.3)	5.7	(0.9)
	Trento	3.5	(0.8)	7.2	(1.1)	16.4	(1.5)	24.9	(1.5)	24.6	(1.7)	16.2	(1.3)	7.3	(0.9)
	Umbria	8.8	(2.1)	10.6	(1.4)	18.9	(1.8)	24.3	(3.2)	21.5	(2.4)	11.1	(1.2)	4.8	(0.7)
	Valle d'Aosta	6.6	(0.9)	12.2	(1.5)	20.9	(1.7)	25.8	(1.9)	18.7	(1.5)	10.4	(1.2)	5.4	(0.8)
	Veneto	4.5	(1.2)	7.7	(1.1)	15.9	(1.7)	22.4	(1.8)	23.1	(1.8)	16.4	(1.6)	10.0	(1.8)
	Mexico														
	Aguascalientes	13.8	(2.2)	28.5	(1.9)	32.2	(2.0)	18.1	(1.6)	6.3	(1.1)	1.0	(0.6)	0.0	c
	Baja California	18.7	(2.9)	33.8	(2.7)	29.5	(2.6)	14.0	(2.1)	3.5	(0.9)	0.5	(0.5)	0.0	c
	Baja California Sur	19.7	(3.3)	32.1	(1.9)	30.8	(2.7)	13.3	(1.7)	3.9	(0.9)	0.3	(0.2)	0.0	c
	Campeche	27.5	(2.9)	34.7	(2.5)	26.0	(2.2)	9.7	(1.0)	1.8	(0.5)	0.3	(0.2)	0.0	c
	Chiapas	42.4	(4.1)	33.6	(2.5)	18.8	(2.0)	4.3	(1.1)	0.7	(0.4)	0.1	(0.1)	0.0	c
	Chihuahua	16.4	(2.9)	29.6	(3.1)	31.9	(2.2)	15.7	(3.3)	5.8	(2.0)	0.6	(0.3)	0.0	c
	Coahuila	19.9	(2.9)	33.2	(3.3)	28.9	(2.8)	14.4	(2.4)	3.2	(1.1)	0.4	(0.3)	0.0	c
	Colima	16.9	(2.0)	27.7	(1.9)	30.7	(2.0)	17.6	(1.7)	6.1	(1.3)	0.9	(0.4)	0.0	c
	Distrito Federal	17.7	(2.2)	29.6	(2.8)	30.2	(2.2)	16.2	(2.2)	5.3	(1.2)	1.0	(0.4)	0.0	c
	Durango	17.5	(2.7)	29.7	(2.5)	32.9	(2.7)	15.6	(2.1)	4.1	(1.1)	0.3	(0.2)	0.0	c
	Guanajuato	23.3	(3.0)	32.5	(2.3)	28.2	(2.8)	12.7	(1.7)	3.0	(0.6)	0.3	(0.2)	0.0	c
	Guerrero	44.1	(2.7)	34.0	(2.3)	17.4	(1.6)	3.7	(0.9)	0.8	(0.4)	0.0	c	0.0	c
	Hidalgo	24.7	(2.9)	33.5	(2.8)	28.2	(2.8)	11.1	(1.9)	2.2	(0.8)	0.2	(0.2)	0.0	c
	Jalisco	11.5	(2.0)	29.2	(2.9)	35.5	(2.3)	18.2	(2.1)	4.8	(0.9)	0.7	(0.4)	0.1	c
	Mexico	16.3	(2.2)	33.6	(3.0)	35.2	(2.7)	12.8	(1.8)	1.8	(0.7)	0.3	c	0.1	(0.1)
	Morelos	20.0	(3.9)	29.9	(3.3)	29.1	(2.4)	15.1	(2.3)	4.9	(1.9)	0.8	(0.5)	0.1	c
	Nayarit	21.9	(2.9)	31.2	(2.6)	29.4	(2.3)	14.1	(1.7)	3.0	(0.8)	0.4	(0.3)	0.0	c
	Nuevo León	12.2	(2.8)	29.0	(3.3)	31.5	(1.9)	19.8	(3.4)	6.7	(1.7)	0.8	(0.5)	0.0	c
	Puebla	22.1	(3.0)	34.0	(2.0)	29.4	(2.0)	11.7	(1.4)	2.6	(0.9)	0.2	(0.2)	0.0	c
	Querétaro	12.3	(3.3)	27.7	(3.8)	31.7	(3.1)	21.1	(3.5)	6.1	(1.4)	1.1	(0.4)	0.1	c
	Quintana Roo	22.5	(3.4)	32.7	(2.1)	30.0	(2.4)	12.4	(1.8)	2.2	(0.7)	0.3	(0.2)	0.0	c
	San Luis Potosí	24.6	(3.1)	29.2	(2.7)	28.7	(2.4)	13.9	(2.3)	3.3	(1.2)	0.3	(0.2)	0.0	c
	Sinaloa	21.6	(2.4)	32.1	(2.2)	30.0	(2.3)	13.7	(1.9)	2.4	(0.6)	0.3	(0.2)	0.0	c
	Tabasco	38.1	(2.8)	34.5	(2.3)	20.0	(2.2)	6.6	(1.5)	0.7	(0.4)	0.1	(0.1)	0.0	c
	Tamaulipas	23.5	(2.5)	31.4	(2.4)	28.8	(2.4)	12.3	(2.1)	3.4	(1.2)	0.5	(0.3)	0.1	(0.1)
	Tlaxcala	21.7	(2.9)	34.0	(2.1)	30.0	(2.4)	11.6	(1.7)	2.4	(0.7)	0.2	(0.2)	0.0	c
	Veracruz	29.7	(3.2)	33.7	(2.5)	23.7	(1.9)	10.4	(2.0)	2.2	(0.9)	0.3	(0.3)	0.0	c
	Yucatán	23.8	(2.7)	32.5	(1.9)	26.5	(2.5)	13.7	(1.9)	2.7	(0.8)	0.6	(0.3)	0.0	c
	Zacatecas	22.6	(2.2)	32.3	(1.6)	28.1	(1.8)	14.4	(1.3)	2.3	(0.6)	0.3	(0.3)	0.0	c

• PISA adjudicated region.

Note: See Table I.2.11 for national data.

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[Part 2/2]

Table B2.I.10 **Percentage of students at each proficiency level on the mathematics subscale *interpreting*, by region**

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**														
	Alentejo	6.8	(2.1)	14.6	(2.9)	25.5	(2.1)	26.8	(2.9)	16.9	(2.8)	7.7	(2.0)	1.7	(1.0)
	Spain														
	Andalusia•	10.2	(1.2)	16.0	(1.3)	23.4	(1.8)	22.8	(1.9)	16.3	(1.5)	8.2	(1.1)	3.1	(0.6)
	Aragon•	9.0	(1.3)	12.9	(1.3)	18.7	(1.9)	24.6	(1.8)	20.2	(1.5)	11.0	(1.2)	3.6	(0.9)
	Asturias•	7.4	(1.1)	11.6	(1.4)	19.8	(1.0)	23.9	(1.4)	20.0	(1.2)	11.8	(1.4)	5.4	(0.8)
	Balearic Islands•	10.6	(1.4)	15.4	(1.4)	23.2	(1.3)	23.3	(1.9)	17.8	(1.6)	7.7	(1.2)	2.0	(0.6)
	Basque Country•	5.1	(0.4)	10.8	(0.7)	19.9	(0.8)	25.7	(0.8)	22.3	(0.9)	12.0	(0.7)	4.1	(0.5)
	Cantabria•	8.0	(1.0)	13.9	(1.0)	21.8	(1.2)	23.2	(1.3)	18.8	(1.4)	10.8	(0.9)	3.5	(0.6)
	Castile and Leon•	4.5	(0.8)	10.1	(1.1)	19.3	(1.4)	24.9	(1.7)	22.5	(1.7)	13.7	(1.1)	5.1	(0.9)
	Catalonia•	7.3	(1.0)	12.5	(1.4)	19.6	(2.1)	25.1	(2.1)	20.1	(1.6)	10.8	(1.2)	4.5	(0.9)
	Extremadura•	14.4	(1.6)	17.7	(1.2)	22.4	(2.1)	21.6	(2.1)	14.4	(1.1)	7.4	(1.1)	2.3	(0.7)
	Galicia•	8.4	(1.0)	13.0	(1.4)	21.1	(1.6)	24.4	(1.5)	20.2	(1.4)	9.4	(1.0)	3.4	(0.5)
	La Rioja•	9.9	(0.9)	11.3	(1.2)	18.6	(1.6)	22.2	(1.2)	19.4	(1.5)	12.6	(1.2)	6.0	(0.7)
	Madrid•	5.4	(1.0)	10.7	(1.2)	18.8	(1.3)	25.5	(1.4)	23.4	(1.6)	12.7	(1.3)	3.6	(0.6)
	Murcia•	13.3	(1.5)	17.0	(1.3)	22.8	(1.8)	22.1	(1.7)	15.4	(1.3)	7.0	(1.1)	2.3	(0.7)
	Navarre•	5.1	(0.8)	9.4	(1.1)	18.9	(1.4)	24.7	(1.3)	23.9	(1.5)	13.0	(1.2)	5.1	(0.8)
	United Kingdom														
	England	8.5	(1.0)	13.2	(0.9)	20.2	(0.9)	23.3	(1.2)	19.2	(0.9)	10.6	(0.7)	4.9	(0.5)
	Northern Ireland	8.8	(0.9)	14.6	(1.0)	21.3	(1.3)	23.0	(1.4)	18.5	(0.9)	9.6	(0.9)	4.2	(0.5)
	Scotland•	4.8	(0.7)	10.8	(0.8)	22.5	(1.3)	26.7	(1.3)	20.9	(1.2)	10.4	(0.8)	3.9	(0.5)
	Wales	9.3	(0.8)	15.6	(0.9)	24.6	(1.1)	25.2	(1.0)	16.1	(0.7)	7.1	(0.7)	2.2	(0.4)
	United States														
	Connecticut•	7.2	(1.3)	11.6	(1.2)	18.2	(1.4)	23.1	(1.6)	20.4	(1.7)	12.7	(1.4)	6.7	(1.1)
	Florida•	10.0	(1.4)	18.8	(1.6)	25.1	(1.7)	23.7	(1.8)	13.9	(1.3)	6.3	(1.1)	2.2	(0.8)
	Massachusetts•	5.7	(0.7)	11.2	(1.0)	18.7	(1.5)	22.0	(1.6)	20.3	(1.5)	13.6	(1.4)	8.6	(1.5)
Partners	**Argentina**														
	Ciudad Autónoma de Buenos Aires•	25.5	(2.6)	23.6	(2.0)	25.5	(1.9)	17.6	(1.9)	6.4	(1.2)	1.2	(0.5)	0.2	(0.2)
	Brazil														
	Acre	46.0	(3.8)	30.3	(2.6)	17.0	(2.5)	5.8	(1.3)	0.7	(0.5)	0.1	c	0.2	(0.2)
	Alagoas	58.1	(4.1)	25.1	(2.8)	12.0	(2.3)	3.9	(1.4)	0.9	(0.5)	0.1	c	0.0	c
	Amapá	43.3	(5.1)	32.7	(3.7)	17.0	(2.4)	6.0	(2.3)	1.0	(0.9)	0.1	c	0.0	c
	Amazonas	46.5	(3.6)	33.0	(2.8)	13.6	(2.1)	4.7	(1.2)	1.5	(1.3)	0.7	(0.8)	0.0	c
	Bahia	39.0	(5.6)	30.3	(4.0)	18.0	(3.0)	9.5	(3.1)	2.6	(1.6)	0.6	(0.6)	0.0	c
	Ceará	35.3	(4.1)	32.7	(3.3)	20.0	(2.9)	7.7	(1.7)	3.4	(1.4)	0.8	(0.5)	0.0	c
	Espírito Santo	24.2	(2.6)	30.6	(3.4)	22.7	(2.1)	12.5	(2.4)	7.3	(2.6)	2.5	(1.0)	0.2	c
	Federal District	22.6	(4.8)	25.2	(3.0)	26.8	(3.9)	16.8	(2.4)	7.2	(2.8)	1.1	(0.6)	0.2	c
	Goiás	36.4	(3.3)	36.3	(2.4)	18.6	(2.0)	6.9	(1.2)	1.7	(0.6)	0.1	c	0.0	c
	Maranhão	55.1	(7.4)	23.9	(3.5)	13.5	(3.7)	5.5	(2.8)	1.8	(1.4)	0.2	c	0.0	c
	Mato Grosso	40.7	(4.9)	32.5	(2.8)	17.6	(2.6)	6.5	(2.2)	2.2	(1.4)	0.5	c	0.0	c
	Mato Grosso do Sul	21.7	(3.5)	31.7	(2.9)	27.8	(3.3)	13.3	(2.4)	4.9	(2.0)	0.6	(0.4)	0.1	c
	Minas Gerais	23.6	(3.6)	33.1	(2.8)	27.3	(2.9)	12.1	(2.0)	3.2	(1.4)	0.7	(0.4)	0.0	c
	Pará	45.5	(4.4)	29.0	(3.0)	19.5	(2.2)	5.2	(0.8)	0.8	(0.8)	0.0	c	0.0	c
	Paraíba	29.4	(5.2)	29.9	(3.5)	23.5	(4.2)	12.8	(2.5)	3.4	(1.9)	0.9	(0.4)	0.2	(0.2)
	Paraná	29.1	(4.0)	30.6	(3.0)	21.8	(2.9)	11.7	(2.1)	5.5	(3.1)	1.3	(1.4)	0.0	c
	Pernambuco	44.6	(4.8)	32.1	(2.9)	17.1	(2.5)	5.0	(1.2)	1.0	(0.7)	0.3	(0.3)	0.0	c
	Piauí	37.4	(4.6)	32.3	(3.1)	17.9	(2.7)	8.6	(1.7)	3.0	(1.7)	0.6	(0.6)	0.2	(0.1)
	Rio de Janeiro	26.5	(4.1)	33.3	(3.7)	26.6	(3.3)	11.0	(1.9)	2.0	(1.0)	0.6	(0.5)	0.0	c
	Rio Grande do Norte	36.7	(3.2)	30.2	(3.0)	18.4	(2.3)	8.7	(2.2)	3.7	(1.2)	1.9	(1.2)	0.4	(0.4)
	Rio Grande do Sul	17.8	(2.7)	32.2	(2.6)	29.3	(2.7)	16.7	(2.3)	3.8	(1.1)	0.2	c	0.0	c
	Rondônia	29.4	(3.7)	34.8	(2.9)	26.0	(2.5)	8.5	(1.6)	1.1	(0.5)	0.3	(0.2)	0.0	c
	Roraima	46.0	(3.8)	29.3	(3.4)	16.1	(2.6)	6.8	(2.2)	1.5	(0.8)	0.2	c	0.0	c
	Santa Catarina	22.7	(3.6)	27.0	(2.7)	27.9	(2.2)	16.6	(2.2)	5.2	(1.4)	0.5	(0.4)	0.0	c
	São Paulo	23.8	(1.7)	30.0	(1.5)	26.0	(1.5)	14.0	(1.4)	5.0	(1.1)	1.0	(0.4)	0.1	(0.1)
	Sergipe	35.8	(4.6)	33.0	(3.0)	18.7	(2.5)	9.4	(2.9)	2.6	(1.4)	0.4	(0.4)	0.0	c
	Tocantins	43.0	(4.1)	31.0	(2.6)	16.4	(2.5)	7.2	(2.0)	2.0	(1.0)	0.5	(0.2)	0.0	c
	Colombia														
	Bogotá	24.5	(1.8)	34.4	(1.7)	27.9	(1.9)	10.2	(1.5)	2.5	(0.6)	0.4	(0.3)	0.1	c
	Cali	33.1	(3.0)	31.6	(1.9)	24.0	(2.3)	8.7	(1.5)	2.1	(0.6)	0.4	(0.3)	0.0	c
	Manizales	18.9	(1.9)	33.5	(1.9)	30.4	(2.4)	12.9	(1.3)	3.7	(1.0)	0.6	(0.5)	0.0	c
	Medellín	28.4	(2.8)	30.4	(1.9)	23.0	(2.1)	11.3	(1.8)	4.9	(1.3)	1.6	(0.8)	0.5	(0.4)
	Russian Federation														
	Perm Territory region•	9.9	(1.4)	18.3	(1.4)	26.0	(2.0)	24.6	(1.5)	14.2	(1.2)	5.3	(1.1)	1.7	(0.8)
	United Arab Emirates														
	Abu Dhabi•	26.1	(1.7)	28.4	(1.2)	24.3	(1.1)	13.2	(1.1)	5.9	(0.7)	1.7	(0.5)	0.3	(0.2)
	Ajman	30.5	(4.8)	31.7	(3.4)	24.5	(2.6)	11.5	(2.1)	1.7	(0.8)	0.0	c	0.0	c
	Dubai•	14.3	(0.5)	20.5	(0.9)	24.3	(0.8)	21.1	(0.8)	13.3	(0.7)	5.3	(0.6)	1.1	(0.3)
	Fujairah	31.2	(4.3)	28.3	(2.4)	25.5	(3.0)	11.3	(2.0)	3.2	(0.9)	0.4	(0.3)	0.0	c
	Ras al-Khaimah	27.8	(3.9)	30.2	(2.0)	25.0	(2.7)	13.1	(2.1)	3.1	(0.9)	0.7	(0.3)	0.0	c
	Sharjah	19.4	(2.6)	26.8	(3.2)	25.7	(2.6)	18.9	(2.6)	6.9	(1.5)	2.0	(0.9)	0.3	(0.3)
	Umm al-Quwain	33.3	(2.9)	32.8	(3.9)	23.7	(2.8)	8.2	(1.8)	1.5	(0.9)	0.4	c	0.0	c

• PISA adjudicated region.

Note: See Table I.2.11 for national data.

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[Part 1/4]

Table B2.I.11 Percentage of students at each proficiency level on the mathematics subscale *interpreting*, by gender and region

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	4.7	(1.2)	9.8	(2.0)	16.7	(2.2)	22.2	(2.4)	21.1	(2.4)	15.3	(2.2)	10.2	(1.9)
	New South Wales	6.9	(1.0)	11.8	(1.1)	18.8	(1.4)	22.1	(1.5)	19.1	(1.2)	12.1	(1.1)	9.2	(1.5)
	Northern Territory	19.3	(3.0)	18.2	(4.7)	16.2	(4.4)	21.7	(4.6)	15.7	(3.7)	6.2	(3.2)	2.7	(1.7)
	Queensland	6.5	(1.2)	10.8	(1.2)	21.0	(1.6)	22.3	(1.3)	19.3	(1.3)	13.0	(1.1)	7.0	(1.0)
	South Australia	7.4	(1.2)	11.4	(1.6)	20.3	(2.4)	24.6	(2.2)	19.7	(1.6)	11.2	(1.4)	5.4	(1.0)
	Tasmania	9.3	(1.5)	11.5	(2.0)	22.9	(2.3)	22.8	(2.5)	18.0	(2.2)	10.6	(2.0)	4.9	(1.6)
	Victoria	5.1	(0.9)	10.5	(1.3)	19.7	(1.7)	24.3	(1.5)	22.1	(1.2)	12.7	(1.4)	5.6	(1.1)
	Western Australia	3.4	(0.8)	9.2	(1.5)	17.3	(1.8)	21.2	(1.7)	23.0	(1.8)	16.1	(1.7)	9.7	(1.6)
	Belgium														
	Flemish Community•	6.6	(1.0)	10.5	(1.0)	16.0	(0.9)	20.2	(1.0)	20.2	(1.1)	16.1	(1.0)	10.4	(1.0)
	French Community	9.6	(1.2)	13.8	(1.3)	18.7	(1.4)	20.7	(1.5)	20.7	(1.7)	11.6	(1.2)	5.0	(0.7)
	German-speaking Community	9.1	(1.2)	12.0	(1.9)	15.8	(1.9)	25.7	(2.5)	19.4	(2.0)	12.9	(1.8)	5.1	(1.0)
	Canada														
	Alberta	4.5	(1.0)	9.3	(1.5)	18.3	(1.9)	23.6	(2.1)	21.0	(1.9)	15.9	(2.0)	7.3	(1.0)
	British Columbia	2.5	(0.8)	8.3	(1.3)	17.5	(1.8)	26.4	(2.3)	23.9	(1.7)	14.5	(1.8)	6.8	(1.5)
	Manitoba	6.2	(1.2)	12.4	(1.8)	22.9	(2.1)	24.7	(1.8)	18.8	(2.2)	11.3	(1.5)	3.7	(0.8)
	New Brunswick	5.9	(1.1)	11.6	(1.6)	21.9	(1.9)	26.8	(2.2)	20.5	(2.1)	9.8	(1.6)	3.4	(0.9)
	Newfoundland and Labrador	7.1	(1.6)	13.4	(2.5)	20.6	(2.8)	25.3	(2.7)	19.9	(2.3)	9.9	(2.4)	3.6	(1.3)
	Nova Scotia	5.2	(1.3)	9.1	(1.5)	21.0	(2.0)	27.7	(2.3)	22.4	(2.9)	11.0	(1.5)	3.6	(1.3)
	Ontario	4.8	(0.8)	10.0	(1.2)	19.8	(1.5)	25.2	(1.5)	21.3	(1.7)	13.5	(2.1)	5.4	(1.1)
	Prince Edward Island	7.5	(1.3)	15.7	(2.3)	23.7	(2.4)	24.3	(2.2)	17.8	(1.7)	8.2	(1.2)	2.8	(0.7)
	Quebec	3.9	(0.9)	8.3	(1.0)	14.5	(1.2)	22.1	(1.3)	24.4	(1.3)	17.3	(1.2)	9.5	(1.1)
	Saskatchewan	4.6	(1.0)	11.1	(1.2)	21.4	(2.1)	26.7	(2.5)	22.2	(1.9)	10.6	(1.6)	3.5	(0.9)
	Italy														
	Abruzzo	12.3	(2.5)	13.4	(1.8)	19.4	(2.3)	21.1	(2.2)	19.4	(2.5)	11.1	(1.8)	3.2	(0.8)
	Basilicata	12.2	(1.6)	16.2	(2.2)	22.8	(2.3)	20.6	(2.9)	15.6	(2.2)	8.7	(1.4)	3.8	(0.9)
	Bolzano	7.0	(1.0)	11.5	(1.2)	15.8	(2.4)	20.9	(1.8)	22.2	(2.0)	13.9	(1.4)	8.7	(1.0)
	Calabria	24.1	(3.7)	20.2	(2.7)	21.4	(2.4)	16.7	(2.5)	11.0	(1.9)	4.3	(1.0)	2.2	(0.9)
	Campania	15.2	(2.3)	17.9	(2.4)	20.4	(2.0)	21.5	(2.5)	14.4	(1.9)	7.6	(1.4)	3.0	(0.9)
	Emilia Romagna	8.4	(1.8)	10.0	(2.0)	15.8	(1.8)	20.2	(2.1)	18.6	(2.2)	16.9	(2.3)	10.0	(1.6)
	Friuli Venezia Giulia	5.0	(1.1)	9.4	(1.6)	13.2	(1.9)	18.2	(2.4)	22.4	(2.5)	19.4	(1.8)	12.3	(1.8)
	Lazio	9.2	(1.7)	14.9	(2.2)	22.0	(2.1)	20.9	(2.2)	16.0	(1.6)	11.4	(1.7)	5.6	(1.4)
	Liguria	8.0	(1.6)	14.4	(2.1)	19.9	(2.7)	19.7	(2.5)	17.8	(2.2)	11.3	(1.9)	8.8	(1.6)
	Lombardia	4.4	(1.1)	8.0	(2.1)	14.9	(2.1)	20.3	(2.4)	22.4	(2.3)	17.9	(2.3)	12.1	(2.3)
	Marche	5.0	(1.8)	9.4	(1.7)	18.3	(2.2)	24.2	(2.0)	21.7	(2.4)	14.2	(1.9)	7.2	(1.6)
	Molise	11.2	(1.7)	17.3	(1.9)	24.1	(2.2)	22.5	(2.5)	15.8	(1.9)	6.2	(1.2)	2.9	(1.0)
	Piemonte	6.8	(1.2)	8.8	(2.0)	16.3	(1.9)	24.4	(2.5)	21.1	(2.3)	14.2	(1.9)	8.4	(1.6)
	Puglia	8.8	(1.7)	12.5	(2.0)	20.4	(1.9)	22.1	(2.3)	21.1	(1.8)	11.1	(1.5)	4.1	(1.0)
	Sardegna	13.8	(2.4)	16.8	(2.1)	22.9	(2.1)	20.5	(2.2)	15.3	(1.8)	7.5	(1.2)	3.1	(0.8)
	Sicilia	14.6	(2.3)	18.5	(2.3)	23.5	(2.4)	21.8	(2.1)	14.3	(1.8)	5.4	(1.2)	1.9	(0.9)
	Toscana	9.8	(2.6)	13.1	(2.3)	17.1	(2.6)	20.7	(2.1)	19.0	(2.2)	13.7	(1.7)	6.6	(1.2)
	Trento	3.8	(1.0)	7.5	(1.5)	16.5	(2.2)	23.2	(2.2)	23.0	(2.0)	16.5	(1.9)	9.6	(1.3)
	Umbria	9.4	(3.1)	7.7	(2.1)	15.5	(2.1)	23.5	(3.0)	23.7	(2.7)	13.6	(1.9)	6.5	(1.4)
	Valle d'Aosta	6.6	(1.2)	10.9	(1.8)	19.8	(2.6)	25.9	(2.8)	19.6	(2.2)	11.3	(1.9)	5.9	(1.2)
	Veneto	4.8	(1.3)	7.3	(1.5)	14.5	(2.2)	20.0	(2.0)	21.4	(2.4)	18.8	(2.1)	13.2	(2.3)
	Mexico														
	Aguascalientes	14.0	(2.2)	28.0	(3.2)	30.6	(3.3)	18.8	(2.5)	7.4	(1.5)	1.3	(1.0)	0.0	c
	Baja California	17.9	(3.8)	32.1	(3.8)	29.3	(3.8)	16.8	(3.0)	3.2	(1.0)	0.6	(0.6)	0.0	c
	Baja California Sur	18.0	(3.3)	32.0	(2.8)	30.2	(3.1)	14.8	(2.4)	4.5	(1.3)	0.4	(0.4)	0.0	c
	Campeche	25.6	(3.1)	33.7	(3.5)	27.8	(3.4)	10.4	(1.7)	2.1	(0.8)	0.3	(0.3)	0.0	c
	Chiapas	40.1	(4.7)	35.3	(3.0)	18.1	(3.0)	5.0	(1.4)	1.1	(0.6)	0.2	(0.2)	0.1	c
	Chihuahua	14.7	(3.6)	29.9	(3.8)	30.6	(2.7)	16.1	(4.5)	7.7	(3.2)	1.0	(0.5)	0.0	c
	Coahuila	20.0	(3.7)	31.8	(3.9)	27.7	(2.7)	15.6	(2.8)	4.2	(1.5)	0.7	(0.6)	0.0	c
	Colima	18.1	(2.1)	26.5	(2.3)	30.9	(2.5)	16.9	(1.9)	6.4	(1.4)	1.2	(0.6)	0.0	c
	Distrito Federal	13.0	(2.9)	26.4	(3.3)	32.4	(2.9)	20.1	(2.8)	6.6	(1.4)	1.4	(0.6)	0.0	c
	Durango	16.3	(3.4)	28.7	(3.0)	31.5	(3.2)	17.2	(2.7)	6.0	(2.0)	0.3	c	0.0	c
	Guanajuato	21.4	(3.2)	31.4	(2.5)	26.8	(2.5)	15.2	(2.1)	4.8	(1.2)	0.4	(0.4)	0.0	c
	Guerrero	42.9	(3.5)	35.0	(3.4)	18.0	(2.3)	3.2	(1.2)	0.9	(0.5)	0.0	c	0.0	c
	Hidalgo	23.2	(3.5)	31.3	(3.9)	29.1	(3.7)	13.4	(2.4)	2.7	(1.1)	0.3	(0.3)	0.0	c
	Jalisco	12.0	(2.5)	27.5	(3.7)	34.9	(3.3)	18.3	(3.3)	6.1	(1.5)	1.1	(0.7)	0.2	c
	Mexico	14.0	(3.0)	32.9	(3.8)	35.1	(3.5)	14.9	(2.0)	2.4	(0.9)	0.5	c	0.3	(0.3)
	Morelos	20.9	(5.1)	27.3	(4.2)	28.2	(2.9)	16.7	(2.9)	5.4	(1.6)	1.2	(1.0)	0.3	c
	Nayarit	19.6	(2.9)	30.0	(3.9)	29.9	(2.7)	16.5	(2.5)	3.4	(0.9)	0.5	c	0.0	c
	Nuevo León	9.3	(2.7)	26.4	(4.9)	32.6	(2.7)	22.0	(4.6)	8.5	(2.3)	1.2	(0.8)	0.0	c
	Puebla	20.4	(3.7)	31.5	(2.7)	30.9	(2.5)	13.4	(2.1)	3.6	(1.2)	0.3	(0.3)	0.0	c
	Querétaro	10.8	(3.7)	26.1	(4.3)	30.4	(3.3)	23.0	(4.3)	8.2	(1.8)	1.5	(0.6)	0.0	c
	Quintana Roo	22.5	(3.8)	30.9	(2.6)	30.3	(2.7)	13.2	(2.0)	2.8	(0.8)	0.3	(0.3)	0.0	c
	San Luis Potosí	27.1	(3.8)	27.0	(3.7)	26.7	(3.4)	14.3	(2.9)	4.3	(1.7)	0.6	(0.4)	0.0	c
	Sinaloa	21.7	(3.2)	32.1	(2.3)	29.3	(3.7)	13.9	(2.8)	2.6	(1.1)	0.4	(0.3)	0.0	c
	Tabasco	37.5	(3.6)	33.2	(2.9)	19.9	(3.0)	8.5	(2.2)	0.7	(0.6)	0.2	(0.2)	0.1	c
	Tamaulipas	22.2	(3.2)	29.6	(2.5)	28.3	(2.8)	13.9	(2.7)	4.9	(1.7)	0.9	(0.6)	0.2	(0.2)
	Tlaxcala	21.0	(2.9)	31.9	(2.6)	30.9	(2.8)	13.0	(2.0)	2.8	(0.9)	0.4	(0.3)	0.1	c
	Veracruz	29.3	(3.6)	32.1	(3.2)	24.9	(2.5)	11.2	(2.4)	2.2	(1.0)	0.0	c	0.3	c
	Yucatán	20.9	(3.3)	32.0	(2.6)	25.9	(2.9)	16.3	(2.5)	3.6	(1.1)	1.2	(0.6)	0.0	c
	Zacatecas	22.3	(2.7)	30.8	(2.3)	27.6	(2.8)	16.2	(1.9)	2.7	(1.0)	0.4	(0.3)	0.0	c

• PISA adjudicated region.

Note: See Table I.2.12 for national data.

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[Part 2/4]

Table B2.I.11 Percentage of students at each proficiency level on the mathematics subscale *interpreting*, by gender and region

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**														
	Alentejo	6.2	(2.1)	13.0	(3.6)	23.5	(3.1)	27.4	(3.6)	17.4	(3.7)	9.9	(3.2)	2.5	(1.3)
	Spain														
	Andalusia•	10.2	(1.6)	14.0	(1.7)	21.0	(2.4)	22.4	(2.8)	17.9	(1.8)	9.9	(1.6)	4.5	(1.0)
	Aragon•	8.9	(1.7)	12.5	(2.0)	17.6	(2.5)	23.0	(2.8)	21.5	(2.2)	11.8	(1.6)	4.8	(1.3)
	Asturias•	8.7	(1.6)	11.3	(1.6)	18.4	(1.6)	22.1	(1.7)	20.1	(1.5)	13.3	(1.8)	6.2	(1.1)
	Balearic Islands•	10.8	(1.8)	14.2	(1.5)	21.4	(2.4)	24.2	(2.9)	18.5	(2.5)	8.4	(1.8)	2.5	(0.9)
	Basque Country•	4.7	(0.6)	10.6	(0.9)	18.2	(1.2)	25.2	(1.1)	23.0	(1.2)	13.5	(1.1)	4.8	(0.6)
	Cantabria•	9.1	(1.5)	12.2	(1.5)	19.0	(1.6)	22.3	(1.8)	20.1	(1.9)	12.8	(1.9)	4.5	(1.1)
	Castile and Leon•	4.8	(1.2)	9.4	(1.5)	16.8	(1.6)	22.4	(1.9)	22.8	(2.0)	16.5	(1.7)	7.3	(1.4)
	Catalonia•	5.6	(1.1)	11.0	(1.9)	17.6	(2.7)	23.3	(2.1)	21.3	(2.2)	14.5	(2.0)	6.7	(1.3)
	Extremadura•	14.7	(2.2)	16.3	(2.0)	20.8	(2.6)	20.4	(2.5)	15.9	(1.8)	8.9	(1.5)	3.0	(1.4)
	Galicia•	8.5	(1.5)	12.8	(2.0)	20.7	(2.0)	23.4	(2.1)	21.1	(2.3)	10.2	(1.5)	3.2	(0.8)
	La Rioja•	10.8	(1.3)	10.1	(1.8)	15.9	(1.9)	19.7	(1.6)	20.4	(2.1)	14.4	(1.4)	8.7	(1.1)
	Madrid•	5.1	(1.1)	10.7	(1.5)	16.1	(2.1)	24.3	(1.7)	24.2	(2.5)	15.1	(1.6)	4.4	(0.9)
	Murcia•	13.7	(2.1)	16.6	(2.3)	21.0	(2.4)	20.7	(2.9)	16.4	(1.8)	8.6	(1.5)	3.0	(1.2)
	Navarre•	6.0	(1.2)	9.6	(1.4)	16.8	(1.6)	23.8	(2.1)	23.9	(2.4)	13.8	(1.6)	6.2	(1.3)
	United Kingdom														
	England	7.9	(1.3)	12.0	(1.3)	19.2	(1.2)	23.1	(1.4)	19.9	(1.4)	12.2	(1.2)	5.8	(0.8)
	Northern Ireland	8.2	(1.3)	13.6	(1.6)	20.2	(1.7)	24.5	(1.9)	19.3	(1.5)	9.4	(1.2)	4.7	(0.8)
	Scotland•	4.6	(0.8)	10.0	(1.0)	21.2	(1.5)	25.6	(1.5)	22.5	(1.7)	11.5	(1.2)	4.6	(0.6)
	Wales	9.2	(1.0)	14.1	(1.2)	22.8	(1.6)	25.9	(1.2)	17.1	(0.9)	8.3	(0.8)	2.7	(0.5)
	United States														
	Connecticut•	6.7	(1.4)	10.9	(1.7)	17.2	(1.5)	21.7	(1.8)	21.3	(2.2)	13.9	(1.9)	8.2	(1.6)
	Florida•	9.7	(1.8)	17.5	(1.8)	22.8	(2.0)	23.6	(1.8)	16.2	(1.9)	7.6	(1.7)	2.6	(0.9)
	Massachusetts•	5.8	(0.9)	9.9	(1.1)	17.1	(2.0)	21.8	(2.1)	21.0	(1.8)	14.3	(1.8)	10.1	(1.8)
Partners	**Argentina**														
	Ciudad Autónoma de Buenos Aires•	23.3	(2.8)	22.1	(2.9)	24.9	(2.5)	20.1	(2.4)	7.7	(1.8)	1.8	(0.9)	0.2	c
	Brazil														
	Acre	43.1	(4.9)	32.1	(3.3)	17.7	(3.9)	6.1	(1.7)	0.7	(0.6)	0.3	c	0.0	c
	Alagoas	55.9	(5.4)	26.7	(4.9)	11.8	(3.0)	4.2	(1.6)	1.3	(0.7)	0.0	c	0.0	c
	Amapá	39.2	(6.4)	34.9	(4.7)	16.5	(4.0)	7.9	(3.2)	1.3	(1.3)	0.2	c	0.0	c
	Amazonas	44.7	(4.7)	33.3	(3.8)	13.8	(2.8)	5.2	(1.7)	1.9	(1.6)	1.1	(1.1)	0.0	c
	Bahia	36.3	(6.0)	29.8	(5.5)	19.5	(4.1)	11.0	(3.9)	2.5	(2.2)	1.0	(1.1)	0.0	c
	Ceará	32.8	(4.0)	33.4	(3.7)	19.7	(2.7)	8.5	(2.4)	4.4	(2.2)	1.3	(0.8)	0.0	c
	Espírito Santo	20.6	(3.1)	30.4	(3.5)	23.7	(2.9)	13.7	(2.1)	8.5	(2.9)	3.0	(1.3)	0.1	c
	Federal District	20.8	(5.7)	24.1	(3.7)	26.0	(4.8)	16.9	(2.9)	10.2	(3.9)	1.8	(0.9)	0.3	c
	Goiás	32.7	(4.0)	33.9	(3.3)	21.4	(2.8)	9.0	(1.7)	2.7	(1.2)	0.2	c	0.0	c
	Maranhão	51.1	(7.4)	23.6	(4.7)	14.4	(4.0)	7.4	(3.9)	3.0	(2.6)	0.5	c	0.0	c
	Mato Grosso	41.6	(5.3)	32.6	(3.8)	16.2	(3.0)	7.4	(2.5)	1.7	(1.3)	0.4	c	0.0	c
	Mato Grosso do Sul	18.5	(4.1)	28.2	(2.9)	32.0	(4.3)	13.7	(2.3)	6.2	(2.7)	1.1	(0.8)	0.2	c
	Minas Gerais	21.5	(4.3)	31.9	(3.9)	28.4	(3.5)	13.1	(2.9)	4.1	(2.1)	1.1	(0.8)	0.0	c
	Pará	43.6	(4.2)	29.9	(4.3)	20.0	(3.0)	5.4	(1.5)	1.1	(0.8)	0.0	c	0.0	c
	Paraíba	26.4	(5.3)	30.6	(4.7)	25.7	(4.5)	10.9	(2.8)	4.6	(2.8)	1.4	(1.1)	0.4	(0.4)
	Paraná	27.6	(5.1)	28.1	(3.4)	21.5	(3.2)	13.5	(2.4)	7.5	(4.0)	1.7	(1.8)	0.1	c
	Pernambuco	38.6	(5.4)	32.2	(4.0)	20.1	(3.1)	7.0	(2.0)	1.5	(1.2)	0.6	(0.6)	0.0	c
	Piauí	36.3	(5.6)	29.0	(5.2)	20.7	(3.9)	9.5	(3.0)	3.3	(1.9)	0.7	(0.8)	0.5	(0.3)
	Rio de Janeiro	25.5	(4.1)	31.5	(3.8)	27.1	(4.0)	12.1	(3.0)	2.7	(1.4)	1.0	(0.8)	0.1	c
	Rio Grande do Norte	29.9	(3.7)	32.8	(4.5)	19.0	(2.6)	10.4	(3.8)	4.9	(1.7)	2.7	(2.3)	0.2	c
	Rio Grande do Sul	16.1	(3.8)	31.1	(3.7)	29.0	(3.8)	18.8	(2.8)	4.6	(1.2)	0.4	c	0.0	c
	Rondônia	29.1	(4.0)	32.3	(3.5)	28.0	(3.3)	8.8	(2.0)	1.2	(0.8)	0.6	(0.5)	0.0	c
	Roraima	44.6	(5.1)	28.7	(3.1)	18.5	(3.8)	6.9	(2.1)	1.0	(0.8)	0.2	c	0.0	c
	Santa Catarina	23.1	(3.7)	24.5	(3.2)	26.8	(3.2)	18.6	(3.2)	6.5	(1.6)	0.4	c	0.0	c
	São Paulo	22.6	(2.1)	28.3	(2.0)	26.8	(2.1)	15.2	(2.0)	5.6	(1.5)	1.3	(0.5)	0.2	(0.1)
	Sergipe	31.5	(6.4)	32.3	(4.8)	18.4	(3.5)	12.1	(4.1)	4.7	(2.7)	1.0	(1.0)	0.1	c
	Tocantins	39.9	(4.9)	29.5	(3.7)	18.0	(3.4)	9.5	(3.0)	2.4	(1.5)	0.7	(0.5)	0.0	c
	Colombia														
	Bogotá	18.5	(2.5)	32.3	(2.7)	31.2	(2.3)	13.2	(1.9)	4.0	(1.2)	0.6	(0.5)	0.1	c
	Cali	29.6	(3.4)	30.7	(2.6)	25.7	(3.1)	10.3	(2.0)	2.9	(1.3)	0.8	(0.6)	0.0	c
	Manizales	14.7	(2.0)	29.6	(2.5)	32.7	(3.3)	15.3	(2.0)	6.4	(1.9)	1.3	(1.1)	0.0	c
	Medellín	23.0	(3.6)	30.6	(2.4)	25.1	(2.7)	12.8	(2.6)	5.7	(1.4)	1.9	(1.1)	0.9	(0.8)
	Russian Federation														
	Perm Territory region•	11.1	(1.9)	19.7	(1.8)	23.7	(2.3)	23.3	(1.9)	13.6	(1.3)	6.4	(1.4)	2.3	(1.1)
	United Arab Emirates														
	Abu Dhabi•	31.5	(2.4)	26.2	(1.5)	21.9	(1.5)	12.1	(1.3)	6.2	(1.1)	1.6	(0.6)	0.5	(0.3)
	Ajman	37.6	(7.3)	31.7	(5.4)	20.2	(3.5)	9.6	(2.4)	1.0	c	0.0	c	0.0	c
	Dubai•	14.8	(0.7)	19.3	(1.0)	22.9	(1.0)	20.8	(1.1)	14.3	(1.0)	6.3	(0.7)	1.6	(0.4)
	Fujairah	40.9	(5.5)	28.9	(4.1)	18.3	(2.8)	8.3	(1.9)	3.2	(0.9)	0.3	c	0.0	c
	Ras al-Khaimah	34.3	(5.7)	31.2	(3.1)	21.8	(4.3)	10.2	(2.3)	1.8	(0.8)	0.7	(0.5)	0.0	c
	Sharjah	19.7	(5.4)	23.6	(4.1)	26.2	(4.3)	18.6	(4.2)	8.4	(3.4)	2.9	(2.0)	0.7	(0.7)
	Umm al-Quwain	45.4	(4.0)	34.5	(4.6)	13.6	(3.2)	4.4	(2.0)	1.4	(1.3)	0.7	c	0.0	c

• PISA adjudicated region.

Note: See Table I.2.12 for national data.

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[Part 3/4]

Table B2.I.11 Percentage of students at each proficiency level on the mathematics subscale *interpreting*, by gender and region

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	4.5	(1.2)	9.0	(1.7)	17.1	(2.3)	21.1	(3.3)	24.6	(2.8)	16.3	(2.2)	7.4	(1.5)
	New South Wales	5.8	(0.8)	11.5	(1.0)	20.2	(1.3)	25.0	(1.6)	20.2	(1.5)	11.1	(1.2)	6.2	(1.1)
	Northern Territory	18.3	(3.7)	17.8	(5.9)	24.5	(5.5)	22.4	(4.6)	12.1	(4.2)	4.2	(2.2)	0.6	c
	Queensland	5.3	(0.8)	12.3	(1.1)	21.8	(1.7)	23.4	(1.6)	19.9	(1.5)	11.8	(1.2)	5.4	(0.8)
	South Australia	7.2	(1.4)	14.3	(1.7)	23.0	(2.5)	23.8	(2.0)	19.4	(2.0)	8.7	(2.0)	3.6	(0.8)
	Tasmania	8.9	(1.4)	16.8	(2.0)	24.2	(3.1)	21.8	(2.3)	16.0	(2.2)	7.8	(1.6)	4.4	(1.2)
	Victoria	4.7	(1.1)	13.6	(1.7)	21.8	(1.6)	25.1	(1.5)	21.2	(1.5)	10.6	(1.1)	3.0	(0.7)
	Western Australia	6.6	(1.2)	12.3	(1.7)	17.8	(1.5)	22.9	(2.1)	21.6	(2.0)	12.4	(1.4)	6.5	(1.1)
	Belgium														
	Flemish Community•	6.3	(0.9)	11.6	(1.0)	18.0	(1.1)	21.4	(1.3)	20.8	(1.2)	14.9	(1.2)	6.9	(0.8)
	French Community	8.6	(1.3)	14.7	(1.1)	21.9	(1.6)	23.3	(1.9)	20.0	(1.5)	8.9	(0.9)	2.6	(0.5)
	German-speaking Community	5.6	(1.2)	9.6	(1.7)	18.1	(2.2)	29.8	(2.6)	23.0	(2.6)	11.1	(1.8)	2.7	(1.0)
	Canada														
	Alberta	4.2	(0.7)	11.4	(1.5)	19.4	(2.2)	26.1	(1.7)	22.1	(1.7)	12.5	(1.5)	4.3	(0.8)
	British Columbia	2.5	(0.9)	9.7	(1.5)	19.7	(1.6)	27.1	(1.7)	24.8	(1.8)	11.5	(1.5)	4.7	(1.1)
	Manitoba	6.7	(1.4)	12.7	(2.0)	24.1	(1.8)	24.2	(1.8)	20.5	(1.7)	8.9	(1.3)	2.8	(0.7)
	New Brunswick	5.2	(1.0)	12.3	(1.5)	24.7	(2.8)	27.7	(2.7)	19.6	(2.2)	8.2	(1.6)	2.3	(0.9)
	Newfoundland and Labrador	5.1	(1.5)	14.8	(1.9)	24.9	(3.0)	25.3	(2.4)	18.9	(2.2)	9.1	(1.3)	1.9	(0.7)
	Nova Scotia	4.8	(1.2)	11.0	(1.7)	25.6	(3.4)	29.6	(4.2)	20.0	(3.6)	7.0	(1.6)	2.0	(0.8)
	Ontario	3.6	(0.7)	9.6	(1.1)	22.5	(1.8)	29.0	(1.7)	21.5	(1.6)	10.3	(1.3)	3.5	(0.6)
	Prince Edward Island	6.9	(1.1)	16.2	(1.7)	26.3	(2.0)	26.7	(1.7)	17.2	(1.7)	5.0	(1.1)	1.6	(0.6)
	Quebec	4.4	(0.8)	8.9	(1.0)	17.0	(1.3)	24.9	(1.2)	23.9	(1.2)	14.5	(1.1)	6.5	(0.8)
	Saskatchewan	3.6	(0.9)	11.2	(1.3)	24.5	(1.6)	29.4	(2.0)	19.6	(1.8)	9.6	(1.4)	2.1	(0.8)
	Italy														
	Abruzzo	10.6	(1.8)	14.9	(2.4)	24.2	(1.9)	25.1	(2.3)	16.3	(1.9)	7.0	(1.4)	1.9	(0.8)
	Basilicata	13.7	(2.2)	19.7	(1.6)	27.1	(2.7)	20.8	(1.8)	13.2	(1.7)	3.9	(0.8)	1.5	(0.6)
	Bolzano	7.5	(0.8)	11.7	(1.3)	19.4	(1.8)	24.2	(2.9)	20.6	(2.3)	11.6	(1.6)	5.1	(1.3)
	Calabria	24.9	(4.5)	20.2	(2.7)	25.6	(2.8)	19.1	(2.2)	7.8	(1.3)	1.7	(0.5)	0.6	(0.4)
	Campania	16.9	(3.2)	19.9	(2.8)	24.0	(2.6)	21.8	(2.1)	11.4	(1.8)	4.8	(1.2)	1.2	(0.7)
	Emilia Romagna	7.4	(1.8)	11.8	(2.2)	20.9	(2.4)	23.2	(2.1)	19.6	(2.1)	12.1	(1.7)	5.0	(1.0)
	Friuli Venezia Giulia	5.9	(2.3)	8.2	(1.6)	15.7	(2.2)	25.7	(2.6)	25.1	(2.4)	13.3	(1.8)	6.0	(1.1)
	Lazio	11.2	(2.2)	17.1	(2.4)	23.9	(2.3)	24.0	(2.3)	15.8	(2.3)	6.1	(1.5)	1.9	(0.7)
	Liguria	9.4	(1.8)	13.0	(1.9)	20.2	(2.8)	24.0	(2.0)	19.5	(3.0)	9.3	(2.0)	4.6	(1.3)
	Lombardia	3.7	(1.0)	9.8	(2.0)	19.0	(2.4)	25.6	(2.6)	24.3	(2.6)	12.5	(2.5)	5.1	(1.5)
	Marche	7.5	(2.0)	13.8	(2.0)	23.6	(2.4)	25.2	(2.1)	18.7	(1.7)	8.9	(1.5)	2.5	(0.9)
	Molise	12.3	(1.9)	19.3	(2.6)	25.2	(2.7)	23.7	(2.6)	12.7	(2.2)	4.4	(1.2)	2.3	(0.8)
	Piemonte	7.0	(1.3)	14.8	(2.7)	20.7	(2.1)	23.0	(2.3)	19.1	(1.8)	10.5	(1.7)	4.8	(1.2)
	Puglia	8.3	(2.2)	16.8	(2.7)	27.8	(2.5)	24.2	(2.5)	15.3	(1.9)	5.9	(1.3)	1.7	(0.8)
	Sardegna	12.2	(2.5)	17.8	(2.7)	23.8	(2.2)	23.1	(2.4)	16.5	(2.7)	5.6	(1.0)	0.8	(0.4)
	Sicilia	16.1	(2.5)	20.4	(2.8)	26.1	(1.9)	21.8	(2.6)	11.9	(1.7)	3.1	(0.8)	0.7	(0.4)
	Toscana	7.7	(1.8)	12.4	(2.6)	18.8	(2.2)	24.8	(2.6)	19.9	(2.7)	11.7	(1.9)	4.6	(1.2)
	Trento	3.2	(1.5)	6.9	(1.8)	16.3	(2.5)	26.8	(2.5)	26.4	(2.9)	15.7	(2.3)	4.6	(1.1)
	Umbria	8.3	(1.8)	13.5	(2.1)	22.2	(2.2)	24.9	(3.9)	19.3	(2.8)	8.7	(2.0)	3.1	(0.7)
	Valle d'Aosta	6.6	(1.4)	13.6	(2.4)	22.0	(2.8)	25.7	(2.8)	17.7	(2.4)	9.4	(2.1)	4.8	(1.3)
	Veneto	4.1	(1.7)	8.1	(1.7)	17.3	(2.7)	25.0	(2.4)	24.8	(2.4)	13.9	(1.6)	6.7	(1.4)
	Mexico														
	Aguascalientes	13.7	(2.7)	29.0	(2.3)	33.8	(2.4)	17.4	(2.2)	5.2	(1.3)	0.7	(0.5)	0.0	c
	Baja California	19.6	(2.6)	35.5	(3.2)	29.6	(2.9)	11.0	(2.1)	3.8	(1.5)	0.4	c	0.0	c
	Baja California Sur	21.4	(4.0)	32.2	(2.4)	31.3	(3.1)	11.6	(1.6)	3.2	(1.1)	0.2	(0.2)	0.0	c
	Campeche	29.4	(3.3)	35.7	(3.1)	24.2	(3.0)	8.9	(1.8)	1.4	(0.5)	0.3	(0.2)	0.0	c
	Chiapas	44.6	(4.3)	31.9	(3.0)	19.5	(2.3)	3.7	(1.2)	0.4	(0.3)	0.0	c	0.0	c
	Chihuahua	18.2	(3.1)	29.2	(3.7)	33.3	(3.2)	15.2	(3.2)	3.8	(1.7)	0.2	c	0.0	c
	Coahuila	19.7	(3.4)	34.6	(4.3)	30.1	(3.8)	13.1	(3.2)	2.3	(0.9)	0.1	c	0.0	c
	Colima	15.8	(2.8)	28.9	(2.9)	30.6	(2.6)	18.3	(2.2)	5.8	(1.5)	0.6	(0.4)	0.0	c
	Distrito Federal	22.2	(2.9)	32.8	(3.9)	28.0	(2.4)	12.4	(2.2)	4.0	(1.7)	0.6	(0.4)	0.0	c
	Durango	18.6	(3.0)	30.7	(3.0)	34.2	(3.2)	14.1	(2.2)	2.3	(0.9)	0.2	(0.2)	0.0	c
	Guanajuato	25.2	(3.5)	33.4	(3.0)	29.5	(3.7)	10.4	(1.8)	1.4	(0.5)	0.1	c	0.0	c
	Guerrero	45.4	(3.1)	33.0	(2.1)	16.7	(2.2)	4.1	(1.3)	0.7	(0.5)	0.0	c	0.0	c
	Hidalgo	26.0	(3.4)	35.4	(3.1)	27.5	(3.6)	9.2	(2.0)	1.8	(0.9)	0.1	c	0.0	c
	Jalisco	11.1	(2.1)	30.6	(2.9)	36.1	(2.9)	18.2	(2.7)	3.7	(0.9)	0.4	(0.3)	0.0	c
	Mexico	18.5	(2.8)	34.2	(3.2)	35.2	(3.2)	10.8	(2.1)	1.3	(0.8)	0.1	c	0.0	c
	Morelos	19.2	(3.7)	32.3	(4.0)	30.0	(3.3)	13.7	(2.5)	4.4	(2.6)	0.4	(0.4)	0.0	c
	Nayarit	24.1	(3.6)	32.3	(3.5)	29.0	(3.6)	11.8	(2.1)	2.5	(1.1)	0.2	c	0.0	c
	Nuevo León	15.4	(3.9)	32.0	(3.5)	30.2	(2.8)	17.3	(3.6)	4.7	(1.7)	0.4	(0.4)	0.0	c
	Puebla	23.7	(3.6)	36.3	(2.7)	28.1	(3.0)	10.1	(1.9)	1.8	(1.0)	0.0	c	0.0	c
	Querétaro	13.6	(3.6)	29.2	(4.4)	32.8	(4.2)	19.3	(3.5)	4.2	(1.5)	0.7	(0.4)	0.1	c
	Quintana Roo	22.4	(4.0)	34.5	(3.4)	29.8	(3.1)	11.5	(2.2)	1.5	(0.8)	0.2	(0.2)	0.0	c
	San Luis Potosí	22.4	(3.3)	31.0	(2.8)	30.4	(2.4)	13.6	(3.0)	2.4	(1.0)	0.2	c	0.0	c
	Sinaloa	21.4	(2.6)	32.2	(3.0)	30.5	(2.3)	13.4	(2.3)	2.2	(0.9)	0.2	c	0.0	c
	Tabasco	38.8	(3.1)	35.7	(2.9)	20.0	(2.7)	4.7	(1.2)	0.8	(0.5)	0.0	c	0.0	c
	Tamaulipas	24.9	(2.6)	33.3	(3.9)	29.4	(3.4)	10.6	(2.3)	1.8	(0.9)	0.1	(0.2)	0.0	c
	Tlaxcala	22.4	(3.2)	35.9	(2.8)	29.2	(3.3)	10.3	(2.4)	2.0	(0.8)	0.1	c	0.0	c
	Veracruz	30.1	(3.8)	35.4	(3.2)	22.4	(2.3)	9.5	(2.6)	2.3	(1.3)	0.3	(0.4)	0.0	c
	Yucatán	26.8	(3.0)	33.1	(2.4)	27.2	(2.9)	11.0	(1.9)	1.8	(0.8)	0.1	c	0.0	c
	Zacatecas	22.9	(2.4)	33.8	(2.4)	28.5	(2.9)	12.6	(2.1)	1.9	(0.7)	0.3	c	0.0	c

• PISA adjudicated region.

Note: See Table I.2.12 for national data.

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[Part 4/4]

Table B2.I.11 Percentage of students at each proficiency level on the mathematics subscale *interpreting*, by gender and region

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**														
	Alentejo	7.4	(2.5)	16.2	(2.8)	27.5	(2.6)	26.2	(3.4)	16.4	(2.7)	5.5	(1.9)	0.9	(0.9)
	Spain														
	Andalusia•	10.2	(1.4)	18.2	(1.9)	26.0	(1.9)	23.2	(1.9)	14.6	(2.2)	6.2	(1.3)	1.6	(0.6)
	Aragon•	9.0	(1.5)	13.3	(1.8)	19.8	(2.3)	26.1	(2.3)	19.0	(2.3)	10.2	(1.5)	2.6	(0.8)
	Asturias•	6.2	(1.2)	11.9	(1.8)	21.2	(1.6)	25.8	(1.9)	19.8	(2.2)	10.4	(1.5)	4.7	(0.9)
	Balearic Islands•	10.4	(1.7)	16.6	(1.9)	25.0	(2.0)	22.5	(2.2)	17.0	(2.2)	7.0	(1.4)	1.5	(0.7)
	Basque Country•	5.6	(0.7)	11.1	(0.9)	21.6	(1.1)	26.3	(1.1)	21.6	(1.1)	10.5	(0.8)	3.4	(0.5)
	Cantabria•	6.7	(1.3)	15.7	(1.8)	24.8	(1.7)	24.2	(1.9)	17.6	(2.1)	8.7	(1.6)	2.4	(0.8)
	Castile and Leon•	4.2	(1.0)	10.7	(1.5)	21.8	(2.0)	27.5	(2.4)	22.1	(2.2)	10.7	(1.4)	3.0	(0.9)
	Catalonia•	9.2	(1.6)	14.2	(2.0)	21.8	(2.2)	27.1	(3.0)	18.9	(2.4)	6.8	(1.3)	2.2	(0.7)
	Extremadura•	14.0	(1.6)	19.0	(1.5)	24.0	(2.6)	22.8	(2.5)	12.8	(1.3)	5.8	(1.4)	1.6	(0.8)
	Galicia•	8.3	(1.1)	13.2	(1.9)	21.6	(2.1)	25.3	(2.0)	19.3	(1.7)	8.6	(1.2)	3.6	(0.7)
	La Rioja•	9.0	(1.1)	12.3	(1.4)	21.1	(1.9)	24.5	(1.7)	18.5	(2.1)	11.0	(1.6)	3.6	(0.8)
	Madrid•	5.7	(1.3)	10.6	(1.6)	21.6	(1.6)	26.8	(2.1)	22.5	(1.7)	10.1	(1.5)	2.7	(0.9)
	Murcia•	13.0	(1.6)	17.4	(1.7)	24.6	(2.1)	23.5	(1.7)	14.4	(1.6)	5.5	(1.2)	1.6	(0.6)
	Navarre•	4.2	(1.0)	9.2	(1.3)	20.9	(2.1)	25.6	(2.2)	23.8	(1.7)	12.2	(1.4)	4.0	(0.8)
	United Kingdom														
	England	9.1	(1.0)	14.4	(1.1)	21.2	(1.2)	23.5	(1.5)	18.6	(1.3)	9.1	(0.8)	4.1	(0.6)
	Northern Ireland	9.4	(1.2)	15.5	(1.5)	22.5	(1.7)	21.3	(1.6)	17.7	(1.7)	9.8	(1.5)	3.7	(0.8)
	Scotland•	5.0	(0.9)	11.7	(1.4)	23.9	(1.8)	27.7	(1.7)	19.3	(1.3)	9.3	(1.0)	3.1	(0.6)
	Wales	9.3	(1.1)	17.1	(1.1)	26.4	(2.0)	24.5	(1.7)	15.1	(1.0)	5.9	(1.0)	1.6	(0.5)
	United States														
	Connecticut•	7.8	(1.4)	12.3	(1.4)	19.2	(1.7)	24.5	(2.7)	19.4	(2.6)	11.6	(1.8)	5.3	(1.1)
	Florida•	10.3	(1.7)	20.1	(2.1)	27.5	(2.5)	23.7	(2.8)	11.5	(1.3)	5.0	(1.1)	1.8	(1.0)
	Massachusetts•	5.6	(1.1)	12.4	(1.5)	20.1	(1.8)	22.1	(2.1)	19.6	(2.0)	13.0	(1.7)	7.2	(1.6)
Partners	**Argentina**														
	Ciudad Autónoma de Buenos Aires•	27.5	(3.3)	24.9	(2.9)	26.1	(2.3)	15.3	(2.4)	5.2	(1.2)	0.7	(0.5)	0.2	(0.2)
	Brazil														
	Acre	48.6	(4.3)	28.7	(3.9)	16.3	(2.4)	5.5	(1.7)	0.7	(0.5)	0.0	c	0.2	(0.2)
	Alagoas	59.7	(4.4)	23.9	(3.8)	12.1	(2.5)	3.6	(1.6)	0.6	(0.5)	0.1	c	0.0	c
	Amapá	46.7	(4.9)	30.8	(4.1)	17.5	(2.8)	4.4	(2.5)	0.7	(0.8)	0.0	c	0.0	c
	Amazonas	48.2	(3.7)	32.7	(3.4)	13.4	(2.3)	4.3	(1.4)	1.1	(1.1)	0.4	c	0.0	c
	Bahia	41.3	(6.2)	30.8	(5.0)	16.7	(5.1)	8.3	(3.3)	2.7	(1.6)	0.2	c	0.0	c
	Ceará	37.6	(5.5)	32.2	(4.6)	20.3	(3.9)	6.9	(1.8)	2.6	(1.1)	0.3	(0.3)	0.0	c
	Espírito Santo	27.5	(4.0)	30.7	(4.7)	21.7	(2.9)	11.5	(3.5)	6.2	(2.8)	2.0	(1.2)	0.4	c
	Federal District	24.3	(4.6)	26.3	(3.5)	27.6	(3.9)	16.7	(3.8)	4.5	(2.2)	0.6	c	0.0	c
	Goiás	39.7	(3.9)	38.4	(3.2)	16.0	(2.9)	4.9	(1.4)	0.9	(0.4)	0.0	c	0.0	c
	Maranhão	58.1	(8.0)	24.2	(4.6)	12.8	(4.2)	4.1	(2.1)	0.9	(0.6)	0.0	c	0.0	c
	Mato Grosso	39.9	(6.2)	32.4	(4.7)	18.9	(3.8)	5.7	(2.3)	2.6	(1.7)	0.6	c	0.0	c
	Mato Grosso do Sul	24.1	(4.1)	34.5	(3.8)	24.4	(4.0)	13.0	(3.1)	3.9	(2.1)	0.0	c	0.1	c
	Minas Gerais	25.5	(3.9)	34.4	(3.2)	26.2	(3.4)	11.1	(2.8)	2.4	(1.3)	0.4	(0.4)	0.0	c
	Pará	46.9	(5.6)	28.3	(4.6)	19.1	(2.9)	5.1	(1.3)	0.5	c	0.0	c	0.0	c
	Paraíba	32.0	(5.8)	29.3	(4.2)	21.7	(4.9)	14.3	(4.3)	2.3	(1.4)	0.4	c	0.0	c
	Paraná	30.6	(4.3)	33.0	(3.9)	22.2	(3.3)	9.8	(2.7)	3.4	(2.5)	1.0	(1.1)	0.0	c
	Pernambuco	49.3	(5.2)	31.9	(3.6)	14.8	(3.0)	3.4	(1.5)	0.6	(0.5)	0.1	c	0.0	c
	Piauí	38.2	(4.6)	34.8	(3.5)	15.8	(2.7)	7.8	(1.9)	2.8	(1.8)	0.6	(0.6)	0.0	c
	Rio de Janeiro	27.3	(4.8)	35.1	(4.7)	26.0	(3.4)	10.0	(1.9)	1.4	(1.1)	0.2	c	0.0	c
	Rio Grande do Norte	42.1	(4.3)	28.1	(3.6)	17.9	(3.0)	7.4	(1.8)	2.8	(1.4)	1.2	(0.7)	0.5	(0.6)
	Rio Grande do Sul	19.3	(3.5)	33.2	(3.2)	29.5	(3.3)	14.9	(2.9)	3.0	(1.3)	0.1	c	0.0	c
	Rondônia	29.7	(4.0)	37.1	(3.8)	24.2	(3.3)	8.1	(2.2)	0.9	(0.8)	0.0	c	0.0	c
	Roraima	47.5	(4.6)	29.9	(5.4)	13.6	(2.6)	6.8	(3.0)	2.1	(1.4)	0.1	c	0.0	c
	Santa Catarina	22.4	(4.9)	29.5	(4.1)	28.9	(3.1)	14.8	(2.3)	3.9	(1.8)	0.6	(0.6)	0.0	c
	São Paulo	25.0	(2.2)	31.6	(1.8)	25.3	(1.7)	12.8	(1.4)	4.4	(1.1)	0.8	(0.5)	0.1	c
	Sergipe	39.3	(4.9)	33.6	(4.0)	18.9	(3.3)	7.2	(3.0)	1.0	(0.7)	0.0	c	0.0	c
	Tocantins	46.0	(4.6)	32.5	(3.7)	14.8	(2.6)	4.8	(1.4)	1.6	(0.8)	0.2	c	0.0	c
	Colombia														
	Bogotá	29.9	(2.1)	36.3	(3.1)	24.9	(3.2)	7.6	(1.6)	1.1	(0.5)	0.1	(0.1)	0.0	c
	Cali	35.8	(3.6)	32.3	(2.9)	22.7	(2.9)	7.6	(1.6)	1.6	(0.6)	0.1	c	0.0	c
	Manizales	22.6	(3.0)	37.1	(3.0)	28.3	(2.9)	10.7	(1.5)	1.2	(0.7)	0.0	c	0.0	c
	Medellín	33.6	(3.7)	30.2	(2.6)	21.0	(2.8)	9.8	(2.2)	4.1	(1.6)	1.2	(0.7)	0.1	c
	Russian Federation														
	Perm Territory region•	8.7	(1.5)	16.8	(1.7)	28.5	(2.3)	25.9	(2.0)	14.9	(1.5)	4.2	(1.1)	1.0	(0.7)
	United Arab Emirates														
	Abu Dhabi•	20.7	(2.0)	30.6	(1.8)	26.7	(1.7)	14.3	(1.7)	5.7	(0.9)	1.8	(0.7)	0.2	(0.2)
	Ajman	24.0	(6.2)	31.7	(3.9)	28.5	(3.6)	13.4	(2.9)	2.3	(1.1)	0.1	c	0.0	c
	Dubai•	13.8	(0.7)	21.6	(1.4)	25.8	(1.5)	21.5	(1.4)	12.3	(1.1)	4.3	(0.8)	0.6	(0.4)
	Fujairah	21.3	(3.8)	27.7	(3.4)	32.9	(3.9)	14.4	(2.8)	3.2	(1.3)	0.4	(0.4)	0.0	c
	Ras al-Khaimah	21.5	(5.3)	29.3	(3.3)	28.0	(3.7)	15.9	(3.8)	4.5	(1.7)	0.7	(0.5)	0.0	c
	Sharjah	19.2	(3.8)	29.3	(4.5)	25.3	(2.9)	19.2	(3.5)	5.7	(1.8)	1.2	(0.8)	0.0	c
	Umm al-Quwain	21.6	(3.6)	31.1	(5.7)	33.5	(4.7)	11.9	(2.8)	1.7	(1.3)	0.2	c	0.0	c

• PISA adjudicated region.

Note: See Table I.2.12 for national data.

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[Part 1/2]

Table B2.I.12 Mean score, variation and gender differences in student performance on the mathematics subscale *interpreting*, by region

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	**Australia**																						
	Australian Capital Territory	533	(3.9)	102	(3.0)	533	(5.9)	532	(5.0)	1	(7.6)	363	(10.4)	399	(8.6)	462	(7.8)	606	(5.6)	661	(7.6)	693	(8.1)
	New South Wales	516	(3.7)	105	(2.5)	519	(5.6)	513	(4.1)	6	(6.5)	345	(6.2)	382	(4.3)	445	(3.8)	587	(5.0)	654	(7.6)	692	(8.8)
	Northern Territory	453	(9.5)	110	(4.0)	458	(8.5)	449	(14.5)	9	(14.1)	263	(13.6)	304	(11.3)	381	(14.3)	531	(14.6)	589	(14.2)	627	(23.4)
	Queensland	513	(3.3)	101	(2.2)	515	(4.3)	511	(3.6)	4	(4.6)	348	(7.3)	385	(5.1)	444	(3.7)	585	(4.6)	644	(4.5)	679	(5.5)
	South Australia	502	(3.4)	98	(2.1)	508	(4.5)	496	(4.3)	**11**	(5.6)	338	(6.6)	375	(8.2)	435	(4.7)	570	(7.0)	630	(6.0)	665	(5.8)
	Tasmania	493	(3.5)	103	(2.6)	498	(4.9)	487	(5.2)	11	(7.4)	320	(8.4)	362	(6.6)	425	(4.1)	563	(6.2)	628	(8.1)	666	(9.3)
	Victoria	512	(3.6)	94	(1.8)	518	(4.8)	505	(3.6)	**13**	(4.8)	358	(5.2)	389	(5.5)	447	(4.7)	579	(4.9)	631	(5.6)	664	(6.1)
	Western Australia	528	(3.3)	102	(1.7)	538	(4.8)	516	(5.5)	**22**	(7.9)	359	(7.5)	393	(7.3)	456	(6.3)	599	(3.9)	658	(4.9)	692	(5.5)
	Belgium																						
	Flemish Community•	525	(3.5)	108	(2.0)	530	(4.9)	520	(4.2)	10	(5.8)	344	(7.4)	383	(5.4)	451	(5.0)	605	(3.8)	662	(3.6)	694	(3.8)
	French Community	497	(3.4)	101	(2.2)	502	(4.1)	492	(3.9)	**10**	(4.3)	326	(7.4)	363	(5.6)	426	(4.7)	572	(3.9)	625	(4.0)	657	(5.0)
	German-speaking Community	509	(2.1)	99	(2.5)	506	(3.9)	512	(3.7)	-6	(6.3)	335	(9.9)	376	(8.8)	449	(7.3)	576	(3.8)	630	(6.7)	659	(6.6)
	Canada																						
	Alberta	523	(5.2)	96	(1.9)	529	(6.5)	517	(4.9)	**12**	(5.0)	365	(7.9)	400	(6.3)	459	(5.9)	592	(6.1)	646	(5.9)	675	(5.9)
	British Columbia	528	(4.1)	88	(2.3)	533	(4.9)	523	(5.4)	10	(6.0)	381	(5.2)	412	(5.2)	469	(5.4)	588	(5.3)	642	(7.5)	675	(8.1)
	Manitoba	502	(3.0)	94	(2.2)	504	(3.8)	499	(4.7)	6	(6.0)	346	(7.7)	381	(6.3)	439	(4.6)	567	(3.9)	623	(4.8)	653	(5.6)
	New Brunswick	502	(2.8)	88	(2.0)	504	(4.2)	499	(3.8)	5	(5.8)	352	(6.7)	386	(7.0)	443	(5.4)	562	(4.4)	617	(5.9)	647	(7.2)
	Newfoundland and Labrador	499	(3.8)	91	(2.3)	501	(5.3)	496	(4.3)	5	(5.9)	347	(10.4)	379	(8.0)	434	(6.3)	562	(4.2)	618	(6.7)	649	(9.5)
	Nova Scotia	507	(3.8)	86	(3.2)	513	(4.6)	501	(5.1)	**13**	(6.0)	358	(8.4)	397	(5.3)	453	(4.6)	564	(6.0)	616	(7.8)	648	(9.7)
	Ontario	517	(4.4)	90	(1.8)	520	(5.1)	513	(4.5)	7	(3.8)	366	(5.4)	401	(5.4)	457	(5.0)	577	(5.8)	634	(5.7)	664	(6.3)
	Prince Edward Island	487	(2.9)	89	(2.1)	491	(4.0)	483	(3.6)	8	(5.0)	343	(6.5)	372	(4.6)	425	(4.5)	549	(4.3)	600	(6.2)	635	(6.1)
	Quebec	536	(3.4)	98	(1.9)	542	(4.3)	529	(4.0)	**13**	(4.6)	366	(6.6)	405	(5.7)	471	(4.5)	603	(3.9)	659	(4.2)	690	(4.5)
	Saskatchewan	508	(3.1)	87	(2.0)	511	(4.2)	505	(4.0)	6	(5.3)	365	(6.5)	398	(5.3)	452	(3.7)	568	(4.0)	620	(6.8)	650	(6.1)
	Italy																						
	Abruzzo	484	(7.0)	104	(5.4)	489	(8.9)	480	(6.8)	8	(7.7)	308	(20.6)	350	(10.9)	418	(7.4)	558	(8.1)	615	(8.7)	644	(8.5)
	Basilicata	470	(5.2)	103	(2.6)	481	(6.7)	460	(5.3)	**21**	(6.7)	305	(12.0)	342	(7.8)	402	(6.7)	540	(5.8)	600	(6.8)	639	(8.9)
	Bolzano	516	(2.5)	106	(1.7)	524	(3.3)	508	(3.3)	**16**	(4.4)	339	(6.1)	377	(5.2)	444	(5.6)	590	(3.7)	649	(4.9)	684	(5.5)
	Calabria	433	(7.8)	102	(4.5)	440	(9.9)	426	(8.9)	14	(10.6)	270	(10.7)	301	(11.4)	359	(11.8)	503	(8.2)	564	(9.8)	601	(12.0)
	Campania	462	(7.9)	105	(3.6)	470	(8.2)	453	(9.5)	**17**	(8.1)	288	(12.5)	330	(9.1)	390	(9.5)	533	(9.2)	595	(11.0)	636	(10.4)
	Emilia Romagna	516	(6.7)	113	(4.2)	525	(10.5)	507	(8.2)	18	(13.5)	325	(16.2)	374	(10.4)	442	(8.2)	596	(8.6)	656	(7.7)	691	(8.3)
	Friuli Venezia Giulia	536	(6.2)	104	(4.1)	547	(6.1)	526	(8.7)	**21**	(9.2)	354	(13.1)	392	(11.7)	470	(9.5)	609	(5.6)	665	(6.4)	697	(8.1)
	Lazio	488	(7.9)	101	(3.1)	498	(8.5)	476	(8.8)	**22**	(7.8)	325	(7.8)	357	(9.5)	417	(9.3)	558	(9.6)	624	(10.0)	659	(10.6)
	Liguria	504	(7.4)	108	(3.6)	509	(9.2)	498	(8.4)	11	(9.5)	329	(8.9)	365	(7.9)	430	(7.6)	577	(9.4)	643	(11.1)	685	(10.4)
	Lombardia	535	(7.8)	101	(3.6)	546	(10.0)	522	(8.1)	**24**	(10.3)	367	(9.3)	406	(9.3)	466	(9.5)	604	(9.2)	663	(8.9)	696	(8.9)
	Marche	510	(6.5)	97	(3.9)	526	(8.1)	494	(6.5)	**32**	(7.5)	348	(12.2)	383	(12.0)	443	(8.2)	578	(7.3)	636	(8.9)	668	(8.5)
	Molise	471	(2.8)	97	(2.6)	476	(3.7)	466	(4.5)	10	(5.8)	315	(7.6)	348	(6.5)	406	(4.4)	535	(6.1)	595	(7.5)	633	(12.0)
	Piemonte	514	(6.4)	103	(3.0)	527	(6.1)	503	(7.6)	**24**	(6.5)	344	(6.3)	377	(6.3)	443	(8.3)	585	(8.3)	647	(8.9)	681	(9.8)
	Puglia	490	(6.5)	96	(3.6)	502	(7.0)	478	(7.1)	**23**	(6.6)	334	(10.8)	367	(10.3)	425	(7.7)	556	(7.7)	614	(8.4)	647	(8.4)
	Sardegna	472	(5.4)	101	(3.2)	474	(6.4)	470	(7.3)	4	(8.5)	304	(12.2)	341	(10.9)	404	(6.7)	543	(5.3)	598	(6.8)	633	(7.0)
	Sicilia	457	(5.8)	98	(3.5)	462	(7.6)	451	(7.0)	12	(8.9)	290	(13.1)	331	(10.8)	392	(7.4)	525	(7.2)	581	(6.3)	614	(9.2)
	Toscana	507	(6.0)	109	(4.3)	507	(9.2)	507	(9.0)	0	(13.9)	325	(17.6)	364	(10.1)	434	(9.5)	584	(6.6)	644	(5.3)	675	(8.7)
	Trento	537	(4.2)	94	(2.5)	541	(5.6)	533	(7.3)	8	(9.9)	375	(10.1)	415	(10.0)	476	(6.9)	602	(5.3)	654	(6.4)	685	(6.4)
	Umbria	506	(7.6)	104	(4.6)	519	(11.0)	494	(6.8)	**25**	(9.8)	316	(20.6)	367	(18.6)	441	(11.2)	576	(5.3)	633	(5.4)	666	(7.8)
	Valle d'Aosta	507	(3.1)	99	(2.3)	513	(4.1)	502	(4.5)	11	(5.9)	346	(6.6)	377	(7.6)	440	(5.3)	573	(5.7)	633	(6.7)	674	(9.7)
	Veneto	540	(7.4)	103	(4.5)	549	(8.5)	530	(8.4)	**19**	(9.0)	364	(15.7)	406	(12.9)	472	(9.2)	611	(8.6)	670	(9.8)	702	(10.3)
	Mexico																						
	Aguascalientes	436	(4.6)	71	(2.4)	439	(5.5)	434	(5.4)	4	(6.1)	323	(7.4)	345	(5.7)	385	(6.1)	483	(5.2)	532	(8.1)	557	(8.4)
	Baja California	418	(6.5)	70	(3.5)	423	(7.1)	413	(6.5)	**9**	(4.0)	308	(11.4)	331	(9.4)	371	(7.1)	463	(8.2)	510	(8.5)	538	(10.1)
	Baja California Sur	418	(5.8)	70	(2.6)	422	(6.3)	413	(6.1)	9	(4.6)	303	(11.0)	328	(8.6)	370	(8.0)	463	(5.0)	510	(7.2)	541	(6.9)
	Campeche	400	(4.6)	71	(2.6)	404	(4.6)	395	(5.9)	9	(5.3)	283	(10.7)	309	(8.2)	352	(6.4)	446	(4.3)	489	(4.4)	514	(6.1)
	Chiapas	370	(6.6)	72	(3.6)	375	(7.3)	365	(6.9)	**10**	(4.9)	253	(9.8)	279	(9.6)	322	(8.5)	418	(6.1)	460	(8.7)	484	(11.0)
	Chihuahua	426	(8.9)	78	(4.9)	434	(10.9)	419	(8.3)	14	(7.8)	304	(14.4)	334	(10.1)	379	(7.9)	476	(10.5)	525	(14.6)	552	(11.2)
	Coahuila	417	(7.5)	70	(2.4)	421	(8.3)	413	(8.0)	7	(6.2)	309	(6.5)	330	(6.7)	370	(6.7)	464	(9.4)	509	(11.2)	535	(10.1)
	Colima	431	(4.5)	75	(3.1)	430	(4.5)	431	(5.5)	-1	(4.6)	310	(6.1)	334	(6.4)	378	(5.6)	481	(5.7)	529	(7.7)	557	(10.4)
	Distrito Federal	427	(5.4)	74	(3.1)	440	(6.5)	415	(6.2)	**25**	(6.8)	309	(8.6)	335	(6.2)	376	(6.3)	476	(7.7)	526	(8.6)	557	(11.5)
	Durango	423	(5.8)	70	(2.6)	429	(7.5)	419	(5.3)	10	(5.5)	306	(10.8)	331	(8.0)	376	(7.5)	471	(6.0)	512	(6.2)	540	(9.0)
	Guanajuato	410	(5.8)	73	(2.4)	417	(6.4)	403	(5.8)	**14**	(4.1)	290	(9.5)	314	(10.2)	361	(6.6)	460	(5.5)	505	(5.8)	532	(5.0)
	Guerrero	368	(3.7)	67	(2.5)	369	(4.0)	368	(4.8)	1	(4.8)	261	(7.9)	284	(7.6)	323	(4.7)	413	(5.4)	452	(5.4)	479	(6.7)
	Hidalgo	405	(5.6)	71	(3.0)	410	(6.6)	401	(5.7)	10	(5.1)	288	(7.9)	313	(6.3)	358	(6.3)	451	(7.8)	496	(10.2)	521	(8.9)
	Jalisco	435	(5.7)	68	(3.3)	438	(7.2)	434	(5.0)	4	(4.6)	323	(11.5)	352	(7.7)	392	(6.3)	480	(7.0)	523	(6.9)	550	(10.0)
	Mexico	420	(5.1)	63	(3.6)	426	(5.9)	414	(5.4)	**12**	(5.0)	316	(8.8)	339	(7.4)	377	(5.7)	460	(6.6)	499	(8.2)	522	(9.8)
	Morelos	421	(8.7)	76	(6.1)	423	(10.2)	419	(8.5)	4	(7.0)	295	(16.5)	324	(15.3)	372	(10.6)	471	(9.5)	518	(13.3)	550	(16.1)
	Nayarit	414	(5.6)	73	(2.7)	421	(6.0)	407	(6.5)	**14**	(5.5)	290	(10.3)	318	(8.0)	365	(7.1)	466	(6.5)	508	(7.6)	534	(7.0)
	Nuevo León	439	(9.3)	71	(2.4)	449	(10.8)	429	(8.1)	**20**	(6.6)	326	(10.4)	349	(9.1)	391	(9.4)	488	(11.4)	533	(9.5)	560	(11.4)
	Puebla	409	(5.3)	71	(3.8)	414	(7.3)	404	(5.3)	10	(7.0)	289	(15.3)	319	(11.8)	365	(6.5)	454	(5.0)	499	(8.5)	525	(8.5)
	Querétaro	441	(7.8)	71	(3.4)	448	(8.6)	434	(8.0)	**14**	(4.5)	326	(9.9)	349	(10.8)	391	(11.1)	491	(9.1)	533	(9.2)	560	(10.1)
	Quintana Roo	410	(6.2)	70	(2.6)	412	(7.2)	409	(6.1)	3	(4.6)	295	(9.9)	318	(10.1)	364	(8.1)	456	(5.1)	498	(6.6)	524	(6.9)
	San Luis Potosí	412	(7.4)	74	(3.1)	412	(8.2)	413	(7.6)	-1	(5.3)	295	(6.9)	318	(8.4)	359	(7.4)	465	(8.4)	506	(10.8)	534	(11.9)
	Sinaloa	414	(4.7)	68	(2.1)	414	(5.9)	413	(5.2)	1	(5.8)	304	(7.3)	328	(6.1)	366	(6.3)	460	(6.1)	502	(5.5)	525	(8.8)
	Tabasco	379	(4.4)	69	(3.2)	383	(5.9)	376	(4.0)	8	(4.6)	269	(6.1)	292	(6.8)	332	(5.8)	425	(4.9)	471	(7.7)	496	(10.4)
	Tamaulipas	412	(5.5)	73	(3.4)	419	(7.5)	404	(5.5)	**15**	(7.2)	297	(8.2)	322	(5.9)	361	(7.1)	459	(7.6)	506	(10.8)	537	(10.6)
	Tlaxcala	409	(5.0)	70	(2.7)	413	(5.0)	406	(5.4)	**8**	(3.4)	290	(12.3)	319	(8.9)	365	(6.0)	456	(5.2)	497	(5.5)	523	(9.2)
	Veracruz	398	(6.3)	73	(3.0)	399	(6.1)	396	(7.7)	3	(5.7)	283	(7.6)	306	(7.6)	348	(6.5)	446	(9.0)	495	(10.4)	519	(10.7)
	Yucatán	411	(5.8)	74	(2.4)	420	(7.0)	401	(5.8)	**19**	(5.2)	291	(9.7)	319	(8.0)	361	(6.4)	460	(6.8)	504	(8.2)	534	(8.2)
	Zacatecas	411	(4.0)	72	(1.6)	415	(4.5)	408	(4.5)	7	(4.0)	292	(8.6)	319	(6.8)	363	(4.9)	462	(5.4)	504	(4.4)	528	(5.6)

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).
See Table I.2.13 for national data.

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[Part 2/2]

Table B2.I.12 Mean score, variation and gender differences in student performance on the mathematics subscale *interpreting*, by region

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	**Portugal**																						
	Alentejo	489	(10.2)	88	(3.8)	498	(12.9)	480	(8.8)	**18**	(8.3)	342	(16.6)	377	(14.3)	430	(13.7)	548	(11.1)	605	(9.5)	634	(11.2)
	Spain																						
	Andalusia•	484	(5.2)	100	(2.5)	493	(6.8)	474	(5.0)	**20**	(6.1)	321	(7.6)	357	(6.4)	417	(5.1)	553	(6.8)	613	(6.7)	649	(10.8)
	Aragon•	500	(6.1)	102	(3.2)	506	(6.5)	495	(7.0)	11	(6.1)	323	(9.7)	364	(8.6)	432	(7.2)	572	(7.4)	626	(8.4)	658	(7.7)
	Asturias•	508	(4.9)	105	(2.6)	510	(6.8)	507	(4.5)	4	(6.1)	333	(10.3)	376	(7.7)	443	(6.2)	580	(6.7)	640	(6.4)	673	(7.5)
	Balearic Islands•	482	(5.4)	98	(2.5)	487	(6.1)	477	(6.1)	10	(5.6)	321	(9.5)	354	(7.9)	417	(6.4)	552	(6.1)	606	(5.6)	636	(7.2)
	Basque Country•	514	(2.9)	93	(1.4)	520	(3.5)	508	(3.2)	**12**	(3.4)	356	(4.8)	393	(3.9)	452	(3.3)	579	(3.8)	632	(3.8)	662	(4.5)
	Cantabria•	498	(4.0)	101	(2.4)	504	(5.2)	491	(5.1)	**13**	(6.4)	331	(11.4)	372	(7.7)	432	(5.3)	569	(4.2)	626	(6.1)	656	(5.7)
	Castile and Leon•	521	(4.9)	94	(2.3)	530	(6.3)	511	(5.1)	**20**	(5.7)	365	(10.3)	400	(7.6)	456	(6.6)	588	(5.5)	642	(4.7)	671	(7.6)
	Catalonia•	506	(6.1)	98	(2.2)	522	(6.8)	488	(7.2)	**34**	(7.1)	338	(8.3)	375	(7.3)	439	(8.5)	573	(6.7)	631	(8.2)	665	(8.4)
	Extremadura•	470	(5.5)	104	(2.5)	476	(6.6)	464	(5.6)	**12**	(5.2)	302	(11.3)	337	(9.5)	399	(6.6)	542	(6.4)	605	(7.3)	640	(8.2)
	Galicia•	498	(4.7)	98	(2.4)	499	(5.4)	496	(5.7)	3	(6.1)	326	(9.6)	368	(7.7)	433	(6.9)	567	(4.8)	619	(5.4)	654	(6.2)
	La Rioja•	506	(2.2)	110	(2.2)	516	(3.5)	498	(3.5)	**18**	(5.5)	313	(7.5)	358	(5.7)	435	(4.5)	584	(4.1)	644	(4.6)	676	(4.5)
	Madrid•	515	(4.5)	93	(2.5)	522	(5.4)	507	(5.1)	**15**	(5.5)	354	(8.8)	391	(7.1)	453	(6.5)	582	(4.7)	631	(4.9)	659	(5.8)
	Murcia•	472	(5.2)	102	(3.0)	478	(6.4)	466	(4.9)	**11**	(4.8)	296	(10.1)	341	(9.2)	404	(6.0)	544	(6.6)	603	(8.7)	637	(8.8)
	Navarre•	521	(3.5)	94	(2.3)	524	(4.9)	518	(3.7)	5	(5.1)	358	(8.0)	395	(6.8)	460	(4.9)	587	(4.9)	639	(6.1)	670	(7.0)
	United Kingdom																						
	England	502	(4.2)	103	(2.3)	509	(5.5)	495	(4.4)	**14**	(5.6)	331	(7.6)	369	(6.3)	432	(5.6)	573	(3.9)	634	(4.5)	669	(5.5)
	Northern Ireland	496	(3.5)	102	(2.4)	500	(5.2)	491	(5.8)	8	(8.4)	328	(8.3)	366	(6.0)	425	(4.5)	565	(4.1)	628	(6.0)	662	(6.3)
	Scotland•	510	(2.7)	90	(1.9)	516	(3.3)	504	(3.2)	**12**	(3.7)	360	(7.3)	396	(5.6)	449	(3.9)	571	(3.1)	626	(4.2)	658	(6.2)
	Wales	483	(2.6)	93	(1.4)	489	(3.3)	477	(3.1)	**12**	(3.8)	330	(5.0)	362	(4.5)	421	(3.5)	546	(3.2)	603	(4.6)	637	(4.5)
	United States																						
	Connecticut•	515	(6.4)	104	(2.9)	523	(7.0)	507	(6.6)	**16**	(4.4)	337	(10.1)	376	(9.0)	443	(8.9)	589	(6.8)	649	(8.5)	682	(7.6)
	Florida•	475	(6.5)	92	(3.0)	482	(7.0)	468	(6.8)	**14**	(4.8)	329	(5.9)	358	(7.7)	410	(6.4)	535	(8.5)	598	(10.4)	635	(12.0)
	Massachusetts•	524	(6.4)	107	(2.9)	531	(6.4)	518	(7.3)	**13**	(4.8)	352	(7.0)	388	(5.5)	451	(5.9)	597	(8.9)	661	(9.0)	699	(10.5)
Partners	**Argentina**																						
	Ciudad Autónoma de Buenos Aires•	415	(7.3)	99	(7.1)	424	(7.9)	407	(7.9)	**17**	(5.9)	240	(25.8)	288	(15.4)	356	(8.7)	483	(6.6)	534	(6.6)	562	(7.9)
	Brazil																						
	Acre	367	(6.5)	75	(3.9)	372	(8.0)	363	(7.1)	10	(7.6)	247	(8.8)	274	(8.7)	315	(8.7)	417	(8.5)	466	(9.6)	492	(11.8)
	Alagoas	346	(7.0)	78	(4.4)	353	(8.9)	341	(6.6)	12	(6.1)	228	(14.9)	253	(10.0)	294	(6.9)	395	(10.7)	446	(13.3)	481	(17.5)
	Amapá	372	(8.6)	71	(4.7)	379	(10.4)	366	(8.3)	13	(7.7)	259	(11.0)	284	(9.5)	322	(9.4)	418	(9.1)	464	(17.6)	495	(16.5)
	Amazonas	369	(6.0)	74	(6.8)	373	(7.9)	365	(5.3)	8	(6.1)	258	(11.5)	282	(10.1)	320	(5.8)	409	(6.7)	462	(10.3)	498	(22.9)
	Bahia	381	(8.9)	85	(6.0)	385	(9.2)	378	(11.0)	7	(9.9)	240	(23.4)	278	(15.9)	326	(13.3)	434	(8.6)	495	(11.6)	526	(14.7)
	Ceará	389	(8.4)	81	(5.1)	395	(9.3)	383	(9.2)	11	(7.7)	261	(12.7)	290	(8.0)	335	(9.1)	437	(11.5)	492	(16.1)	534	(19.9)
	Espírito Santo	421	(10.1)	86	(6.5)	429	(9.3)	413	(13.0)	16	(9.6)	293	(9.1)	318	(6.6)	359	(6.1)	473	(20.4)	545	(22.2)	578	(20.9)
	Federal District	424	(10.0)	86	(7.2)	432	(12.1)	417	(9.0)	**16**	(7.0)	283	(12.5)	312	(15.0)	365	(15.0)	482	(12.2)	540	(14.9)	563	(15.7)
	Goiás	385	(4.4)	69	(2.7)	394	(5.7)	376	(5.0)	**17**	(6.1)	279	(9.2)	300	(7.7)	338	(5.7)	426	(5.5)	475	(6.8)	511	(11.3)
	Maranhão	351	(14.9)	87	(7.4)	359	(17.1)	345	(13.8)	**14**	(6.8)	217	(12.3)	245	(9.0)	288	(13.1)	409	(20.2)	463	(29.4)	504	(30.5)
	Mato Grosso	378	(9.5)	77	(5.4)	375	(9.6)	380	(10.6)	-5	(7.1)	259	(10.1)	282	(9.4)	326	(8.8)	425	(12.6)	478	(17.9)	515	(25.0)
	Mato Grosso do Sul	418	(8.2)	75	(4.3)	428	(9.8)	409	(7.8)	**18**	(7.2)	300	(10.3)	322	(10.2)	365	(7.6)	469	(9.4)	522	(18.0)	546	(15.6)
	Minas Gerais	410	(7.3)	75	(4.4)	414	(9.3)	406	(6.5)	9	(6.3)	287	(11.3)	315	(9.7)	360	(8.0)	458	(9.4)	504	(11.7)	536	(15.8)
	Pará	368	(6.3)	73	(3.1)	372	(5.9)	365	(8.2)	7	(7.3)	250	(12.8)	276	(11.6)	316	(8.5)	422	(7.4)	463	(6.5)	490	(8.4)
	Paraíba	404	(8.8)	83	(7.5)	410	(9.6)	398	(10.2)	12	(8.9)	271	(26.1)	301	(15.4)	348	(12.5)	458	(10.3)	509	(13.7)	540	(15.2)
	Paraná	408	(11.4)	83	(9.0)	416	(12.3)	400	(11.4)	**16**	(6.2)	285	(8.5)	306	(11.7)	349	(9.0)	460	(16.2)	523	(28.3)	560	(33.9)
	Pernambuco	370	(7.9)	73	(5.5)	381	(8.9)	361	(7.8)	**19**	(5.0)	258	(10.5)	278	(11.3)	321	(11.7)	417	(7.1)	459	(11.3)	493	(15.4)
	Piauí	388	(8.2)	79	(6.1)	394	(8.7)	383	(8.3)	**11**	(4.0)	273	(7.1)	294	(9.4)	332	(6.6)	436	(10.8)	495	(20.9)	533	(23.5)
	Rio de Janeiro	404	(7.3)	71	(4.5)	409	(8.6)	399	(7.4)	9	(6.4)	292	(13.3)	315	(8.2)	354	(9.1)	452	(8.9)	495	(11.0)	522	(14.7)
	Rio Grande do Norte	395	(8.4)	85	(7.4)	406	(10.0)	386	(8.4)	**21**	(7.3)	275	(10.2)	299	(7.3)	336	(5.6)	442	(13.5)	509	(20.5)	556	(32.7)
	Rio Grande do Sul	422	(6.0)	70	(3.1)	428	(6.5)	417	(7.0)	11	(5.8)	310	(9.6)	335	(11.2)	374	(7.7)	472	(7.5)	515	(6.9)	535	(10.2)
	Rondônia	394	(6.6)	70	(4.0)	398	(6.7)	391	(7.6)	7	(5.6)	276	(16.0)	305	(9.9)	348	(9.2)	440	(7.6)	482	(10.3)	509	(9.7)
	Roraima	371	(6.7)	76	(4.1)	372	(8.3)	369	(8.6)	3	(10.1)	253	(10.4)	277	(9.0)	319	(7.4)	418	(9.9)	476	(16.4)	508	(15.4)
	Santa Catarina	419	(8.1)	80	(4.6)	423	(7.5)	415	(10.2)	8	(7.7)	285	(21.3)	317	(14.1)	366	(11.4)	474	(10.0)	523	(9.4)	549	(8.1)
	São Paulo	416	(4.2)	81	(2.4)	421	(4.5)	411	(4.8)	**10**	(3.9)	288	(5.5)	315	(5.2)	360	(4.1)	469	(5.9)	522	(8.8)	553	(8.8)
	Sergipe	389	(10.0)	77	(5.7)	401	(14.1)	380	(8.5)	**22**	(10.4)	274	(10.8)	297	(8.2)	333	(9.8)	436	(15.6)	495	(20.3)	527	(20.8)
	Tocantins	374	(7.9)	79	(4.5)	383	(9.6)	365	(7.1)	**17**	(6.7)	246	(11.0)	274	(9.0)	322	(7.3)	423	(10.1)	479	(15.0)	515	(17.7)
	Colombia																						
	Bogotá	405	(3.4)	70	(2.3)	420	(5.1)	391	(3.4)	**29**	(5.3)	289	(5.6)	315	(4.0)	359	(3.6)	450	(3.8)	494	(6.6)	520	(8.8)
	Cali	392	(5.9)	76	(2.9)	400	(6.4)	385	(6.3)	**15**	(4.2)	268	(8.6)	295	(7.5)	341	(6.1)	442	(7.0)	488	(9.3)	519	(9.5)
	Manizales	418	(3.5)	70	(3.3)	433	(5.7)	405	(3.7)	**28**	(6.2)	307	(6.9)	331	(5.2)	372	(4.6)	461	(4.8)	509	(9.0)	539	(11.2)
	Medellín	409	(7.4)	85	(5.9)	421	(8.8)	398	(8.7)	**23**	(9.4)	284	(8.2)	308	(6.4)	350	(5.5)	460	(9.1)	522	(15.4)	562	(21.8)
	Russian Federation																						
	Perm Territory region•	472	(5.6)	93	(4.5)	471	(6.6)	473	(5.4)	-2	(4.8)	321	(9.4)	359	(7.7)	412	(6.2)	533	(6.5)	589	(10.7)	624	(14.4)
	United Arab Emirates																						
	Abu Dhabi•	415	(4.3)	88	(2.5)	407	(6.0)	423	(5.1)	**-15**	(7.1)	279	(6.1)	307	(4.5)	355	(4.4)	470	(5.2)	531	(7.5)	567	(8.3)
	Ajman	396	(8.2)	75	(4.5)	382	(11.7)	409	(11.3)	-27	(16.4)	268	(18.1)	297	(16.1)	346	(11.8)	450	(7.6)	495	(8.6)	520	(9.0)
	Dubai•	460	(1.3)	95	(1.0)	464	(1.9)	456	(1.7)	**8**	(2.4)	304	(2.3)	337	(2.3)	393	(2.1)	527	(2.8)	584	(3.4)	619	(3.2)
	Fujairah	398	(8.8)	82	(3.4)	379	(9.1)	417	(8.1)	**-38**	(10.1)	259	(16.9)	292	(14.2)	341	(11.6)	454	(8.3)	504	(9.2)	533	(10.6)
	Ras al-Khaimah	405	(7.2)	79	(3.4)	391	(9.3)	418	(10.8)	**-28**	(13.8)	277	(11.8)	304	(11.1)	351	(10.5)	460	(8.2)	508	(6.4)	535	(10.0)
	Sharjah	433	(8.8)	84	(3.9)	438	(17.3)	428	(10.5)	11	(22.7)	302	(8.7)	329	(7.9)	374	(9.1)	491	(10.5)	541	(11.0)	573	(16.2)
	Umm al-Quwain	391	(3.9)	74	(3.5)	369	(5.0)	411	(5.5)	**-42**	(6.9)	270	(8.4)	296	(8.9)	339	(6.8)	439	(7.2)	483	(9.8)	517	(14.3)

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

See Table I.2.13 for national data.

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[Part 1/2]

Table B2.I.13 Percentage of students at each proficiency level on the mathematics subscale *change and relationships*, by region

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	5.9	(1.1)	10.5	(1.5)	18.2	(1.8)	23.8	(2.1)	20.9	(1.7)	14.4	(1.8)	6.3	(1.5)
	New South Wales	7.2	(0.8)	12.6	(0.9)	19.5	(1.0)	22.1	(1.1)	18.7	(1.1)	12.1	(0.8)	7.8	(1.1)
	Northern Territory	18.8	(1.9)	16.6	(2.9)	21.0	(3.2)	21.7	(3.3)	12.7	(2.7)	6.1	(2.4)	3.1	(1.4)
	Queensland	6.7	(0.7)	13.1	(0.8)	20.9	(0.9)	22.8	(1.2)	18.8	(0.9)	11.7	(0.9)	6.0	(0.6)
	South Australia	9.5	(1.0)	15.1	(1.2)	21.2	(1.6)	22.8	(1.4)	17.6	(1.4)	9.4	(1.1)	4.3	(0.8)
	Tasmania	12.4	(1.2)	15.9	(1.8)	21.9	(1.8)	21.8	(1.8)	16.0	(1.4)	8.6	(1.1)	3.5	(0.8)
	Victoria	6.6	(0.7)	12.5	(1.2)	21.1	(1.2)	24.7	(1.2)	19.5	(1.3)	11.0	(1.0)	4.5	(0.7)
	Western Australia	6.4	(0.8)	11.7	(1.1)	19.0	(1.2)	21.1	(1.4)	19.6	(1.5)	14.5	(1.3)	7.8	(1.0)
	Belgium														
	Flemish Community•	7.2	(0.9)	8.9	(0.6)	15.1	(0.8)	20.1	(0.8)	21.7	(0.9)	17.5	(0.8)	9.5	(0.7)
	French Community	12.5	(1.2)	12.0	(0.8)	18.7	(0.9)	22.4	(1.2)	20.0	(1.0)	10.7	(0.8)	3.7	(0.5)
	German-speaking Community	7.1	(0.9)	10.6	(1.1)	17.2	(1.6)	26.4	(2.6)	23.0	(1.8)	11.7	(1.3)	4.0	(1.0)
	Canada														
	Alberta	4.5	(0.9)	9.4	(0.9)	18.5	(1.6)	23.8	(1.6)	22.7	(1.1)	14.7	(1.3)	6.5	(0.9)
	British Columbia	2.8	(0.5)	8.3	(1.0)	19.2	(1.3)	26.4	(1.6)	22.3	(1.5)	14.4	(1.5)	6.6	(1.0)
	Manitoba	6.6	(0.9)	15.3	(1.6)	21.8	(1.5)	23.9	(1.3)	19.6	(1.1)	9.4	(1.0)	3.3	(0.5)
	New Brunswick	5.2	(0.8)	11.9	(1.0)	22.5	(1.8)	28.3	(1.9)	19.7	(1.6)	9.3	(1.2)	3.3	(0.8)
	Newfoundland and Labrador	6.5	(1.1)	13.4	(1.5)	22.9	(1.9)	26.1	(2.1)	17.9	(1.7)	9.9	(1.2)	3.5	(0.8)
	Nova Scotia	5.9	(0.9)	13.7	(1.9)	23.8	(2.1)	25.1	(1.7)	20.4	(1.8)	8.3	(1.3)	2.8	(0.7)
	Ontario	3.8	(0.6)	9.0	(1.1)	19.1	(1.2)	27.2	(1.2)	22.0	(1.2)	12.9	(1.0)	6.1	(0.8)
	Prince Edward Island	6.3	(0.8)	15.6	(1.3)	24.3	(1.6)	26.8	(1.5)	18.0	(1.1)	7.4	(0.9)	1.6	(0.5)
	Quebec	4.3	(0.6)	8.5	(0.7)	16.2	(1.1)	23.4	(1.3)	23.1	(1.1)	16.7	(0.9)	7.9	(0.8)
	Saskatchewan	4.2	(0.6)	9.9	(1.2)	22.0	(1.8)	26.3	(1.6)	21.5	(1.2)	11.9	(1.0)	4.1	(0.9)
	Italy														
	Abruzzo	12.7	(2.3)	17.5	(1.8)	24.7	(1.8)	22.5	(1.6)	15.0	(1.6)	6.2	(1.1)	1.5	(0.5)
	Basilicata	13.6	(1.8)	19.5	(1.6)	28.0	(1.9)	20.9	(1.6)	11.5	(1.3)	4.9	(0.6)	1.5	(0.5)
	Bolzano	6.8	(0.7)	12.0	(1.0)	20.5	(1.6)	25.4	(1.1)	21.2	(1.0)	10.1	(0.9)	4.0	(0.6)
	Calabria	25.7	(2.4)	24.1	(2.0)	25.4	(1.8)	15.8	(1.2)	6.3	(1.1)	2.2	(0.6)	0.6	(0.2)
	Campania	19.3	(2.7)	22.0	(2.0)	25.9	(2.0)	19.2	(1.9)	9.8	(1.5)	3.1	(0.8)	0.8	(0.4)
	Emilia Romagna	10.8	(1.5)	14.0	(1.5)	20.6	(1.7)	22.8	(1.8)	19.0	(1.8)	9.6	(1.3)	3.3	(0.7)
	Friuli Venezia Giulia	5.4	(1.2)	9.4	(1.3)	19.5	(1.5)	26.6	(1.9)	22.8	(1.9)	11.5	(1.3)	4.8	(0.6)
	Lazio	13.8	(1.7)	19.3	(1.8)	25.0	(1.4)	21.8	(1.6)	13.1	(1.6)	5.6	(1.0)	1.5	(0.5)
	Liguria	11.6	(1.7)	17.9	(1.9)	24.2	(2.0)	23.4	(1.9)	14.3	(1.8)	6.4	(1.2)	2.2	(0.5)
	Lombardia	5.1	(1.0)	10.6	(1.5)	21.5	(2.1)	25.9	(1.9)	22.5	(2.0)	11.1	(1.7)	3.5	(1.0)
	Marche	7.8	(1.6)	15.3	(2.2)	23.9	(2.1)	24.5	(1.8)	18.7	(1.7)	7.7	(1.0)	2.1	(0.6)
	Molise	12.4	(1.1)	20.0	(1.6)	28.8	(1.7)	23.7	(1.7)	10.5	(1.8)	3.7	(1.1)	0.9	(0.5)
	Piemonte	6.9	(0.9)	13.8	(1.6)	22.0	(1.9)	27.3	(1.4)	19.4	(1.6)	8.4	(1.2)	2.3	(0.7)
	Puglia	11.8	(2.2)	18.2	(2.1)	24.5	(2.2)	23.5	(2.0)	15.2	(1.7)	5.6	(1.2)	1.2	(0.5)
	Sardegna	18.2	(2.2)	20.9	(1.7)	25.2	(1.8)	20.6	(1.6)	10.9	(1.4)	3.6	(0.7)	0.5	(0.2)
	Sicilia	19.8	(2.1)	22.7	(1.7)	26.2	(1.5)	20.5	(1.9)	8.3	(1.3)	2.1	(0.4)	0.5	(0.2)
	Toscana	10.1	(1.1)	14.4	(1.5)	21.9	(1.6)	24.8	(1.9)	18.0	(1.4)	8.7	(1.3)	2.2	(0.6)
	Trento	4.7	(1.3)	9.8	(1.2)	20.2	(1.9)	28.2	(2.0)	21.3	(1.8)	11.8	(1.1)	4.0	(0.7)
	Umbria	10.5	(2.5)	14.2	(1.9)	23.4	(1.8)	24.9	(2.3)	17.4	(1.9)	8.0	(0.9)	1.6	(0.4)
	Valle d'Aosta	6.5	(0.9)	16.7	(1.8)	28.1	(2.4)	27.1	(1.7)	13.1	(1.5)	6.8	(0.9)	1.7	(0.5)
	Veneto	4.9	(1.1)	10.6	(1.2)	18.7	(1.7)	25.4	(1.9)	21.2	(1.6)	13.0	(1.9)	6.2	(1.4)
	Mexico														
	Aguascalientes	19.8	(2.3)	26.1	(2.1)	26.8	(2.6)	17.9	(1.7)	6.8	(1.3)	2.5	(0.7)	0.1	c
	Baja California	28.2	(2.6)	29.8	(2.7)	23.3	(2.5)	13.1	(1.6)	4.6	(1.0)	0.8	(0.3)	0.1	c
	Baja California Sur	31.2	(3.3)	28.3	(1.7)	23.3	(2.4)	11.9	(1.5)	4.5	(1.0)	0.7	(0.5)	0.1	c
	Campeche	40.7	(2.4)	26.9	(1.9)	20.6	(1.6)	8.8	(1.1)	2.4	(0.6)	0.5	(0.4)	0.1	c
	Chiapas	48.1	(4.5)	27.6	(2.2)	16.4	(2.3)	5.8	(1.1)	1.6	(0.5)	0.4	(0.3)	0.0	c
	Chihuahua	21.9	(3.5)	26.0	(2.2)	26.5	(1.7)	16.4	(2.3)	7.2	(1.7)	1.9	(0.7)	0.1	(0.1)
	Coahuila	28.7	(3.4)	29.3	(2.9)	23.3	(2.2)	12.6	(2.4)	5.0	(1.6)	0.9	(0.5)	0.0	c
	Colima	25.0	(2.5)	25.0	(1.9)	24.8	(2.0)	15.8	(1.5)	7.4	(1.3)	1.6	(0.5)	0.4	(0.2)
	Distrito Federal	19.5	(3.7)	28.6	(3.2)	27.1	(2.3)	16.2	(2.0)	6.6	(1.3)	1.7	(0.7)	0.3	(0.3)
	Durango	24.0	(3.0)	27.9	(1.8)	25.2	(2.0)	15.3	(2.6)	6.7	(1.3)	0.8	(0.4)	0.1	(0.1)
	Guanajuato	30.0	(4.1)	27.3	(2.3)	25.2	(2.6)	12.0	(1.6)	4.4	(0.7)	0.9	(0.3)	0.1	c
	Guerrero	52.9	(2.9)	28.1	(2.1)	13.6	(1.7)	4.1	(0.9)	1.1	(0.4)	0.2	(0.1)	0.0	c
	Hidalgo	29.0	(3.7)	31.4	(2.8)	23.6	(2.4)	12.4	(2.1)	3.1	(1.1)	0.5	(0.4)	0.0	c
	Jalisco	19.2	(3.7)	26.2	(2.1)	28.5	(2.6)	17.7	(2.3)	6.5	(1.0)	1.6	(0.7)	0.3	(0.3)
	Mexico	25.8	(3.5)	29.7	(2.6)	27.9	(2.4)	13.0	(1.7)	2.8	(0.8)	0.8	(0.5)	0.1	(0.1)
	Morelos	25.1	(3.7)	27.7	(2.6)	26.0	(2.4)	14.0	(2.2)	5.1	(1.5)	1.8	(1.0)	0.4	(0.3)
	Nayarit	30.2	(2.9)	27.1	(2.0)	24.8	(2.3)	12.3	(1.8)	4.6	(1.2)	0.8	(0.4)	0.0	c
	Nuevo León	19.2	(3.1)	25.9	(2.4)	27.3	(2.3)	17.9	(3.2)	7.6	(1.8)	2.0	(0.8)	0.2	(0.2)
	Puebla	26.9	(2.9)	28.1	(2.2)	24.9	(1.8)	13.9	(1.9)	5.4	(1.2)	0.6	(0.4)	0.2	c
	Querétaro	19.1	(3.1)	28.2	(3.5)	27.2	(3.1)	16.2	(2.2)	7.1	(1.4)	2.0	(0.6)	0.2	(0.2)
	Quintana Roo	31.0	(2.6)	26.8	(2.2)	24.2	(2.0)	13.0	(1.6)	4.2	(1.2)	0.7	(0.3)	0.1	c
	San Luis Potosí	32.5	(3.8)	26.1	(1.7)	23.5	(2.0)	12.1	(1.7)	4.6	(1.3)	1.0	(0.5)	0.1	(0.1)
	Sinaloa	30.7	(2.5)	29.1	(1.7)	24.1	(2.1)	12.2	(1.8)	3.3	(0.6)	0.6	(0.3)	0.1	c
	Tabasco	46.0	(3.1)	28.3	(2.3)	17.0	(2.0)	6.4	(1.0)	2.0	(0.5)	0.3	(0.3)	0.0	c
	Tamaulipas	32.6	(3.9)	27.1	(2.1)	23.8	(2.4)	10.7	(2.3)	4.9	(1.3)	0.9	(0.5)	0.1	c
	Tlaxcala	29.8	(3.0)	30.2	(1.7)	23.6	(1.7)	12.0	(1.3)	3.6	(0.8)	0.7	(0.5)	0.0	c
	Veracruz	40.2	(3.0)	26.8	(1.8)	18.3	(1.7)	10.3	(1.5)	3.6	(0.9)	0.8	(0.4)	0.0	c
	Yucatán	36.6	(2.6)	25.1	(2.4)	22.0	(2.0)	11.1	(1.4)	3.8	(0.9)	1.1	(0.4)	0.2	(0.2)
	Zacatecas	31.6	(2.3)	28.3	(1.6)	23.7	(2.0)	12.2	(1.5)	3.5	(1.0)	0.5	(0.3)	0.1	c

• PISA adjudicated region.

Note: See Table I.2.14 for national data.

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[Part 2/2]

Table B2.I.13 Percentage of students at each proficiency level on the mathematics subscale *change and relationships*, by region

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**														
	Alentejo	9.6	(2.4)	14.8	(2.8)	24.0	(3.1)	23.9	(2.4)	16.7	(2.3)	8.7	(1.7)	2.3	(1.0)
	Spain														
	Andalusia•	9.5	(1.1)	19.3	(1.4)	27.1	(1.5)	23.6	(1.6)	14.6	(1.5)	4.8	(0.7)	1.1	(0.4)
	Aragon•	9.9	(1.5)	12.9	(1.3)	20.8	(1.5)	24.8	(1.5)	19.6	(1.5)	9.8	(1.2)	2.2	(0.6)
	Asturias•	7.9	(1.1)	12.1	(1.0)	22.5	(1.3)	25.1	(1.1)	19.8	(1.3)	9.5	(1.0)	3.2	(0.9)
	Balearic Islands•	11.7	(1.6)	18.5	(1.6)	22.1	(1.2)	24.3	(1.6)	16.5	(1.4)	6.1	(0.7)	0.7	(0.2)
	Basque Country•	5.0	(0.5)	11.5	(0.7)	21.9	(0.9)	28.0	(1.0)	21.7	(0.9)	9.7	(0.6)	2.3	(0.3)
	Cantabria•	9.6	(1.1)	14.8	(1.4)	23.7	(1.5)	23.6	(1.2)	17.4	(1.4)	9.0	(1.0)	1.9	(0.4)
	Castile and Leon•	4.0	(0.7)	11.4	(1.2)	22.5	(1.4)	27.7	(1.4)	23.3	(1.7)	9.3	(1.1)	1.8	(0.4)
	Catalonia•	9.0	(1.5)	14.7	(1.6)	22.7	(1.5)	25.1	(1.7)	18.2	(1.5)	8.0	(1.2)	2.4	(0.5)
	Extremadura•	16.4	(1.6)	17.7	(1.3)	23.2	(1.3)	21.8	(1.2)	14.0	(1.2)	5.5	(1.0)	1.4	(0.4)
	Galicia•	8.2	(1.2)	14.3	(1.7)	23.9	(1.5)	28.2	(1.6)	17.9	(1.3)	6.2	(0.9)	1.3	(0.4)
	La Rioja•	9.7	(0.9)	12.8	(1.0)	19.4	(1.4)	23.5	(1.2)	19.7	(1.4)	11.2	(1.3)	3.6	(0.5)
	Madrid•	7.0	(1.4)	12.6	(1.2)	21.0	(1.3)	25.4	(1.3)	22.5	(1.5)	9.5	(0.8)	2.0	(0.4)
	Murcia•	14.8	(1.2)	19.4	(1.5)	25.8	(1.6)	21.0	(1.5)	13.0	(1.0)	4.7	(1.0)	1.3	(0.5)
	Navarre•	3.2	(0.5)	10.2	(1.0)	19.5	(1.8)	26.5	(1.7)	25.7	(1.2)	12.1	(1.1)	2.8	(0.7)
	United Kingdom														
	England	8.4	(1.0)	13.5	(0.9)	21.9	(0.8)	23.8	(0.9)	17.9	(0.9)	10.3	(0.9)	4.1	(0.5)
	Northern Ireland	10.0	(1.3)	16.2	(1.2)	22.3	(1.1)	23.0	(1.3)	17.2	(1.4)	8.1	(0.9)	3.2	(0.5)
	Scotland•	6.5	(0.8)	14.0	(0.8)	23.7	(1.1)	25.2	(1.3)	18.3	(0.9)	9.2	(0.8)	3.1	(0.5)
	Wales	10.8	(0.9)	18.3	(0.9)	26.1	(1.0)	24.3	(0.9)	14.5	(0.8)	5.1	(0.5)	1.1	(0.2)
	United States														
	Connecticut•	7.0	(1.3)	12.5	(1.4)	19.7	(1.5)	22.3	(1.4)	18.2	(1.3)	12.8	(1.4)	7.6	(1.1)
	Florida•	9.1	(1.3)	18.8	(1.5)	26.3	(1.5)	23.4	(1.3)	14.2	(1.5)	6.3	(1.2)	2.0	(0.7)
	Massachusetts•	6.2	(0.9)	11.9	(1.1)	19.4	(1.6)	22.0	(1.4)	20.1	(1.3)	12.5	(1.3)	8.0	(1.4)
Partners	**Argentina**														
	Ciudad Autónoma de Buenos Aires•	29.1	(3.0)	21.4	(1.8)	24.0	(2.0)	16.2	(1.6)	7.0	(1.3)	2.2	(0.9)	0.2	(0.2)
	Brazil														
	Acre	62.1	(3.8)	20.6	(2.1)	11.9	(2.1)	4.2	(1.2)	0.8	(0.6)	0.4	(0.4)	0.1	c
	Alagoas	73.3	(3.5)	15.5	(2.5)	6.4	(1.6)	3.3	(1.3)	1.0	(0.7)	0.4	(0.3)	0.0	c
	Amapá	65.5	(5.3)	21.6	(4.1)	8.8	(2.1)	2.9	(1.3)	1.0	(0.8)	0.2	c	0.0	c
	Amazonas	68.8	(3.4)	18.6	(2.4)	7.7	(1.7)	3.2	(1.0)	1.4	(0.8)	0.4	(0.4)	0.0	c
	Bahia	57.6	(7.4)	19.5	(4.0)	12.9	(4.5)	7.2	(3.0)	1.9	(0.8)	0.7	(0.7)	0.2	c
	Ceará	53.3	(4.8)	23.3	(2.6)	13.5	(2.3)	5.2	(1.4)	3.1	(1.3)	1.3	(0.8)	0.4	(0.4)
	Espírito Santo	39.0	(3.6)	23.9	(3.1)	16.7	(2.7)	9.6	(1.8)	6.8	(2.2)	3.3	(1.3)	0.7	(0.6)
	Federal District	37.8	(4.3)	23.2	(2.7)	17.2	(2.9)	13.1	(2.2)	6.4	(2.0)	2.0	(0.7)	0.3	(0.2)
	Goiás	53.4	(3.7)	23.6	(2.4)	14.0	(2.2)	6.4	(1.4)	1.9	(0.7)	0.7	(0.4)	0.0	c
	Maranhão	71.9	(7.5)	16.5	(2.8)	6.8	(2.8)	2.8	(1.9)	1.6	(1.3)	0.6	(0.5)	0.0	c
	Mato Grosso	58.6	(4.8)	21.8	(2.6)	12.6	(2.4)	3.9	(1.5)	2.0	(1.1)	0.9	(0.7)	0.2	(0.2)
	Mato Grosso do Sul	39.1	(5.0)	26.7	(2.7)	18.9	(3.0)	7.7	(1.2)	6.0	(1.6)	1.5	(0.7)	0.1	c
	Minas Gerais	36.1	(3.9)	26.7	(2.4)	22.7	(3.5)	10.2	(2.4)	3.4	(1.4)	0.8	(0.7)	0.2	(0.1)
	Pará	62.5	(3.8)	19.0	(3.2)	13.9	(3.1)	4.0	(1.0)	0.5	(0.5)	0.1	c	0.0	c
	Paraíba	44.8	(5.0)	24.3	(3.4)	16.8	(3.3)	9.0	(1.7)	3.8	(1.5)	0.9	(0.8)	0.4	(0.3)
	Paraná	43.4	(4.4)	24.4	(3.1)	15.7	(2.0)	9.0	(1.5)	4.9	(2.7)	2.0	(1.5)	0.5	(0.5)
	Pernambuco	61.1	(5.2)	23.4	(3.7)	10.3	(2.9)	3.9	(1.3)	1.0	(0.6)	0.3	(0.3)	0.0	c
	Piauí	53.3	(3.9)	21.0	(3.1)	12.5	(2.7)	7.9	(1.7)	3.5	(1.6)	1.0	(0.9)	0.8	(0.4)
	Rio de Janeiro	42.6	(4.2)	27.5	(3.3)	18.4	(2.3)	8.4	(2.0)	2.5	(0.6)	0.4	(0.3)	0.2	(0.2)
	Rio Grande do Norte	60.7	(4.1)	17.8	(2.3)	9.8	(1.6)	6.5	(1.9)	3.0	(1.2)	1.7	(0.9)	0.4	c
	Rio Grande do Sul	34.9	(3.0)	27.4	(2.3)	22.6	(2.4)	11.0	(1.7)	3.5	(1.0)	0.6	(0.4)	0.0	c
	Rondônia	50.8	(3.9)	27.2	(2.0)	15.1	(2.0)	5.3	(1.2)	1.5	(0.9)	0.1	c	0.0	c
	Roraima	62.2	(3.3)	20.2	(2.0)	10.7	(1.7)	5.3	(1.8)	1.4	(0.6)	0.1	c	0.0	c
	Santa Catarina	34.0	(4.9)	27.5	(2.8)	20.1	(2.4)	11.3	(2.2)	5.5	(1.8)	1.5	(0.8)	0.1	c
	São Paulo	40.7	(2.4)	24.6	(1.3)	17.9	(1.2)	10.2	(1.3)	4.2	(0.9)	1.7	(0.6)	0.7	(0.4)
	Sergipe	50.4	(5.6)	25.1	(2.9)	14.0	(2.3)	7.0	(2.5)	2.8	(1.6)	0.6	(0.5)	0.1	c
	Tocantins	62.2	(4.4)	20.6	(2.4)	9.4	(1.5)	5.3	(1.5)	1.8	(0.8)	0.4	(0.3)	0.1	c
	Colombia														
	Bogotá	41.3	(2.3)	29.7	(2.2)	19.7	(1.6)	7.0	(1.1)	1.8	(0.6)	0.5	(0.3)	0.1	c
	Cali	50.6	(3.6)	25.8	(2.0)	15.9	(1.9)	6.0	(1.4)	1.5	(0.5)	0.3	(0.2)	0.0	c
	Manizales	37.9	(3.0)	28.4	(2.4)	19.0	(2.3)	9.2	(1.3)	3.9	(0.8)	1.3	(0.7)	0.2	(0.3)
	Medellín	46.0	(4.1)	24.3	(2.1)	15.7	(1.7)	8.2	(1.4)	3.8	(1.2)	1.3	(0.6)	0.6	(0.4)
	Russian Federation														
	Perm Territory region•	7.3	(1.3)	13.4	(1.6)	24.4	(1.5)	26.9	(1.6)	17.2	(1.4)	7.6	(0.9)	3.2	(1.2)
	United Arab Emirates														
	Abu Dhabi•	22.4	(1.6)	25.7	(1.3)	24.6	(1.1)	15.8	(1.1)	7.1	(0.8)	3.6	(0.6)	0.8	(0.3)
	Ajman	25.1	(4.7)	29.1	(2.9)	27.2	(2.7)	15.0	(2.2)	3.0	(1.0)	0.6	(0.4)	0.0	c
	Dubai•	13.9	(0.5)	18.1	(0.6)	22.6	(0.8)	21.6	(1.0)	14.7	(0.8)	6.8	(0.6)	2.4	(0.4)
	Fujairah	23.7	(3.9)	27.5	(2.4)	25.8	(2.7)	15.4	(2.5)	5.8	(1.3)	1.7	(0.7)	0.1	c
	Ras al-Khaimah	20.1	(3.1)	28.5	(2.2)	28.0	(2.2)	17.3	(2.0)	5.1	(1.4)	1.0	(0.6)	0.0	c
	Sharjah	13.9	(3.0)	24.6	(3.2)	26.7	(1.9)	20.8	(2.9)	10.2	(2.0)	2.8	(1.1)	1.0	(0.8)
	Umm al-Quwain	25.2	(2.5)	31.5	(3.8)	25.8	(3.7)	12.0	(2.5)	4.3	(1.2)	1.0	(0.8)	0.1	c

• PISA adjudicated region.

Note: See Table I.2.14 for national data.

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[Part 1/4]

Table B2.I.14 Percentage of students at each proficiency level on the mathematics subscale *change and relationships*, by gender and region

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	6.8	(1.5)	10.6	(1.6)	18.3	(2.1)	23.2	(2.5)	20.0	(2.3)	14.6	(2.7)	6.5	(2.1)
	New South Wales	7.9	(1.0)	12.5	(1.2)	18.6	(1.4)	21.2	(1.6)	17.5	(1.4)	13.1	(1.1)	9.2	(1.5)
	Northern Territory	18.1	(2.3)	16.1	(4.8)	17.6	(5.4)	24.1	(4.3)	13.5	(3.7)	6.3	(3.4)	4.3	(2.2)
	Queensland	6.3	(1.0)	12.2	(1.2)	20.7	(1.4)	22.2	(1.5)	19.3	(1.5)	12.4	(1.5)	6.9	(1.0)
	South Australia	8.8	(1.3)	14.6	(1.8)	20.8	(2.1)	21.9	(1.9)	18.0	(1.5)	10.6	(1.5)	5.3	(1.0)
	Tasmania	11.9	(1.4)	13.8	(2.3)	21.8	(2.5)	22.4	(3.2)	16.3	(1.8)	9.6	(1.7)	4.2	(1.1)
	Victoria	6.3	(0.7)	10.8	(1.3)	20.2	(2.0)	24.1	(1.7)	20.3	(1.8)	12.1	(1.4)	6.0	(1.2)
	Western Australia	5.1	(1.1)	11.1	(1.8)	17.1	(1.7)	20.2	(2.2)	21.5	(2.2)	15.8	(2.0)	9.2	(1.6)
	Belgium														
	Flemish Community•	7.3	(1.6)	8.4	(0.8)	14.4	(1.0)	18.6	(1.3)	21.3	(1.3)	18.1	(1.1)	11.8	(1.0)
	French Community	13.7	(1.3)	12.0	(1.0)	16.5	(1.3)	21.1	(1.5)	20.0	(1.7)	12.0	(1.2)	4.7	(0.8)
	German-speaking Community	8.8	(1.1)	11.7	(1.8)	16.1	(2.9)	24.2	(4.0)	21.2	(2.2)	12.5	(1.7)	5.4	(1.7)
	Canada														
	Alberta	4.7	(1.4)	8.2	(1.1)	16.7	(1.6)	24.4	(2.1)	22.2	(1.5)	15.6	(1.7)	8.2	(1.2)
	British Columbia	2.3	(0.7)	7.5	(1.3)	17.8	(1.8)	25.2	(1.9)	22.5	(2.0)	16.9	(1.9)	7.8	(1.3)
	Manitoba	6.3	(1.4)	14.6	(2.2)	20.0	(2.3)	25.6	(2.2)	19.1	(1.9)	10.3	(1.4)	4.0	(0.8)
	New Brunswick	5.6	(1.1)	12.5	(1.8)	20.6	(2.0)	27.5	(3.0)	20.2	(2.5)	9.8	(1.6)	3.8	(1.0)
	Newfoundland and Labrador	7.2	(1.8)	13.5	(2.4)	22.1	(2.3)	24.2	(2.6)	18.6	(2.1)	10.0	(1.6)	4.4	(1.2)
	Nova Scotia	5.6	(1.4)	12.1	(2.5)	22.2	(2.3)	23.8	(2.7)	22.6	(2.2)	10.6	(1.8)	3.2	(1.0)
	Ontario	3.5	(0.7)	9.2	(1.5)	18.2	(1.9)	24.6	(1.9)	22.5	(1.4)	14.0	(1.6)	8.0	(1.3)
	Prince Edward Island	6.1	(1.2)	16.1	(2.2)	22.6	(2.8)	26.2	(2.5)	18.3	(1.5)	8.6	(1.3)	2.1	(0.8)
	Quebec	3.7	(0.7)	7.9	(0.9)	14.9	(1.4)	22.1	(1.4)	22.8	(1.3)	18.6	(1.3)	10.0	(1.1)
	Saskatchewan	4.0	(0.8)	9.6	(1.5)	20.6	(2.5)	25.2	(3.0)	22.0	(1.9)	13.4	(2.0)	5.3	(1.4)
	Italy														
	Abruzzo	12.4	(3.2)	15.2	(2.6)	22.7	(2.3)	22.5	(2.3)	17.3	(2.2)	8.1	(1.6)	1.9	(0.6)
	Basilicata	12.3	(2.0)	17.1	(2.7)	26.7	(2.4)	21.0	(1.9)	14.2	(1.9)	6.7	(1.1)	2.0	(0.7)
	Bolzano	6.1	(0.8)	10.7	(1.2)	19.1	(2.3)	23.3	(1.6)	22.4	(1.7)	12.2	(1.2)	6.3	(0.9)
	Calabria	22.7	(3.3)	23.0	(2.6)	24.6	(2.6)	17.6	(1.6)	7.7	(1.6)	3.4	(0.9)	1.0	(0.5)
	Campania	18.2	(3.0)	20.9	(2.1)	24.6	(2.5)	19.5	(2.2)	11.1	(1.8)	4.5	(1.4)	1.2	(0.7)
	Emilia Romagna	11.6	(2.3)	11.7	(2.3)	17.0	(1.9)	21.0	(2.2)	22.0	(2.8)	12.1	(1.9)	4.7	(1.1)
	Friuli Venezia Giulia	5.1	(1.3)	8.4	(1.8)	17.0	(2.0)	24.2	(2.4)	24.1	(2.1)	14.2	(1.9)	7.0	(1.1)
	Lazio	12.7	(1.5)	17.7	(2.4)	22.4	(2.2)	22.2	(2.0)	15.7	(1.9)	7.2	(1.3)	2.2	(0.8)
	Liguria	10.6	(2.7)	17.6	(2.5)	23.4	(2.3)	22.6	(2.4)	14.9	(2.2)	7.9	(1.7)	2.9	(0.9)
	Lombardia	5.3	(1.4)	9.5	(1.8)	18.8	(2.6)	22.9	(2.0)	23.8	(2.5)	14.2	(2.1)	5.4	(1.3)
	Marche	5.1	(1.8)	13.7	(3.1)	22.4	(2.6)	23.8	(2.0)	22.3	(2.3)	9.8	(1.4)	2.9	(1.0)
	Molise	11.5	(1.3)	17.5	(2.1)	28.9	(2.7)	24.1	(2.3)	12.3	(2.7)	4.4	(1.5)	1.2	(0.7)
	Piemonte	5.4	(1.1)	11.1	(1.8)	19.8	(2.6)	27.4	(1.8)	22.7	(1.6)	10.6	(1.6)	3.0	(0.9)
	Puglia	11.3	(2.3)	14.8	(2.3)	21.3	(2.0)	25.0	(2.3)	18.0	(1.9)	8.1	(1.6)	1.6	(0.7)
	Sardegna	18.2	(2.3)	19.3	(2.1)	24.5	(2.3)	21.1	(2.5)	11.7	(1.4)	4.4	(1.0)	0.8	(0.4)
	Sicilia	19.8	(2.4)	20.3	(2.1)	24.8	(1.8)	21.8	(2.5)	9.6	(1.8)	3.1	(0.8)	0.6	(0.4)
	Toscana	11.3	(1.9)	14.8	(1.9)	20.1	(1.7)	23.7	(2.6)	17.6	(2.0)	10.1	(1.8)	2.4	(0.8)
	Trento	4.7	(1.6)	10.1	(1.4)	18.9	(2.4)	25.7	(2.4)	20.8	(2.3)	13.8	(1.6)	6.1	(1.0)
	Umbria	9.8	(3.4)	12.4	(2.3)	21.0	(2.3)	25.7	(3.1)	19.0	(1.9)	9.8	(1.4)	2.4	(0.8)
	Valle d'Aosta	6.8	(1.3)	15.0	(2.2)	25.4	(2.3)	27.6	(2.5)	15.0	(2.0)	8.2	(1.7)	2.0	(0.7)
	Veneto	4.9	(1.3)	10.1	(1.6)	15.6	(1.9)	21.7	(2.5)	22.2	(2.2)	16.7	(2.0)	8.9	(1.8)
	Mexico														
	Aguascalientes	18.8	(2.9)	25.1	(2.7)	26.0	(3.7)	18.2	(2.1)	8.0	(1.7)	3.8	(1.3)	0.2	c
	Baja California	23.8	(3.3)	31.0	(2.5)	24.4	(3.6)	14.3	(2.4)	5.3	(1.2)	1.2	(0.6)	0.1	c
	Baja California Sur	27.9	(4.1)	27.5	(2.2)	24.4	(2.9)	13.6	(2.0)	5.3	(1.3)	1.1	(0.9)	0.1	c
	Campeche	38.2	(2.6)	25.9	(2.8)	23.3	(2.3)	9.1	(1.5)	2.7	(0.8)	0.7	(0.5)	0.1	c
	Chiapas	46.9	(4.8)	29.4	(2.8)	15.5	(2.9)	6.0	(1.6)	1.6	(0.6)	0.6	(0.4)	0.1	c
	Chihuahua	19.7	(4.4)	25.8	(3.2)	26.3	(2.6)	16.3	(2.7)	9.0	(2.3)	2.7	(1.4)	0.1	(0.2)
	Coahuila	27.2	(4.0)	27.3	(3.3)	23.4	(2.6)	14.5	(2.6)	6.3	(2.2)	1.2	(0.7)	0.1	c
	Colima	23.8	(3.0)	24.2	(2.5)	24.5	(2.8)	16.8	(2.1)	8.0	(1.8)	2.0	(1.0)	0.7	(0.4)
	Distrito Federal	16.5	(4.2)	26.0	(4.0)	26.4	(2.7)	19.0	(3.2)	9.3	(1.7)	2.3	(1.1)	0.5	(0.5)
	Durango	23.2	(3.7)	25.3	(2.8)	26.9	(2.6)	15.0	(3.2)	8.5	(2.3)	0.9	(0.7)	0.2	(0.2)
	Guanajuato	26.9	(4.1)	26.4	(3.1)	25.8	(3.3)	13.6	(2.0)	5.8	(1.0)	1.4	(0.5)	0.1	c
	Guerrero	51.1	(3.8)	28.2	(2.3)	15.0	(2.6)	4.3	(1.3)	1.0	(0.6)	0.3	(0.2)	0.0	c
	Hidalgo	27.5	(4.2)	30.7	(3.3)	23.2	(3.6)	13.8	(2.5)	4.1	(1.8)	0.6	(0.7)	0.0	c
	Jalisco	19.6	(4.6)	23.8	(2.4)	28.4	(3.3)	18.4	(3.1)	7.4	(1.5)	1.8	(1.0)	0.6	(0.5)
	Mexico	23.1	(4.1)	29.5	(2.8)	27.7	(2.8)	15.2	(2.3)	3.1	(1.1)	1.1	(0.7)	0.2	(0.3)
	Morelos	26.5	(5.1)	25.0	(3.9)	25.2	(3.3)	14.8	(2.7)	6.3	(1.7)	1.8	(0.9)	0.4	(0.4)
	Nayarit	29.7	(2.9)	25.6	(3.0)	24.8	(3.2)	13.6	(2.2)	5.1	(1.4)	1.2	(0.5)	0.0	c
	Nuevo León	16.8	(3.3)	24.1	(3.1)	27.7	(4.6)	19.0	(4.7)	9.4	(2.4)	2.8	(1.2)	0.3	c
	Puebla	27.1	(4.1)	26.5	(3.3)	24.3	(3.0)	14.5	(2.3)	6.5	(1.6)	1.2	c	0.0	c
	Querétaro	18.4	(3.2)	26.2	(3.7)	26.5	(3.9)	18.6	(3.1)	7.5	(1.7)	2.6	(0.8)	0.3	(0.3)
	Quintana Roo	31.2	(2.7)	24.9	(2.5)	24.0	(2.8)	13.5	(2.6)	5.3	(1.6)	1.0	(0.5)	0.1	c
	San Luis Potosí	33.6	(4.9)	24.5	(2.6)	23.7	(2.9)	12.1	(2.0)	4.6	(1.5)	1.4	(1.0)	0.2	(0.3)
	Sinaloa	30.7	(3.5)	28.8	(2.4)	22.9	(2.9)	12.6	(2.5)	4.0	(1.0)	0.9	(0.5)	0.1	c
	Tabasco	45.0	(3.6)	26.5	(3.0)	17.7	(2.5)	8.0	(1.4)	2.2	(0.8)	0.4	(0.4)	0.1	c
	Tamaulipas	29.3	(5.0)	25.5	(2.9)	24.7	(3.4)	12.4	(3.0)	6.5	(2.1)	1.5	(0.9)	0.2	c
	Tlaxcala	27.9	(2.9)	29.4	(2.8)	24.1	(2.7)	13.4	(1.9)	4.1	(1.1)	1.0	(0.6)	0.1	c
	Veracruz	39.6	(3.0)	24.9	(2.5)	19.1	(1.9)	11.1	(1.9)	4.3	(1.3)	0.8	(0.5)	0.0	c
	Yucatán	33.0	(3.2)	24.1	(2.7)	22.5	(3.1)	13.2	(2.2)	5.3	(1.6)	1.6	(0.7)	0.3	c
	Zacatecas	30.1	(3.0)	26.7	(2.1)	24.8	(2.7)	14.2	(2.0)	3.6	(1.3)	0.5	(0.3)	0.1	c

• PISA adjudicated region.
Note: See Table I.2.15 for national data.
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[Part 2/4]

Table B2.I.14 Percentage of students at each proficiency level on the mathematics subscale *change and relationships*, by gender and region

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**														
	Alentejo	8.4	(2.5)	13.7	(3.6)	22.7	(3.9)	25.1	(3.8)	16.7	(3.3)	9.7	(2.8)	3.7	(1.6)
	Spain														
	Andalusia•	9.0	(1.4)	18.1	(2.0)	24.0	(2.4)	24.5	(2.2)	16.1	(2.0)	6.3	(0.9)	1.9	(0.6)
	Aragon•	9.1	(1.6)	13.0	(1.5)	19.8	(2.0)	22.9	(1.8)	20.5	(2.1)	11.4	(1.8)	3.2	(1.0)
	Asturias•	8.4	(1.5)	11.4	(1.4)	20.8	(1.4)	24.6	(2.0)	20.6	(1.7)	10.2	(1.5)	4.0	(1.2)
	Balearic Islands•	12.3	(2.0)	17.9	(2.2)	22.0	(2.1)	23.7	(2.2)	16.5	(1.7)	6.5	(1.1)	1.1	(0.4)
	Basque Country•	4.5	(0.7)	10.4	(0.9)	20.2	(1.1)	27.4	(1.2)	22.9	(1.4)	11.7	(1.1)	2.9	(0.4)
	Cantabria•	9.9	(1.4)	13.7	(1.8)	22.8	(2.2)	22.1	(1.7)	19.4	(1.9)	9.7	(1.3)	2.5	(0.7)
	Castile and Leon•	4.2	(0.9)	10.4	(1.4)	22.1	(1.8)	23.7	(1.8)	24.1	(2.2)	12.6	(1.7)	2.8	(0.7)
	Catalonia•	8.4	(1.7)	13.6	(1.9)	20.1	(1.9)	23.9	(2.2)	19.7	(2.1)	10.6	(2.0)	3.7	(1.0)
	Extremadura•	16.6	(2.2)	18.3	(1.7)	20.6	(1.6)	20.4	(1.5)	14.9	(1.2)	7.1	(1.3)	2.1	(0.6)
	Galicia•	8.4	(1.5)	15.4	(2.5)	21.9	(2.7)	26.8	(2.4)	18.7	(1.7)	7.3	(1.4)	1.5	(0.5)
	La Rioja•	10.1	(1.3)	12.0	(1.2)	16.6	(1.8)	20.6	(1.8)	20.6	(2.0)	15.0	(1.9)	5.1	(0.9)
	Madrid•	7.4	(1.8)	11.9	(1.7)	20.4	(1.7)	23.2	(1.7)	23.8	(2.0)	10.6	(1.3)	2.8	(0.8)
	Murcia•	15.7	(1.8)	18.4	(2.6)	24.2	(2.5)	18.9	(2.0)	14.4	(1.4)	6.2	(1.4)	2.1	(0.8)
	Navarre•	3.9	(1.0)	10.0	(1.7)	18.3	(2.1)	25.4	(2.4)	26.4	(2.2)	12.7	(1.3)	3.4	(1.1)
	United Kingdom														
	England	7.3	(1.3)	12.7	(1.3)	20.5	(1.4)	23.8	(1.3)	19.2	(1.5)	11.5	(1.4)	4.8	(0.9)
	Northern Ireland	9.6	(1.4)	15.1	(1.7)	20.8	(1.6)	24.4	(1.6)	17.6	(1.6)	8.9	(1.2)	3.6	(0.8)
	Scotland•	5.6	(0.9)	12.4	(1.0)	22.0	(1.2)	25.6	(1.3)	19.8	(1.2)	10.7	(1.2)	3.9	(0.7)
	Wales	10.3	(1.1)	16.4	(1.1)	24.7	(1.6)	25.9	(1.4)	15.3	(1.0)	6.0	(0.7)	1.4	(0.3)
	United States														
	Connecticut•	5.9	(1.4)	11.5	(2.0)	18.4	(1.9)	21.3	(2.1)	19.2	(1.9)	14.4	(2.0)	9.3	(1.5)
	Florida•	8.6	(1.6)	16.9	(1.8)	24.4	(2.1)	23.9	(2.1)	16.1	(2.1)	7.3	(1.7)	2.9	(0.9)
	Massachusetts•	5.6	(1.1)	10.4	(1.7)	18.0	(2.1)	21.4	(2.5)	21.2	(1.7)	14.0	(1.8)	9.3	(1.7)
Partners	**Argentina**														
	Ciudad Autónoma de Buenos Aires•	27.8	(3.3)	21.0	(2.3)	22.8	(2.8)	18.1	(2.1)	7.5	(1.6)	2.5	(1.0)	0.2	c
	Brazil														
	Acre	57.4	(5.4)	22.9	(3.3)	13.2	(2.8)	4.4	(1.8)	1.3	(1.1)	0.6	(0.6)	0.2	c
	Alagoas	67.7	(5.2)	18.2	(4.4)	7.8	(2.1)	4.2	(1.9)	1.5	(1.1)	0.6	(0.5)	0.0	c
	Amapá	60.8	(6.4)	22.8	(4.3)	10.1	(3.0)	4.1	(2.2)	1.8	(1.6)	0.3	c	0.0	c
	Amazonas	65.9	(4.3)	18.0	(3.0)	9.0	(2.1)	4.4	(1.4)	1.8	(0.9)	0.8	(0.9)	0.0	c
	Bahia	54.3	(5.6)	21.4	(5.5)	13.3	(4.2)	7.8	(3.1)	2.0	(1.5)	1.0	(1.0)	0.3	c
	Ceará	50.6	(4.5)	21.9	(3.2)	14.0	(2.5)	6.5	(1.7)	4.4	(2.2)	2.0	(1.3)	0.7	(0.6)
	Espírito Santo	34.2	(4.2)	24.5	(3.6)	18.4	(3.6)	11.2	(2.5)	7.0	(1.9)	4.0	(1.7)	0.8	c
	Federal District	35.0	(4.7)	23.1	(4.0)	16.4	(2.6)	13.2	(3.2)	8.6	(3.1)	3.2	(1.2)	0.6	(0.5)
	Goiás	50.2	(4.1)	23.3	(3.3)	15.1	(2.6)	7.1	(2.2)	2.9	(1.1)	1.4	(0.8)	0.0	c
	Maranhão	67.3	(8.0)	17.0	(3.2)	7.2	(2.7)	4.2	(2.7)	2.9	(2.4)	1.3	(1.2)	0.0	c
	Mato Grosso	56.8	(5.8)	21.9	(4.1)	13.8	(2.5)	5.1	(1.8)	1.5	(1.0)	0.5	c	0.3	(0.3)
	Mato Grosso do Sul	34.4	(5.7)	26.3	(3.2)	20.6	(3.3)	9.3	(2.3)	7.4	(2.1)	2.0	(1.0)	0.1	c
	Minas Gerais	32.8	(4.9)	25.7	(3.5)	23.9	(3.6)	12.1	(3.1)	4.4	(1.8)	0.8	(0.7)	0.3	c
	Pará	59.3	(3.8)	21.8	(4.1)	14.3	(3.9)	3.6	(1.2)	0.8	(1.2)	0.3	c	0.0	c
	Paraíba	39.2	(5.0)	28.3	(5.5)	17.4	(4.3)	8.2	(2.9)	4.8	(2.3)	1.3	(1.2)	0.8	(0.7)
	Paraná	39.0	(5.1)	22.4	(3.9)	17.4	(2.4)	11.0	(2.5)	7.2	(3.5)	2.6	(2.1)	0.4	c
	Pernambuco	56.9	(5.7)	23.6	(3.7)	12.7	(4.2)	4.9	(2.0)	1.5	(1.0)	0.4	(0.4)	0.0	c
	Piauí	49.1	(4.3)	19.6	(3.4)	15.2	(4.0)	10.3	(2.7)	3.6	(1.6)	1.3	(1.0)	0.9	(0.6)
	Rio de Janeiro	39.3	(4.9)	27.8	(3.5)	19.0	(3.1)	9.9	(2.4)	3.1	(1.2)	0.8	(0.5)	0.2	c
	Rio Grande do Norte	55.2	(5.7)	19.0	(3.9)	10.4	(2.5)	8.3	(2.8)	4.1	(1.6)	2.5	(1.3)	0.4	c
	Rio Grande do Sul	31.6	(3.7)	27.6	(3.8)	24.2	(3.8)	11.6	(2.9)	4.0	(1.6)	1.0	(0.7)	0.0	c
	Rondônia	50.2	(4.9)	26.3	(3.1)	15.7	(2.8)	6.3	(1.6)	1.3	(1.0)	0.2	c	0.0	c
	Roraima	59.9	(4.2)	21.0	(2.8)	12.9	(3.1)	4.7	(2.1)	1.4	(0.8)	0.1	c	0.0	c
	Santa Catarina	31.4	(4.7)	26.2	(3.3)	20.4	(2.3)	12.2	(2.6)	7.4	(2.4)	2.3	(1.1)	0.0	c
	São Paulo	37.2	(2.4)	24.6	(1.9)	19.0	(1.6)	11.4	(1.7)	4.6	(0.9)	2.3	(0.9)	0.9	(0.4)
	Sergipe	47.0	(6.4)	23.0	(4.5)	14.0	(4.1)	9.9	(4.1)	4.6	(2.9)	1.2	(0.9)	0.2	c
	Tocantins	57.7	(5.0)	19.6	(2.8)	12.2	(2.0)	7.3	(2.5)	2.4	(1.2)	0.5	(0.5)	0.2	c
	Colombia														
	Bogotá	32.6	(3.2)	30.1	(3.4)	23.6	(2.6)	9.9	(1.6)	2.7	(1.0)	1.0	(0.7)	0.2	c
	Cali	45.1	(3.8)	26.9	(3.0)	17.3	(2.6)	8.1	(1.9)	2.1	(1.0)	0.5	(0.4)	0.0	c
	Manizales	32.3	(3.0)	27.2	(3.1)	19.9	(2.7)	12.4	(2.3)	5.4	(1.3)	2.4	(1.2)	0.5	(0.5)
	Medellín	38.8	(4.8)	25.6	(2.6)	19.1	(2.6)	9.7	(2.0)	4.7	(1.4)	1.6	(1.0)	0.6	(0.5)
	Russian Federation														
	Perm Territory region•	8.1	(1.7)	13.5	(1.9)	22.5	(1.7)	26.3	(2.0)	17.8	(1.5)	7.9	(1.2)	4.0	(1.5)
	United Arab Emirates														
	Abu Dhabi•	26.9	(2.1)	25.9	(1.8)	22.5	(1.4)	13.4	(1.3)	6.6	(1.1)	3.8	(0.8)	0.9	(0.4)
	Ajman	29.4	(8.4)	28.2	(4.4)	26.0	(4.5)	14.8	(3.2)	1.4	(0.8)	0.2	c	0.0	c
	Dubai•	15.2	(0.6)	16.3	(0.9)	20.7	(1.0)	20.4	(1.1)	15.7	(1.0)	8.4	(0.8)	3.5	(0.5)
	Fujairah	31.3	(5.2)	30.2	(2.8)	19.3	(3.1)	11.5	(2.4)	5.4	(1.3)	2.2	(0.8)	0.1	c
	Ras al-Khaimah	24.2	(4.4)	28.7	(3.2)	25.8	(2.6)	15.7	(3.1)	4.5	(1.2)	1.0	(0.5)	0.1	c
	Sharjah	13.9	(5.2)	23.2	(5.0)	23.8	(3.4)	21.3	(4.3)	11.8	(3.8)	4.0	(2.0)	2.1	(1.6)
	Umm al-Quwain	34.1	(3.5)	35.9	(4.6)	20.3	(4.0)	5.8	(2.1)	2.5	(1.8)	1.1	(1.2)	0.3	c

• PISA adjudicated region.

Note: See Table I.2.15 for national data.

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[Part 3/4]

Table B2.I.14 Percentage of students at each proficiency level on the mathematics subscale *change and relationships*, by gender and region

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	4.9	(1.3)	10.4	(2.1)	18.1	(2.5)	24.5	(3.0)	21.8	(2.6)	14.1	(2.6)	6.1	(1.7)
	New South Wales	6.5	(1.0)	12.8	(1.2)	20.5	(1.3)	23.0	(1.3)	19.9	(1.3)	11.1	(0.9)	6.2	(1.1)
	Northern Territory	19.5	(2.7)	17.0	(3.9)	24.2	(6.1)	19.3	(5.6)	12.0	(3.9)	5.9	(3.4)	2.0	(2.1)
	Queensland	7.3	(0.9)	13.9	(1.2)	21.1	(1.4)	23.5	(1.7)	18.2	(1.3)	11.0	(1.3)	5.1	(0.9)
	South Australia	10.3	(1.2)	15.6	(1.4)	21.7	(1.9)	23.7	(1.7)	17.2	(2.1)	8.2	(1.3)	3.3	(0.9)
	Tasmania	12.9	(1.8)	18.1	(2.5)	22.0	(2.7)	21.1	(2.4)	15.6	(2.3)	7.5	(2.0)	2.7	(1.1)
	Victoria	6.9	(1.1)	14.5	(1.9)	22.0	(2.0)	25.3	(2.0)	18.7	(1.6)	9.8	(1.3)	2.8	(0.6)
	Western Australia	7.9	(1.3)	12.2	(1.5)	21.0	(1.6)	22.1	(1.9)	17.5	(2.0)	13.0	(1.7)	6.3	(1.4)
	Belgium														
	Flemish Community•	7.2	(0.8)	9.3	(1.0)	15.8	(1.2)	21.5	(1.0)	22.0	(1.3)	16.9	(1.2)	7.2	(0.8)
	French Community	11.3	(1.2)	11.9	(1.2)	21.0	(1.2)	23.6	(1.6)	20.0	(1.7)	9.5	(1.3)	2.6	(0.5)
	German-speaking Community	5.2	(1.2)	9.3	(1.6)	18.5	(2.3)	28.8	(2.5)	24.9	(2.7)	10.9	(1.7)	2.5	(0.8)
	Canada														
	Alberta	4.2	(1.0)	10.7	(1.3)	20.4	(2.3)	23.0	(1.8)	23.3	(1.6)	13.8	(1.6)	4.6	(1.0)
	British Columbia	3.3	(0.8)	9.1	(1.4)	20.5	(1.9)	27.5	(2.5)	22.1	(1.7)	11.9	(1.8)	5.5	(1.3)
	Manitoba	7.0	(1.5)	16.1	(2.2)	23.7	(2.0)	22.1	(2.2)	20.1	(2.1)	8.5	(1.4)	2.5	(0.6)
	New Brunswick	4.8	(1.0)	11.3	(1.3)	24.4	(2.8)	29.0	(3.1)	19.1	(2.2)	8.7	(1.6)	2.7	(1.0)
	Newfoundland and Labrador	5.7	(1.9)	13.2	(1.8)	23.7	(2.6)	28.0	(2.8)	17.1	(2.3)	9.7	(1.4)	2.6	(0.8)
	Nova Scotia	6.1	(1.1)	15.4	(3.1)	25.5	(3.1)	26.5	(1.8)	18.1	(3.0)	6.0	(1.5)	2.3	(0.9)
	Ontario	4.0	(0.8)	8.8	(1.4)	20.0	(1.7)	29.6	(1.9)	21.5	(1.6)	11.9	(1.1)	4.3	(0.7)
	Prince Edward Island	6.5	(1.0)	15.1	(1.6)	26.1	(2.2)	27.5	(2.4)	17.7	(2.0)	6.1	(1.0)	1.1	(0.6)
	Quebec	4.8	(0.7)	9.0	(0.9)	17.5	(1.4)	24.6	(1.8)	23.4	(1.6)	14.8	(1.2)	5.9	(1.1)
	Saskatchewan	4.4	(0.9)	10.2	(1.4)	23.6	(2.0)	27.5	(2.8)	21.0	(2.5)	10.4	(1.3)	2.9	(0.9)
	Italy														
	Abruzzo	12.9	(2.1)	19.7	(2.3)	26.6	(2.1)	22.5	(2.4)	12.6	(2.1)	4.4	(1.1)	1.1	(0.6)
	Basilicata	15.0	(2.2)	21.8	(1.8)	29.3	(2.3)	20.8	(2.1)	8.9	(1.4)	3.2	(0.8)	1.0	(0.4)
	Bolzano	7.5	(1.1)	13.4	(1.3)	22.0	(2.2)	27.5	(1.7)	20.1	(1.6)	8.0	(1.2)	1.6	(0.5)
	Calabria	28.7	(3.5)	25.1	(2.8)	26.2	(2.4)	14.0	(1.9)	4.8	(1.2)	1.0	(0.4)	0.1	(0.1)
	Campania	20.3	(3.7)	23.1	(2.8)	27.2	(2.8)	18.8	(2.9)	8.5	(1.8)	1.7	(0.8)	0.3	(0.2)
	Emilia Romagna	10.0	(2.1)	16.4	(1.8)	24.5	(2.4)	24.6	(2.6)	15.8	(2.1)	6.9	(1.5)	1.8	(0.6)
	Friuli Venezia Giulia	5.8	(1.9)	10.5	(1.7)	22.2	(2.5)	29.1	(3.1)	21.3	(3.0)	8.7	(1.6)	2.4	(0.7)
	Lazio	15.2	(2.7)	21.3	(2.7)	28.3	(2.6)	21.2	(2.2)	9.9	(1.8)	3.5	(0.9)	0.6	(0.3)
	Liguria	12.5	(2.3)	18.3	(2.4)	25.0	(2.8)	24.3	(2.5)	13.7	(2.1)	4.8	(1.2)	1.4	(0.5)
	Lombardia	4.8	(1.3)	11.7	(2.0)	24.4	(2.6)	29.1	(2.9)	21.0	(2.6)	7.7	(1.7)	1.4	(0.7)
	Marche	10.4	(2.0)	16.8	(2.1)	25.4	(2.5)	25.3	(2.7)	15.1	(2.0)	5.7	(1.2)	1.3	(0.7)
	Molise	13.5	(1.8)	22.6	(2.1)	28.6	(2.7)	23.2	(2.2)	8.7	(1.9)	2.8	(1.2)	0.6	(0.5)
	Piemonte	8.4	(1.3)	16.3	(2.3)	24.0	(2.3)	27.1	(2.1)	16.3	(2.2)	6.4	(1.4)	1.5	(0.7)
	Puglia	12.2	(2.7)	21.6	(2.8)	27.7	(3.2)	22.1	(2.8)	12.5	(1.9)	3.1	(0.9)	0.8	(0.4)
	Sardegna	18.3	(2.8)	22.6	(2.6)	26.0	(2.9)	20.2	(2.2)	10.0	(2.1)	2.7	(0.7)	0.3	c
	Sicilia	19.8	(2.7)	25.6	(2.8)	27.9	(2.3)	18.9	(2.5)	6.7	(1.2)	0.9	(0.4)	0.3	(0.2)
	Toscana	8.6	(2.1)	13.9	(2.3)	24.2	(2.6)	26.1	(3.2)	18.5	(2.2)	6.9	(1.5)	1.9	(0.7)
	Trento	4.7	(2.0)	9.5	(2.1)	21.8	(2.7)	31.2	(2.7)	21.9	(2.4)	9.5	(1.3)	1.5	(0.7)
	Umbria	11.2	(2.2)	15.9	(2.3)	25.8	(2.5)	24.1	(2.6)	15.8	(2.6)	6.3	(1.4)	0.9	(0.5)
	Valle d'Aosta	6.2	(1.3)	18.5	(3.2)	31.0	(4.2)	26.6	(2.5)	11.1	(2.2)	5.3	(1.5)	1.4	(0.7)
	Veneto	5.0	(2.0)	11.2	(1.5)	21.8	(2.6)	29.2	(2.8)	20.2	(2.0)	9.2	(2.0)	3.4	(1.2)
	Mexico														
	Aguascalientes	20.7	(2.4)	27.0	(2.8)	27.7	(2.5)	17.6	(2.2)	5.6	(1.6)	1.2	(0.7)	0.1	c
	Baja California	32.8	(3.7)	28.6	(4.4)	22.2	(3.3)	11.9	(2.0)	4.0	(1.4)	0.4	(0.3)	0.0	c
	Baja California Sur	34.7	(3.1)	29.2	(2.4)	22.1	(2.6)	10.2	(1.7)	3.5	(1.0)	0.3	(0.3)	0.0	c
	Campeche	43.3	(3.1)	27.9	(3.1)	17.8	(2.4)	8.5	(1.9)	2.1	(0.9)	0.4	(0.4)	0.1	c
	Chiapas	49.2	(4.9)	25.8	(2.7)	17.3	(2.6)	5.7	(1.2)	1.7	(0.7)	0.3	(0.3)	0.0	c
	Chihuahua	24.0	(3.3)	26.2	(3.2)	26.6	(3.4)	16.6	(2.9)	5.3	(1.6)	1.2	(0.6)	0.1	c
	Coahuila	30.3	(3.9)	31.4	(4.3)	23.3	(3.3)	10.7	(3.0)	3.7	(1.8)	0.6	(0.4)	0.0	c
	Colima	26.1	(3.1)	25.8	(2.4)	25.0	(2.4)	14.8	(2.1)	6.9	(1.7)	1.2	(0.7)	0.2	(0.2)
	Distrito Federal	22.4	(3.8)	31.1	(3.8)	27.8	(3.9)	13.5	(2.2)	3.9	(1.4)	1.1	(0.7)	0.1	c
	Durango	24.7	(3.5)	30.3	(2.9)	23.6	(3.2)	15.6	(2.9)	5.0	(1.2)	0.6	(0.5)	0.1	c
	Guanajuato	33.0	(4.6)	28.2	(2.7)	24.7	(2.9)	10.5	(1.9)	3.1	(0.8)	0.5	(0.4)	0.0	c
	Guerrero	54.8	(3.1)	27.9	(3.0)	12.2	(1.9)	4.0	(0.9)	1.1	(0.5)	0.0	c	0.0	c
	Hidalgo	30.3	(4.0)	31.9	(3.6)	24.0	(2.8)	11.2	(2.5)	2.1	(1.1)	0.5	(0.3)	0.0	c
	Jalisco	18.8	(3.3)	28.4	(3.1)	28.6	(3.3)	17.2	(2.5)	5.6	(1.6)	1.5	(0.9)	0.0	c
	Mexico	28.3	(4.3)	29.8	(3.5)	28.1	(3.4)	10.8	(2.1)	2.5	(1.2)	0.4	(0.4)	0.0	c
	Morelos	23.8	(3.3)	30.0	(3.1)	26.7	(3.1)	13.3	(2.9)	4.1	(1.6)	1.7	(1.3)	0.4	(0.4)
	Nayarit	30.7	(3.7)	28.6	(2.7)	24.9	(3.2)	11.1	(2.3)	4.2	(1.4)	0.4	(0.4)	0.1	c
	Nuevo León	21.9	(3.2)	27.9	(3.1)	26.8	(2.7)	16.8	(2.5)	5.6	(1.5)	1.1	(0.6)	0.1	c
	Puebla	26.7	(3.4)	29.5	(2.8)	25.5	(2.7)	13.5	(2.3)	4.3	(1.2)	0.4	(0.3)	0.0	c
	Querétaro	19.7	(3.8)	30.1	(4.6)	27.8	(3.1)	14.1	(2.3)	6.7	(1.7)	1.4	(0.5)	0.1	(0.1)
	Quintana Roo	30.8	(3.3)	28.7	(2.7)	24.4	(2.3)	12.4	(1.5)	3.2	(1.0)	0.4	(0.3)	0.1	c
	San Luis Potosí	31.6	(3.9)	27.6	(2.5)	23.3	(2.3)	12.1	(2.0)	4.6	(1.5)	0.7	(0.6)	0.0	c
	Sinaloa	30.7	(2.7)	29.3	(3.1)	25.1	(2.5)	11.8	(2.0)	2.7	(0.8)	0.4	(0.3)	0.1	c
	Tabasco	47.0	(3.4)	30.0	(3.0)	16.2	(2.3)	4.9	(1.2)	1.8	(0.6)	0.2	c	0.0	c
	Tamaulipas	36.1	(3.4)	28.7	(2.8)	22.8	(3.3)	8.9	(2.2)	3.2	(1.6)	0.2	(0.2)	0.0	c
	Tlaxcala	31.6	(3.6)	30.9	(2.0)	23.1	(2.3)	10.8	(1.8)	3.1	(1.1)	0.5	(0.4)	0.0	c
	Veracruz	40.9	(3.9)	28.8	(2.7)	17.4	(3.0)	9.5	(2.5)	2.7	(1.4)	0.7	(0.6)	0.0	c
	Yucatán	40.4	(3.3)	26.2	(3.0)	21.4	(2.3)	8.9	(1.7)	2.3	(0.8)	0.7	(0.5)	0.1	(0.1)
	Zacatecas	33.2	(2.4)	30.0	(2.3)	22.6	(2.5)	10.3	(1.6)	3.5	(1.0)	0.5	(0.5)	0.0	c

• PISA adjudicated region.

Note: See Table I.2.15 for national data.

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[Part 4/4]

Table B2.I.14 Percentage of students at each proficiency level on the mathematics subscale *change and relationships*, by gender and region

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**														
	Alentejo	10.8	(2.8)	15.9	(2.7)	25.3	(3.3)	22.7	(2.5)	16.7	(2.7)	7.7	(1.5)	1.0	(0.6)
	Spain														
	Andalusia•	10.2	(1.5)	20.6	(1.9)	30.5	(1.9)	22.6	(2.1)	12.9	(1.9)	3.1	(0.8)	0.2	(0.2)
	Aragon•	10.6	(1.8)	12.8	(1.8)	21.9	(2.1)	26.6	(2.1)	18.7	(2.1)	8.2	(1.4)	1.3	(0.6)
	Asturias•	7.3	(1.3)	12.8	(1.5)	24.2	(2.1)	25.7	(2.0)	19.0	(2.1)	8.8	(1.3)	2.3	(0.8)
	Balearic Islands•	11.2	(1.8)	19.1	(2.0)	22.2	(1.5)	24.8	(1.8)	16.5	(1.8)	5.8	(1.1)	0.3	(0.2)
	Basque Country•	5.6	(0.6)	12.6	(0.9)	23.6	(1.2)	28.6	(1.5)	20.5	(1.2)	7.6	(0.8)	1.6	(0.3)
	Cantabria•	9.2	(1.3)	16.0	(1.8)	24.6	(2.0)	25.2	(2.1)	15.2	(2.5)	8.3	(1.7)	1.4	(0.6)
	Castile and Leon•	3.8	(1.0)	12.3	(1.6)	22.8	(1.7)	31.8	(2.0)	22.5	(2.0)	6.0	(1.1)	0.8	(0.4)
	Catalonia•	9.6	(1.8)	15.9	(2.3)	25.5	(2.3)	26.3	(2.0)	16.7	(2.1)	5.1	(1.0)	1.0	(0.5)
	Extremadura•	16.2	(1.5)	17.0	(1.9)	25.8	(1.9)	23.2	(2.1)	13.1	(1.7)	3.9	(0.9)	0.8	(0.4)
	Galicia•	8.0	(1.3)	13.2	(1.9)	25.9	(2.1)	29.6	(2.4)	17.1	(2.0)	5.1	(1.1)	1.2	(0.5)
	La Rioja•	9.3	(1.1)	13.6	(1.6)	22.0	(2.0)	26.2	(1.7)	18.9	(1.7)	7.8	(1.3)	2.2	(0.6)
	Madrid•	6.6	(1.6)	13.3	(1.7)	21.6	(2.0)	27.6	(2.3)	21.2	(2.2)	8.5	(0.9)	1.1	(0.4)
	Murcia•	13.9	(1.5)	20.3	(2.3)	27.3	(2.2)	23.2	(1.9)	11.5	(1.6)	3.2	(0.9)	0.6	(0.3)
	Navarre•	2.6	(0.8)	10.3	(1.4)	20.6	(2.6)	27.6	(2.3)	25.0	(1.8)	11.6	(1.4)	2.4	(0.8)
	United Kingdom														
	England	9.5	(1.2)	14.2	(1.1)	23.1	(1.1)	23.9	(1.2)	16.6	(1.3)	9.2	(1.3)	3.5	(0.7)
	Northern Ireland	10.5	(1.9)	17.4	(1.9)	23.9	(1.9)	21.5	(1.8)	16.8	(1.9)	7.1	(1.0)	2.7	(0.5)
	Scotland•	7.5	(1.2)	15.6	(1.3)	25.4	(1.6)	24.8	(2.1)	16.8	(1.4)	7.6	(0.9)	2.3	(0.6)
	Wales	11.3	(1.0)	20.2	(1.4)	27.4	(1.4)	22.6	(1.2)	13.6	(1.0)	4.1	(0.6)	0.7	(0.2)
	United States														
	Connecticut•	8.1	(1.6)	13.5	(1.5)	20.9	(2.0)	23.2	(2.0)	17.2	(1.7)	11.1	(1.5)	6.0	(1.2)
	Florida•	9.5	(1.6)	20.8	(2.1)	28.3	(2.0)	22.8	(1.9)	12.3	(1.6)	5.2	(1.2)	1.1	(0.6)
	Massachusetts•	6.7	(1.3)	13.2	(1.6)	20.6	(1.9)	22.6	(1.9)	19.0	(2.2)	11.2	(1.4)	6.7	(1.4)
Partners	**Argentina**														
	Ciudad Autónoma de Buenos Aires•	30.2	(3.3)	21.7	(2.3)	25.1	(2.6)	14.5	(1.9)	6.6	(1.6)	1.9	(1.1)	0.1	c
	Brazil														
	Acre	66.3	(4.7)	18.4	(3.6)	10.7	(3.1)	4.0	(1.7)	0.7	c	0.0	c	0.0	c
	Alagoas	77.6	(3.7)	13.5	(2.4)	5.4	(1.8)	2.6	(1.5)	0.7	(0.6)	0.2	c	0.0	c
	Amapá	69.4	(5.4)	20.6	(5.0)	7.7	(2.7)	1.9	(1.5)	0.3	c	0.0	c	0.0	c
	Amazonas	71.4	(3.2)	19.1	(3.0)	6.4	(2.2)	2.0	(1.1)	1.0	(0.9)	0.0	c	0.0	c
	Bahia	60.4	(10.2)	17.9	(4.7)	12.5	(6.4)	6.7	(4.1)	1.8	(1.4)	0.7	c	0.0	c
	Ceará	55.6	(6.0)	24.6	(4.1)	13.0	(3.3)	4.1	(2.0)	1.9	(0.8)	0.8	c	0.0	c
	Espírito Santo	43.3	(4.4)	23.4	(4.6)	15.2	(2.9)	8.2	(2.6)	6.7	(3.2)	2.6	(1.4)	0.6	(0.6)
	Federal District	40.5	(4.9)	23.3	(3.6)	18.0	(4.0)	13.0	(2.9)	4.3	(2.2)	1.0	(0.7)	0.0	c
	Goiás	56.3	(4.5)	23.8	(2.7)	13.0	(2.9)	5.8	(1.7)	0.9	(0.5)	0.2	c	0.0	c
	Maranhão	75.2	(7.8)	16.0	(4.1)	6.4	(3.3)	1.7	(1.8)	0.5	(0.5)	0.0	c	0.0	c
	Mato Grosso	60.2	(5.7)	21.7	(4.0)	11.4	(3.0)	2.8	(1.5)	2.5	(1.6)	1.3	(1.0)	0.1	c
	Mato Grosso do Sul	42.8	(5.4)	27.1	(3.4)	17.5	(4.1)	6.5	(1.3)	5.0	(1.7)	1.0	(0.8)	0.2	c
	Minas Gerais	39.2	(4.1)	27.6	(2.8)	21.5	(4.1)	8.3	(2.4)	2.5	(1.5)	0.9	(0.9)	0.1	c
	Pará	64.8	(4.7)	17.0	(3.0)	13.6	(3.7)	4.4	(1.7)	0.3	c	0.0	c	0.0	c
	Paraíba	49.6	(6.4)	21.0	(4.0)	16.2	(3.8)	9.7	(3.3)	3.0	(1.7)	0.4	c	0.0	c
	Paraná	47.8	(5.1)	26.5	(3.8)	14.0	(2.7)	7.1	(2.7)	2.6	(2.3)	1.4	(1.5)	0.5	(0.6)
	Pernambuco	64.5	(5.6)	23.3	(4.7)	8.3	(3.3)	3.0	(1.4)	0.6	(0.5)	0.2	(0.2)	0.0	c
	Piauí	56.5	(4.6)	22.1	(4.0)	10.4	(3.0)	6.1	(1.6)	3.5	(1.7)	0.8	(1.1)	0.6	(0.3)
	Rio de Janeiro	45.8	(4.4)	27.2	(4.1)	17.8	(2.6)	7.0	(1.9)	1.9	(1.0)	0.3	c	0.0	c
	Rio Grande do Norte	65.1	(4.0)	16.9	(2.9)	9.4	(1.8)	5.1	(1.8)	2.2	(1.1)	1.0	(0.6)	0.4	c
	Rio Grande do Sul	37.8	(3.8)	27.3	(4.2)	21.2	(3.4)	10.4	(1.9)	3.0	(1.2)	0.3	c	0.0	c
	Rondônia	51.4	(5.0)	28.1	(2.7)	14.5	(2.7)	4.3	(1.8)	1.6	(1.4)	0.1	c	0.0	c
	Roraima	64.5	(4.7)	19.5	(3.1)	8.4	(2.4)	5.9	(2.6)	1.5	(1.0)	0.1	c	0.0	c
	Santa Catarina	36.6	(5.8)	28.7	(3.2)	19.8	(4.2)	10.3	(2.9)	3.6	(1.6)	0.8	(0.6)	0.2	c
	São Paulo	44.1	(3.0)	24.6	(1.7)	16.9	(1.5)	9.1	(1.5)	3.8	(1.2)	1.1	(0.6)	0.4	(0.4)
	Sergipe	53.1	(5.9)	26.8	(3.7)	13.9	(3.3)	4.7	(1.8)	1.3	(1.1)	0.2	c	0.0	c
	Tocantins	66.8	(4.5)	21.6	(3.1)	6.6	(2.0)	3.3	(1.1)	1.3	(0.6)	0.4	c	0.0	c
	Colombia														
	Bogotá	49.1	(2.4)	29.4	(2.2)	16.2	(1.8)	4.3	(1.0)	0.9	(0.4)	0.0	c	0.0	c
	Cali	54.8	(4.3)	24.9	(2.6)	14.8	(2.3)	4.4	(1.6)	1.1	(0.6)	0.1	c	0.0	c
	Manizales	43.0	(4.7)	29.5	(3.5)	18.2	(3.9)	6.3	(1.8)	2.6	(0.9)	0.3	c	0.0	c
	Medellín	53.0	(4.5)	23.1	(3.2)	12.5	(2.1)	6.9	(1.8)	3.0	(1.6)	1.0	(0.7)	0.6	(0.6)
	Russian Federation														
	Perm Territory region•	6.4	(1.4)	13.2	(2.0)	26.6	(2.2)	27.5	(2.0)	16.7	(2.1)	7.3	(1.1)	2.3	(1.1)
	United Arab Emirates														
	Abu Dhabi•	18.0	(2.2)	25.5	(1.6)	26.7	(1.5)	18.2	(1.5)	7.6	(0.8)	3.3	(0.8)	0.7	(0.3)
	Ajman	21.0	(4.7)	30.0	(3.4)	28.4	(3.2)	15.2	(3.2)	4.4	(1.8)	0.9	(0.8)	0.0	c
	Dubai•	12.5	(0.6)	20.0	(0.9)	24.6	(1.4)	22.8	(1.5)	13.7	(1.1)	5.1	(0.7)	1.3	(0.5)
	Fujairah	15.8	(3.5)	24.8	(4.1)	32.5	(4.1)	19.3	(3.5)	6.2	(1.9)	1.3	(0.9)	0.1	c
	Ras al-Khaimah	16.2	(3.9)	28.2	(3.5)	30.1	(3.8)	18.8	(2.6)	5.8	(2.6)	1.0	(1.1)	0.0	c
	Sharjah	13.9	(3.2)	25.7	(4.4)	29.1	(2.4)	20.5	(3.6)	8.8	(2.5)	1.9	(0.8)	0.2	c
	Umm al-Quwain	16.5	(3.4)	27.2	(4.7)	31.2	(5.2)	18.0	(4.3)	6.1	(2.3)	0.9	(1.1)	0.0	c

• PISA adjudicated region.

Note: See Table I.2.15 for national data.

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[Part 1/2]

Table B2.I.15 Mean score, variation and gender differences in student performance on the mathematics subscale *change and relationships*, by region

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	**Australia**																						
	Australian Capital Territory	520	(4.1)	101	(3.1)	518	(6.0)	523	(5.4)	-4	(7.9)	348	(13.1)	387	(8.2)	454	(6.6)	592	(6.4)	650	(6.6)	679	(10.3)
	New South Wales	514	(3.9)	108	(2.8)	517	(5.8)	511	(4.3)	6	(6.6)	340	(6.1)	376	(5.2)	439	(4.2)	587	(5.5)	655	(7.5)	696	(11.5)
	Northern Territory	456	(10.2)	119	(5.6)	462	(8.9)	450	(15.9)	12	(15.9)	240	(23.2)	302	(15.8)	382	(11.7)	534	(15.0)	595	(24.8)	641	(24.4)
	Queensland	509	(3.1)	102	(1.9)	514	(4.1)	503	(3.7)	**10**	(4.7)	344	(6.3)	379	(5.1)	437	(4.0)	581	(4.4)	643	(4.8)	677	(4.9)
	South Australia	493	(3.4)	102	(2.0)	499	(4.5)	487	(4.2)	**12**	(5.2)	326	(6.8)	360	(5.3)	422	(4.3)	564	(5.4)	625	(6.4)	662	(7.5)
	Tasmania	481	(3.8)	105	(2.6)	488	(5.3)	475	(5.3)	13	(7.5)	306	(8.7)	344	(7.3)	409	(6.4)	554	(5.8)	618	(7.7)	654	(9.1)
	Victoria	506	(3.9)	98	(2.0)	515	(5.3)	497	(4.2)	**18**	(5.7)	344	(6.8)	378	(4.6)	440	(4.8)	573	(4.8)	633	(6.6)	665	(6.8)
	Western Australia	520	(4.3)	107	(2.5)	531	(6.3)	509	(5.8)	**22**	(8.6)	345	(7.8)	383	(7.0)	445	(6.2)	597	(5.6)	657	(6.4)	689	(7.2)
	Belgium																						
	Flemish Community•	531	(3.8)	112	(3.6)	538	(5.5)	525	(4.7)	13	(6.9)	333	(10.8)	381	(7.5)	460	(5.1)	613	(3.6)	667	(3.4)	696	(3.3)
	French Community	490	(4.0)	118	(5.4)	491	(4.8)	488	(4.2)	2	(4.3)	285	(17.0)	340	(9.0)	422	(5.0)	572	(3.6)	626	(4.2)	658	(4.6)
	German-speaking Community	509	(2.6)	103	(3.0)	507	(4.5)	511	(3.5)	-4	(6.2)	328	(14.4)	382	(6.8)	449	(5.1)	577	(4.9)	630	(4.2)	662	(6.9)
	Canada																						
	Alberta	526	(4.9)	97	(2.4)	533	(5.5)	520	(5.2)	**13**	(4.3)	364	(9.4)	399	(7.4)	460	(6.5)	595	(6.0)	650	(4.7)	680	(6.5)
	British Columbia	530	(4.8)	91	(2.1)	539	(5.0)	521	(6.6)	**18**	(6.6)	381	(7.5)	414	(6.3)	467	(5.1)	594	(6.8)	651	(6.0)	679	(6.2)
	Manitoba	498	(3.2)	95	(2.2)	503	(4.1)	493	(5.0)	10	(6.4)	345	(8.7)	376	(5.4)	430	(5.3)	565	(4.3)	620	(5.9)	651	(5.4)
	New Brunswick	505	(3.0)	88	(1.9)	507	(4.5)	503	(3.6)	4	(5.6)	356	(6.4)	390	(5.1)	446	(5.1)	562	(4.3)	618	(6.1)	653	(7.8)
	Newfoundland and Labrador	500	(3.9)	94	(2.3)	500	(5.2)	499	(4.4)	1	(5.6)	347	(8.3)	379	(9.2)	435	(6.4)	564	(5.6)	624	(6.5)	656	(6.7)
	Nova Scotia	499	(5.8)	90	(2.5)	507	(5.2)	490	(7.7)	**17**	(6.2)	351	(7.1)	382	(7.0)	437	(5.5)	561	(6.1)	613	(8.3)	648	(11.4)
	Ontario	525	(4.2)	92	(1.9)	531	(4.9)	519	(4.2)	**13**	(3.7)	370	(6.3)	408	(5.3)	464	(4.8)	588	(5.2)	646	(5.4)	679	(6.1)
	Prince Edward Island	490	(2.7)	87	(1.6)	493	(3.7)	486	(3.4)	8	(4.9)	348	(7.6)	376	(5.2)	429	(4.1)	550	(3.5)	603	(3.7)	635	(6.2)
	Quebec	535	(3.7)	98	(1.8)	545	(4.4)	527	(4.3)	**18**	(4.5)	366	(6.8)	405	(5.8)	470	(4.6)	606	(4.0)	659	(4.3)	689	(6.0)
	Saskatchewan	516	(3.3)	90	(2.3)	521	(4.6)	510	(3.6)	**12**	(5.1)	367	(7.1)	402	(5.1)	456	(2.7)	580	(5.8)	633	(5.6)	663	(8.2)
	Italy																						
	Abruzzo	468	(7.9)	102	(5.9)	476	(9.6)	459	(7.7)	**16**	(8.1)	296	(24.8)	343	(12.5)	405	(8.4)	538	(9.4)	593	(8.8)	625	(9.7)
	Basilicata	460	(5.2)	93	(2.9)	472	(6.6)	448	(5.2)	**23**	(5.9)	307	(9.8)	339	(8.9)	398	(7.4)	520	(6.0)	583	(7.0)	619	(6.3)
	Bolzano	505	(2.3)	96	(1.9)	518	(2.9)	493	(2.9)	**25**	(3.7)	343	(6.3)	378	(5.1)	441	(4.8)	571	(3.4)	626	(4.4)	659	(5.6)
	Calabria	420	(5.7)	96	(4.1)	432	(7.3)	406	(6.6)	**26**	(8.6)	264	(9.3)	298	(9.7)	355	(7.7)	482	(7.1)	539	(8.8)	577	(12.1)
	Campania	440	(7.9)	95	(4.1)	448	(8.8)	432	(9.5)	15	(9.1)	281	(10.8)	315	(9.9)	376	(9.5)	505	(9.2)	561	(10.3)	598	(11.4)
	Emilia Romagna	490	(7.3)	104	(3.7)	501	(10.9)	478	(7.6)	23	(12.3)	313	(12.1)	354	(7.9)	421	(8.8)	564	(8.1)	621	(7.8)	653	(9.7)
	Friuli Venezia Giulia	517	(5.4)	94	(3.1)	529	(7.3)	504	(5.6)	**25**	(7.5)	355	(10.6)	394	(12.0)	458	(7.4)	581	(6.0)	634	(6.0)	667	(6.5)
	Lazio	462	(6.6)	98	(3.5)	473	(7.0)	449	(7.0)	**24**	(6.2)	304	(10.7)	339	(10.1)	396	(7.7)	529	(8.9)	589	(9.2)	623	(9.5)
	Liguria	473	(7.1)	97	(3.2)	479	(9.6)	466	(7.5)	14	(9.9)	314	(8.9)	348	(10.1)	406	(8.4)	538	(9.2)	599	(9.5)	635	(9.4)
	Lombardia	511	(7.4)	91	(3.2)	521	(8.9)	500	(8.0)	**22**	(9.1)	358	(9.3)	395	(9.3)	451	(8.0)	575	(9.1)	625	(9.7)	655	(10.2)
	Marche	489	(5.7)	91	(3.1)	504	(6.4)	474	(6.7)	**30**	(6.6)	338	(13.0)	369	(9.5)	426	(7.7)	554	(7.0)	606	(6.0)	635	(7.7)
	Molise	458	(2.2)	88	(2.4)	465	(2.9)	450	(3.7)	**15**	(4.8)	311	(7.6)	345	(6.0)	401	(4.3)	516	(5.5)	567	(5.8)	602	(9.4)
	Piemonte	495	(4.9)	91	(3.2)	509	(4.7)	482	(5.7)	**27**	(5.2)	342	(7.8)	376	(5.3)	435	(6.1)	558	(7.1)	610	(7.7)	641	(8.9)
	Puglia	470	(7.2)	94	(4.6)	482	(7.6)	457	(7.2)	**24**	(5.9)	315	(14.8)	349	(9.9)	406	(7.5)	536	(8.1)	590	(8.4)	621	(10.3)
	Sardegna	444	(5.9)	95	(3.0)	449	(6.0)	440	(7.4)	9	(6.5)	278	(11.2)	319	(13.6)	380	(8.4)	513	(6.6)	567	(7.0)	598	(7.3)
	Sicilia	435	(6.0)	92	(3.3)	441	(7.6)	428	(6.8)	13	(8.1)	279	(12.4)	317	(9.4)	374	(8.1)	498	(6.3)	548	(7.3)	579	(8.3)
	Toscana	487	(4.6)	97	(2.3)	487	(7.5)	487	(7.9)	0	(12.5)	323	(6.1)	357	(6.6)	421	(5.6)	555	(6.5)	611	(7.1)	642	(7.6)
	Trento	515	(5.0)	91	(3.2)	523	(6.0)	506	(7.8)	16	(10.0)	362	(17.2)	399	(9.3)	456	(8.2)	580	(5.1)	632	(5.5)	661	(6.9)
	Umbria	483	(7.0)	96	(4.7)	493	(10.2)	473	(6.3)	**20**	(9.1)	312	(17.9)	356	(15.9)	421	(11.3)	550	(4.8)	606	(6.2)	633	(5.6)
	Valle d'Aosta	482	(2.7)	86	(2.4)	488	(4.1)	475	(3.6)	**13**	(5.5)	345	(8.2)	378	(7.4)	424	(5.3)	534	(5.0)	598	(6.7)	629	(6.2)
	Veneto	519	(7.7)	100	(4.8)	532	(8.4)	506	(8.5)	**26**	(8.4)	358	(11.7)	393	(9.3)	457	(8.0)	587	(10.3)	646	(10.7)	679	(11.2)
	Mexico																						
	Aguascalientes	431	(4.9)	85	(3.2)	437	(6.0)	425	(5.4)	**12**	(5.9)	298	(6.8)	324	(9.1)	371	(6.4)	488	(5.8)	542	(8.9)	575	(12.4)
	Baja California	407	(5.4)	83	(2.6)	416	(6.8)	398	(5.7)	**18**	(6.2)	275	(8.8)	303	(7.8)	351	(5.4)	463	(6.4)	517	(8.8)	549	(9.4)
	Baja California Sur	401	(6.9)	86	(2.7)	409	(8.2)	392	(6.3)	**18**	(4.4)	260	(8.9)	288	(11.4)	341	(10.0)	457	(8.1)	515	(8.0)	547	(8.0)
	Campeche	381	(4.6)	86	(3.2)	387	(4.8)	375	(5.4)	**12**	(4.4)	243	(11.4)	271	(7.2)	325	(6.0)	438	(5.0)	491	(7.3)	524	(7.6)
	Chiapas	362	(8.5)	86	(3.9)	364	(8.9)	359	(9.3)	5	(6.2)	220	(10.6)	251	(12.4)	304	(11.1)	417	(9.9)	469	(10.6)	504	(10.5)
	Chihuahua	424	(9.3)	93	(3.7)	432	(11.7)	415	(8.6)	16	(9.3)	270	(15.3)	315	(12.0)	368	(12.1)	484	(12.0)	541	(11.1)	570	(12.7)
	Coahuila	407	(8.5)	83	(3.5)	414	(9.2)	400	(9.6)	14	(7.4)	276	(6.9)	303	(7.1)	349	(7.0)	463	(11.6)	517	(13.6)	552	(15.7)
	Colima	422	(5.7)	90	(2.8)	427	(6.7)	417	(6.2)	10	(6.0)	276	(9.8)	306	(7.1)	358	(7.6)	483	(8.0)	541	(8.8)	569	(12.2)
	Distrito Federal	428	(7.1)	83	(4.7)	440	(8.8)	416	(7.2)	**25**	(7.9)	293	(19.8)	326	(12.9)	372	(8.0)	482	(9.2)	537	(8.8)	571	(9.9)
	Durango	419	(7.0)	83	(2.0)	424	(8.7)	414	(6.7)	10	(6.2)	285	(9.4)	312	(7.7)	360	(7.4)	476	(10.0)	532	(10.3)	559	(8.5)
	Guanajuato	404	(7.3)	85	(2.6)	413	(7.7)	396	(7.8)	**17**	(5.3)	267	(9.9)	294	(11.8)	345	(11.2)	460	(6.9)	514	(6.3)	548	(7.1)
	Guerrero	357	(4.6)	75	(2.1)	359	(5.8)	354	(4.7)	5	(5.3)	238	(8.2)	263	(6.3)	306	(6.6)	404	(5.4)	455	(6.9)	485	(8.2)
	Hidalgo	402	(6.3)	79	(3.4)	407	(7.5)	397	(6.4)	10	(6.0)	274	(9.3)	300	(9.4)	348	(8.0)	455	(7.6)	506	(7.7)	534	(10.4)
	Jalisco	430	(8.6)	84	(3.3)	433	(10.9)	427	(7.2)	6	(6.3)	292	(13.2)	322	(14.1)	374	(11.8)	486	(7.5)	534	(8.1)	570	(9.7)
	Mexico	409	(6.6)	78	(3.6)	414	(7.4)	403	(7.5)	11	(6.9)	280	(9.1)	307	(8.2)	356	(8.8)	462	(7.0)	505	(8.3)	534	(9.9)
	Morelos	415	(9.4)	89	(7.1)	416	(11.0)	414	(9.4)	2	(7.6)	273	(19.3)	305	(16.5)	357	(10.1)	472	(11.9)	527	(17.2)	563	(21.4)
	Nayarit	404	(6.2)	86	(3.1)	408	(6.3)	400	(7.3)	8	(6.0)	262	(14.5)	293	(10.2)	344	(7.7)	461	(6.0)	516	(7.7)	547	(9.9)
	Nuevo León	432	(9.6)	86	(3.8)	441	(11.5)	422	(7.8)	**19**	(6.8)	296	(8.9)	324	(9.4)	374	(10.2)	490	(12.8)	543	(11.1)	572	(10.4)
	Puebla	408	(6.4)	89	(4.5)	410	(9.7)	407	(6.3)	3	(9.9)	259	(16.1)	295	(10.6)	353	(8.3)	469	(7.6)	522	(7.9)	552	(7.6)
	Querétaro	429	(7.2)	84	(3.5)	435	(8.3)	424	(7.4)	11	(5.8)	297	(9.0)	327	(8.8)	373	(9.4)	484	(9.7)	540	(10.1)	573	(10.5)
	Quintana Roo	402	(5.7)	87	(3.0)	405	(7.2)	399	(5.3)	5	(5.8)	262	(12.3)	292	(9.8)	342	(7.1)	461	(6.0)	512	(6.8)	543	(9.0)
	San Luis Potosí	402	(8.9)	87	(2.9)	401	(10.3)	403	(8.8)	-2	(6.7)	265	(10.2)	292	(7.3)	339	(9.4)	461	(9.2)	515	(12.2)	552	(15.8)
	Sinaloa	400	(5.1)	83	(2.5)	402	(6.9)	399	(5.1)	3	(6.1)	270	(10.6)	294	(7.3)	343	(6.1)	457	(5.9)	509	(6.6)	536	(6.8)
	Tabasco	368	(5.7)	84	(3.6)	373	(7.0)	363	(6.1)	10	(6.3)	234	(10.2)	260	(9.3)	310	(7.6)	422	(7.2)	476	(5.7)	508	(9.6)
	Tamaulipas	399	(8.7)	88	(3.5)	410	(12.1)	388	(7.3)	**22**	(9.8)	259	(12.2)	287	(10.4)	339	(9.3)	456	(10.7)	517	(14.7)	553	(14.4)
	Tlaxcala	400	(6.2)	85	(2.9)	406	(5.9)	394	(7.3)	**12**	(4.7)	260	(10.9)	291	(11.5)	345	(8.1)	455	(5.7)	510	(6.7)	539	(8.0)
	Veracruz	383	(7.2)	92	(3.0)	386	(6.9)	379	(9.0)	8	(7.0)	235	(8.8)	267	(8.6)	318	(7.2)	444	(9.4)	504	(11.4)	538	(12.6)
	Yucatán	393	(5.9)	93	(3.0)	405	(6.9)	380	(6.7)	**25**	(6.9)	248	(11.5)	280	(8.5)	328	(6.3)	454	(5.7)	512	(8.9)	547	(11.2)
	Zacatecas	398	(5.1)	86	(2.6)	402	(6.2)	393	(5.2)	9	(5.1)	255	(12.1)	285	(7.7)	340	(6.1)	457	(6.1)	507	(6.0)	535	(10.8)

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).
See Table I.2.16 for national data.

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[Part 2/2]

Table B2.I.15 Mean score, variation and gender differences in student performance on the mathematics subscale *change and relationships*, by region

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	**Portugal**																						
	Alentejo	486	(10.4)	97	(4.9)	495	(12.9)	478	(9.3)	**16**	(8.2)	327	(16.2)	360	(16.5)	422	(15.4)	554	(12.4)	613	(12.4)	648	(11.6)
	Spain																						
	Andalusia•	471	(4.3)	87	(2.0)	479	(5.4)	462	(3.9)	**18**	(4.3)	329	(7.9)	360	(6.4)	410	(4.9)	531	(5.7)	584	(6.3)	615	(7.2)
	Aragon•	493	(6.7)	98	(2.2)	499	(6.9)	486	(7.5)	**13**	(5.4)	322	(10.1)	358	(8.7)	428	(9.0)	565	(6.8)	615	(5.6)	641	(7.8)
	Asturias•	497	(4.7)	97	(2.5)	502	(6.2)	493	(4.6)	8	(5.4)	332	(10.0)	372	(8.4)	436	(6.6)	565	(5.4)	617	(5.4)	649	(8.5)
	Balearic Islands•	471	(4.8)	94	(2.3)	472	(5.7)	471	(5.4)	2	(5.7)	314	(7.6)	351	(8.1)	405	(6.4)	540	(5.1)	590	(6.3)	618	(5.1)
	Basque Country•	506	(2.6)	87	(1.3)	514	(3.1)	498	(3.0)	**16**	(3.0)	358	(4.1)	391	(4.2)	448	(3.0)	566	(3.1)	615	(2.9)	642	(3.5)
	Cantabria•	486	(3.6)	97	(2.2)	490	(4.4)	481	(5.1)	8	(6.2)	324	(8.6)	361	(6.2)	422	(5.2)	555	(4.9)	611	(3.8)	636	(4.7)
	Castile and Leon•	507	(4.4)	84	(1.7)	514	(5.8)	500	(4.5)	**14**	(5.3)	366	(5.5)	398	(6.0)	449	(5.4)	567	(5.3)	612	(5.6)	638	(4.3)
	Catalonia•	489	(5.8)	95	(2.1)	499	(6.7)	477	(6.5)	**22**	(6.1)	330	(6.9)	363	(8.0)	425	(7.5)	555	(6.1)	609	(6.3)	642	(7.2)
	Extremadura•	461	(4.6)	100	(2.3)	465	(5.6)	456	(4.6)	8	(4.6)	292	(9.3)	327	(7.4)	390	(6.5)	532	(5.5)	588	(6.2)	622	(8.1)
	Galicia•	485	(4.8)	88	(2.1)	487	(5.5)	484	(5.5)	2	(5.3)	334	(8.0)	368	(7.6)	429	(7.3)	546	(4.2)	595	(5.3)	624	(6.1)
	La Rioja•	496	(2.2)	107	(3.0)	506	(3.5)	488	(3.2)	**19**	(5.1)	316	(10.3)	360	(5.8)	430	(4.2)	571	(3.8)	626	(3.7)	655	(5.5)
	Madrid•	500	(4.4)	92	(3.2)	504	(5.4)	496	(4.7)	9	(4.8)	341	(11.4)	377	(9.0)	438	(5.4)	567	(4.2)	613	(3.9)	638	(4.7)
	Murcia•	459	(5.2)	97	(2.9)	464	(6.5)	454	(4.8)	10	(4.9)	301	(9.6)	333	(5.5)	396	(5.0)	527	(6.5)	584	(8.8)	618	(12.4)
	Navarre•	519	(3.3)	85	(1.8)	520	(4.1)	517	(3.9)	3	(4.4)	373	(5.9)	405	(5.0)	460	(4.9)	579	(3.3)	626	(5.2)	652	(5.5)
	United Kingdom																						
	England	498	(4.1)	100	(2.1)	506	(5.3)	490	(4.6)	**15**	(5.6)	333	(6.2)	368	(6.2)	430	(5.3)	568	(4.5)	628	(5.1)	662	(5.4)
	Northern Ireland	486	(3.8)	99	(2.3)	491	(5.6)	479	(5.8)	12	(8.4)	321	(7.4)	358	(6.2)	416	(5.1)	555	(5.1)	614	(6.3)	651	(5.6)
	Scotland•	497	(3.1)	93	(2.1)	506	(3.5)	487	(3.6)	**19**	(3.5)	344	(7.0)	380	(4.9)	434	(4.0)	561	(3.3)	618	(4.4)	650	(6.8)
	Wales	470	(2.5)	90	(1.3)	476	(3.0)	463	(3.0)	**13**	(3.3)	321	(4.8)	353	(4.9)	409	(3.3)	532	(2.9)	584	(3.7)	616	(5.2)
	United States																						
	Connecticut•	515	(7.0)	106	(2.5)	525	(7.7)	504	(7.2)	**21**	(5.4)	343	(10.5)	376	(8.8)	439	(8.2)	590	(7.4)	653	(8.8)	692	(10.4)
	Florida•	476	(5.6)	91	(2.8)	484	(6.4)	467	(5.6)	**17**	(4.3)	334	(7.3)	362	(6.7)	412	(6.2)	536	(7.0)	597	(9.9)	634	(10.9)
	Massachusetts•	518	(6.7)	106	(3.3)	527	(6.8)	510	(7.5)	**17**	(5.0)	346	(7.8)	383	(6.3)	445	(6.0)	591	(9.4)	655	(10.1)	693	(11.4)
Partners	**Argentina**																						
	Ciudad Autónoma de Buenos Aires•	408	(9.7)	113	(10.0)	414	(10.4)	403	(10.1)	10	(6.5)	209	(37.5)	267	(17.0)	342	(10.2)	484	(8.4)	541	(9.1)	577	(12.5)
	Brazil																						
	Acre	331	(8.6)	96	(6.0)	341	(12.0)	322	(9.5)	19	(12.6)	177	(12.4)	211	(9.1)	267	(7.5)	394	(11.8)	453	(17.4)	487	(23.3)
	Alagoas	304	(9.3)	99	(7.6)	323	(12.4)	289	(8.4)	**34**	(8.2)	147	(25.8)	183	(16.0)	241	(9.3)	362	(11.2)	429	(24.2)	476	(27.2)
	Amapá	323	(11.0)	91	(5.6)	336	(12.9)	312	(10.0)	**24**	(7.6)	172	(12.6)	204	(12.6)	263	(11.1)	380	(12.7)	435	(17.5)	469	(28.0)
	Amazonas	320	(8.2)	92	(6.2)	330	(10.2)	311	(7.7)	**19**	(7.6)	174	(19.0)	211	(10.5)	261	(8.3)	374	(9.7)	435	(16.0)	483	(26.4)
	Bahia	342	(14.9)	106	(7.9)	353	(9.3)	333	(21.9)	20	(17.7)	171	(20.9)	207	(21.1)	274	(18.2)	412	(22.1)	483	(14.1)	513	(18.2)
	Ceará	354	(11.1)	103	(8.1)	364	(12.7)	345	(11.5)	19	(9.6)	191	(14.3)	227	(17.2)	287	(10.3)	415	(14.0)	482	(21.6)	536	(39.4)
	Espírito Santo	398	(10.2)	105	(8.1)	410	(10.2)	388	(13.5)	22	(11.9)	241	(14.1)	272	(10.8)	326	(8.1)	461	(17.6)	551	(29.6)	591	(20.2)
	Federal District	397	(9.9)	101	(5.5)	408	(11.7)	387	(10.0)	**21**	(8.8)	241	(12.1)	271	(12.9)	323	(12.6)	470	(15.2)	536	(17.0)	570	(12.8)
	Goiás	357	(7.9)	89	(4.4)	366	(9.2)	349	(8.4)	**17**	(8.1)	221	(13.7)	248	(11.7)	296	(12.1)	414	(10.4)	475	(11.7)	513	(14.3)
	Maranhão	313	(16.2)	93	(10.8)	326	(19.5)	304	(14.8)	**22**	(9.6)	172	(11.9)	200	(10.8)	251	(9.3)	367	(23.4)	433	(39.5)	482	(45.3)
	Mato Grosso	343	(12.6)	96	(8.4)	346	(12.6)	340	(13.8)	6	(8.1)	197	(24.3)	227	(17.7)	279	(13.9)	400	(13.6)	464	(18.2)	505	(36.5)
	Mato Grosso do Sul	387	(10.8)	97	(5.4)	398	(13.2)	378	(9.8)	**19**	(8.5)	235	(13.9)	263	(16.6)	322	(13.9)	445	(12.5)	520	(19.8)	570	(23.1)
	Minas Gerais	392	(8.2)	87	(4.1)	401	(10.1)	384	(7.8)	**17**	(6.3)	256	(14.6)	282	(10.5)	331	(9.2)	450	(8.7)	504	(12.0)	539	(15.1)
	Pará	333	(6.4)	87	(3.3)	340	(7.2)	328	(8.0)	11	(8.3)	200	(13.4)	226	(11.0)	270	(8.6)	393	(11.6)	450	(7.3)	480	(10.2)
	Paraíba	375	(9.1)	99	(8.8)	383	(11.0)	367	(11.2)	16	(12.5)	217	(25.4)	253	(18.3)	310	(14.9)	441	(9.7)	506	(18.6)	546	(18.2)
	Paraná	384	(13.8)	100	(11.1)	397	(14.1)	371	(14.9)	**26**	(8.0)	235	(15.2)	266	(12.2)	314	(8.7)	445	(19.4)	525	(38.9)	575	(44.6)
	Pernambuco	335	(10.5)	86	(4.3)	346	(11.3)	327	(10.6)	**19**	(6.0)	199	(13.8)	225	(13.2)	276	(12.0)	392	(12.8)	442	(14.0)	485	(21.6)
	Piauí	361	(9.9)	104	(9.2)	371	(10.7)	354	(10.4)	**17**	(7.2)	206	(10.6)	237	(9.6)	292	(9.3)	422	(13.2)	502	(25.1)	548	(30.3)
	Rio de Janeiro	375	(8.1)	89	(5.3)	384	(9.2)	366	(8.7)	**18**	(7.7)	229	(15.2)	262	(13.4)	316	(10.5)	434	(11.1)	491	(12.1)	525	(10.4)
	Rio Grande do Norte	349	(10.1)	103	(7.5)	363	(13.0)	337	(9.1)	**25**	(8.5)	201	(12.1)	231	(10.3)	280	(7.0)	402	(19.4)	494	(23.1)	547	(35.8)
	Rio Grande do Sul	393	(6.2)	87	(3.6)	399	(7.7)	387	(6.6)	12	(7.0)	253	(11.4)	280	(9.5)	333	(7.3)	451	(8.1)	505	(8.2)	536	(10.7)
	Rondônia	357	(8.2)	84	(4.3)	359	(9.0)	356	(9.5)	3	(8.6)	220	(15.1)	251	(11.4)	301	(9.4)	412	(8.2)	465	(11.2)	495	(16.0)
	Roraima	337	(7.1)	90	(4.1)	343	(6.5)	332	(10.7)	11	(10.5)	200	(10.2)	225	(7.1)	275	(8.6)	393	(9.5)	460	(15.7)	497	(18.7)
	Santa Catarina	397	(12.4)	96	(5.5)	407	(12.1)	388	(13.6)	**19**	(7.4)	244	(20.1)	277	(16.8)	335	(12.5)	457	(15.7)	525	(17.5)	567	(19.9)
	São Paulo	387	(6.4)	100	(4.2)	395	(6.8)	378	(6.8)	**17**	(4.2)	233	(7.7)	265	(6.8)	316	(5.2)	451	(7.7)	519	(11.4)	559	(16.2)
	Sergipe	361	(13.1)	94	(7.1)	377	(16.0)	348	(12.3)	**29**	(9.8)	216	(13.9)	245	(13.2)	297	(11.3)	418	(18.5)	486	(29.2)	529	(27.4)
	Tocantins	332	(10.8)	99	(5.8)	345	(12.4)	319	(9.6)	**26**	(6.8)	176	(15.7)	207	(16.4)	265	(11.8)	394	(11.4)	463	(21.0)	508	(20.7)
	Colombia																						
	Bogotá	377	(4.1)	80	(3.1)	397	(6.0)	359	(4.0)	**38**	(6.1)	249	(6.2)	277	(4.8)	323	(4.3)	430	(5.2)	479	(7.2)	511	(10.9)
	Cali	359	(6.9)	86	(3.3)	372	(7.7)	349	(7.7)	**23**	(6.0)	223	(8.2)	253	(7.7)	302	(6.0)	416	(9.9)	470	(9.8)	503	(11.9)
	Manizales	388	(5.7)	92	(4.7)	405	(8.7)	372	(6.2)	**33**	(9.4)	245	(11.6)	276	(8.5)	325	(6.9)	443	(7.3)	507	(12.6)	550	(16.2)
	Medellín	375	(9.5)	98	(6.0)	391	(10.7)	360	(11.3)	**31**	(11.1)	229	(7.9)	256	(9.3)	309	(8.6)	436	(13.3)	504	(16.7)	552	(20.8)
	Russian Federation																						
	Perm Territory region•	493	(5.9)	93	(4.3)	494	(7.1)	491	(5.7)	3	(4.9)	337	(10.2)	375	(9.1)	432	(6.5)	553	(5.9)	611	(9.2)	647	(15.6)
	United Arab Emirates																						
	Abu Dhabi•	429	(4.1)	94	(2.4)	421	(5.6)	438	(5.1)	**-17**	(7.1)	282	(5.9)	312	(5.7)	365	(4.5)	489	(5.2)	555	(8.6)	599	(9.2)
	Ajman	412	(7.9)	75	(3.6)	402	(12.5)	420	(10.4)	-18	(16.4)	290	(10.6)	315	(11.7)	357	(11.2)	465	(7.0)	507	(7.6)	533	(8.9)
	Dubai•	470	(1.2)	102	(1.2)	476	(2.1)	465	(1.6)	**11**	(2.8)	307	(2.9)	339	(2.9)	398	(2.3)	541	(2.4)	602	(3.5)	638	(5.0)
	Fujairah	420	(10.3)	85	(2.7)	406	(10.2)	435	(10.2)	**-29**	(9.9)	284	(15.5)	314	(13.2)	361	(11.4)	478	(11.6)	528	(10.8)	564	(14.5)
	Ras al-Khaimah	424	(6.6)	77	(3.1)	416	(8.2)	432	(9.4)	-16	(10.8)	301	(12.6)	326	(8.5)	369	(8.3)	479	(7.0)	524	(7.5)	552	(11.9)
	Sharjah	450	(10.4)	86	(4.0)	458	(18.9)	444	(10.1)	15	(22.0)	319	(13.3)	344	(10.4)	388	(10.8)	507	(12.9)	565	(14.1)	595	(13.7)
	Umm al-Quwain	409	(3.7)	81	(3.6)	387	(5.0)	431	(5.4)	**-43**	(7.3)	275	(10.1)	306	(7.9)	356	(7.9)	458	(8.6)	514	(10.6)	549	(12.7)

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

See Table I.2.16 for national data.

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[Part 1/2]

Table B2.I.16 Percentage of students at each proficiency level on the mathematics subscale *space and shape*, by region

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	6.6	(1.1)	12.6	(1.4)	19.9	(1.8)	23.9	(1.7)	19.3	(1.6)	12.0	(1.4)	5.7	(1.1)
	New South Wales	8.5	(0.8)	14.7	(1.0)	21.2	(1.2)	21.9	(1.1)	16.3	(1.1)	10.2	(0.9)	7.2	(1.1)
	Northern Territory	15.3	(2.4)	18.7	(3.8)	23.7	(3.9)	24.1	(4.9)	12.4	(3.2)	4.7	(1.8)	1.1	(0.7)
	Queensland	7.9	(0.8)	15.0	(0.9)	22.3	(1.1)	23.9	(1.0)	17.1	(1.0)	9.8	(0.8)	4.1	(0.6)
	South Australia	9.5	(1.1)	17.6	(1.4)	23.3	(1.6)	24.5	(1.6)	15.6	(1.3)	7.0	(0.9)	2.4	(0.6)
	Tasmania	11.5	(1.4)	18.5	(1.4)	25.7	(2.0)	22.7	(1.5)	14.2	(1.4)	5.0	(0.9)	2.5	(0.6)
	Victoria	8.0	(0.8)	16.3	(1.3)	22.2	(1.3)	24.6	(1.3)	17.1	(1.1)	7.9	(0.8)	3.9	(0.8)
	Western Australia	5.8	(0.7)	12.9	(1.1)	21.3	(1.2)	24.6	(1.6)	19.4	(1.2)	11.2	(1.1)	4.7	(0.8)
	Belgium														
	Flemish Community•	6.6	(0.8)	10.8	(0.9)	16.8	(0.9)	20.8	(1.2)	19.7	(1.0)	15.4	(0.8)	9.8	(0.7)
	French Community	10.9	(1.2)	15.3	(1.1)	22.9	(1.4)	22.8	(1.2)	16.6	(1.0)	8.4	(0.6)	3.2	(0.5)
	German-speaking Community	5.5	(1.3)	12.0	(1.5)	20.3	(1.6)	26.4	(2.2)	21.6	(1.9)	10.8	(1.5)	3.4	(0.8)
	Canada														
	Alberta	5.5	(0.7)	11.9	(1.3)	22.6	(1.7)	23.9	(1.6)	20.6	(1.4)	11.0	(1.0)	4.5	(0.7)
	British Columbia	4.4	(0.8)	11.5	(1.1)	22.6	(2.0)	25.7	(1.5)	20.1	(1.3)	11.3	(1.3)	4.4	(0.9)
	Manitoba	8.3	(1.3)	16.9	(1.6)	25.5	(1.5)	23.7	(1.8)	15.8	(1.4)	7.3	(0.9)	2.5	(0.5)
	New Brunswick	6.4	(0.8)	13.0	(1.4)	24.3	(2.0)	28.5	(1.7)	18.3	(1.5)	7.6	(1.2)	1.9	(0.6)
	Newfoundland and Labrador	9.0	(1.4)	17.1	(1.6)	25.4	(2.3)	26.1	(2.0)	15.5	(1.7)	5.7	(1.0)	1.1	(0.4)
	Nova Scotia	6.8	(1.1)	15.9	(2.0)	28.7	(3.4)	25.1	(1.8)	16.5	(1.6)	5.2	(1.1)	1.8	(0.6)
	Ontario	5.1	(0.7)	13.1	(1.0)	23.2	(1.3)	25.6	(1.2)	19.1	(1.2)	9.3	(0.9)	4.5	(0.6)
	Prince Edward Island	11.7	(1.1)	21.0	(1.3)	27.6	(1.5)	22.6	(1.5)	12.3	(1.3)	4.2	(0.7)	0.6	(0.2)
	Quebec	4.7	(0.6)	8.4	(0.9)	16.7	(1.0)	22.6	(1.3)	22.8	(1.0)	16.2	(1.4)	8.6	(1.1)
	Saskatchewan	5.7	(0.7)	13.1	(1.1)	24.8	(1.4)	26.1	(1.9)	18.9	(1.6)	9.0	(1.3)	2.3	(0.6)
	Italy														
	Abruzzo	11.4	(2.0)	16.9	(1.9)	23.2	(1.7)	21.8	(1.8)	16.0	(1.9)	7.3	(1.4)	3.5	(0.9)
	Basilicata	10.9	(1.3)	18.1	(1.8)	25.5	(1.7)	22.2	(1.4)	14.5	(1.4)	6.1	(1.0)	2.7	(0.5)
	Bolzano	5.8	(0.7)	11.8	(1.4)	21.8	(1.4)	24.7	(1.4)	19.5	(1.4)	10.9	(1.2)	5.5	(0.6)
	Calabria	23.6	(2.3)	24.0	(1.6)	24.0	(1.8)	17.5	(1.7)	7.2	(0.9)	2.7	(0.7)	0.9	(0.4)
	Campania	17.8	(2.2)	21.2	(2.5)	24.4	(2.6)	17.3	(2.5)	11.3	(1.6)	5.3	(1.3)	2.7	(1.0)
	Emilia Romagna	8.9	(1.3)	13.3	(1.5)	21.1	(1.6)	22.3	(1.9)	17.7	(1.7)	10.3	(1.2)	6.5	(1.5)
	Friuli Venezia Giulia	3.3	(0.8)	9.6	(1.1)	17.2	(1.5)	25.2	(1.5)	22.1	(1.6)	14.0	(1.4)	8.6	(1.1)
	Lazio	13.1	(1.8)	18.0	(1.6)	23.5	(2.1)	21.9	(1.7)	12.9	(1.5)	7.7	(1.3)	3.0	(0.8)
	Liguria	9.1	(1.3)	15.8	(1.4)	22.9	(1.6)	23.3	(1.7)	15.6	(1.3)	8.2	(1.1)	5.0	(1.0)
	Lombardia	5.7	(1.2)	9.6	(1.6)	20.3	(2.4)	23.5	(2.5)	19.8	(2.1)	13.5	(2.0)	7.5	(1.6)
	Marche	7.2	(1.7)	14.8	(1.4)	22.7	(1.6)	24.9	(1.5)	17.6	(1.4)	9.1	(1.4)	3.7	(0.9)
	Molise	11.8	(1.0)	19.8	(1.4)	25.7	(2.0)	22.1	(2.0)	12.9	(1.3)	5.0	(1.0)	2.7	(0.7)
	Piemonte	6.7	(1.1)	14.8	(1.8)	21.5	(1.5)	23.4	(1.3)	18.0	(1.8)	10.4	(1.3)	5.2	(1.2)
	Puglia	10.3	(1.5)	17.3	(1.8)	23.9	(1.8)	22.7	(1.9)	15.1	(1.5)	8.2	(1.2)	2.6	(0.6)
	Sardegna	14.8	(1.5)	21.1	(1.8)	25.4	(1.9)	21.2	(1.9)	11.6	(1.2)	4.7	(0.9)	1.2	(0.4)
	Sicilia	16.2	(1.7)	22.2	(1.6)	26.2	(1.9)	21.9	(1.4)	9.8	(1.2)	3.0	(0.7)	0.7	(0.3)
	Toscana	9.1	(1.3)	14.4	(2.1)	20.7	(2.0)	21.2	(1.6)	17.9	(1.6)	11.1	(1.5)	5.7	(1.1)
	Trento	2.3	(0.6)	8.9	(1.3)	18.8	(1.5)	23.6	(1.4)	23.2	(1.7)	14.9	(1.6)	8.3	(1.1)
	Umbria	9.2	(2.4)	13.8	(1.8)	21.8	(1.5)	22.5	(1.9)	18.4	(1.8)	10.4	(1.2)	3.9	(0.7)
	Valle d'Aosta	6.8	(1.0)	14.2	(1.6)	23.2	(1.6)	25.9	(1.9)	17.3	(1.9)	7.8	(1.1)	4.7	(0.8)
	Veneto	4.9	(0.9)	10.6	(1.1)	18.9	(2.1)	21.3	(2.2)	20.8	(1.4)	14.3	(2.1)	9.1	(2.1)
	Mexico														
	Aguascalientes	13.9	(2.1)	26.3	(2.1)	29.9	(1.6)	19.8	(2.2)	7.3	(1.1)	2.8	(0.8)	0.0	c
	Baja California	24.7	(2.7)	31.4	(2.5)	24.2	(2.9)	13.8	(1.9)	4.9	(1.1)	1.0	(0.4)	0.0	c
	Baja California Sur	21.7	(2.7)	31.4	(2.5)	26.5	(2.1)	14.8	(1.8)	5.1	(0.9)	0.6	(0.3)	0.0	c
	Campeche	29.9	(2.8)	31.8	(1.9)	24.5	(1.6)	10.1	(1.5)	3.0	(0.8)	0.6	(0.3)	0.1	c
	Chiapas	44.1	(4.6)	28.9	(2.6)	18.2	(2.3)	6.7	(1.4)	1.6	(0.6)	0.4	(0.2)	0.1	c
	Chihuahua	19.1	(2.7)	27.1	(2.2)	27.2	(1.9)	16.1	(1.8)	8.1	(2.2)	2.2	(0.9)	0.2	(0.2)
	Coahuila	21.2	(3.0)	29.1	(2.5)	28.2	(2.1)	14.6	(2.6)	5.7	(1.7)	1.1	(0.5)	0.1	c
	Colima	18.0	(2.3)	28.8	(2.1)	28.7	(2.2)	16.7	(1.8)	6.0	(0.9)	1.5	(0.6)	0.3	(0.3)
	Distrito Federal	21.8	(2.8)	29.2	(2.5)	27.5	(2.3)	14.9	(1.9)	5.5	(1.1)	1.1	(0.6)	0.0	c
	Durango	20.9	(3.0)	28.9	(2.3)	26.8	(2.7)	16.8	(2.2)	5.8	(1.1)	0.8	(0.3)	0.0	c
	Guanajuato	24.0	(3.4)	28.0	(2.3)	27.7	(2.3)	14.5	(1.6)	5.1	(0.8)	0.7	(0.3)	0.0	c
	Guerrero	45.2	(3.4)	31.1	(2.8)	17.1	(2.1)	5.4	(1.0)	1.1	(0.3)	0.1	c	0.0	c
	Hidalgo	24.9	(2.9)	30.6	(1.9)	26.0	(2.3)	14.1	(1.7)	3.6	(0.8)	0.8	(0.3)	0.0	c
	Jalisco	16.5	(3.1)	26.6	(2.8)	31.3	(3.1)	18.1	(2.6)	6.1	(1.3)	1.4	(0.7)	0.1	c
	Mexico	19.7	(2.9)	30.7	(2.5)	30.6	(2.6)	15.7	(1.8)	2.7	(0.8)	0.5	(0.4)	0.1	c
	Morelos	23.1	(3.6)	29.2	(2.6)	25.7	(2.3)	14.2	(1.8)	5.4	(1.9)	2.0	(1.0)	0.2	(0.2)
	Nayarit	27.8	(2.8)	26.3	(1.8)	24.0	(1.7)	14.8	(2.1)	5.5	(0.9)	1.4	(0.5)	0.2	(0.2)
	Nuevo León	19.0	(2.7)	26.3	(2.7)	27.2	(2.0)	16.6	(2.6)	7.9	(1.5)	2.5	(0.7)	0.3	(0.2)
	Puebla	24.1	(2.6)	28.3	(2.0)	26.4	(2.0)	14.3	(1.6)	5.9	(1.0)	0.9	(0.5)	0.1	c
	Querétaro	16.8	(2.2)	27.7	(2.2)	26.9	(1.7)	18.0	(2.2)	8.2	(1.4)	2.1	(0.6)	0.3	(0.2)
	Quintana Roo	24.6	(2.7)	31.0	(2.1)	26.7	(1.8)	13.1	(1.6)	4.0	(0.8)	0.6	(0.2)	0.1	c
	San Luis Potosí	26.8	(3.6)	28.3	(2.5)	26.1	(2.0)	12.8	(1.8)	5.0	(1.4)	1.0	(0.5)	0.0	c
	Sinaloa	30.6	(2.4)	31.0	(1.9)	24.3	(1.8)	10.4	(1.2)	3.3	(0.7)	0.5	(0.3)	0.0	c
	Tabasco	43.9	(2.8)	30.2	(1.8)	18.0	(2.0)	6.3	(1.0)	1.4	(0.4)	0.2	c	0.1	(0.1)
	Tamaulipas	23.8	(3.3)	30.8	(2.6)	25.9	(2.2)	13.7	(2.2)	4.3	(1.2)	1.4	(0.7)	0.1	c
	Tlaxcala	25.5	(2.7)	30.2	(1.8)	26.5	(2.0)	13.6	(1.6)	3.4	(0.8)	0.8	(0.3)	0.0	c
	Veracruz	27.4	(3.1)	29.6	(2.1)	24.9	(1.9)	12.7	(2.1)	4.7	(1.1)	0.7	(0.3)	0.1	c
	Yucatán	26.5	(2.7)	29.5	(2.3)	25.5	(2.5)	13.5	(1.6)	4.0	(0.7)	0.9	(0.3)	0.1	c
	Zacatecas	26.0	(2.3)	31.2	(2.5)	25.2	(2.1)	14.0	(1.6)	3.3	(0.6)	0.5	(0.3)	0.0	c

• PISA adjudicated region.

Note: See Table I.2.17 for national data.

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[Part 2/2]

Table B2.I.16 Percentage of students at each proficiency level on the mathematics subscale *space and shape*, by region

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**														
	Alentejo	8.1	(2.2)	15.9	(2.8)	23.2	(2.0)	22.7	(2.8)	16.0	(2.3)	9.7	(2.1)	4.4	(1.4)
	Spain														
	Andalusia•	11.3	(1.3)	21.9	(1.7)	27.3	(1.6)	21.8	(1.4)	12.4	(1.2)	4.3	(0.7)	0.9	(0.3)
	Aragon•	8.8	(1.3)	13.8	(1.4)	22.6	(1.3)	24.2	(1.6)	17.8	(1.3)	9.4	(1.1)	3.3	(0.8)
	Asturias•	8.8	(1.3)	13.2	(1.3)	23.0	(1.0)	24.8	(1.4)	18.1	(1.4)	8.8	(0.9)	3.4	(0.8)
	Balearic Islands•	10.7	(1.4)	21.1	(1.8)	25.1	(1.3)	24.1	(1.4)	14.1	(1.6)	4.1	(0.9)	0.8	(0.3)
	Basque Country•	4.5	(0.5)	12.3	(0.8)	23.3	(0.9)	27.6	(0.7)	21.0	(0.9)	9.0	(0.7)	2.2	(0.3)
	Cantabria•	7.5	(1.0)	15.1	(1.2)	24.3	(1.4)	24.1	(1.2)	17.2	(1.1)	8.8	(1.2)	3.0	(0.6)
	Castile and Leon•	5.8	(1.0)	12.5	(1.3)	21.3	(1.5)	26.1	(1.2)	21.4	(1.5)	9.9	(1.1)	3.0	(0.6)
	Catalonia•	9.0	(1.1)	16.5	(1.8)	24.1	(2.2)	23.4	(1.5)	16.5	(1.5)	8.0	(1.4)	2.6	(0.7)
	Extremadura•	14.0	(1.4)	21.3	(1.4)	25.4	(1.5)	21.1	(1.5)	12.6	(1.4)	4.6	(0.6)	1.0	(0.3)
	Galicia•	10.8	(1.4)	16.5	(1.4)	22.9	(1.5)	24.5	(1.6)	16.7	(1.5)	6.8	(0.9)	1.8	(0.5)
	La Rioja•	8.5	(0.9)	12.3	(1.0)	18.6	(1.5)	23.4	(1.2)	17.8	(1.3)	13.3	(0.9)	6.0	(0.7)
	Madrid•	8.1	(1.1)	13.2	(1.1)	21.2	(1.4)	23.7	(1.8)	19.2	(1.4)	10.7	(1.2)	4.0	(0.7)
	Murcia•	14.3	(1.4)	21.3	(1.7)	27.8	(1.5)	19.8	(1.6)	11.2	(1.2)	4.1	(0.9)	1.4	(0.5)
	Navarre•	5.3	(0.7)	9.4	(0.9)	19.4	(1.2)	26.4	(1.5)	21.3	(1.1)	13.3	(0.9)	4.9	(0.6)
	United Kingdom														
	England	11.9	(1.1)	17.1	(0.9)	23.5	(0.8)	22.6	(1.1)	14.8	(0.9)	7.2	(0.7)	2.9	(0.5)
	Northern Ireland	13.9	(1.0)	19.6	(0.9)	24.0	(1.1)	22.0	(1.2)	12.9	(1.0)	5.7	(0.7)	1.8	(0.4)
	Scotland•	9.4	(1.0)	16.5	(1.0)	25.1	(1.1)	23.7	(0.9)	15.5	(0.9)	7.2	(0.6)	2.6	(0.4)
	Wales	16.8	(1.0)	23.3	(0.9)	26.8	(1.0)	20.3	(0.9)	9.2	(0.8)	3.0	(0.4)	0.6	(0.1)
	United States														
	Connecticut•	11.6	(1.6)	16.7	(1.3)	20.4	(1.4)	21.1	(1.5)	15.8	(1.2)	9.6	(1.2)	4.7	(0.8)
	Florida•	16.4	(1.9)	22.5	(2.0)	26.5	(1.4)	20.5	(1.6)	9.6	(1.1)	3.9	(0.9)	0.4	(0.2)
	Massachusetts•	9.2	(0.9)	15.3	(1.4)	21.2	(1.5)	21.4	(1.6)	16.4	(1.3)	10.5	(1.7)	6.0	(1.4)
Partners	**Argentina**														
	Ciudad Autónoma de Buenos Aires•	25.4	(2.6)	25.7	(2.2)	26.4	(2.0)	15.3	(2.1)	5.9	(1.3)	1.2	(0.4)	0.1	c
	Brazil														
	Acre	55.2	(3.8)	28.5	(2.7)	12.2	(2.3)	3.7	(1.2)	0.4	(0.4)	0.0	c	0.0	c
	Alagoas	65.7	(4.0)	22.4	(2.9)	8.5	(1.7)	2.6	(1.2)	0.7	(0.6)	0.1	c	0.0	c
	Amapá	47.7	(3.7)	32.3	(2.5)	15.8	(2.2)	3.9	(1.4)	0.3	c	0.0	c	0.0	c
	Amazonas	57.5	(4.2)	28.7	(4.3)	10.2	(2.5)	2.7	(1.3)	0.9	(0.9)	0.0	c	0.0	c
	Bahia	48.7	(3.8)	28.0	(3.5)	14.1	(2.5)	5.8	(1.2)	2.3	(1.1)	1.0	(1.0)	0.0	c
	Ceará	47.9	(3.9)	26.9	(2.8)	14.9	(2.2)	6.8	(1.8)	2.3	(1.1)	0.9	(0.5)	0.3	(0.3)
	Espírito Santo	32.2	(3.9)	29.1	(3.0)	19.4	(2.5)	11.4	(3.0)	6.3	(2.1)	1.6	(0.8)	0.1	c
	Federal District	29.4	(4.8)	28.2	(3.8)	22.7	(3.7)	12.6	(2.1)	5.5	(2.1)	1.3	(0.9)	0.3	(0.4)
	Goiás	45.0	(4.0)	31.7	(3.4)	15.7	(2.4)	6.1	(1.0)	1.4	(0.7)	0.2	(0.2)	0.0	c
	Maranhão	63.5	(6.4)	23.3	(3.0)	9.4	(3.1)	3.1	(2.2)	0.6	(0.6)	0.1	c	0.0	c
	Mato Grosso	47.4	(4.6)	29.8	(2.9)	15.1	(2.5)	4.9	(1.6)	2.3	(1.4)	0.4	c	0.0	c
	Mato Grosso do Sul	28.8	(3.3)	32.7	(2.8)	24.7	(2.3)	8.6	(1.6)	4.5	(2.1)	0.7	c	0.0	c
	Minas Gerais	36.8	(4.1)	33.3	(2.8)	20.3	(2.6)	7.6	(1.6)	1.4	(0.9)	0.5	(0.3)	0.0	c
	Pará	51.4	(3.7)	28.3	(2.7)	14.9	(2.8)	4.9	(1.3)	0.4	c	0.0	c	0.0	c
	Paraíba	39.9	(4.8)	28.0	(3.8)	20.4	(4.5)	8.1	(1.6)	2.7	(1.4)	0.7	(0.5)	0.1	c
	Paraná	35.9	(3.6)	31.7	(3.3)	18.5	(2.6)	7.4	(1.3)	4.6	(2.9)	1.5	(1.6)	0.4	c
	Pernambuco	56.0	(3.8)	28.8	(2.8)	11.5	(2.0)	2.9	(1.2)	0.6	(0.5)	0.2	(0.2)	0.0	c
	Piauí	43.9	(4.8)	28.4	(4.6)	14.9	(3.2)	7.7	(1.5)	3.6	(1.5)	1.0	(0.6)	0.4	(0.2)
	Rio de Janeiro	43.9	(4.1)	28.7	(2.9)	20.0	(2.9)	5.7	(1.9)	1.5	(0.7)	0.1	c	0.0	c
	Rio Grande do Norte	47.3	(4.5)	26.0	(3.4)	14.2	(2.7)	7.1	(2.1)	3.2	(1.6)	1.6	(1.6)	0.5	(0.7)
	Rio Grande do Sul	32.8	(3.1)	32.6	(2.7)	23.1	(2.4)	9.3	(1.8)	2.0	(0.7)	0.2	c	0.0	c
	Rondônia	39.5	(3.4)	34.7	(2.9)	19.5	(2.1)	5.3	(1.2)	1.0	(0.5)	0.1	c	0.0	c
	Roraima	55.5	(4.3)	26.0	(3.5)	12.2	(2.0)	4.9	(1.6)	1.3	(0.6)	0.1	c	0.0	c
	Santa Catarina	23.3	(3.2)	34.6	(3.2)	27.2	(2.5)	11.6	(2.4)	3.1	(1.1)	0.2	(0.2)	0.0	c
	São Paulo	33.2	(2.0)	32.3	(1.6)	21.7	(1.5)	8.8	(1.0)	3.1	(0.8)	0.7	(0.5)	0.2	(0.2)
	Sergipe	44.0	(4.5)	31.8	(3.2)	17.1	(2.5)	6.2	(2.2)	0.9	(0.6)	0.1	c	0.0	c
	Tocantins	49.5	(3.8)	29.9	(2.3)	14.4	(2.3)	4.6	(1.3)	1.3	(0.7)	0.2	(0.2)	0.0	c
	Colombia														
	Bogotá	35.9	(2.7)	35.0	(1.5)	21.0	(2.0)	6.1	(1.2)	1.7	(0.5)	0.2	(0.2)	0.0	c
	Cali	43.9	(4.3)	30.8	(2.3)	18.4	(3.0)	5.7	(1.3)	1.1	(0.5)	0.0	c	0.0	c
	Manizales	29.0	(2.0)	36.2	(2.9)	22.7	(2.2)	9.0	(1.5)	2.6	(1.0)	0.5	(0.4)	0.0	c
	Medellín	38.3	(3.4)	29.6	(1.9)	18.8	(2.2)	8.2	(1.8)	3.4	(1.2)	1.3	(0.7)	0.4	(0.3)
	Russian Federation														
	Perm Territory region•	9.9	(1.4)	15.6	(1.3)	23.1	(1.5)	22.9	(1.8)	16.3	(1.4)	7.7	(0.8)	4.5	(1.6)
	United Arab Emirates														
	Abu Dhabi•	28.3	(1.5)	27.1	(1.1)	22.1	(1.1)	13.6	(1.1)	6.1	(0.7)	2.3	(0.5)	0.6	(0.2)
	Ajman	33.7	(4.2)	25.5	(3.0)	22.5	(3.0)	14.2	(1.9)	3.5	(1.1)	0.5	(0.5)	0.0	c
	Dubai•	16.7	(0.6)	20.6	(0.7)	23.0	(0.8)	20.4	(0.8)	12.8	(0.7)	4.9	(0.4)	1.6	(0.3)
	Fujairah	30.9	(4.5)	23.1	(2.3)	23.5	(2.2)	15.5	(2.7)	5.7	(1.6)	1.1	(0.6)	0.2	(0.2)
	Ras al-Khaimah	28.8	(4.5)	27.2	(3.2)	24.5	(2.7)	13.5	(1.8)	4.9	(1.0)	0.8	(0.4)	0.2	c
	Sharjah	27.0	(3.6)	24.5	(2.2)	21.8	(2.6)	16.0	(2.6)	7.8	(2.0)	2.4	(0.9)	0.5	(0.4)
	Umm al-Quwain	36.9	(3.2)	30.3	(3.0)	20.6	(3.1)	8.4	(2.0)	2.8	(1.1)	0.9	(0.9)	0.0	c

• PISA adjudicated region.

Note: See Table I.2.17 for national data.

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[Part 1/4]

Table B2.I.17 Percentage of students at each proficiency level on the mathematics subscale *space and shape*, by gender and region

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	5.6	(1.4)	11.5	(2.0)	19.9	(2.5)	24.1	(2.4)	19.1	(2.5)	13.3	(2.1)	6.6	(1.6)
	New South Wales	6.9	(0.8)	14.0	(1.1)	21.4	(1.5)	21.5	(1.5)	15.6	(1.5)	11.5	(1.3)	9.1	(1.7)
	Northern Territory	14.3	(2.3)	16.4	(4.2)	22.8	(4.8)	25.4	(4.7)	15.2	(3.8)	4.8	(2.6)	1.0	(1.1)
	Queensland	6.6	(1.0)	14.3	(1.3)	21.7	(1.6)	23.7	(1.5)	18.9	(1.6)	10.1	(1.3)	4.7	(0.8)
	South Australia	8.0	(1.6)	15.6	(1.6)	23.2	(2.0)	25.6	(2.4)	16.9	(1.5)	7.8	(1.1)	2.8	(0.8)
	Tasmania	10.1	(1.5)	16.7	(2.0)	25.5	(2.6)	24.9	(2.7)	14.8	(2.7)	4.9	(1.5)	3.1	(0.9)
	Victoria	6.7	(0.7)	14.6	(1.6)	20.8	(1.5)	24.9	(1.7)	18.7	(1.4)	8.7	(1.1)	5.4	(1.4)
	Western Australia	3.9	(0.8)	11.2	(1.3)	20.7	(1.9)	23.8	(2.0)	20.5	(2.0)	13.9	(1.6)	6.0	(1.3)
	Belgium														
	Flemish Community•	5.8	(1.1)	9.5	(1.0)	16.2	(0.9)	19.6	(1.4)	20.2	(1.4)	17.2	(1.1)	11.4	(0.9)
	French Community	10.0	(1.1)	14.5	(1.3)	20.9	(1.3)	22.7	(1.3)	17.6	(1.1)	9.7	(1.0)	4.5	(0.7)
	German-speaking Community	5.5	(1.7)	11.8	(2.2)	18.7	(2.3)	25.0	(3.1)	21.0	(2.1)	12.9	(1.7)	5.0	(1.4)
	Canada														
	Alberta	5.0	(1.0)	12.2	(1.8)	21.5	(1.8)	23.6	(1.9)	20.4	(1.9)	11.8	(1.4)	5.5	(0.9)
	British Columbia	3.8	(1.0)	10.7	(1.4)	21.5	(2.4)	25.4	(2.4)	20.8	(1.8)	12.5	(1.4)	5.4	(1.1)
	Manitoba	6.6	(1.5)	16.6	(1.9)	25.3	(2.6)	24.5	(2.3)	16.0	(1.7)	8.2	(1.2)	2.8	(0.7)
	New Brunswick	7.2	(1.2)	13.6	(2.0)	22.2	(2.1)	28.2	(2.2)	18.6	(2.3)	7.7	(1.7)	2.5	(0.9)
	Newfoundland and Labrador	9.9	(1.8)	17.3	(3.1)	24.3	(3.5)	25.4	(2.7)	16.0	(2.8)	6.1	(1.4)	1.1	(0.7)
	Nova Scotia	6.7	(1.6)	14.6	(2.3)	26.2	(2.6)	25.2	(2.3)	18.7	(2.2)	6.6	(1.6)	2.0	(1.0)
	Ontario	5.1	(0.9)	12.9	(1.3)	22.2	(1.8)	24.7	(1.7)	18.8	(1.6)	10.5	(1.4)	5.9	(0.9)
	Prince Edward Island	11.4	(1.4)	20.7	(1.7)	26.6	(2.2)	22.8	(1.7)	12.9	(1.6)	5.0	(1.1)	0.5	(0.3)
	Quebec	4.5	(0.8)	7.9	(1.2)	15.6	(1.1)	22.3	(1.7)	22.3	(1.6)	17.4	(1.9)	10.0	(1.5)
	Saskatchewan	5.9	(1.0)	12.9	(1.4)	24.1	(2.2)	25.8	(2.7)	19.2	(2.6)	9.9	(1.5)	2.2	(0.9)
	Italy														
	Abruzzo	9.2	(2.6)	17.2	(2.4)	22.4	(2.3)	21.8	(2.1)	17.7	(2.3)	7.8	(1.6)	3.8	(0.9)
	Basilicata	9.9	(1.9)	16.1	(2.5)	23.5	(2.2)	21.5	(1.9)	17.5	(2.0)	7.4	(1.6)	4.2	(0.8)
	Bolzano	5.0	(1.1)	10.4	(1.2)	19.0	(1.6)	22.9	(1.6)	20.0	(1.7)	14.5	(1.6)	8.1	(1.0)
	Calabria	20.5	(2.5)	22.7	(2.6)	24.0	(2.7)	19.2	(2.6)	8.9	(1.5)	3.5	(1.1)	1.3	(0.6)
	Campania	14.8	(2.1)	21.8	(2.3)	24.0	(2.9)	16.7	(2.4)	12.2	(2.2)	7.1	(1.6)	3.5	(1.3)
	Emilia Romagna	8.5	(1.7)	11.2	(2.2)	18.6	(2.4)	21.8	(2.3)	19.4	(2.4)	11.8	(1.5)	8.6	(2.0)
	Friuli Venezia Giulia	2.7	(1.0)	8.9	(1.4)	14.5	(1.8)	22.4	(2.2)	22.4	(2.2)	17.4	(1.9)	11.6	(1.5)
	Lazio	11.9	(2.1)	15.9	(2.0)	21.9	(2.8)	22.5	(2.3)	14.5	(2.1)	9.4	(1.6)	4.0	(1.1)
	Liguria	9.2	(2.2)	15.9	(2.0)	22.3	(1.8)	21.7	(2.0)	15.8	(1.7)	8.5	(1.4)	6.6	(1.5)
	Lombardia	6.2	(1.8)	7.4	(2.0)	15.4	(2.4)	22.0	(2.9)	21.0	(2.6)	16.5	(2.3)	11.3	(2.3)
	Marche	4.2	(1.3)	13.4	(1.8)	20.9	(1.7)	24.0	(2.2)	21.2	(1.9)	11.2	(2.0)	5.1	(1.2)
	Molise	10.1	(1.5)	16.3	(2.3)	25.6	(3.7)	24.3	(2.9)	13.9	(2.2)	6.0	(1.5)	3.7	(1.0)
	Piemonte	4.2	(1.0)	10.7	(1.6)	19.1	(1.6)	24.6	(2.2)	21.5	(2.5)	13.4	(2.1)	6.6	(1.4)
	Puglia	10.4	(1.7)	15.2	(1.8)	20.8	(2.0)	22.6	(2.0)	17.8	(2.0)	10.2	(1.7)	3.0	(1.0)
	Sardegna	14.6	(1.8)	19.6	(2.2)	24.6	(2.4)	22.2	(2.3)	12.0	(1.4)	5.3	(1.1)	1.8	(0.7)
	Sicilia	15.6	(2.0)	20.4	(2.5)	26.8	(1.9)	22.2	(1.8)	10.5	(1.6)	3.7	(1.0)	0.9	(0.5)
	Toscana	8.3	(1.4)	14.8	(2.7)	21.4	(2.2)	21.1	(2.0)	17.3	(2.1)	11.0	(1.8)	6.2	(1.5)
	Trento	2.7	(0.8)	9.2	(1.6)	18.2	(1.7)	21.6	(2.6)	21.7	(2.2)	15.9	(2.2)	10.7	(1.5)
	Umbria	8.6	(3.4)	11.4	(1.9)	19.6	(2.2)	22.8	(2.7)	19.6	(2.6)	12.3	(2.1)	5.7	(1.1)
	Valle d'Aosta	6.3	(1.3)	10.7	(2.1)	22.0	(2.3)	25.3	(2.4)	19.5	(2.5)	10.0	(2.0)	6.2	(1.5)
	Veneto	5.7	(1.2)	9.4	(1.8)	16.3	(2.2)	19.2	(2.4)	20.5	(1.8)	16.5	(2.1)	12.4	(2.6)
	Mexico														
	Aguascalientes	13.3	(2.6)	23.4	(2.8)	29.1	(2.1)	21.6	(3.3)	8.5	(1.9)	4.0	(1.3)	0.0	c
	Baja California	19.2	(3.2)	31.7	(3.3)	26.4	(3.7)	15.2	(2.4)	5.9	(1.3)	1.5	(0.7)	0.0	c
	Baja California Sur	18.3	(3.2)	28.6	(3.4)	28.6	(2.9)	17.1	(2.7)	6.6	(1.4)	0.9	(0.6)	0.0	c
	Campeche	24.8	(3.8)	31.9	(2.9)	27.6	(3.3)	10.7	(2.7)	3.8	(1.2)	1.1	(0.5)	0.1	c
	Chiapas	41.7	(5.1)	29.2	(3.8)	19.0	(3.2)	7.7	(1.7)	1.7	(0.7)	0.5	(0.4)	0.1	c
	Chihuahua	15.2	(3.6)	26.3	(2.9)	28.3	(3.0)	17.5	(2.6)	9.6	(2.8)	3.1	(1.5)	0.2	(0.2)
	Coahuila	18.0	(3.2)	28.0	(3.1)	27.7	(2.4)	17.0	(3.0)	7.4	(2.2)	1.7	(0.9)	0.2	c
	Colima	14.7	(2.2)	28.0	(2.7)	30.2	(2.9)	17.1	(3.0)	7.2	(1.3)	2.4	(1.0)	0.5	(0.4)
	Distrito Federal	16.5	(3.3)	26.1	(3.2)	29.5	(3.7)	18.9	(2.7)	7.3	(1.6)	1.7	(1.1)	0.0	c
	Durango	19.4	(4.0)	25.5	(2.8)	28.1	(2.6)	18.4	(2.8)	7.5	(2.0)	1.1	(0.5)	0.0	c
	Guanajuato	21.2	(3.5)	25.4	(3.3)	28.7	(2.5)	16.4	(2.0)	7.3	(1.4)	1.2	(0.5)	0.0	c
	Guerrero	42.5	(4.0)	31.1	(3.5)	18.9	(3.0)	6.1	(1.1)	1.1	(0.6)	0.1	c	0.0	c
	Hidalgo	20.7	(3.0)	29.6	(3.0)	26.7	(2.7)	16.7	(2.4)	5.3	(1.4)	1.0	(0.5)	0.0	c
	Jalisco	16.2	(3.7)	23.0	(3.6)	30.3	(3.8)	20.2	(3.0)	8.0	(1.8)	2.1	(0.9)	0.2	c
	Mexico	15.8	(3.8)	28.7	(2.8)	32.1	(3.6)	18.3	(2.2)	4.0	(1.4)	0.9	(0.7)	0.1	c
	Morelos	22.2	(4.6)	26.3	(3.5)	26.8	(3.4)	14.4	(2.3)	7.3	(2.0)	2.5	(1.2)	0.3	(0.3)
	Nayarit	23.2	(3.2)	24.1	(2.6)	25.3	(2.4)	17.6	(2.5)	7.6	(1.4)	1.9	(0.8)	0.4	(0.4)
	Nuevo León	13.7	(2.4)	22.8	(4.1)	30.0	(2.7)	19.9	(3.8)	9.4	(2.0)	3.7	(1.2)	0.5	(0.3)
	Puebla	19.4	(3.5)	24.4	(2.2)	29.2	(2.9)	17.3	(2.2)	8.1	(1.5)	1.6	(0.9)	0.1	c
	Querétaro	11.2	(2.5)	26.1	(3.9)	27.2	(2.5)	21.9	(3.3)	10.2	(2.4)	3.0	(1.2)	0.4	(0.3)
	Quintana Roo	23.1	(3.3)	29.5	(3.1)	27.3	(2.6)	14.8	(2.8)	4.5	(1.1)	0.7	(0.5)	0.1	c
	San Luis Potosí	25.7	(4.4)	27.9	(4.3)	26.0	(3.1)	13.0	(2.1)	5.8	(2.0)	1.4	(0.8)	0.1	c
	Sinaloa	27.2	(2.9)	30.4	(2.7)	26.4	(2.8)	11.2	(1.7)	4.1	(1.1)	0.8	(0.5)	0.0	c
	Tabasco	41.2	(3.3)	28.4	(2.6)	20.9	(2.9)	7.8	(1.7)	1.2	(0.6)	0.3	c	0.2	(0.2)
	Tamaulipas	18.1	(4.2)	29.3	(3.5)	27.7	(2.3)	16.4	(2.8)	6.2	(1.7)	2.0	(1.1)	0.2	c
	Tlaxcala	20.9	(2.7)	30.0	(3.0)	28.8	(2.5)	14.5	(2.2)	4.7	(1.2)	1.0	(0.5)	0.1	c
	Veracruz	24.8	(3.1)	27.1	(3.1)	25.7	(2.5)	15.5	(2.5)	6.1	(1.3)	0.8	(0.5)	0.0	c
	Yucatán	20.9	(3.2)	28.6	(2.8)	27.0	(2.6)	16.1	(2.1)	5.7	(1.1)	1.6	(0.6)	0.1	c
	Zacatecas	22.3	(2.9)	27.8	(2.9)	28.3	(2.3)	17.2	(2.3)	3.9	(1.1)	0.5	(0.2)	0.0	c

• PISA adjudicated region.
Note: See Table I.2.18 for national data.
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[Part 2/4]

Table B2.I.17 Percentage of students at each proficiency level on the mathematics subscale *space and shape*, by gender and region

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**														
	Alentejo	6.5	(2.1)	13.6	(3.6)	24.3	(4.1)	22.8	(5.0)	15.2	(3.2)	10.9	(2.8)	6.7	(2.3)
	Spain														
	Andalusia•	10.4	(1.6)	18.2	(2.5)	26.9	(2.3)	23.0	(1.6)	14.1	(1.6)	5.9	(1.2)	1.3	(0.5)
	Aragon•	7.3	(1.3)	12.6	(1.8)	22.0	(2.1)	22.0	(1.9)	19.8	(1.8)	11.9	(1.7)	4.4	(1.0)
	Asturias•	8.8	(1.7)	11.5	(1.6)	22.0	(2.1)	24.0	(2.2)	19.5	(1.9)	9.9	(1.3)	4.2	(0.9)
	Balearic Islands•	9.5	(1.8)	19.9	(2.3)	26.6	(2.0)	24.9	(1.7)	13.5	(1.6)	4.3	(1.1)	1.2	(0.6)
	Basque Country•	4.3	(0.7)	11.1	(1.2)	22.1	(1.4)	27.0	(1.1)	22.7	(1.2)	10.0	(1.0)	2.7	(0.4)
	Cantabria•	6.5	(1.1)	13.9	(1.7)	22.8	(1.9)	22.5	(1.5)	19.8	(1.4)	10.4	(1.7)	4.1	(1.0)
	Castile and Leon•	6.1	(1.2)	11.2	(1.7)	19.3	(2.0)	23.7	(1.7)	22.7	(2.2)	12.5	(1.5)	4.5	(1.0)
	Catalonia•	7.8	(1.3)	15.3	(2.3)	22.6	(2.3)	22.5	(1.9)	17.3	(2.0)	10.6	(2.0)	3.9	(1.1)
	Extremadura•	13.2	(1.5)	19.9	(1.8)	23.3	(1.8)	21.5	(1.8)	14.6	(1.5)	6.2	(1.0)	1.3	(0.4)
	Galicia•	10.4	(1.6)	15.8	(1.7)	22.5	(2.1)	24.7	(2.2)	17.8	(2.0)	7.1	(1.2)	1.7	(0.6)
	La Rioja•	9.0	(1.1)	10.7	(1.2)	17.2	(1.8)	21.2	(1.7)	17.7	(2.0)	15.4	(1.6)	8.7	(1.1)
	Madrid•	7.9	(1.5)	12.9	(1.6)	19.3	(2.0)	22.7	(2.2)	19.9	(1.6)	12.2	(1.7)	5.1	(1.1)
	Murcia•	14.0	(1.8)	18.5	(2.1)	27.0	(2.5)	20.2	(2.7)	12.5	(1.7)	5.5	(1.3)	2.2	(0.9)
	Navarre•	5.1	(0.9)	9.0	(1.1)	18.0	(2.2)	27.0	(2.2)	21.5	(1.8)	13.5	(1.4)	5.8	(1.1)
	United Kingdom														
	England	10.8	(1.4)	15.6	(1.2)	23.5	(1.2)	22.8	(1.4)	16.2	(1.3)	8.4	(1.2)	2.7	(0.7)
	Northern Ireland	13.4	(1.6)	18.7	(1.6)	24.1	(1.4)	22.2	(1.6)	13.4	(1.3)	6.1	(1.0)	2.1	(0.5)
	Scotland•	7.5	(1.0)	15.0	(1.1)	24.0	(1.8)	25.1	(1.4)	17.1	(1.3)	8.0	(0.9)	3.3	(0.6)
	Wales	15.2	(1.2)	23.0	(1.1)	26.6	(1.3)	21.1	(1.2)	10.1	(1.0)	3.4	(0.6)	0.7	(0.2)
	United States														
	Connecticut•	10.9	(1.6)	15.6	(1.7)	19.6	(1.6)	21.5	(1.9)	15.9	(1.5)	11.2	(1.7)	5.4	(1.0)
	Florida•	15.3	(2.2)	21.0	(2.8)	26.1	(2.2)	21.6	(2.2)	11.0	(1.4)	4.5	(1.1)	0.6	(0.4)
	Massachusetts•	8.4	(1.1)	14.0	(1.8)	20.3	(1.8)	22.7	(1.9)	16.4	(1.8)	11.3	(2.3)	6.9	(1.8)
Partners	**Argentina**														
	Ciudad Autónoma de Buenos Aires•	22.7	(2.8)	24.2	(3.5)	25.9	(2.6)	17.8	(2.7)	7.1	(1.8)	2.0	(0.8)	0.3	c
	Brazil														
	Acre	45.6	(5.4)	33.1	(3.9)	15.7	(3.8)	5.0	(1.9)	0.6	(0.6)	0.0	c	0.0	c
	Alagoas	59.2	(5.0)	26.2	(3.9)	10.5	(2.9)	3.4	(1.5)	0.5	(0.6)	0.2	c	0.0	c
	Amapá	40.5	(5.8)	31.7	(5.1)	21.1	(4.7)	6.2	(2.3)	0.5	c	0.0	c	0.0	c
	Amazonas	50.0	(5.7)	32.7	(6.1)	12.2	(3.5)	3.6	(1.6)	1.5	(1.4)	0.0	c	0.0	c
	Bahia	42.4	(5.7)	28.1	(4.9)	17.8	(4.3)	7.1	(1.8)	2.9	(0.9)	1.7	(1.5)	0.0	c
	Ceará	41.1	(4.5)	26.9	(4.4)	18.2	(3.2)	7.9	(2.4)	3.8	(1.8)	1.6	(1.0)	0.6	(0.6)
	Espírito Santo	27.5	(4.2)	28.8	(4.0)	20.5	(3.8)	14.4	(4.1)	6.9	(2.4)	1.7	(1.0)	0.3	c
	Federal District	25.4	(5.1)	28.1	(4.3)	22.9	(2.8)	13.7	(2.4)	7.6	(2.6)	1.7	c	0.7	(0.8)
	Goiás	38.5	(4.3)	32.0	(3.7)	18.5	(3.4)	8.1	(2.2)	2.7	(1.6)	0.3	(0.3)	0.0	c
	Maranhão	57.1	(7.5)	23.4	(4.7)	12.8	(4.5)	5.2	(3.8)	1.4	(1.5)	0.2	c	0.0	c
	Mato Grosso	42.6	(4.7)	31.3	(3.8)	17.8	(3.4)	6.1	(2.3)	2.0	(1.3)	0.3	c	0.0	c
	Mato Grosso do Sul	20.9	(3.8)	30.8	(5.5)	30.8	(4.2)	10.7	(2.9)	6.2	(2.7)	0.6	c	0.0	c
	Minas Gerais	31.5	(4.8)	34.4	(4.2)	22.2	(2.8)	9.2	(2.4)	1.7	(1.1)	1.1	(0.7)	0.0	c
	Pará	47.2	(4.3)	31.0	(4.3)	16.0	(3.1)	5.1	(2.4)	0.7	c	0.0	c	0.0	c
	Paraíba	35.1	(5.0)	28.8	(5.1)	21.9	(5.4)	9.4	(3.9)	3.3	(1.9)	1.3	(1.1)	0.2	c
	Paraná	29.9	(4.5)	30.5	(3.8)	21.0	(3.3)	10.2	(2.0)	5.8	(2.9)	2.2	(2.3)	0.3	c
	Pernambuco	47.6	(5.3)	31.4	(4.6)	14.8	(3.2)	4.8	(2.4)	0.8	(0.7)	0.4	(0.5)	0.1	c
	Piauí	37.8	(5.6)	29.0	(6.3)	17.1	(3.7)	9.5	(2.1)	4.7	(2.4)	1.2	(0.7)	0.7	(0.4)
	Rio de Janeiro	40.2	(4.8)	27.4	(4.3)	23.5	(3.0)	6.2	(2.1)	2.6	(0.8)	0.2	c	0.0	c
	Rio Grande do Norte	42.5	(5.3)	25.9	(4.3)	16.5	(4.2)	8.1	(3.5)	3.8	(2.1)	2.4	(2.6)	1.0	(1.1)
	Rio Grande do Sul	29.6	(4.1)	31.7	(4.2)	24.7	(3.7)	10.8	(3.3)	2.8	(1.2)	0.3	c	0.0	c
	Rondônia	39.0	(4.1)	32.3	(4.9)	20.3	(2.5)	6.5	(1.9)	1.7	(1.0)	0.2	c	0.0	c
	Roraima	54.0	(4.9)	26.2	(4.2)	14.1	(2.8)	4.5	(1.6)	1.2	(0.8)	0.0	c	0.0	c
	Santa Catarina	19.5	(3.2)	34.0	(4.0)	26.7	(3.7)	15.1	(3.2)	4.4	(1.5)	0.4	(0.4)	0.0	c
	São Paulo	28.0	(2.1)	31.4	(2.1)	25.2	(2.2)	10.0	(1.3)	4.2	(1.2)	0.9	(0.6)	0.2	(0.2)
	Sergipe	34.4	(5.6)	31.9	(4.9)	22.8	(3.4)	9.0	(3.6)	1.7	(1.1)	0.2	c	0.0	c
	Tocantins	43.6	(4.1)	29.9	(3.6)	17.3	(2.4)	6.7	(2.5)	2.1	(1.2)	0.4	(0.3)	0.0	c
	Colombia														
	Bogotá	25.4	(3.3)	36.2	(2.9)	26.0	(2.7)	8.9	(1.9)	2.9	(1.0)	0.4	(0.4)	0.0	c
	Cali	39.9	(4.5)	30.1	(2.6)	20.2	(3.1)	7.8	(1.9)	1.9	(1.1)	0.1	c	0.0	c
	Manizales	20.8	(2.5)	33.3	(3.9)	28.7	(2.7)	11.7	(1.9)	4.4	(1.7)	1.0	(0.8)	0.0	c
	Medellín	30.8	(3.6)	30.2	(2.2)	22.6	(3.0)	10.6	(2.5)	4.1	(1.4)	1.1	(0.7)	0.6	(0.6)
	Russian Federation														
	Perm Territory region•	9.3	(1.8)	14.1	(1.5)	21.9	(2.1)	22.9	(2.8)	16.8	(2.7)	8.8	(1.1)	6.2	(2.1)
	United Arab Emirates														
	Abu Dhabi•	29.5	(2.0)	26.6	(1.8)	21.6	(1.7)	13.0	(1.5)	6.2	(0.9)	2.5	(0.7)	0.7	(0.3)
	Ajman	38.3	(7.6)	24.5	(4.9)	21.3	(4.9)	12.3	(3.1)	3.2	(1.7)	0.4	c	0.0	c
	Dubai•	16.7	(0.9)	18.5	(1.0)	21.8	(1.0)	20.6	(1.1)	14.5	(0.9)	5.6	(0.7)	2.2	(0.6)
	Fujairah	38.2	(5.7)	24.7	(3.4)	19.5	(3.4)	11.6	(2.9)	4.8	(1.4)	0.9	(0.4)	0.3	(0.3)
	Ras al-Khaimah	32.2	(4.6)	28.3	(4.4)	23.4	(3.1)	12.0	(2.5)	3.6	(1.1)	0.6	(0.4)	0.1	c
	Sharjah	28.4	(5.1)	23.3	(3.4)	21.5	(3.5)	15.7	(3.7)	7.8	(2.6)	2.4	(1.6)	0.8	(0.8)
	Umm al-Quwain	47.9	(5.1)	29.8	(4.8)	14.4	(4.6)	5.5	(2.1)	1.7	(1.5)	0.7	c	0.0	c

• PISA adjudicated region.

Note: See Table I.2.18 for national data.

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[Part 3/4]

Table B2.I.17 Percentage of students at each proficiency level on the mathematics subscale *space and shape*, by gender and region

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	7.6	(1.6)	13.6	(2.0)	20.0	(2.3)	23.6	(2.4)	19.5	(2.3)	10.7	(1.7)	4.9	(1.3)
	New South Wales	10.1	(1.2)	15.5	(1.5)	21.0	(1.6)	22.3	(1.5)	17.0	(1.4)	8.9	(1.0)	5.2	(1.1)
	Northern Territory	16.3	(3.3)	20.9	(5.4)	24.7	(6.1)	22.7	(6.8)	9.6	(4.1)	4.6	(2.5)	1.1	(1.0)
	Queensland	9.1	(1.2)	15.6	(1.4)	22.9	(2.0)	24.3	(1.7)	15.2	(1.7)	9.4	(1.3)	3.5	(0.8)
	South Australia	10.9	(1.3)	19.6	(2.1)	23.3	(2.5)	23.5	(2.6)	14.4	(1.9)	6.2	(1.2)	2.1	(0.7)
	Tasmania	13.0	(1.9)	20.5	(1.9)	25.9	(2.9)	20.3	(3.0)	13.4	(2.4)	5.1	(1.5)	1.8	(0.7)
	Victoria	9.4	(1.2)	18.2	(1.6)	23.8	(1.6)	24.2	(1.7)	15.2	(1.5)	6.9	(1.1)	2.2	(0.7)
	Western Australia	7.8	(1.2)	14.9	(1.9)	22.0	(2.1)	25.5	(2.5)	18.2	(1.8)	8.3	(1.4)	3.3	(0.8)
	Belgium														
	Flemish Community•	7.4	(1.0)	12.1	(1.3)	17.5	(1.4)	22.0	(1.3)	19.2	(1.3)	13.7	(1.0)	8.1	(0.8)
	French Community	11.7	(1.7)	16.1	(1.3)	24.8	(1.9)	22.9	(1.6)	15.6	(1.4)	7.0	(0.9)	1.8	(0.4)
	German-speaking Community	5.4	(1.6)	12.1	(2.0)	22.0	(2.7)	28.0	(2.5)	22.3	(2.7)	8.5	(2.1)	1.7	(1.0)
	Canada														
	Alberta	5.9	(1.2)	11.6	(1.9)	23.9	(2.6)	24.2	(2.2)	20.8	(2.0)	10.2	(1.3)	3.4	(0.8)
	British Columbia	5.1	(1.0)	12.4	(1.4)	23.6	(2.3)	25.9	(1.8)	19.4	(2.0)	10.2	(1.7)	3.4	(1.2)
	Manitoba	10.1	(1.9)	17.3	(2.5)	25.7	(1.8)	22.8	(2.2)	15.6	(1.9)	6.3	(1.1)	2.3	(0.6)
	New Brunswick	5.7	(1.1)	12.4	(1.6)	26.4	(3.1)	28.9	(2.7)	17.9	(2.1)	7.4	(1.4)	1.3	(0.7)
	Newfoundland and Labrador	8.2	(1.7)	16.9	(2.0)	26.6	(2.8)	26.8	(2.3)	15.0	(2.0)	5.4	(1.6)	1.0	(0.6)
	Nova Scotia	6.9	(1.5)	17.2	(3.0)	31.2	(5.5)	25.0	(2.5)	14.2	(2.3)	3.7	(0.9)	1.6	(0.8)
	Ontario	5.1	(0.8)	13.2	(1.3)	24.3	(1.7)	26.5	(1.5)	19.5	(1.5)	8.2	(1.1)	3.2	(0.6)
	Prince Edward Island	12.1	(1.5)	21.3	(1.8)	28.6	(2.3)	22.3	(2.6)	11.6	(1.8)	3.3	(0.9)	0.8	(0.4)
	Quebec	4.9	(0.7)	9.0	(0.9)	17.7	(1.4)	22.8	(1.6)	23.4	(1.6)	15.0	(1.4)	7.3	(1.1)
	Saskatchewan	5.5	(0.9)	13.4	(1.4)	25.6	(1.5)	26.5	(2.3)	18.6	(2.1)	8.0	(1.8)	2.4	(0.9)
	Italy														
	Abruzzo	13.5	(2.1)	16.5	(2.5)	23.9	(2.1)	21.8	(2.7)	14.4	(2.1)	6.8	(1.6)	3.1	(1.2)
	Basilicata	12.0	(1.6)	19.9	(2.0)	27.5	(2.3)	22.9	(1.9)	11.6	(1.4)	4.9	(1.1)	1.3	(0.5)
	Bolzano	6.6	(1.0)	13.2	(2.2)	24.7	(2.2)	26.5	(2.1)	18.9	(1.8)	7.3	(1.4)	2.8	(0.7)
	Calabria	26.9	(3.3)	25.4	(2.3)	24.0	(2.7)	15.8	(2.4)	5.5	(1.2)	1.9	(0.6)	0.4	(0.2)
	Campania	20.8	(3.3)	20.6	(3.3)	24.8	(3.2)	18.0	(3.5)	10.5	(1.8)	3.5	(1.5)	1.8	(1.1)
	Emilia Romagna	9.3	(1.7)	15.5	(1.8)	23.7	(2.4)	22.8	(2.5)	15.8	(2.1)	8.6	(1.6)	4.4	(1.4)
	Friuli Venezia Giulia	3.9	(1.5)	10.3	(1.8)	20.0	(2.4)	28.3	(2.1)	21.8	(2.5)	10.3	(1.5)	5.3	(1.2)
	Lazio	14.7	(2.1)	20.6	(2.4)	25.4	(2.7)	21.1	(2.7)	11.0	(1.6)	5.5	(1.4)	1.6	(0.7)
	Liguria	9.0	(1.5)	15.8	(2.0)	23.5	(2.1)	25.0	(2.1)	15.4	(1.8)	8.0	(1.4)	3.3	(0.9)
	Lombardia	5.2	(1.4)	12.0	(2.0)	25.4	(3.2)	25.1	(2.8)	18.5	(2.4)	10.3	(1.9)	3.4	(1.1)
	Marche	10.1	(2.5)	16.1	(1.7)	24.4	(2.8)	25.7	(2.2)	14.2	(1.6)	7.1	(1.4)	2.4	(0.9)
	Molise	13.5	(1.5)	23.4	(2.5)	25.8	(2.3)	19.8	(2.1)	11.9	(1.7)	4.0	(1.4)	1.7	(0.9)
	Piemonte	9.1	(1.6)	18.7	(3.0)	23.7	(1.9)	22.3	(2.0)	14.7	(2.0)	7.5	(1.5)	3.9	(1.3)
	Puglia	10.3	(1.9)	19.3	(2.2)	26.9	(2.3)	22.8	(2.5)	12.4	(1.7)	6.2	(1.3)	2.1	(0.7)
	Sardegna	15.0	(2.1)	22.6	(2.9)	26.3	(3.1)	20.1	(2.6)	11.2	(1.8)	4.1	(1.0)	0.6	(0.4)
	Sicilia	16.9	(2.4)	24.3	(2.0)	25.5	(3.2)	21.5	(2.5)	9.0	(1.5)	2.2	(0.7)	0.6	(0.4)
	Toscana	10.1	(2.2)	13.9	(2.6)	19.8	(2.5)	21.2	(2.3)	18.5	(2.2)	11.3	(1.9)	5.1	(1.1)
	Trento	2.0	(0.9)	8.5	(2.2)	19.4	(2.1)	26.0	(2.2)	24.9	(2.7)	13.7	(1.9)	5.6	(1.2)
	Umbria	9.7	(2.2)	16.2	(2.6)	23.9	(2.1)	22.2	(2.1)	17.3	(2.0)	8.5	(1.3)	2.2	(0.8)
	Valle d'Aosta	7.3	(1.5)	18.0	(2.4)	24.4	(2.4)	26.6	(2.7)	15.0	(2.6)	5.5	(1.7)	3.1	(0.9)
	Veneto	4.2	(1.2)	11.9	(1.7)	21.6	(2.9)	23.5	(3.4)	21.1	(2.1)	12.1	(2.4)	5.7	(1.7)
	Mexico														
	Aguascalientes	14.4	(2.5)	29.3	(2.7)	30.7	(2.3)	18.0	(2.3)	6.1	(1.3)	1.5	(0.7)	0.0	c
	Baja California	30.5	(3.1)	31.1	(3.5)	21.9	(3.3)	12.3	(1.9)	3.8	(1.4)	0.5	(0.4)	0.0	c
	Baja California Sur	25.2	(3.1)	34.2	(2.8)	24.4	(2.6)	12.4	(1.8)	3.6	(1.3)	0.2	c	0.0	c
	Campeche	35.1	(3.1)	31.8	(2.9)	21.3	(2.3)	9.5	(1.9)	2.1	(0.8)	0.3	c	0.0	c
	Chiapas	46.5	(5.0)	28.6	(3.4)	17.4	(2.4)	5.8	(1.6)	1.5	(0.6)	0.3	(0.3)	0.0	c
	Chihuahua	23.1	(3.3)	27.9	(3.1)	26.2	(3.2)	14.6	(2.0)	6.7	(2.1)	1.4	(0.8)	0.2	c
	Coahuila	24.4	(3.7)	30.3	(3.7)	28.7	(3.1)	12.1	(3.4)	4.0	(1.7)	0.5	c	0.0	c
	Colima	21.1	(2.9)	29.5	(2.6)	27.3	(2.8)	16.3	(2.0)	4.9	(1.0)	0.7	(0.4)	0.2	(0.2)
	Distrito Federal	26.9	(3.4)	32.2	(3.6)	25.6	(3.0)	11.0	(2.1)	3.7	(1.4)	0.6	(0.6)	0.1	c
	Durango	22.4	(3.0)	32.1	(3.1)	25.6	(3.8)	15.3	(2.5)	4.2	(1.2)	0.5	(0.3)	0.0	c
	Guanajuato	26.7	(3.9)	30.5	(3.6)	26.9	(3.8)	12.7	(2.2)	3.1	(0.7)	0.2	c	0.0	c
	Guerrero	47.9	(3.7)	31.1	(3.2)	15.3	(2.1)	4.6	(1.4)	1.0	(0.5)	0.1	c	0.0	c
	Hidalgo	28.5	(4.0)	31.4	(2.8)	25.4	(3.2)	11.8	(1.9)	2.3	(0.8)	0.6	(0.3)	0.0	c
	Jalisco	16.8	(3.2)	29.8	(2.8)	32.1	(3.1)	16.2	(2.9)	4.4	(1.3)	0.7	(0.7)	0.0	c
	Mexico	23.4	(3.1)	32.7	(3.6)	29.2	(3.4)	13.1	(2.5)	1.3	(0.8)	0.2	c	0.0	c
	Morelos	23.9	(3.6)	31.9	(3.2)	24.7	(2.5)	14.0	(2.3)	3.7	(2.3)	1.5	(1.2)	0.2	(0.2)
	Nayarit	32.2	(3.7)	28.3	(2.5)	22.8	(2.4)	12.2	(2.3)	3.5	(1.2)	0.9	(0.6)	0.1	c
	Nuevo León	25.0	(3.6)	30.3	(3.0)	24.2	(2.7)	13.0	(2.3)	6.2	(1.7)	1.2	(0.6)	0.1	c
	Puebla	28.7	(3.3)	32.1	(3.0)	23.8	(2.7)	11.4	(1.8)	3.7	(1.2)	0.4	c	0.0	c
	Querétaro	22.0	(3.1)	29.2	(2.7)	26.7	(1.9)	14.4	(2.0)	6.3	(1.4)	1.3	(0.6)	0.2	c
	Quintana Roo	26.1	(2.8)	32.5	(2.7)	26.1	(2.8)	11.3	(1.5)	3.5	(0.9)	0.4	(0.3)	0.1	c
	San Luis Potosí	27.8	(3.8)	28.7	(2.4)	26.1	(2.5)	12.6	(2.3)	4.3	(1.3)	0.5	(0.4)	0.0	c
	Sinaloa	33.6	(2.9)	31.6	(2.7)	22.5	(2.1)	9.6	(1.9)	2.6	(0.8)	0.2	c	0.0	c
	Tabasco	46.4	(3.1)	31.9	(2.4)	15.3	(2.5)	4.9	(1.0)	1.5	(0.6)	0.0	c	0.0	c
	Tamaulipas	30.1	(3.5)	32.4	(2.7)	23.9	(3.2)	10.6	(2.8)	2.3	(1.1)	0.7	(0.7)	0.0	c
	Tlaxcala	29.8	(3.2)	30.3	(2.6)	24.4	(2.9)	12.7	(2.2)	2.2	(1.0)	0.5	(0.3)	0.0	c
	Veracruz	30.1	(4.0)	32.2	(2.3)	23.9	(2.7)	9.7	(2.5)	3.3	(1.3)	0.6	(0.5)	0.2	c
	Yucatán	32.5	(3.5)	30.3	(3.4)	23.9	(3.7)	10.8	(2.6)	2.2	(1.0)	0.3	(0.3)	0.0	c
	Zacatecas	29.6	(3.4)	34.5	(3.2)	22.1	(3.1)	10.8	(1.9)	2.6	(0.9)	0.4	(0.5)	0.0	c

• PISA adjudicated region.
Note: See Table I.2.18 for national data.
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[Part 4/4]

Table B2.I.17 Percentage of students at each proficiency level on the mathematics subscale *space and shape*, by gender and region

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**														
	Alentejo	9.8	(2.6)	18.1	(3.2)	22.1	(3.1)	22.5	(3.3)	16.7	(2.7)	8.6	(2.0)	2.1	(0.9)
	Spain														
	Andalusia•	12.3	(1.5)	25.9	(2.2)	27.7	(2.1)	20.6	(2.3)	10.6	(1.8)	2.6	(0.9)	0.3	(0.3)
	Aragon•	10.4	(1.8)	15.0	(1.9)	23.3	(1.6)	26.4	(2.4)	15.9	(1.8)	6.9	(1.2)	2.2	(0.9)
	Asturias•	8.7	(1.3)	14.8	(1.7)	23.9	(2.0)	25.6	(2.5)	16.7	(1.6)	7.7	(1.0)	2.6	(0.9)
	Balearic Islands•	12.0	(2.2)	22.3	(2.1)	23.6	(2.1)	23.3	(2.2)	14.6	(2.2)	3.8	(0.9)	0.4	(0.4)
	Basque Country•	4.7	(0.7)	13.5	(1.3)	24.5	(1.4)	28.2	(1.1)	19.3	(1.4)	8.0	(1.1)	1.8	(0.4)
	Cantabria•	8.6	(1.6)	16.4	(1.9)	25.9	(1.8)	25.7	(1.9)	14.4	(1.6)	7.1	(1.4)	1.8	(0.6)
	Castile and Leon•	5.6	(1.1)	13.8	(1.6)	23.3	(1.6)	28.6	(2.1)	20.0	(1.6)	7.2	(1.3)	1.4	(0.5)
	Catalonia•	10.3	(1.6)	17.8	(2.6)	25.6	(2.8)	24.4	(2.2)	15.6	(2.6)	5.1	(1.5)	1.1	(0.6)
	Extremadura•	14.8	(1.6)	22.7	(2.1)	27.6	(2.0)	20.7	(1.9)	10.6	(1.8)	2.9	(0.7)	0.6	(0.3)
	Galicia•	11.3	(1.8)	17.2	(1.9)	23.3	(1.7)	24.3	(2.2)	15.6	(2.0)	6.5	(1.1)	1.9	(0.6)
	La Rioja•	8.1	(1.4)	13.7	(1.6)	19.9	(2.0)	25.4	(1.7)	17.9	(1.9)	11.3	(1.7)	3.6	(0.9)
	Madrid•	8.3	(1.5)	13.5	(1.5)	23.1	(1.9)	24.7	(2.3)	18.4	(1.9)	9.2	(1.3)	2.8	(0.8)
	Murcia•	14.6	(1.7)	24.1	(2.2)	28.6	(2.1)	19.3	(1.8)	10.0	(1.9)	2.8	(0.8)	0.7	(0.4)
	Navarre•	5.4	(1.1)	9.7	(1.1)	20.7	(2.2)	25.9	(2.5)	21.2	(1.5)	13.0	(1.4)	4.1	(0.8)
	United Kingdom														
	England	12.9	(1.3)	18.6	(1.3)	23.5	(1.3)	22.4	(1.3)	13.5	(1.1)	6.1	(0.9)	3.0	(0.7)
	Northern Ireland	14.6	(1.6)	20.6	(1.7)	23.9	(1.8)	21.9	(2.0)	12.4	(1.6)	5.2	(0.8)	1.4	(0.4)
	Scotland•	11.4	(1.5)	17.9	(1.5)	26.3	(1.5)	22.3	(1.5)	13.8	(1.1)	6.3	(0.7)	2.0	(0.5)
	Wales	18.3	(1.3)	23.7	(1.4)	26.9	(1.4)	19.5	(1.2)	8.4	(0.9)	2.7	(0.6)	0.4	(0.2)
	United States														
	Connecticut•	12.4	(1.8)	17.8	(1.8)	21.3	(2.3)	20.8	(2.0)	15.6	(1.8)	8.0	(1.4)	4.1	(0.9)
	Florida•	17.5	(2.6)	24.1	(2.0)	27.0	(1.7)	19.5	(1.9)	8.3	(1.1)	3.3	(1.1)	0.2	(0.2)
	Massachusetts•	10.0	(1.3)	16.6	(2.0)	22.0	(2.5)	20.2	(2.3)	16.5	(1.8)	9.7	(1.7)	5.1	(1.4)
Partners	**Argentina**														
	Ciudad Autónoma de Buenos Aires•	27.7	(3.1)	27.1	(2.1)	26.7	(2.5)	13.0	(2.1)	4.8	(1.1)	0.6	(0.3)	0.0	c
	Brazil														
	Acre	63.9	(4.2)	24.4	(3.1)	9.1	(2.2)	2.5	(1.0)	0.2	c	0.0	c	0.0	c
	Alagoas	70.7	(4.2)	19.5	(3.2)	7.1	(1.9)	2.0	(1.3)	0.8	(0.7)	0.0	c	0.0	c
	Amapá	53.7	(4.3)	32.8	(3.6)	11.4	(2.5)	1.9	(1.4)	0.2	c	0.0	c	0.0	c
	Amazonas	64.4	(4.5)	24.9	(5.0)	8.2	(2.4)	1.9	(1.2)	0.5	c	0.0	c	0.0	c
	Bahia	53.9	(5.0)	28.0	(4.7)	11.1	(2.7)	4.6	(2.1)	1.8	(1.4)	0.6	c	0.0	c
	Ceará	54.2	(5.2)	26.9	(3.7)	11.9	(2.9)	5.9	(1.6)	1.0	(0.8)	0.2	c	0.0	c
	Espírito Santo	36.3	(5.4)	29.3	(3.4)	18.5	(3.5)	8.8	(3.5)	5.7	(2.6)	1.4	(1.0)	0.0	c
	Federal District	33.1	(5.7)	28.3	(4.4)	22.6	(5.3)	11.5	(3.0)	3.5	(1.9)	0.9	(1.0)	0.0	c
	Goiás	50.9	(4.9)	31.4	(4.5)	13.1	(2.8)	4.3	(1.3)	0.2	c	0.0	c	0.0	c
	Maranhão	68.3	(6.5)	23.3	(4.3)	6.9	(2.6)	1.6	(1.4)	0.1	c	0.0	c	0.0	c
	Mato Grosso	52.0	(6.2)	28.4	(4.4)	12.6	(3.4)	3.9	(1.7)	2.6	(1.7)	0.6	c	0.0	c
	Mato Grosso do Sul	35.0	(4.1)	34.1	(3.1)	19.9	(2.9)	7.0	(1.8)	3.2	(1.9)	0.8	c	0.0	c
	Minas Gerais	41.9	(4.8)	32.2	(4.2)	18.7	(3.5)	6.1	(1.5)	1.2	(0.9)	0.0	c	0.0	c
	Pará	54.6	(4.8)	26.3	(3.2)	14.1	(3.1)	4.8	(1.8)	0.2	c	0.0	c	0.0	c
	Paraíba	44.1	(5.9)	27.4	(4.7)	19.1	(4.6)	7.0	(2.3)	2.2	(1.7)	0.2	c	0.0	c
	Paraná	41.7	(4.1)	32.9	(3.8)	16.1	(3.1)	4.7	(2.1)	3.3	(2.9)	0.8	(1.1)	0.4	c
	Pernambuco	62.7	(4.2)	26.7	(3.4)	8.9	(1.9)	1.3	(0.9)	0.4	(0.4)	0.0	c	0.0	c
	Piauí	48.6	(5.1)	28.0	(4.7)	13.3	(3.7)	6.4	(1.7)	2.8	(1.3)	0.9	(0.8)	0.1	c
	Rio de Janeiro	47.5	(4.7)	30.0	(3.1)	16.7	(4.1)	5.1	(2.5)	0.6	(0.9)	0.1	c	0.0	c
	Rio Grande do Norte	51.2	(5.4)	26.1	(4.5)	12.4	(2.7)	6.4	(2.2)	2.7	(1.8)	1.1	(1.0)	0.2	c
	Rio Grande do Sul	35.7	(3.6)	33.5	(3.8)	21.6	(3.4)	7.8	(1.6)	1.2	(0.6)	0.1	c	0.0	c
	Rondônia	39.9	(4.0)	37.0	(2.8)	18.7	(3.0)	4.1	(1.4)	0.3	c	0.0	c	0.0	c
	Roraima	57.0	(5.5)	25.8	(4.5)	10.4	(2.1)	5.2	(2.5)	1.4	(1.0)	0.2	c	0.0	c
	Santa Catarina	26.9	(3.9)	35.2	(3.6)	27.7	(3.6)	8.2	(2.2)	1.9	(1.0)	0.1	c	0.0	c
	São Paulo	38.4	(2.5)	33.2	(2.4)	18.2	(1.7)	7.6	(1.4)	2.0	(0.7)	0.5	(0.5)	0.1	c
	Sergipe	51.7	(4.9)	31.6	(3.4)	12.5	(3.5)	3.9	(1.7)	0.2	c	0.0	c	0.0	c
	Tocantins	55.4	(4.2)	30.0	(2.7)	11.4	(2.8)	2.5	(0.8)	0.6	(0.4)	0.1	c	0.0	c
	Colombia														
	Bogotá	45.4	(3.0)	34.0	(1.8)	16.5	(2.2)	3.6	(1.0)	0.5	(0.4)	0.0	c	0.0	c
	Cali	47.0	(4.7)	31.3	(2.9)	17.0	(3.5)	4.1	(1.3)	0.6	(0.3)	0.0	c	0.0	c
	Manizales	36.5	(2.9)	38.8	(3.8)	17.2	(3.2)	6.4	(2.0)	1.0	(0.8)	0.1	c	0.0	c
	Medellín	45.6	(4.3)	29.1	(2.9)	15.0	(2.1)	5.8	(2.0)	2.7	(1.6)	1.5	(1.1)	0.3	(0.3)
	Russian Federation														
	Perm Territory region•	10.5	(1.8)	17.3	(1.9)	24.4	(1.9)	22.9	(1.9)	15.8	(1.4)	6.6	(1.3)	2.6	(1.2)
	United Arab Emirates														
	Abu Dhabi•	27.2	(2.5)	27.6	(1.6)	22.5	(1.4)	14.3	(1.2)	5.9	(1.0)	2.1	(0.7)	0.4	(0.2)
	Ajman	29.4	(4.9)	26.4	(3.1)	23.7	(3.3)	16.0	(3.2)	3.9	(1.6)	0.6	c	0.0	c
	Dubai•	16.7	(0.9)	22.8	(1.2)	24.4	(1.2)	20.1	(1.5)	11.1	(1.2)	4.1	(0.6)	0.9	(0.5)
	Fujairah	23.5	(4.6)	21.6	(4.8)	27.6	(3.6)	19.5	(3.2)	6.5	(2.5)	1.3	(1.0)	0.1	c
	Ras al-Khaimah	25.7	(6.8)	26.3	(4.3)	25.6	(4.2)	15.0	(2.3)	6.2	(1.9)	1.1	(0.7)	0.2	c
	Sharjah	25.9	(5.5)	25.4	(2.9)	21.9	(3.5)	16.3	(3.8)	7.8	(3.0)	2.3	(0.9)	0.2	c
	Umm al-Quwain	26.2	(3.7)	30.8	(4.7)	26.6	(5.7)	11.2	(3.6)	3.9	(2.0)	1.2	(1.1)	0.0	c

• PISA adjudicated region.

Note: See Table I.2.18 for national data.

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[Part 1/2]

Table B2.I.18 Mean score, variation and gender differences in student performance on the mathematics subscale *space and shape*, by region

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	**Australia**																						
	Australian Capital Territory	511	(3.8)	102	(2.8)	517	(5.7)	504	(4.9)	14	(7.5)	346	(9.8)	380	(7.1)	438	(5.0)	582	(6.5)	641	(8.8)	676	(11.1)
	New South Wales	503	(4.1)	109	(3.2)	512	(6.0)	493	(4.4)	**19**	(6.8)	329	(6.4)	366	(4.7)	426	(4.1)	575	(5.9)	650	(8.7)	689	(9.8)
	Northern Territory	458	(10.9)	99	(4.5)	464	(9.3)	452	(16.1)	12	(14.6)	292	(14.1)	330	(11.5)	391	(10.9)	527	(13.7)	582	(16.6)	613	(19.1)
	Queensland	496	(3.3)	99	(2.0)	502	(4.1)	489	(4.2)	**13**	(4.8)	335	(6.3)	370	(4.9)	427	(4.9)	564	(4.6)	627	(5.0)	661	(6.4)
	South Australia	481	(3.9)	94	(2.4)	489	(5.0)	474	(4.4)	**15**	(5.2)	330	(5.8)	360	(5.6)	415	(4.7)	545	(5.5)	604	(5.8)	638	(7.0)
	Tasmania	470	(3.6)	95	(2.4)	477	(5.0)	463	(4.8)	**14**	(6.6)	317	(6.8)	349	(7.9)	406	(5.1)	533	(4.5)	591	(7.4)	628	(13.1)
	Victoria	492	(4.1)	98	(2.8)	503	(5.5)	479	(4.5)	**24**	(6.0)	336	(5.3)	369	(4.1)	422	(5.1)	556	(4.8)	617	(8.1)	655	(10.9)
	Western Australia	508	(4.0)	97	(2.4)	522	(6.1)	493	(4.1)	**29**	(6.9)	353	(5.0)	383	(5.0)	440	(5.2)	575	(6.2)	634	(7.0)	667	(7.8)
	Belgium																						
	Flemish Community•	527	(3.5)	109	(2.0)	537	(4.8)	518	(4.3)	**19**	(5.8)	343	(6.8)	382	(5.6)	451	(5.5)	608	(4.0)	668	(3.5)	700	(4.1)
	French Community	484	(3.4)	101	(2.5)	493	(3.7)	476	(4.2)	**17**	(4.1)	317	(7.7)	354	(6.1)	416	(5.4)	555	(4.3)	615	(4.6)	647	(6.1)
	German-speaking Community	509	(2.8)	91	(2.7)	515	(4.6)	501	(3.1)	**14**	(5.7)	354	(9.6)	388	(6.7)	445	(4.9)	571	(4.4)	626	(5.4)	657	(6.7)
	Canada																						
	Alberta	509	(4.9)	94	(1.9)	513	(5.0)	505	(5.6)	**8**	(4.0)	354	(7.8)	388	(5.4)	444	(5.2)	575	(6.1)	632	(5.8)	665	(6.4)
	British Columbia	512	(5.0)	91	(2.2)	518	(5.3)	505	(6.6)	**13**	(6.4)	363	(7.7)	394	(6.4)	447	(5.3)	576	(7.2)	632	(6.0)	665	(7.7)
	Manitoba	484	(3.2)	93	(1.9)	489	(3.7)	478	(4.8)	**12**	(5.8)	334	(7.0)	366	(6.7)	420	(3.9)	546	(4.3)	605	(6.1)	640	(6.6)
	New Brunswick	493	(2.7)	87	(1.9)	494	(4.3)	493	(3.3)	2	(5.6)	345	(5.9)	380	(5.6)	436	(4.4)	551	(3.6)	604	(7.4)	639	(7.9)
	Newfoundland and Labrador	477	(3.7)	88	(2.7)	477	(5.0)	477	(3.7)	0	(4.9)	326	(12.9)	365	(9.9)	417	(6.2)	538	(5.1)	588	(6.1)	620	(7.4)
	Nova Scotia	482	(2.7)	86	(3.1)	490	(4.1)	475	(4.0)	**15**	(6.0)	344	(9.0)	376	(5.8)	425	(4.7)	541	(5.1)	593	(5.0)	624	(10.4)
	Ontario	505	(4.4)	93	(1.9)	509	(5.3)	500	(4.5)	**10**	(4.4)	357	(6.5)	387	(5.6)	441	(4.7)	567	(5.7)	627	(6.5)	664	(6.9)
	Prince Edward Island	460	(2.6)	87	(1.8)	463	(3.6)	457	(3.4)	6	(4.6)	318	(6.5)	350	(6.1)	400	(4.0)	519	(4.5)	573	(6.3)	605	(6.8)
	Quebec	535	(4.0)	101	(2.0)	541	(4.9)	529	(4.4)	**12**	(4.7)	361	(7.5)	402	(6.2)	466	(5.0)	606	(4.9)	663	(5.2)	694	(4.5)
	Saskatchewan	497	(3.8)	88	(2.2)	499	(4.8)	496	(4.3)	4	(5.2)	353	(5.8)	385	(4.3)	438	(3.6)	559	(5.7)	612	(6.4)	644	(7.2)
	Italy																						
	Abruzzo	479	(7.7)	104	(4.5)	485	(8.8)	473	(8.7)	13	(9.0)	306	(17.2)	350	(13.9)	410	(7.3)	551	(11.5)	611	(9.7)	648	(11.9)
	Basilicata	475	(5.3)	97	(2.4)	488	(7.4)	463	(5.0)	**25**	(6.6)	321	(8.3)	353	(7.6)	410	(6.2)	540	(6.8)	600	(6.8)	640	(10.0)
	Bolzano	510	(2.7)	98	(1.7)	526	(3.7)	494	(3.1)	**32**	(4.3)	352	(4.8)	385	(5.3)	444	(4.2)	577	(4.1)	638	(4.8)	675	(6.5)
	Calabria	428	(6.8)	96	(3.6)	441	(7.2)	415	(8.2)	**26**	(7.8)	274	(14.4)	308	(9.6)	362	(7.2)	493	(8.2)	549	(9.1)	590	(11.7)
	Campania	453	(9.6)	105	(4.9)	464	(9.2)	443	(11.8)	**21**	(8.8)	287	(10.1)	323	(9.0)	381	(7.9)	522	(15.2)	594	(15.1)	634	(19.7)
	Emilia Romagna	502	(7.4)	109	(4.3)	513	(8.8)	489	(8.5)	**24**	(9.9)	325	(8.2)	365	(9.6)	430	(8.8)	576	(9.8)	644	(11.8)	684	(15.8)
	Friuli Venezia Giulia	533	(5.2)	99	(3.0)	547	(5.7)	518	(6.4)	**29**	(7.3)	376	(7.6)	406	(6.3)	468	(7.1)	599	(6.0)	660	(6.9)	698	(9.3)
	Lazio	473	(7.8)	103	(3.4)	484	(8.7)	458	(8.2)	**27**	(8.2)	305	(10.9)	342	(7.6)	402	(8.5)	541	(9.6)	611	(12.1)	649	(10.7)
	Liguria	491	(6.5)	102	(3.4)	494	(8.9)	487	(6.8)	7	(9.3)	328	(10.9)	363	(7.7)	420	(7.1)	558	(9.2)	627	(11.0)	669	(10.6)
	Lombardia	521	(9.8)	101	(3.9)	538	(11.4)	503	(9.8)	**35**	(10.2)	351	(11.5)	389	(11.9)	454	(9.9)	594	(13.2)	653	(11.7)	687	(11.8)
	Marche	495	(6.5)	97	(4.3)	512	(6.8)	479	(8.1)	**33**	(7.6)	341	(12.3)	374	(11.6)	428	(8.2)	561	(7.7)	621	(8.4)	656	(9.5)
	Molise	469	(2.8)	95	(2.7)	480	(3.8)	457	(3.7)	**24**	(4.9)	320	(6.0)	349	(5.3)	402	(4.4)	530	(5.1)	592	(7.9)	635	(10.5)
	Piemonte	503	(7.5)	101	(3.5)	523	(5.9)	483	(8.8)	**40**	(6.2)	343	(11.7)	375	(8.4)	433	(8.0)	571	(8.5)	636	(9.9)	672	(13.5)
	Puglia	480	(7.1)	98	(3.6)	489	(7.4)	472	(7.3)	**17**	(5.8)	321	(11.0)	355	(9.5)	412	(7.3)	547	(8.6)	611	(10.1)	645	(8.3)
	Sardegna	455	(5.7)	96	(2.9)	460	(6.4)	450	(7.0)	9	(7.3)	299	(9.7)	336	(6.3)	391	(6.5)	520	(5.9)	579	(7.8)	614	(10.5)
	Sicilia	446	(5.3)	92	(2.8)	450	(6.7)	441	(5.3)	9	(6.2)	289	(9.9)	326	(9.4)	387	(5.8)	507	(6.3)	559	(6.8)	594	(9.8)
	Toscana	500	(6.5)	106	(3.4)	501	(7.8)	498	(10.4)	3	(12.7)	327	(9.9)	363	(8.5)	425	(7.4)	575	(9.2)	639	(9.3)	674	(8.2)
	Trento	535	(4.9)	95	(2.7)	540	(5.6)	529	(7.1)	11	(8.5)	385	(8.6)	414	(7.0)	468	(6.2)	602	(5.2)	660	(6.4)	694	(8.3)
	Umbria	496	(8.5)	102	(4.4)	507	(12.0)	484	(7.8)	**23**	(10.4)	325	(19.7)	363	(16.6)	426	(11.3)	569	(7.1)	628	(6.8)	659	(8.2)
	Valle d'Aosta	497	(2.8)	97	(2.7)	511	(4.3)	483	(4.1)	**27**	(6.3)	342	(9.2)	376	(6.7)	433	(4.5)	559	(4.6)	623	(10.0)	667	(8.6)
	Veneto	528	(8.4)	105	(4.2)	539	(9.7)	517	(8.6)	**22**	(9.3)	358	(8.0)	393	(9.3)	455	(6.4)	602	(12.7)	664	(13.3)	699	(13.0)
	Mexico																						
	Aguascalientes	442	(5.6)	79	(2.9)	450	(7.3)	435	(5.1)	**15**	(5.8)	316	(8.2)	345	(7.4)	387	(7.7)	495	(6.7)	545	(7.7)	581	(11.3)
	Baja California	413	(6.0)	80	(2.5)	424	(6.8)	401	(6.4)	**24**	(5.7)	287	(10.6)	316	(6.9)	358	(5.9)	465	(9.7)	523	(8.4)	551	(9.8)
	Baja California Sur	418	(5.0)	76	(1.9)	429	(6.4)	407	(4.5)	**22**	(4.4)	297	(6.9)	324	(7.3)	365	(6.4)	469	(6.3)	520	(7.5)	549	(5.6)
	Campeche	399	(5.0)	78	(2.3)	410	(5.7)	388	(5.1)	**22**	(4.3)	276	(8.1)	301	(6.7)	346	(6.1)	449	(5.2)	496	(6.4)	528	(8.8)
	Chiapas	368	(9.3)	86	(4.8)	375	(9.5)	362	(10.0)	**13**	(5.6)	223	(17.5)	256	(15.6)	311	(13.0)	424	(7.6)	476	(9.5)	509	(12.0)
	Chihuahua	432	(8.5)	85	(3.0)	443	(10.1)	421	(8.0)	**22**	(6.9)	295	(11.7)	325	(8.5)	374	(7.6)	487	(10.3)	548	(14.7)	580	(13.5)
	Coahuila	422	(8.2)	78	(3.5)	432	(9.1)	411	(8.9)	**21**	(6.5)	298	(7.3)	322	(6.9)	368	(7.6)	472	(11.1)	527	(13.5)	558	(14.1)
	Colima	430	(4.1)	79	(3.1)	438	(4.4)	422	(5.1)	**16**	(4.6)	305	(8.7)	330	(7.5)	376	(5.9)	481	(4.5)	531	(7.1)	566	(9.1)
	Distrito Federal	421	(5.3)	80	(3.6)	436	(7.0)	406	(6.3)	**31**	(8.2)	290	(7.5)	320	(7.9)	365	(6.3)	473	(5.9)	528	(8.4)	558	(10.0)
	Durango	423	(6.4)	78	(2.8)	431	(8.1)	416	(6.1)	**15**	(6.0)	299	(7.1)	323	(10.0)	368	(8.0)	478	(9.6)	527	(7.5)	554	(7.5)
	Guanajuato	415	(6.4)	82	(3.8)	425	(7.1)	406	(6.6)	**18**	(4.4)	281	(13.9)	311	(14.3)	360	(8.2)	469	(6.5)	522	(6.1)	551	(6.8)
	Guerrero	368	(5.0)	74	(2.6)	373	(5.7)	364	(5.5)	9	(5.2)	249	(8.2)	274	(8.7)	319	(7.6)	417	(5.5)	463	(7.9)	494	(6.6)
	Hidalgo	410	(5.8)	79	(2.7)	421	(7.0)	401	(6.4)	**20**	(6.5)	282	(8.4)	309	(8.5)	357	(7.8)	463	(7.3)	514	(6.6)	539	(7.8)
	Jalisco	433	(8.1)	77	(2.7)	440	(9.6)	426	(7.3)	**14**	(5.5)	305	(9.9)	332	(12.3)	382	(9.5)	483	(8.3)	534	(9.4)	560	(10.0)
	Mexico	419	(5.8)	72	(3.5)	429	(7.3)	408	(6.0)	**21**	(6.7)	299	(12.6)	327	(9.0)	371	(8.3)	467	(5.4)	511	(6.7)	533	(7.8)
	Morelos	420	(8.5)	84	(5.4)	427	(9.4)	414	(9.0)	13	(6.7)	288	(12.3)	316	(11.7)	363	(9.2)	474	(11.3)	529	(18.3)	564	(21.1)
	Nayarit	412	(6.3)	90	(2.5)	427	(6.7)	397	(7.5)	**31**	(7.0)	266	(9.5)	296	(10.4)	351	(7.7)	471	(8.5)	530	(6.6)	561	(8.3)
	Nuevo León	433	(8.2)	86	(2.5)	449	(8.4)	415	(8.4)	**34**	(5.9)	293	(10.3)	324	(10.0)	374	(8.5)	490	(12.0)	550	(11.0)	582	(9.9)
	Puebla	417	(5.3)	84	(3.2)	431	(7.5)	402	(5.7)	**29**	(7.5)	282	(15.0)	310	(10.0)	361	(7.5)	472	(5.2)	527	(5.4)	558	(7.4)
	Querétaro	436	(6.7)	84	(2.7)	453	(8.2)	421	(6.9)	**33**	(5.6)	302	(9.1)	332	(8.5)	381	(7.6)	491	(8.8)	549	(10.9)	582	(12.5)
	Quintana Roo	411	(5.8)	77	(2.6)	415	(7.0)	406	(5.5)	**9**	(4.7)	285	(12.5)	314	(8.5)	359	(6.0)	462	(6.0)	511	(6.6)	542	(7.1)
	San Luis Potosí	411	(8.4)	82	(2.7)	415	(9.2)	408	(8.5)	8	(5.2)	280	(12.0)	309	(7.7)	353	(9.2)	465	(8.9)	518	(13.5)	553	(13.4)
	Sinaloa	400	(4.4)	77	(2.7)	408	(4.9)	393	(5.6)	**15**	(5.7)	280	(8.1)	305	(6.6)	347	(5.0)	449	(6.1)	500	(7.4)	532	(6.2)
	Tabasco	370	(5.0)	78	(3.0)	378	(5.9)	363	(5.1)	**15**	(4.5)	244	(9.5)	269	(10.1)	318	(6.6)	422	(6.2)	469	(6.3)	502	(6.6)
	Tamaulipas	414	(8.4)	80	(3.2)	430	(11.3)	398	(7.3)	**32**	(8.8)	289	(8.0)	314	(8.1)	360	(7.5)	466	(9.4)	518	(13.5)	551	(13.3)
	Tlaxcala	409	(6.1)	80	(3.1)	419	(5.6)	400	(7.3)	**19**	(5.0)	278	(14.2)	307	(9.8)	356	(7.9)	462	(6.0)	509	(6.2)	538	(7.8)
	Veracruz	408	(7.4)	83	(2.7)	417	(7.6)	398	(8.9)	**19**	(7.3)	276	(10.7)	303	(8.3)	352	(7.7)	462	(8.8)	518	(11.6)	550	(11.2)
	Yucatán	410	(5.2)	81	(2.5)	424	(6.2)	395	(5.7)	**28**	(6.0)	280	(12.6)	309	(8.5)	354	(6.5)	463	(5.9)	516	(5.9)	544	(8.2)
	Zacatecas	408	(4.3)	77	(2.2)	419	(5.1)	397	(5.2)	**23**	(5.6)	281	(10.3)	310	(7.5)	356	(5.2)	461	(5.5)	509	(6.5)	536	(6.3)

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).
See Table I.2.19 for national data.

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[Part 2/2]

Table B2.I.18 Mean score, variation and gender differences in student performance on the mathematics subscale *space and shape*, by region

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	**Portugal**																						
	Alentejo	493	(11.3)	102	(4.0)	505	(13.6)	481	(10.3)	**24**	(8.0)	331	(15.7)	367	(14.0)	424	(13.3)	561	(12.7)	629	(12.6)	665	(18.3)
	Spain																						
	Andalusia•	461	(4.4)	87	(2.3)	472	(5.2)	450	(4.2)	**22**	(3.9)	322	(7.9)	352	(5.4)	401	(4.0)	520	(6.0)	578	(5.8)	609	(7.2)
	Aragon•	493	(6.0)	99	(2.2)	505	(6.4)	481	(6.9)	**24**	(5.7)	324	(11.1)	366	(10.2)	428	(7.3)	560	(6.4)	620	(8.2)	654	(8.0)
	Asturias•	493	(4.4)	99	(2.8)	499	(5.8)	486	(4.4)	**13**	(5.6)	329	(12.2)	367	(9.6)	429	(5.8)	562	(5.0)	619	(5.8)	654	(8.9)
	Balearic Islands•	465	(5.2)	88	(2.2)	469	(6.1)	461	(6.0)	8	(6.0)	321	(8.2)	354	(7.5)	403	(6.3)	528	(6.9)	577	(6.3)	606	(8.6)
	Basque Country•	503	(2.6)	85	(1.4)	509	(3.0)	497	(3.1)	**12**	(3.1)	362	(4.2)	392	(3.8)	446	(2.8)	563	(3.3)	612	(3.8)	640	(4.0)
	Cantabria•	491	(3.7)	95	(2.0)	501	(4.5)	480	(5.1)	**21**	(6.3)	342	(6.5)	371	(4.5)	426	(3.9)	556	(4.8)	616	(6.9)	648	(7.2)
	Castile and Leon•	504	(4.8)	92	(2.4)	513	(6.8)	494	(4.2)	**19**	(5.8)	351	(8.8)	386	(6.8)	441	(6.2)	568	(5.2)	619	(5.6)	649	(7.3)
	Catalonia•	485	(5.8)	94	(2.4)	496	(7.1)	473	(6.0)	**23**	(6.3)	332	(7.8)	363	(5.8)	418	(7.0)	551	(7.4)	609	(8.4)	642	(8.1)
	Extremadura•	457	(4.1)	93	(2.2)	466	(4.8)	448	(4.4)	**18**	(4.0)	303	(10.4)	339	(8.2)	393	(4.6)	521	(6.1)	578	(6.0)	612	(6.4)
	Galicia•	478	(5.4)	96	(2.3)	481	(5.8)	476	(6.6)	5	(6.2)	317	(11.1)	354	(7.4)	414	(7.3)	545	(5.8)	598	(5.3)	631	(6.2)
	La Rioja•	509	(2.1)	106	(2.6)	518	(3.5)	500	(3.4)	**19**	(5.4)	331	(7.9)	366	(5.6)	437	(3.6)	585	(3.9)	647	(6.1)	679	(6.0)
	Madrid•	500	(4.8)	100	(2.5)	506	(5.8)	493	(5.0)	**14**	(5.1)	331	(8.4)	373	(9.9)	432	(5.5)	570	(7.0)	627	(5.4)	659	(7.7)
	Murcia•	455	(5.2)	94	(3.4)	464	(6.7)	446	(4.9)	**17**	(5.3)	307	(9.4)	340	(6.8)	393	(5.3)	516	(7.1)	578	(8.3)	612	(11.8)
	Navarre•	519	(3.3)	95	(2.2)	522	(3.9)	515	(4.3)	7	(5.0)	355	(8.1)	396	(5.7)	457	(5.6)	584	(4.3)	639	(5.1)	669	(5.5)
	United Kingdom																						
	England	477	(4.1)	100	(2.0)	484	(5.1)	471	(4.9)	**13**	(5.8)	314	(6.6)	348	(5.6)	408	(4.8)	544	(5.1)	607	(4.8)	643	(5.8)
	Northern Ireland	463	(3.6)	98	(2.5)	467	(5.4)	460	(5.4)	7	(8.1)	304	(7.8)	340	(5.1)	397	(4.5)	529	(4.3)	591	(6.6)	626	(6.8)
	Scotland•	482	(3.1)	95	(1.8)	492	(3.4)	471	(3.7)	**21**	(3.4)	328	(6.3)	361	(5.2)	417	(4.0)	546	(3.7)	606	(4.2)	642	(5.4)
	Wales	444	(2.6)	89	(1.3)	449	(2.8)	439	(3.3)	**10**	(3.4)	299	(4.2)	330	(4.2)	383	(3.1)	505	(3.2)	559	(4.4)	592	(5.8)
	United States																						
	Connecticut•	487	(7.0)	109	(2.4)	494	(7.7)	480	(7.2)	**14**	(5.0)	312	(9.4)	348	(9.0)	410	(6.9)	563	(9.8)	630	(8.8)	667	(9.9)
	Florida•	446	(6.4)	91	(2.3)	453	(6.7)	440	(6.8)	**13**	(4.6)	300	(7.1)	332	(6.8)	383	(6.9)	507	(7.1)	566	(9.3)	600	(8.9)
	Massachusetts•	498	(7.2)	107	(3.7)	504	(7.1)	492	(8.2)	**12**	(5.2)	327	(6.5)	362	(5.1)	422	(6.8)	572	(11.7)	640	(11.3)	678	(13.7)
Partners	**Argentina**																						
	Ciudad Autónoma de Buenos Aires•	413	(6.7)	95	(4.7)	423	(7.5)	404	(6.9)	**20**	(5.2)	246	(19.9)	288	(14.1)	357	(8.4)	475	(7.6)	529	(7.7)	562	(10.1)
	Brazil																						
	Acre	348	(6.6)	76	(3.4)	363	(9.0)	335	(6.4)	**28**	(7.6)	224	(11.7)	250	(12.8)	298	(8.3)	398	(6.3)	441	(10.4)	471	(14.1)
	Alagoas	329	(7.7)	80	(5.7)	346	(7.6)	316	(9.0)	**30**	(6.6)	199	(14.4)	232	(11.7)	280	(8.6)	379	(8.9)	430	(12.8)	464	(18.7)
	Amapá	361	(6.5)	70	(2.8)	377	(8.9)	347	(6.1)	**30**	(8.2)	244	(13.6)	270	(10.1)	316	(9.1)	407	(7.0)	450	(10.0)	477	(12.3)
	Amazonas	349	(6.4)	70	(5.5)	360	(8.4)	339	(5.4)	**21**	(5.7)	240	(9.6)	262	(9.6)	302	(8.6)	390	(7.4)	436	(11.6)	469	(19.0)
	Bahia	365	(5.5)	87	(6.0)	382	(5.9)	351	(9.6)	**31**	(11.8)	229	(17.4)	260	(14.7)	309	(10.4)	413	(8.5)	471	(14.9)	522	(20.7)
	Ceará	367	(9.3)	91	(7.2)	385	(11.8)	350	(8.4)	**35**	(8.7)	226	(8.9)	254	(7.8)	305	(7.5)	421	(14.4)	485	(23.7)	526	(25.0)
	Espírito Santo	404	(11.4)	90	(5.9)	415	(10.5)	395	(14.5)	20	(10.3)	268	(7.9)	293	(9.5)	341	(8.4)	460	(21.4)	533	(22.8)	570	(19.6)
	Federal District	409	(9.6)	86	(7.8)	421	(10.5)	399	(9.8)	**23**	(7.4)	278	(12.5)	306	(12.4)	348	(9.4)	467	(12.9)	525	(22.1)	560	(21.1)
	Goiás	372	(5.2)	72	(2.4)	385	(6.4)	359	(5.8)	**26**	(6.7)	261	(8.6)	284	(8.4)	323	(6.6)	416	(7.6)	468	(7.7)	506	(8.5)
	Maranhão	335	(11.6)	78	(7.5)	348	(15.3)	326	(9.7)	**23**	(8.1)	214	(18.8)	240	(12.8)	284	(11.7)	382	(15.5)	437	(25.7)	472	(24.5)
	Mato Grosso	369	(9.2)	76	(6.8)	375	(8.9)	363	(10.8)	12	(6.9)	256	(9.6)	279	(6.2)	317	(8.9)	413	(12.4)	466	(21.2)	505	(30.8)
	Mato Grosso do Sul	402	(6.8)	77	(4.4)	417	(8.8)	391	(6.5)	**27**	(8.1)	286	(11.1)	308	(8.4)	350	(7.6)	451	(7.9)	502	(13.4)	548	(19.5)
	Minas Gerais	384	(7.3)	74	(3.8)	394	(8.3)	375	(7.3)	**19**	(4.8)	266	(12.1)	293	(9.2)	334	(7.8)	431	(8.8)	480	(12.2)	509	(12.0)
	Pará	356	(5.1)	76	(3.8)	365	(6.1)	350	(7.2)	16	(8.6)	232	(10.6)	258	(11.6)	306	(7.8)	408	(6.6)	457	(7.8)	486	(10.6)
	Paraíba	383	(6.5)	86	(6.5)	395	(7.2)	372	(8.9)	**23**	(9.7)	247	(13.0)	276	(13.9)	325	(11.8)	438	(7.7)	494	(14.7)	529	(17.9)
	Paraná	394	(11.9)	84	(12.1)	409	(12.3)	379	(12.4)	**30**	(5.7)	275	(8.3)	298	(6.4)	336	(6.7)	439	(14.7)	511	(43.4)	561	(48.2)
	Pernambuco	349	(6.8)	72	(4.7)	365	(8.1)	337	(6.6)	**28**	(5.6)	237	(10.1)	264	(9.9)	302	(7.3)	394	(6.4)	439	(10.8)	467	(16.2)
	Piauí	381	(8.0)	87	(5.6)	395	(9.1)	370	(8.1)	**25**	(4.9)	258	(11.1)	283	(7.1)	321	(6.1)	429	(13.1)	500	(22.1)	543	(20.8)
	Rio de Janeiro	373	(6.3)	75	(3.2)	381	(7.1)	366	(6.9)	**15**	(6.2)	255	(7.6)	278	(5.8)	319	(7.5)	427	(8.9)	472	(9.9)	494	(10.0)
	Rio Grande do Norte	374	(12.2)	93	(11.6)	386	(13.3)	364	(12.2)	**22**	(7.4)	236	(14.1)	264	(11.3)	311	(9.2)	426	(17.3)	499	(31.8)	554	(52.5)
	Rio Grande do Sul	393	(5.7)	72	(2.4)	401	(6.4)	387	(6.4)	**15**	(5.9)	277	(9.7)	304	(8.2)	342	(6.0)	444	(8.1)	487	(9.0)	514	(9.9)
	Rondônia	376	(5.0)	70	(3.0)	380	(5.6)	373	(6.0)	7	(6.0)	263	(5.2)	288	(5.8)	329	(7.1)	422	(6.8)	466	(6.8)	493	(11.2)
	Roraima	349	(7.2)	83	(4.2)	351	(7.6)	348	(9.5)	3	(9.3)	218	(10.2)	246	(9.4)	294	(8.5)	399	(8.6)	457	(12.7)	495	(16.9)
	Santa Catarina	407	(7.3)	73	(3.1)	419	(7.2)	395	(8.5)	**23**	(6.5)	285	(12.4)	317	(11.0)	361	(7.0)	453	(9.1)	501	(12.3)	530	(11.9)
	São Paulo	394	(4.5)	79	(3.5)	406	(4.6)	383	(5.2)	**23**	(3.4)	274	(6.2)	302	(4.9)	342	(3.9)	443	(5.2)	496	(9.6)	534	(14.2)
	Sergipe	371	(7.2)	72	(4.3)	389	(9.8)	356	(6.9)	**33**	(7.2)	258	(10.3)	282	(10.6)	323	(7.2)	418	(9.1)	466	(16.9)	497	(15.0)
	Tocantins	361	(7.5)	77	(4.7)	373	(8.9)	348	(6.3)	**25**	(5.0)	236	(7.9)	266	(6.6)	311	(5.9)	408	(10.3)	462	(13.8)	491	(16.4)
	Colombia																						
	Bogotá	384	(4.9)	70	(2.5)	404	(6.0)	366	(4.8)	**37**	(5.1)	270	(6.0)	296	(6.2)	337	(5.1)	429	(5.4)	472	(7.9)	502	(10.0)
	Cali	368	(7.5)	78	(3.2)	379	(7.9)	359	(8.0)	**20**	(4.7)	237	(10.2)	266	(10.5)	315	(10.7)	421	(9.5)	467	(8.7)	495	(10.3)
	Manizales	398	(4.8)	71	(3.8)	417	(6.2)	381	(5.1)	**36**	(7.4)	288	(5.9)	310	(4.6)	349	(3.8)	442	(7.6)	492	(10.0)	523	(12.7)
	Medellín	389	(8.2)	86	(6.1)	404	(8.0)	375	(11.4)	**29**	(10.9)	262	(7.9)	288	(8.7)	331	(6.4)	439	(10.8)	503	(19.1)	546	(24.6)
	Russian Federation																						
	Perm Territory region•	488	(6.3)	104	(5.5)	496	(8.1)	479	(5.4)	**18**	(5.9)	319	(10.6)	358	(8.0)	418	(6.9)	557	(7.0)	621	(13.8)	663	(18.9)
	United Arab Emirates																						
	Abu Dhabi•	414	(3.8)	93	(2.6)	412	(4.9)	415	(5.4)	-3	(7.0)	270	(5.2)	299	(4.6)	350	(3.8)	474	(5.5)	537	(7.1)	579	(9.4)
	Ajman	398	(8.0)	86	(4.6)	390	(14.1)	407	(10.4)	-17	(18.4)	260	(17.1)	288	(14.3)	336	(11.5)	463	(7.9)	509	(9.8)	538	(9.8)
	Dubai•	456	(1.2)	99	(1.3)	462	(1.9)	450	(1.8)	**12**	(2.7)	299	(3.4)	330	(2.3)	387	(1.7)	525	(3.0)	585	(3.9)	620	(5.6)
	Fujairah	408	(12.2)	95	(2.7)	390	(11.5)	427	(12.4)	**-37**	(11.1)	252	(16.4)	289	(15.7)	340	(13.5)	474	(14.1)	528	(13.6)	562	(18.9)
	Ras al-Khaimah	406	(9.4)	90	(6.6)	399	(7.1)	414	(16.1)	-15	(16.1)	259	(24.2)	294	(17.4)	347	(12.5)	467	(8.1)	522	(8.6)	551	(10.9)
	Sharjah	421	(9.0)	96	(4.0)	420	(15.2)	422	(12.7)	-2	(20.6)	272	(8.3)	298	(9.3)	352	(9.4)	488	(13.0)	548	(15.4)	584	(11.6)
	Umm al-Quwain	388	(4.9)	82	(3.7)	367	(6.3)	408	(7.1)	**-41**	(9.2)	258	(12.3)	287	(8.5)	331	(10.0)	438	(8.0)	496	(12.1)	534	(13.1)

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

See Table I.2.19 for national data.

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[Part 1/2]

Table B2.I.19 Percentage of students at each proficiency level on the mathematics subscale *quantity*, by region

	All students													
	Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD														
Australia														
Australian Capital Territory	6.3	(1.0)	10.5	(1.4)	20.3	(1.9)	24.2	(2.1)	20.2	(2.0)	13.1	(1.6)	5.6	(1.1)
New South Wales	8.7	(0.7)	13.0	(0.8)	20.5	(0.9)	22.2	(1.0)	17.7	(1.0)	11.4	(1.0)	6.6	(1.0)
Northern Territory	21.0	(2.4)	17.8	(3.5)	19.6	(4.5)	24.1	(3.5)	11.0	(2.8)	4.5	(1.8)	1.9	(0.9)
Queensland	8.6	(0.9)	14.5	(1.0)	21.3	(1.1)	22.3	(1.0)	17.7	(1.1)	11.0	(1.0)	4.6	(0.6)
South Australia	10.1	(1.0)	16.5	(1.1)	23.7	(1.9)	23.5	(1.8)	16.1	(1.2)	7.8	(0.9)	2.3	(0.5)
Tasmania	13.3	(1.3)	17.0	(1.6)	24.6	(1.7)	22.5	(1.8)	13.4	(1.4)	6.9	(1.2)	2.4	(0.6)
Victoria	7.7	(0.8)	13.7	(1.0)	22.0	(1.4)	23.6	(1.3)	19.5	(1.0)	9.6	(0.9)	3.9	(0.8)
Western Australia	6.3	(0.8)	12.6	(1.2)	19.3	(1.4)	23.2	(1.3)	20.8	(1.3)	12.3	(1.3)	5.5	(0.9)
Belgium														
Flemish Community•	5.5	(0.6)	8.9	(0.7)	16.2	(0.9)	20.9	(0.9)	21.7	(0.8)	17.6	(1.0)	9.2	(0.7)
French Community	8.7	(0.9)	14.2	(1.1)	20.1	(1.1)	22.9	(1.1)	20.5	(1.1)	10.4	(0.9)	3.3	(0.4)
German-speaking Community	6.7	(0.8)	9.6	(1.2)	16.5	(1.4)	25.6	(1.8)	24.7	(1.8)	12.9	(1.6)	3.9	(0.9)
Canada														
Alberta	6.6	(1.1)	12.1	(1.1)	19.5	(1.3)	23.8	(1.3)	20.0	(1.4)	12.2	(1.2)	6.0	(0.9)
British Columbia	4.2	(0.8)	9.8	(1.2)	20.1	(1.9)	24.6	(1.3)	21.6	(1.5)	13.3	(1.3)	6.3	(1.1)
Manitoba	9.5	(1.0)	15.6	(1.7)	22.3	(1.4)	23.5	(1.7)	17.2	(1.1)	8.4	(0.8)	3.5	(0.7)
New Brunswick	6.4	(1.0)	11.2	(1.0)	22.4	(1.5)	27.5	(1.7)	18.9	(1.3)	9.3	(1.3)	4.3	(0.9)
Newfoundland and Labrador	9.1	(1.3)	16.3	(1.5)	23.7	(1.4)	23.5	(1.6)	16.8	(1.5)	7.8	(1.0)	2.8	(0.6)
Nova Scotia	7.5	(1.0)	14.3	(2.1)	23.3	(2.1)	24.9	(2.6)	18.4	(1.4)	8.6	(1.6)	3.1	(0.7)
Ontario	6.4	(0.7)	11.5	(0.8)	20.5	(1.3)	24.7	(1.1)	19.9	(1.2)	11.4	(1.2)	5.7	(0.8)
Prince Edward Island	11.1	(1.0)	17.4	(1.1)	24.5	(1.4)	23.7	(1.5)	15.4	(1.2)	6.2	(0.8)	1.7	(0.4)
Quebec	4.6	(0.6)	8.0	(0.7)	16.0	(1.0)	23.0	(1.3)	24.5	(1.2)	16.7	(1.0)	7.1	(0.8)
Saskatchewan	6.2	(0.8)	13.4	(1.2)	22.8	(1.4)	25.1	(1.3)	18.7	(1.3)	10.5	(1.1)	3.2	(0.7)
Italy														
Abruzzo	11.8	(1.8)	15.4	(1.5)	21.9	(1.6)	24.4	(1.4)	17.2	(1.5)	7.2	(1.3)	2.1	(0.6)
Basilicata	11.4	(1.1)	17.9	(1.5)	25.1	(1.3)	24.3	(1.4)	14.6	(1.6)	4.9	(0.9)	1.7	(0.5)
Bolzano	6.4	(0.6)	10.8	(1.2)	18.5	(1.1)	25.9	(1.5)	21.6	(1.5)	11.4	(0.9)	5.4	(0.7)
Calabria	21.7	(2.6)	22.1	(2.0)	23.6	(1.9)	19.3	(1.9)	9.7	(1.3)	3.0	(0.8)	0.7	(0.3)
Campania	14.5	(2.0)	20.4	(2.0)	24.9	(1.7)	21.8	(2.2)	12.5	(1.7)	4.6	(1.1)	1.4	(0.5)
Emilia Romagna	8.3	(1.3)	11.4	(1.4)	19.9	(1.9)	23.6	(1.7)	20.4	(1.9)	11.3	(1.5)	5.0	(1.0)
Friuli Venezia Giulia	5.4	(1.3)	8.3	(1.1)	16.4	(1.6)	25.1	(1.8)	24.6	(1.4)	13.7	(1.3)	6.6	(0.8)
Lazio	10.3	(1.9)	16.9	(1.9)	23.1	(1.5)	23.8	(1.6)	15.3	(1.7)	8.0	(1.2)	2.5	(0.6)
Liguria	8.6	(1.5)	14.1	(1.9)	22.7	(1.9)	22.7	(1.5)	18.7	(1.7)	10.1	(1.4)	3.1	(0.7)
Lombardia	4.2	(0.8)	9.7	(1.3)	18.4	(2.2)	25.2	(1.7)	23.4	(1.9)	14.0	(1.8)	5.1	(1.1)
Marche	7.0	(1.9)	12.8	(1.2)	21.9	(1.8)	24.8	(1.7)	20.6	(1.6)	9.4	(1.5)	3.6	(0.9)
Molise	11.8	(1.1)	16.8	(1.6)	25.1	(1.8)	25.2	(1.7)	15.3	(1.5)	4.4	(1.0)	1.3	(0.6)
Piemonte	8.3	(1.3)	12.7	(1.3)	18.9	(1.7)	24.9	(1.5)	21.1	(1.8)	10.6	(1.4)	3.5	(0.8)
Puglia	8.7	(1.6)	16.3	(2.0)	24.3	(1.8)	24.4	(1.7)	17.7	(1.7)	7.1	(1.0)	1.5	(0.5)
Sardegna	14.7	(1.8)	17.5	(1.7)	24.7	(1.8)	22.6	(1.6)	13.8	(1.3)	5.8	(0.8)	1.0	(0.4)
Sicilia	15.3	(1.9)	20.8	(2.2)	26.3	(1.4)	21.4	(2.0)	12.0	(1.7)	3.6	(0.7)	0.7	(0.3)
Toscana	9.0	(1.5)	11.9	(1.6)	20.3	(1.8)	23.8	(1.4)	19.6	(1.9)	10.8	(1.3)	4.5	(0.6)
Trento	4.2	(0.7)	8.4	(1.0)	18.1	(1.4)	25.9	(1.8)	24.1	(1.7)	14.1	(1.6)	5.2	(0.8)
Umbria	7.1	(1.6)	12.4	(1.9)	22.0	(1.6)	25.6	(1.8)	21.2	(1.5)	9.1	(1.2)	2.6	(0.6)
Valle d'Aosta	6.6	(1.0)	13.3	(1.3)	23.8	(1.6)	25.9	(1.9)	17.8	(1.6)	8.2	(1.2)	4.4	(0.9)
Veneto	4.4	(1.0)	8.8	(1.3)	18.7	(2.0)	23.7	(2.1)	22.0	(1.5)	15.9	(2.1)	6.6	(1.7)
Mexico														
Aguascalientes	18.5	(2.6)	25.0	(2.4)	28.6	(2.7)	17.1	(1.8)	8.0	(0.9)	2.6	(0.8)	0.1	c
Baja California	25.2	(2.4)	28.7	(2.1)	24.2	(2.2)	14.5	(1.5)	5.9	(1.1)	1.5	(0.7)	0.0	c
Baja California Sur	26.0	(2.7)	27.5	(1.9)	26.5	(2.1)	13.3	(1.5)	5.4	(0.8)	1.2	(0.5)	0.2	c
Campeche	33.8	(2.8)	28.7	(2.5)	22.0	(1.6)	11.6	(1.2)	3.1	(0.7)	0.7	(0.3)	0.2	(0.1)
Chiapas	47.3	(4.0)	26.5	(2.1)	17.2	(2.2)	6.5	(1.2)	1.9	(0.6)	0.4	(0.3)	0.1	(0.1)
Chihuahua	23.0	(2.7)	26.1	(2.4)	25.3	(2.4)	16.1	(1.8)	7.4	(1.5)	1.9	(0.6)	0.2	(0.2)
Coahuila	23.5	(3.2)	27.8	(2.7)	26.3	(1.9)	13.8	(2.3)	6.9	(2.1)	1.7	(0.9)	0.0	c
Colima	22.2	(2.7)	24.3	(2.2)	25.5	(1.7)	18.2	(1.8)	7.4	(1.3)	2.0	(0.7)	0.4	(0.2)
Distrito Federal	20.7	(2.1)	25.4	(1.9)	25.8	(1.5)	17.4	(2.4)	8.1	(1.5)	2.3	(0.6)	0.3	c
Durango	22.6	(3.3)	24.5	(2.4)	26.2	(2.8)	17.7	(2.0)	6.9	(1.5)	2.0	(0.9)	0.2	c
Guanajuato	28.0	(3.2)	27.8	(1.8)	24.5	(2.2)	13.5	(1.5)	4.8	(0.7)	1.3	(0.4)	0.1	c
Guerrero	51.1	(2.9)	27.5	(2.0)	14.9	(1.8)	5.5	(0.9)	0.9	(0.4)	0.1	(0.1)	0.0	c
Hidalgo	29.2	(3.4)	28.9	(2.2)	23.4	(2.1)	13.6	(1.9)	4.0	(1.0)	0.9	(0.4)	0.1	c
Jalisco	16.6	(1.9)	25.4	(2.1)	29.6	(2.4)	18.4	(2.1)	7.5	(1.5)	2.2	(0.7)	0.3	(0.2)
Mexico	20.2	(2.4)	28.8	(2.4)	28.9	(1.9)	16.6	(2.3)	4.5	(1.0)	0.7	(0.5)	0.2	(0.2)
Morelos	24.2	(3.8)	26.6	(2.6)	25.2	(2.6)	14.5	(1.7)	6.2	(1.7)	2.6	(1.3)	0.6	(0.5)
Nayarit	22.6	(2.7)	27.9	(2.1)	25.7	(2.5)	15.1	(2.2)	6.7	(1.4)	1.7	(0.6)	0.2	(0.1)
Nuevo León	17.5	(3.1)	25.4	(2.2)	27.8	(1.7)	19.1	(2.7)	7.6	(1.6)	2.1	(0.7)	0.4	(0.3)
Puebla	23.2	(2.5)	27.1	(1.9)	26.8	(1.7)	15.4	(1.7)	6.3	(0.9)	1.0	(0.4)	0.1	(0.1)
Querétaro	17.9	(2.4)	25.1	(2.3)	27.6	(1.9)	17.7	(2.0)	8.9	(1.6)	2.3	(0.6)	0.6	(0.3)
Quintana Roo	26.0	(2.3)	28.4	(2.0)	25.2	(1.7)	14.7	(1.6)	4.9	(1.1)	0.8	(0.3)	0.1	(0.1)
San Luis Potosí	26.0	(3.4)	27.4	(2.1)	25.1	(2.0)	14.8	(1.9)	5.3	(1.2)	1.3	(0.5)	0.1	c
Sinaloa	23.7	(2.3)	30.6	(1.9)	26.3	(1.8)	13.6	(1.6)	5.1	(0.8)	0.7	(0.3)	0.0	c
Tabasco	41.8	(2.8)	29.3	(2.3)	18.1	(1.9)	8.1	(1.2)	2.2	(0.6)	0.4	(0.3)	0.1	c
Tamaulipas	27.5	(2.9)	28.6	(2.4)	24.3	(1.7)	13.6	(1.8)	4.6	(1.0)	1.2	(0.5)	0.2	(0.2)
Tlaxcala	24.7	(2.5)	29.6	(1.7)	25.7	(2.1)	14.4	(1.7)	4.8	(0.9)	0.7	(0.3)	0.1	(0.1)
Veracruz	32.6	(3.4)	28.4	(2.5)	22.6	(1.6)	11.7	(2.0)	4.0	(1.0)	0.7	(0.4)	0.1	c
Yucatán	27.6	(3.2)	27.5	(1.9)	24.9	(1.9)	13.8	(1.5)	4.9	(1.0)	1.1	(0.5)	0.2	c
Zacatecas	29.3	(2.8)	26.9	(1.9)	24.5	(2.2)	14.1	(1.5)	4.2	(1.0)	0.9	(0.5)	0.1	(0.1)

• PISA adjudicated region.

Note: See Table I.2.20 for national data.

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[Part 2/2]

Table B2.I.19 Percentage of students at each proficiency level on the mathematics subscale *quantity*, by region

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**														
	Alentejo	8.3	(2.3)	15.3	(3.1)	25.6	(2.8)	25.4	(3.6)	16.4	(2.2)	7.3	(1.7)	1.8	(0.9)
	Spain														
	Andalusia•	11.4	(1.3)	16.3	(1.3)	23.8	(1.5)	22.8	(1.5)	16.1	(1.3)	7.1	(1.0)	2.4	(0.5)
	Aragon•	9.9	(1.4)	12.5	(1.3)	18.1	(1.4)	22.8	(1.3)	20.2	(1.3)	12.3	(1.3)	4.3	(1.1)
	Asturias•	7.3	(1.0)	11.6	(1.1)	20.1	(1.4)	23.4	(1.2)	19.4	(1.2)	11.6	(1.1)	6.6	(0.8)
	Balearic Islands•	12.4	(1.6)	16.1	(1.3)	20.9	(1.2)	22.9	(2.0)	17.4	(1.8)	8.2	(1.3)	2.2	(0.7)
	Basque Country•	5.2	(0.6)	10.4	(0.7)	20.1	(0.9)	27.3	(0.9)	23.0	(0.8)	10.8	(0.7)	3.2	(0.4)
	Cantabria•	8.0	(0.9)	14.5	(1.0)	21.6	(1.4)	23.1	(1.3)	18.3	(1.4)	10.4	(1.2)	4.1	(0.7)
	Castile and Leon•	4.3	(0.8)	10.5	(1.1)	19.1	(1.6)	24.7	(1.5)	24.1	(1.6)	12.9	(1.1)	4.3	(0.6)
	Catalonia•	6.4	(1.0)	13.3	(1.4)	21.4	(1.7)	25.4	(2.1)	20.5	(1.5)	9.7	(1.3)	3.3	(0.5)
	Extremadura•	14.7	(1.8)	17.1	(1.5)	23.6	(1.3)	22.2	(1.4)	14.2	(1.3)	5.9	(0.8)	2.3	(0.4)
	Galicia•	7.8	(1.1)	12.7	(1.4)	21.4	(1.4)	24.7	(1.5)	19.8	(1.4)	10.3	(1.1)	3.3	(0.5)
	La Rioja•	9.3	(0.9)	12.0	(1.1)	18.2	(1.3)	22.1	(1.3)	18.7	(1.5)	12.9	(1.6)	6.7	(0.7)
	Madrid•	7.0	(1.1)	11.1	(1.1)	17.9	(1.5)	23.6	(1.6)	23.2	(1.4)	12.9	(1.1)	4.2	(0.6)
	Murcia•	14.1	(1.5)	17.3	(1.3)	23.5	(2.1)	22.8	(1.3)	14.8	(1.5)	6.1	(1.0)	1.3	(0.4)
	Navarre•	5.6	(1.0)	10.7	(0.9)	17.2	(1.1)	24.4	(1.4)	25.0	(1.5)	12.9	(1.1)	4.2	(0.7)
	United Kingdom														
	England	9.6	(1.1)	14.1	(1.1)	20.8	(1.0)	22.7	(1.1)	18.6	(0.9)	10.1	(0.7)	4.1	(0.5)
	Northern Ireland	9.6	(0.9)	14.9	(1.2)	21.1	(1.4)	23.5	(1.3)	18.0	(1.1)	9.3	(0.9)	3.5	(0.6)
	Scotland•	6.0	(0.7)	13.1	(1.0)	23.0	(1.2)	25.8	(1.2)	19.6	(1.1)	9.6	(0.7)	3.0	(0.5)
	Wales	12.3	(0.8)	19.2	(0.8)	25.1	(0.9)	24.1	(1.0)	13.4	(0.8)	4.7	(0.5)	1.2	(0.2)
	United States														
	Connecticut•	9.4	(1.4)	13.5	(1.3)	19.2	(1.2)	22.0	(1.2)	19.4	(1.6)	11.5	(1.5)	5.1	(1.0)
	Florida•	14.6	(1.8)	20.8	(1.7)	25.1	(1.3)	21.4	(1.8)	12.1	(1.1)	4.9	(1.0)	1.1	(0.4)
	Massachusetts•	7.9	(1.0)	12.6	(1.1)	19.9	(1.9)	23.7	(1.5)	18.5	(1.1)	11.8	(1.6)	5.6	(1.1)
Partners	**Argentina**														
	Ciudad Autónoma de Buenos Aires•	21.8	(2.5)	22.4	(2.1)	25.8	(1.6)	19.3	(2.0)	8.4	(1.6)	2.2	(0.7)	0.1	(0.1)
	Brazil														
	Acre	55.0	(3.7)	26.8	(3.0)	13.4	(2.0)	4.0	(1.3)	0.6	(0.4)	0.2	(0.2)	0.0	c
	Alagoas	57.7	(4.2)	23.9	(2.6)	12.4	(2.1)	4.5	(1.5)	1.4	(0.7)	0.2	(0.2)	0.0	c
	Amapá	54.1	(5.5)	26.5	(2.8)	13.6	(2.9)	4.8	(2.0)	1.0	(0.7)	0.0	c	0.0	c
	Amazonas	56.1	(3.5)	26.6	(2.5)	11.8	(2.1)	3.1	(1.3)	1.6	(1.2)	0.8	(0.8)	0.0	c
	Bahia	45.8	(6.8)	25.2	(4.2)	18.0	(4.9)	7.7	(2.0)	2.3	(1.3)	0.8	(0.7)	0.1	c
	Ceará	42.7	(3.6)	27.0	(2.7)	17.8	(2.7)	7.6	(1.8)	3.0	(1.3)	1.6	(0.8)	0.2	c
	Espírito Santo	26.1	(2.8)	28.1	(2.7)	21.4	(2.6)	12.9	(1.9)	8.3	(2.6)	2.9	(1.0)	0.4	(0.3)
	Federal District	27.4	(5.0)	25.7	(3.6)	22.3	(2.8)	14.7	(2.6)	7.1	(2.2)	2.5	(1.0)	0.4	(0.4)
	Goiás	40.6	(4.1)	29.3	(2.4)	17.2	(2.3)	8.7	(1.3)	3.5	(0.9)	0.6	(0.4)	0.1	c
	Maranhão	60.7	(6.7)	22.2	(3.3)	10.2	(3.2)	5.1	(2.4)	1.4	(1.1)	0.4	c	0.0	c
	Mato Grosso	45.6	(4.0)	29.7	(3.0)	16.0	(2.2)	5.6	(1.6)	2.2	(1.4)	0.9	(0.6)	0.0	c
	Mato Grosso do Sul	28.6	(4.3)	29.7	(3.1)	22.9	(2.3)	12.6	(1.6)	4.9	(2.0)	1.1	(0.7)	0.2	c
	Minas Gerais	30.0	(3.9)	26.8	(2.4)	23.9	(2.3)	14.3	(2.4)	3.8	(1.2)	1.1	(0.5)	0.0	c
	Pará	53.8	(3.0)	26.6	(3.0)	14.5	(1.7)	4.5	(0.7)	0.5	(0.4)	0.1	c	0.0	c
	Paraíba	33.9	(4.9)	28.3	(3.5)	20.9	(4.1)	12.0	(1.6)	3.7	(1.2)	1.0	(0.6)	0.1	c
	Paraná	29.1	(3.7)	27.2	(2.6)	22.3	(2.9)	11.4	(1.8)	6.5	(2.9)	3.0	(2.5)	0.6	(0.6)
	Pernambuco	45.9	(5.4)	30.2	(3.9)	16.9	(2.6)	4.9	(1.1)	1.7	(0.9)	0.3	(0.4)	0.1	(0.1)
	Piauí	39.1	(3.6)	29.5	(2.9)	15.9	(2.2)	10.1	(1.7)	3.8	(1.6)	1.1	(0.7)	0.5	(0.4)
	Rio de Janeiro	38.0	(4.8)	27.5	(3.2)	21.3	(2.5)	8.8	(2.0)	3.5	(1.3)	0.8	(0.5)	0.1	c
	Rio Grande do Norte	45.8	(3.5)	25.0	(2.6)	15.0	(1.9)	7.7	(1.9)	3.6	(1.2)	2.1	(0.9)	0.8	(0.6)
	Rio Grande do Sul	27.5	(3.5)	27.9	(2.1)	25.3	(2.8)	13.9	(2.2)	4.4	(1.2)	0.9	(0.5)	0.1	c
	Rondônia	39.4	(3.1)	30.3	(2.0)	21.9	(2.6)	6.7	(1.5)	1.5	(0.5)	0.1	c	0	c
	Roraima	52.8	(4.0)	24.5	(3.5)	14.6	(2.3)	6.3	(1.9)	1.7	(0.7)	0.1	c	0.0	c
	Santa Catarina	23.6	(3.5)	22.4	(2.4)	26.0	(2.0)	18.2	(2.3)	7.8	(1.7)	1.8	(0.8)	0.1	c
	São Paulo	31.8	(2.0)	27.2	(1.6)	21.1	(1.2)	12.0	(1.3)	6.0	(1.0)	1.6	(0.6)	0.4	(0.2)
	Sergipe	38.6	(4.0)	27.7	(3.0)	19.6	(3.0)	10.0	(2.4)	3.4	(1.7)	0.8	(0.5)	0.0	c
	Tocantins	50.6	(3.3)	25.4	(2.5)	13.7	(1.7)	7.2	(1.3)	2.2	(0.8)	0.6	(0.3)	0.3	(0.3)
	Colombia														
	Bogotá	34.0	(1.6)	30.7	(1.7)	22.8	(1.3)	9.5	(1.2)	2.5	(0.6)	0.4	(0.2)	0.1	c
	Cali	40.5	(3.8)	28.4	(1.9)	19.5	(2.4)	8.8	(1.8)	2.4	(0.7)	0.4	(0.2)	0.0	c
	Manizales	28.9	(2.0)	29.8	(2.4)	22.8	(2.4)	11.6	(1.5)	5.2	(1.2)	1.6	(0.7)	0.2	(0.2)
	Medellín	38.5	(3.3)	25.4	(1.9)	17.8	(2.0)	10.8	(1.8)	4.6	(1.2)	2.0	(0.9)	0.9	(0.6)
	Russian Federation														
	Perm Territory region•	9.2	(1.3)	16.9	(1.6)	25.7	(1.9)	24.5	(1.5)	16.0	(1.3)	6.0	(1.2)	1.8	(0.8)
	United Arab Emirates														
	Abu Dhabi•	29.4	(1.8)	23.8	(1.3)	21.4	(1.2)	14.5	(1.1)	7.5	(1.0)	2.7	(0.5)	0.7	(0.3)
	Ajman	33.2	(4.8)	28.6	(2.7)	21.5	(3.1)	12.6	(2.5)	3.5	(1.0)	0.4	(0.4)	0.0	c
	Dubai•	15.3	(0.6)	18.1	(0.8)	22.8	(1.1)	21.2	(1.0)	14.3	(0.7)	6.4	(0.5)	2.0	(0.3)
	Fujairah	30.0	(4.2)	25.5	(2.8)	24.5	(2.8)	13.5	(2.0)	5.4	(0.9)	0.9	(0.5)	0.1	(0.1)
	Ras al-Khaimah	28.7	(3.4)	26.3	(2.4)	23.3	(2.5)	14.6	(1.8)	5.2	(1.1)	1.5	(0.6)	0.4	(0.3)
	Sharjah	20.7	(3.0)	24.1	(3.0)	23.2	(2.8)	16.5	(2.5)	10.9	(2.2)	3.7	(0.9)	1.0	(0.6)
	Umm al-Quwain	36.2	(2.7)	30.6	(3.1)	19.5	(2.5)	10.0	(2.4)	2.9	(1.4)	0.8	(0.8)	0.1	c

• PISA adjudicated region.

Note: See Table I.2.20 for national data.

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[Part 1/4]

Table B2.I.20 Percentage of students at each proficiency level on the mathematics subscale *quantity*, by gender and region

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	7.8	(1.4)	10.2	(2.0)	20.4	(3.2)	24.9	(2.9)	19.3	(2.6)	11.7	(2.1)	5.8	(1.3)
	New South Wales	9.8	(1.1)	12.4	(1.1)	20.0	(1.3)	21.2	(1.3)	17.4	(1.3)	11.8	(1.5)	7.4	(1.3)
	Northern Territory	20.5	(2.6)	17.4	(4.7)	18.1	(4.7)	24.5	(4.7)	11.8	(3.0)	4.7	(2.5)	3.0	(1.5)
	Queensland	8.3	(1.3)	13.9	(1.4)	21.7	(1.6)	21.7	(1.6)	18.3	(1.5)	11.1	(1.3)	5.0	(0.7)
	South Australia	9.1	(1.3)	14.9	(1.5)	22.6	(2.1)	23.9	(2.1)	17.3	(1.9)	9.3	(1.5)	2.9	(0.8)
	Tasmania	12.8	(1.7)	13.9	(2.0)	24.1	(2.4)	24.2	(3.2)	13.7	(2.3)	8.2	(1.6)	3.2	(1.0)
	Victoria	7.0	(1.1)	12.6	(1.5)	20.3	(1.4)	23.3	(1.4)	21.1	(1.7)	10.4	(1.3)	5.4	(1.4)
	Western Australia	4.9	(0.9)	10.6	(1.6)	18.7	(1.8)	22.4	(1.8)	22.5	(2.4)	14.2	(1.8)	6.7	(1.3)
	Belgium														
	Flemish Community•	5.2	(0.8)	8.4	(1.1)	16.0	(0.9)	20.6	(1.2)	21.2	(1.1)	18.0	(1.5)	10.6	(1.1)
	French Community	8.5	(1.0)	13.6	(1.2)	18.1	(1.4)	22.4	(2.0)	21.5	(1.5)	11.7	(1.4)	4.1	(0.5)
	German-speaking Community	8.0	(1.1)	11.3	(1.9)	15.0	(2.1)	24.4	(2.5)	22.0	(1.9)	13.7	(2.0)	5.6	(1.6)
	Canada														
	Alberta	6.5	(1.4)	10.4	(1.1)	19.0	(1.8)	24.0	(1.9)	19.4	(2.2)	13.0	(1.8)	7.6	(1.2)
	British Columbia	4.0	(1.0)	8.3	(1.3)	18.9	(2.2)	23.7	(1.9)	22.2	(2.6)	15.5	(1.8)	7.4	(1.4)
	Manitoba	9.3	(1.9)	14.9	(2.7)	21.2	(2.3)	23.8	(2.3)	17.8	(1.6)	9.1	(1.3)	4.0	(1.1)
	New Brunswick	6.5	(1.3)	11.4	(1.3)	20.1	(1.8)	28.6	(2.5)	18.9	(1.9)	10.3	(1.6)	4.2	(1.2)
	Newfoundland and Labrador	9.5	(2.1)	15.2	(2.4)	22.7	(2.3)	24.2	(2.6)	16.8	(1.7)	8.2	(1.4)	3.4	(1.1)
	Nova Scotia	7.5	(1.5)	12.5	(3.0)	21.3	(3.0)	25.3	(2.4)	19.4	(2.2)	10.4	(2.4)	3.6	(1.0)
	Ontario	6.3	(1.0)	11.5	(1.3)	19.7	(1.3)	23.7	(1.4)	19.0	(1.6)	12.6	(1.8)	7.2	(1.1)
	Prince Edward Island	12.8	(1.7)	16.6	(1.5)	23.3	(2.1)	22.5	(2.0)	15.2	(1.6)	7.6	(1.4)	2.1	(0.7)
	Quebec	4.8	(0.9)	7.9	(1.0)	15.0	(1.5)	22.2	(1.6)	24.6	(1.4)	17.7	(1.6)	7.7	(1.0)
	Saskatchewan	6.2	(1.2)	13.1	(1.8)	21.5	(2.2)	24.8	(1.9)	19.6	(2.1)	11.1	(1.8)	3.7	(1.1)
	Italy														
	Abruzzo	13.2	(2.3)	13.7	(2.0)	20.4	(2.4)	23.5	(2.5)	18.6	(2.3)	7.9	(1.7)	2.8	(0.9)
	Basilicata	10.4	(1.3)	15.1	(2.1)	22.2	(1.8)	24.8	(2.1)	18.1	(2.6)	6.9	(1.6)	2.6	(0.8)
	Bolzano	5.8	(0.9)	10.6	(1.5)	16.3	(1.8)	23.3	(1.8)	21.8	(1.8)	14.0	(1.5)	8.2	(0.9)
	Calabria	19.3	(3.0)	21.3	(2.7)	22.9	(2.6)	20.4	(2.2)	11.0	(1.8)	4.0	(1.1)	1.0	(0.4)
	Campania	12.5	(2.0)	19.9	(2.5)	22.3	(2.4)	22.8	(3.2)	14.6	(2.3)	5.5	(1.2)	2.3	(0.9)
	Emilia Romagna	8.5	(1.8)	11.6	(2.4)	15.9	(2.2)	21.4	(2.1)	21.9	(2.5)	13.7	(2.3)	6.9	(1.4)
	Friuli Venezia Giulia	5.3	(1.6)	9.1	(2.1)	14.3	(2.3)	22.4	(2.5)	23.5	(1.8)	16.2	(1.9)	9.2	(1.3)
	Lazio	9.0	(1.9)	16.4	(2.1)	21.5	(2.1)	22.5	(2.1)	17.3	(2.1)	9.9	(1.6)	3.4	(0.8)
	Liguria	7.3	(2.1)	14.0	(2.5)	22.8	(2.3)	21.0	(1.9)	18.8	(2.3)	11.7	(2.0)	4.4	(1.0)
	Lombardia	4.0	(1.0)	8.7	(1.4)	16.7	(3.1)	23.6	(2.7)	24.1	(2.6)	16.0	(2.2)	6.9	(1.3)
	Marche	5.5	(1.8)	10.3	(1.8)	18.8	(2.6)	25.0	(2.1)	23.2	(2.2)	11.7	(2.1)	5.4	(1.4)
	Molise	10.3	(1.7)	16.0	(2.2)	23.3	(2.3)	24.3	(2.4)	19.1	(2.4)	5.2	(1.5)	1.7	(0.7)
	Piemonte	7.5	(1.5)	10.4	(1.4)	17.8	(1.7)	24.4	(2.8)	23.2	(2.5)	12.5	(1.6)	4.1	(1.0)
	Puglia	8.7	(1.6)	13.8	(1.8)	20.9	(1.8)	24.6	(2.3)	21.0	(2.3)	9.1	(1.1)	1.8	(0.8)
	Sardegna	14.3	(2.0)	17.3	(2.0)	24.1	(2.5)	22.7	(2.4)	14.1	(1.5)	6.5	(1.0)	1.0	(0.5)
	Sicilia	14.9	(2.2)	20.5	(2.6)	25.8	(1.7)	21.1	(2.6)	12.6	(2.0)	4.1	(0.9)	1.1	(0.6)
	Toscana	10.1	(2.3)	11.4	(2.3)	20.0	(2.3)	23.0	(2.4)	18.0	(2.4)	11.6	(2.0)	5.9	(1.1)
	Trento	4.6	(1.2)	9.0	(1.3)	18.2	(1.8)	24.8	(2.2)	22.4	(1.9)	13.9	(1.8)	7.1	(1.2)
	Umbria	6.3	(2.1)	10.7	(2.5)	20.1	(2.0)	24.6	(2.3)	22.7	(2.4)	11.7	(1.7)	3.9	(1.0)
	Valle d'Aosta	7.0	(1.3)	11.0	(1.8)	21.3	(2.2)	25.7	(2.4)	19.5	(2.4)	10.3	(1.9)	5.2	(1.2)
	Veneto	4.8	(1.3)	8.4	(1.8)	15.9	(2.3)	21.2	(2.3)	21.8	(2.1)	18.9	(2.1)	9.0	(2.1)
	Mexico														
	Aguascalientes	18.6	(3.5)	24.4	(2.8)	27.0	(3.6)	17.1	(2.4)	9.4	(1.6)	3.4	(1.2)	0.2	c
	Baja California	21.6	(3.6)	30.2	(3.3)	25.2	(3.5)	15.0	(2.7)	6.7	(1.8)	1.2	(0.7)	0.1	c
	Baja California Sur	23.8	(3.1)	26.9	(2.6)	27.3	(3.2)	13.7	(2.2)	6.4	(1.2)	1.7	(0.9)	0.3	c
	Campeche	31.9	(3.6)	26.9	(3.4)	23.1	(2.0)	13.3	(2.1)	3.7	(1.0)	0.9	(0.4)	0.2	c
	Chiapas	44.2	(4.6)	29.1	(3.1)	17.2	(2.8)	6.4	(1.8)	2.5	(1.0)	0.6	c	0.0	c
	Chihuahua	20.5	(3.4)	25.0	(2.9)	25.3	(3.6)	17.6	(2.9)	8.7	(1.8)	2.8	(0.9)	0.1	c
	Coahuila	23.3	(3.8)	26.0	(3.8)	25.1	(2.9)	16.0	(2.9)	7.6	(2.5)	2.0	(1.1)	0.1	c
	Colima	21.8	(2.9)	23.7	(2.3)	25.4	(2.0)	17.6	(2.4)	8.0	(1.6)	2.8	(1.1)	0.5	(0.3)
	Distrito Federal	16.0	(2.4)	21.7	(3.2)	26.1	(3.5)	21.1	(3.3)	11.2	(2.6)	3.4	(0.9)	0.5	c
	Durango	21.3	(3.9)	23.6	(3.0)	24.7	(3.1)	18.6	(2.7)	9.0	(2.5)	2.6	(1.2)	0.2	c
	Guanajuato	24.8	(3.3)	26.0	(2.9)	24.7	(2.5)	15.7	(1.9)	6.8	(1.2)	1.9	(0.8)	0.2	c
	Guerrero	49.2	(3.1)	27.4	(2.6)	16.2	(2.2)	6.3	(1.5)	0.9	(0.6)	0.2	(0.2)	0.0	c
	Hidalgo	25.9	(4.2)	27.1	(3.9)	24.1	(2.4)	16.1	(2.8)	5.2	(1.3)	1.4	(0.8)	0.1	c
	Jalisco	16.2	(2.9)	23.4	(2.7)	28.7	(3.6)	19.6	(3.0)	8.7	(2.5)	2.8	(1.1)	0.6	(0.5)
	Mexico	18.4	(2.4)	27.5	(2.7)	27.8	(2.6)	18.7	(3.1)	6.0	(1.7)	1.1	(0.7)	0.5	(0.5)
	Morelos	24.7	(5.1)	24.5	(3.1)	23.7	(3.3)	15.4	(2.4)	7.9	(2.1)	3.1	(1.3)	0.6	(0.5)
	Nayarit	20.1	(2.6)	24.8	(2.9)	27.5	(3.1)	17.8	(2.6)	7.6	(1.5)	2.0	(0.7)	0.3	(0.2)
	Nuevo León	14.0	(3.1)	21.8	(2.8)	30.0	(2.9)	21.6	(4.0)	9.3	(2.1)	2.7	(1.0)	0.7	(0.4)
	Puebla	20.4	(3.4)	25.2	(2.8)	26.8	(2.8)	18.3	(2.4)	7.9	(1.4)	1.2	(0.6)	0.2	(0.2)
	Querétaro	15.5	(2.9)	23.2	(3.4)	27.3	(3.8)	19.7	(2.7)	10.4	(2.2)	3.0	(0.9)	0.8	(0.4)
	Quintana Roo	25.2	(2.7)	27.4	(2.4)	25.0	(2.2)	15.6	(2.6)	6.0	(1.6)	0.8	(0.4)	0.1	c
	San Luis Potosí	26.7	(4.1)	25.2	(2.7)	24.5	(2.5)	15.8	(2.7)	6.0	(1.5)	1.6	(0.8)	0.3	c
	Sinaloa	22.7	(2.6)	29.7	(2.8)	26.3	(2.3)	14.3	(2.3)	5.6	(1.3)	1.4	(0.6)	0.0	c
	Tabasco	38.9	(3.8)	28.5	(3.1)	18.5	(2.7)	10.5	(1.8)	2.8	(1.0)	0.7	c	0.0	c
	Tamaulipas	23.5	(3.7)	27.8	(3.1)	24.4	(3.1)	15.9	(2.4)	6.3	(1.7)	1.9	(1.0)	0.3	(0.3)
	Tlaxcala	23.0	(2.6)	28.7	(2.3)	26.0	(2.3)	16.2	(2.2)	5.1	(1.0)	0.9	(0.4)	0.1	c
	Veracruz	31.7	(3.6)	26.2	(3.5)	23.9	(2.9)	12.4	(2.4)	4.9	(1.4)	0.8	(0.6)	0.1	c
	Yucatán	23.4	(3.3)	27.1	(2.7)	25.6	(3.1)	15.9	(2.2)	5.9	(1.4)	1.7	(0.8)	0.4	c
	Zacatecas	27.1	(3.7)	27.3	(2.4)	23.5	(2.5)	16.4	(2.1)	4.3	(1.3)	1.2	(0.8)	0.1	c

• PISA adjudicated region.

Note: See Table I.2.21 for national data.

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[Part 2/4]

Table B2.I.20 Percentage of students at each proficiency level on the mathematics subscale *quantity*, by gender and region

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**														
	Alentejo	7.1	(2.2)	13.0	(4.0)	25.3	(4.7)	26.7	(4.7)	15.9	(2.3)	9.0	(2.3)	2.9	(1.4)
	Spain														
	Andalusia•	10.8	(1.4)	14.7	(1.4)	21.1	(2.3)	23.5	(2.5)	17.7	(1.9)	8.6	(1.3)	3.6	(0.9)
	Aragon•	9.9	(1.6)	11.6	(1.6)	16.5	(2.2)	20.2	(1.8)	21.9	(1.9)	14.5	(1.7)	5.3	(1.4)
	Asturias•	7.8	(1.3)	10.3	(1.4)	17.9	(1.6)	22.4	(1.7)	19.4	(1.7)	13.1	(1.9)	9.0	(1.1)
	Balearic Islands•	11.4	(1.9)	15.9	(1.6)	19.8	(1.9)	23.1	(2.6)	18.3	(1.9)	8.7	(1.7)	2.9	(1.0)
	Basque Country•	5.0	(0.9)	10.0	(0.8)	18.6	(1.4)	26.1	(1.3)	23.9	(1.2)	12.4	(0.9)	3.9	(0.5)
	Cantabria•	8.3	(1.2)	13.3	(1.4)	19.5	(2.2)	21.9	(1.7)	19.2	(1.8)	13.0	(1.5)	4.8	(1.0)
	Castile and Leon•	4.2	(1.0)	9.0	(1.3)	16.8	(1.9)	22.1	(1.9)	24.5	(2.8)	16.7	(1.6)	6.7	(1.1)
	Catalonia•	5.8	(1.0)	11.9	(1.9)	20.3	(2.8)	23.4	(2.8)	21.7	(2.1)	12.2	(2.1)	4.7	(1.0)
	Extremadura•	15.1	(2.3)	16.2	(2.1)	21.8	(1.9)	21.8	(1.6)	15.1	(1.6)	6.8	(1.1)	3.3	(0.6)
	Galicia•	8.2	(1.5)	12.9	(2.1)	20.5	(1.6)	24.0	(1.7)	21.0	(2.3)	10.5	(1.6)	2.9	(0.9)
	La Rioja•	9.6	(1.2)	10.8	(1.5)	15.3	(1.6)	19.0	(1.8)	20.1	(2.5)	15.6	(2.2)	9.7	(1.3)
	Madrid•	6.8	(1.3)	10.2	(1.5)	15.9	(1.9)	21.9	(1.9)	24.2	(1.5)	14.9	(1.3)	6.1	(1.0)
	Murcia•	14.5	(2.2)	15.6	(1.9)	21.1	(3.1)	22.2	(2.5)	16.3	(2.3)	8.4	(1.6)	1.9	(0.7)
	Navarre•	6.2	(1.1)	10.6	(1.1)	15.9	(1.5)	24.1	(1.6)	25.8	(1.7)	12.9	(1.5)	4.5	(1.0)
	United Kingdom														
	England	8.6	(1.2)	13.1	(1.4)	20.0	(1.4)	22.4	(1.5)	19.9	(1.5)	11.4	(1.1)	4.5	(0.8)
	Northern Ireland	9.1	(1.4)	13.9	(2.0)	20.5	(1.5)	24.3	(1.6)	18.3	(1.7)	9.8	(1.2)	4.0	(1.0)
	Scotland•	5.4	(0.8)	12.4	(1.2)	21.7	(1.4)	25.9	(1.3)	20.7	(1.5)	10.5	(1.3)	3.4	(0.6)
	Wales	11.8	(1.1)	17.8	(0.9)	24.2	(1.3)	24.8	(1.4)	14.4	(1.1)	5.5	(0.7)	1.4	(0.3)
	United States														
	Connecticut•	8.7	(1.5)	13.1	(1.8)	17.8	(1.8)	21.7	(1.8)	19.5	(2.1)	13.5	(2.3)	5.6	(1.3)
	Florida•	13.4	(2.1)	19.7	(2.1)	23.6	(1.9)	22.0	(1.7)	13.9	(1.5)	5.8	(1.2)	1.7	(0.6)
	Massachusetts•	8.0	(1.1)	11.9	(1.4)	18.8	(2.3)	24.6	(2.1)	18.2	(1.8)	12.6	(2.0)	5.9	(1.4)
Partners	**Argentina**														
	Ciudad Autónoma de Buenos Aires•	20.7	(2.8)	21.6	(2.3)	24.7	(2.7)	19.8	(3.5)	10.3	(2.4)	2.7	(0.9)	0.1	c
	Brazil														
	Acre	50.4	(5.6)	28.8	(4.1)	15.4	(3.5)	4.4	(1.6)	0.8	(0.5)	0.4	(0.4)	0.0	c
	Alagoas	50.5	(5.5)	28.4	(4.3)	14.4	(3.3)	4.9	(2.0)	1.5	(1.0)	0.4	c	0.0	c
	Amapá	49.7	(6.0)	25.9	(4.2)	16.3	(4.7)	6.7	(3.1)	1.4	(1.0)	0.0	c	0.0	c
	Amazonas	49.9	(5.1)	27.9	(4.3)	14.6	(3.3)	4.1	(1.9)	2.2	(1.5)	1.3	(1.2)	0.0	c
	Bahia	44.7	(5.5)	27.6	(6.0)	16.5	(4.8)	7.7	(1.7)	1.8	(1.6)	1.4	(1.4)	0.3	c
	Ceará	40.3	(3.7)	27.0	(3.8)	16.9	(2.6)	9.2	(2.2)	3.8	(1.9)	2.5	(1.4)	0.4	c
	Espírito Santo	23.1	(3.8)	26.9	(3.4)	22.7	(3.0)	14.9	(2.1)	8.8	(2.5)	3.1	(1.3)	0.5	c
	Federal District	24.8	(5.6)	26.1	(4.5)	21.9	(3.2)	14.4	(2.9)	8.2	(2.8)	3.8	(1.8)	0.9	(0.9)
	Goiás	35.3	(4.6)	30.4	(3.5)	17.2	(2.8)	11.2	(2.6)	5.0	(1.0)	1.0	(0.5)	0.0	c
	Maranhão	54.3	(7.2)	24.3	(5.1)	10.1	(3.3)	8.0	(4.4)	2.4	(2.1)	0.9	c	0.0	c
	Mato Grosso	43.8	(4.6)	29.6	(3.4)	17.8	(3.4)	6.3	(1.9)	1.5	(0.9)	1.0	(0.8)	0.0	c
	Mato Grosso do Sul	23.7	(4.8)	28.6	(3.6)	24.9	(2.7)	15.0	(2.4)	6.6	(3.1)	1.1	(0.8)	0.1	c
	Minas Gerais	27.0	(4.7)	26.6	(4.1)	25.2	(3.4)	15.3	(3.3)	4.2	(1.3)	1.5	(0.8)	0.1	c
	Pará	47.6	(4.0)	29.0	(5.1)	15.8	(4.3)	6.3	(1.7)	1.1	(1.0)	0.3	c	0.0	c
	Paraíba	29.4	(5.7)	28.2	(5.7)	23.7	(4.9)	11.5	(2.2)	5.3	(2.4)	1.8	(1.2)	0.2	c
	Paraná	24.3	(4.3)	26.8	(2.9)	22.6	(3.2)	13.1	(3.0)	8.7	(3.5)	3.8	(3.2)	0.7	(0.6)
	Pernambuco	38.4	(5.4)	31.4	(4.1)	19.2	(3.3)	7.2	(2.6)	2.9	(1.9)	0.6	(0.7)	0.2	(0.2)
	Piauí	34.7	(4.8)	28.9	(4.4)	17.7	(3.2)	11.5	(2.2)	5.1	(2.4)	0.1	c	1.9	(0.6)
	Rio de Janeiro	34.9	(6.0)	28.0	(5.0)	20.3	(3.0)	10.2	(2.8)	5.1	(1.8)	1.4	(0.9)	0.1	c
	Rio Grande do Norte	39.1	(4.3)	27.0	(4.4)	16.7	(3.1)	8.0	(3.0)	4.8	(1.2)	3.4	(1.3)	1.1	(1.1)
	Rio Grande do Sul	23.6	(4.7)	26.4	(4.2)	26.3	(4.0)	17.2	(3.4)	5.4	(1.5)	1.1	(0.6)	0.1	c
	Rondônia	36.0	(3.2)	29.7	(3.3)	23.0	(3.4)	8.7	(1.9)	2.4	(0.9)	0.3	c	0.0	c
	Roraima	49.6	(5.4)	25.4	(4.2)	15.9	(2.8)	6.9	(2.3)	2.1	(1.1)	0.1	c	0.0	c
	Santa Catarina	22.3	(3.5)	22.0	(2.9)	23.5	(3.3)	20.2	(3.1)	9.4	(2.3)	2.5	(1.2)	0.2	c
	São Paulo	29.3	(2.1)	26.4	(1.6)	21.8	(2.1)	12.9	(1.6)	7.2	(1.4)	1.8	(0.7)	0.5	(0.3)
	Sergipe	32.1	(4.7)	27.0	(4.1)	20.5	(3.5)	14.0	(3.6)	4.9	(3.0)	1.4	(1.0)	0.0	c
	Tocantins	47.3	(4.9)	23.0	(4.0)	16.0	(2.9)	9.8	(1.8)	2.8	(1.4)	0.5	(0.5)	0.5	(0.5)
	Colombia														
	Bogotá	25.5	(2.0)	30.5	(2.2)	26.7	(2.0)	12.4	(1.7)	4.0	(1.3)	0.8	(0.4)	0.1	c
	Cali	36.2	(3.8)	28.3	(2.5)	21.9	(2.9)	10.1	(2.1)	3.1	(0.9)	0.4	(0.4)	0.0	c
	Manizales	22.9	(2.1)	26.2	(3.2)	25.2	(2.7)	15.7	(2.1)	7.3	(1.9)	2.5	(1.3)	0.3	(0.3)
	Medellín	32.2	(4.0)	25.7	(3.3)	20.9	(2.4)	12.7	(2.5)	5.2	(1.4)	2.2	(1.4)	1.1	(1.0)
	Russian Federation														
	Perm Territory region•	9.8	(1.8)	15.7	(1.7)	23.7	(2.2)	23.6	(1.9)	17.7	(1.6)	7.4	(1.5)	2.1	(0.9)
	United Arab Emirates														
	Abu Dhabi•	35.1	(2.2)	21.9	(1.8)	19.4	(1.8)	12.9	(1.2)	6.9	(1.2)	3.0	(0.7)	0.8	(0.4)
	Ajman	43.0	(6.1)	26.3	(4.6)	17.8	(3.6)	11.0	(2.9)	1.8	(1.2)	0.1	c	0.0	c
	Dubai•	15.5	(0.8)	16.9	(1.0)	21.3	(1.3)	20.3	(1.2)	15.6	(1.0)	7.5	(1.0)	2.9	(0.5)
	Fujairah	38.7	(5.3)	26.1	(3.1)	19.4	(3.9)	9.2	(2.6)	5.3	(1.3)	1.0	(0.6)	0.2	(0.2)
	Ras al-Khaimah	31.1	(3.5)	28.1	(2.9)	22.3	(3.3)	12.4	(2.4)	4.7	(1.3)	0.9	c	0.5	(0.4)
	Sharjah	19.0	(4.6)	23.9	(3.9)	23.2	(4.2)	16.6	(3.1)	11.5	(4.1)	4.2	(1.9)	1.7	(1.3)
	Umm al-Quwain	45.3	(4.2)	30.3	(4.2)	14.4	(4.1)	7.1	(2.9)	2.2	(1.9)	0.7	c	0.0	c

• PISA adjudicated region.

Note: See Table I.2.21 for national data.

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[Part 3/4]

Table B2.I.20 Percentage of students at each proficiency level on the mathematics subscale *quantity*, by gender and region

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	4.8	(1.2)	10.8	(1.9)	20.1	(2.9)	23.4	(3.2)	21.0	(3.0)	14.5	(2.2)	5.5	(1.5)
	New South Wales	7.6	(0.8)	13.6	(1.1)	21.0	(1.3)	23.2	(1.3)	18.0	(1.5)	10.9	(1.3)	5.7	(1.1)
	Northern Territory	21.5	(3.6)	18.3	(5.0)	21.1	(9.2)	23.8	(6.5)	10.4	(4.5)	4.3	(2.6)	0.8	c
	Queensland	8.8	(1.1)	15.2	(1.5)	20.9	(2.0)	23.0	(1.7)	17.1	(1.7)	10.8	(1.6)	4.1	(0.9)
	South Australia	11.1	(1.3)	18.1	(1.7)	24.7	(2.4)	23.2	(2.3)	14.9	(1.9)	6.3	(1.2)	1.8	(0.6)
	Tasmania	13.8	(1.9)	20.4	(2.3)	25.1	(2.4)	20.6	(2.8)	13.0	(2.8)	5.5	(1.6)	1.5	(0.7)
	Victoria	8.7	(1.1)	15.0	(1.3)	24.0	(2.1)	24.0	(2.4)	17.7	(1.5)	8.6	(1.2)	2.2	(0.7)
	Western Australia	7.8	(1.1)	14.7	(2.0)	20.0	(2.1)	24.1	(1.9)	18.9	(1.5)	10.2	(1.6)	4.2	(1.0)
	Belgium														
	Flemish Community•	5.8	(0.9)	9.3	(0.8)	16.4	(1.2)	21.2	(1.2)	22.3	(1.2)	17.2	(1.2)	7.7	(0.7)
	French Community	8.8	(1.1)	14.9	(1.5)	22.1	(1.9)	23.3	(1.3)	19.5	(1.4)	9.0	(1.1)	2.5	(0.5)
	German-speaking Community	5.4	(1.2)	7.8	(1.5)	18.1	(2.2)	26.8	(2.5)	27.6	(3.1)	12.2	(2.0)	2.1	(0.9)
	Canada														
	Alberta	6.6	(1.3)	13.9	(1.8)	19.9	(2.0)	23.5	(2.2)	20.6	(2.0)	11.2	(1.5)	4.2	(0.9)
	British Columbia	4.4	(1.0)	11.3	(1.7)	21.3	(2.3)	25.5	(1.8)	21.1	(1.9)	11.1	(1.6)	5.3	(1.2)
	Manitoba	9.7	(1.7)	16.4	(1.7)	23.5	(1.8)	23.2	(2.0)	16.6	(1.5)	7.8	(1.1)	3.0	(0.7)
	New Brunswick	6.4	(1.2)	11.0	(1.3)	24.7	(2.8)	26.4	(2.8)	19.0	(2.1)	8.2	(1.6)	4.3	(1.3)
	Newfoundland and Labrador	8.8	(1.6)	17.3	(2.5)	24.8	(2.6)	22.7	(2.4)	16.8	(2.1)	7.4	(1.3)	2.2	(0.6)
	Nova Scotia	7.5	(1.4)	16.2	(2.1)	25.3	(4.0)	24.4	(4.2)	17.3	(2.5)	6.6	(1.4)	2.6	(0.9)
	Ontario	6.4	(0.8)	11.5	(1.1)	21.2	(2.1)	25.6	(1.5)	20.7	(1.4)	10.3	(1.1)	4.2	(0.8)
	Prince Edward Island	9.5	(1.3)	18.2	(1.5)	25.8	(1.8)	25.0	(2.1)	15.5	(2.1)	4.8	(1.1)	1.2	(0.5)
	Quebec	4.4	(0.7)	8.1	(0.9)	17.0	(1.2)	23.7	(1.5)	24.4	(1.7)	15.7	(1.1)	6.6	(1.1)
	Saskatchewan	6.3	(1.0)	13.7	(1.7)	24.4	(2.0)	25.5	(2.1)	17.7	(1.6)	9.9	(1.6)	2.6	(0.8)
	Italy														
	Abruzzo	10.4	(1.7)	17.1	(2.2)	23.4	(2.0)	25.3	(2.5)	15.9	(1.8)	6.6	(1.4)	1.3	(0.7)
	Basilicata	12.4	(1.7)	20.8	(1.9)	28.1	(2.2)	23.8	(1.9)	11.2	(1.3)	2.9	(0.7)	0.9	(0.5)
	Bolzano	6.9	(0.9)	11.0	(1.4)	20.7	(1.5)	28.6	(2.2)	21.5	(2.1)	8.8	(1.1)	2.6	(0.8)
	Calabria	24.1	(3.6)	22.8	(2.6)	24.3	(2.5)	18.1	(2.5)	8.4	(1.4)	1.9	(0.7)	0.3	(0.3)
	Campania	16.6	(2.9)	20.9	(2.2)	27.6	(3.0)	20.8	(2.2)	10.3	(1.8)	3.5	(1.2)	0.4	(0.3)
	Emilia Romagna	8.0	(1.6)	11.2	(1.5)	24.2	(2.6)	26.0	(2.0)	18.8	(2.2)	8.7	(1.8)	3.0	(0.9)
	Friuli Venezia Giulia	5.4	(1.9)	7.5	(1.3)	18.7	(2.6)	27.9	(2.4)	25.6	(2.0)	11.1	(1.7)	3.8	(0.9)
	Lazio	12.1	(2.4)	17.5	(2.4)	25.1	(2.4)	25.5	(2.0)	12.9	(2.0)	5.6	(1.2)	1.4	(0.7)
	Liguria	9.9	(2.0)	14.2	(2.6)	22.6	(2.9)	24.5	(1.9)	18.6	(2.1)	8.4	(1.6)	1.9	(0.7)
	Lombardia	4.4	(1.2)	10.8	(2.1)	20.1	(2.4)	27.0	(2.1)	22.6	(2.4)	11.8	(2.0)	3.3	(1.2)
	Marche	8.4	(2.3)	15.2	(1.5)	24.9	(2.9)	24.6	(2.3)	18.1	(1.9)	7.1	(1.4)	1.8	(0.7)
	Molise	13.2	(1.8)	17.7	(1.9)	27.0	(2.4)	26.1	(2.3)	11.5	(1.9)	3.6	(1.3)	1.0	(0.8)
	Piemonte	9.1	(1.5)	14.9	(2.7)	19.8	(2.5)	25.3	(2.3)	19.1	(2.7)	8.8	(1.7)	2.9	(1.0)
	Puglia	8.6	(2.2)	18.9	(3.0)	27.6	(2.5)	24.2	(2.1)	14.4	(1.9)	5.0	(1.3)	1.2	(0.4)
	Sardegna	15.2	(2.6)	17.7	(2.3)	25.4	(2.4)	22.4	(2.2)	13.3	(2.0)	5.0	(1.3)	1.0	(0.7)
	Sicilia	15.8	(2.4)	21.2	(2.7)	26.8	(2.2)	21.9	(2.4)	11.2	(2.5)	2.9	(0.9)	0.3	(0.2)
	Toscana	7.6	(1.6)	12.5	(2.1)	20.8	(2.8)	24.7	(2.3)	21.6	(2.8)	9.9	(1.7)	2.8	(0.9)
	Trento	3.8	(1.7)	7.7	(2.0)	17.9	(2.2)	27.2	(2.5)	26.1	(2.6)	14.3	(2.0)	3.0	(0.9)
	Umbria	7.9	(1.9)	14.1	(2.2)	23.7	(2.4)	26.6	(2.3)	19.7	(2.0)	6.7	(1.2)	1.3	(0.6)
	Valle d'Aosta	6.2	(1.4)	15.7	(2.1)	26.4	(2.4)	26.1	(3.5)	16.0	(2.3)	6.0	(1.4)	3.7	(1.1)
	Veneto	3.9	(1.5)	9.2	(2.1)	21.5	(3.1)	26.2	(2.5)	22.2	(2.8)	12.7	(2.7)	4.2	(1.3)
	Mexico														
	Aguascalientes	18.4	(2.7)	25.7	(2.9)	30.2	(2.7)	17.1	(2.2)	6.6	(1.3)	1.9	(0.7)	0.0	c
	Baja California	28.8	(3.1)	27.3	(3.4)	23.3	(2.5)	13.9	(2.0)	5.0	(1.2)	1.8	(1.2)	0.0	c
	Baja California Sur	28.2	(3.1)	28.1	(2.5)	25.8	(2.3)	12.9	(2.1)	4.3	(1.1)	0.6	(0.3)	0.0	c
	Campeche	35.6	(3.1)	30.6	(2.7)	20.9	(2.3)	9.8	(1.6)	2.4	(0.7)	0.5	(0.3)	0.1	(0.1)
	Chiapas	50.4	(4.6)	24.0	(2.3)	17.3	(2.7)	6.5	(1.6)	1.4	(0.7)	0.4	(0.4)	0.0	c
	Chihuahua	25.6	(3.3)	27.2	(2.6)	25.3	(3.5)	14.6	(2.5)	6.2	(1.7)	0.8	(0.6)	0.2	c
	Coahuila	23.7	(3.4)	29.6	(4.0)	27.5	(3.0)	11.6	(2.9)	6.2	(2.5)	1.4	(1.1)	0.0	c
	Colima	22.6	(3.3)	24.8	(3.1)	25.5	(2.9)	18.8	(2.8)	6.8	(1.5)	1.2	(0.6)	0.3	(0.2)
	Distrito Federal	25.3	(2.9)	28.9	(3.0)	25.6	(3.1)	13.7	(2.4)	5.1	(1.5)	1.3	(0.8)	0.0	c
	Durango	23.9	(4.0)	25.3	(3.1)	27.5	(3.7)	16.9	(2.4)	4.8	(1.5)	1.4	(1.0)	0.1	c
	Guanajuato	31.0	(4.0)	29.5	(2.7)	24.3	(2.5)	11.4	(2.2)	3.0	(0.9)	0.7	(0.3)	0.0	c
	Guerrero	53.0	(3.9)	27.6	(3.0)	13.6	(2.3)	4.7	(1.1)	1.0	(0.7)	0.0	c	0.0	c
	Hidalgo	32.0	(4.0)	30.3	(3.1)	22.7	(2.8)	11.6	(2.2)	3.1	(1.0)	0.4	c	0.0	c
	Jalisco	17.0	(2.0)	27.1	(2.3)	30.5	(2.3)	17.4	(2.1)	6.4	(1.6)	1.6	(0.8)	0.0	c
	Mexico	21.8	(3.4)	30.1	(3.1)	30.0	(3.2)	14.6	(2.9)	3.0	(1.2)	0.4	(0.3)	0.0	c
	Morelos	23.8	(3.5)	28.5	(3.6)	26.5	(3.0)	13.7	(2.1)	4.7	(2.0)	2.1	(1.4)	0.7	(0.6)
	Nayarit	25.0	(3.5)	31.0	(2.4)	24.1	(3.3)	12.6	(2.8)	5.9	(2.1)	1.4	(0.9)	0.1	c
	Nuevo León	21.5	(3.3)	29.4	(3.7)	25.3	(3.3)	16.3	(2.4)	5.8	(1.6)	1.5	(0.7)	0.1	c
	Puebla	25.8	(3.2)	29.1	(2.6)	26.9	(2.6)	12.6	(1.8)	4.8	(1.1)	0.8	(0.5)	0.1	c
	Querétaro	20.1	(2.8)	26.8	(3.1)	27.9	(2.4)	15.8	(2.8)	7.5	(1.9)	1.6	(0.6)	0.3	(0.3)
	Quintana Roo	26.8	(2.9)	29.4	(3.0)	25.3	(2.6)	13.8	(2.1)	3.8	(1.2)	0.7	(0.4)	0.2	c
	San Luis Potosí	25.3	(3.4)	29.3	(2.7)	25.6	(2.7)	13.9	(1.9)	4.8	(1.3)	1.1	(0.6)	0.0	c
	Sinaloa	24.6	(2.6)	31.3	(2.8)	26.3	(2.4)	13.0	(2.2)	4.6	(0.9)	0.2	c	0.0	c
	Tabasco	44.5	(2.9)	30.0	(2.6)	17.8	(2.2)	5.8	(1.1)	1.6	(0.7)	0.3	(0.2)	0.0	c
	Tamaulipas	31.8	(3.3)	29.6	(3.2)	24.2	(3.1)	11.1	(2.2)	2.9	(1.1)	0.5	(0.3)	0.0	c
	Tlaxcala	26.3	(2.9)	30.5	(2.3)	25.4	(2.5)	12.7	(2.2)	4.6	(1.6)	0.5	(0.3)	0.1	c
	Veracruz	33.5	(4.2)	30.8	(2.8)	21.2	(2.0)	10.9	(2.2)	3.1	(1.2)	0.5	(0.5)	0.0	c
	Yucatán	32.0	(4.4)	28.0	(3.2)	24.2	(2.8)	11.5	(2.5)	3.8	(1.1)	0.5	c	0.0	c
	Zacatecas	31.4	(3.3)	26.5	(3.0)	25.5	(3.0)	11.7	(1.6)	4.2	(1.1)	0.7	(0.4)	0.0	c

• PISA adjudicated region.

Note: See Table I.2.21 for national data.

StatLink http://dx.doi.org/10.1787/888932935762



[Part 4/4]

Table B2.I.20 Percentage of students at each proficiency level on the mathematics subscale *quantity*, by gender and region

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**														
	Alentejo	9.4	(2.6)	17.5	(3.2)	25.9	(2.4)	24.0	(3.7)	16.9	(3.3)	5.6	(1.8)	0.7	(0.5)
	Spain														
	Andalusia•	12.1	(1.7)	18.1	(2.0)	26.8	(2.1)	22.1	(1.7)	14.4	(1.5)	5.5	(1.1)	1.1	(0.4)
	Aragon•	9.9	(1.8)	13.4	(1.8)	19.8	(1.8)	25.2	(2.3)	18.4	(1.9)	10.1	(1.6)	3.2	(1.2)
	Asturias•	6.7	(1.3)	12.8	(1.9)	22.2	(2.2)	24.5	(1.8)	19.4	(1.5)	10.2	(1.3)	4.3	(1.0)
	Balearic Islands•	13.3	(1.9)	16.4	(2.0)	21.9	(2.0)	22.7	(2.2)	16.5	(2.3)	7.6	(1.4)	1.6	(0.6)
	Basque Country•	5.3	(0.7)	10.8	(1.0)	21.7	(1.2)	28.5	(1.1)	22.2	(1.3)	9.2	(0.8)	2.4	(0.5)
	Cantabria•	7.6	(1.2)	15.8	(1.4)	23.7	(1.9)	24.4	(2.3)	17.4	(2.1)	7.7	(1.5)	3.5	(0.8)
	Castile and Leon•	4.5	(0.9)	12.1	(1.7)	21.5	(2.1)	27.3	(1.8)	23.7	(1.6)	8.9	(1.3)	2.0	(0.7)
	Catalonia•	7.1	(1.3)	14.8	(2.1)	22.5	(2.3)	27.6	(2.5)	19.3	(2.0)	7.0	(1.5)	1.8	(0.6)
	Extremadura•	14.3	(1.7)	18.0	(2.0)	25.5	(1.6)	22.5	(2.4)	13.3	(1.9)	5.0	(1.0)	1.3	(0.5)
	Galicia•	7.3	(1.2)	12.5	(1.5)	22.3	(2.2)	25.3	(2.2)	18.6	(1.6)	10.2	(1.5)	3.8	(0.7)
	La Rioja•	9.0	(1.2)	13.1	(1.4)	20.8	(1.8)	25.0	(2.0)	17.5	(1.5)	10.4	(1.6)	4.1	(0.8)
	Madrid•	7.3	(1.5)	12.2	(1.6)	20.0	(1.7)	25.2	(2.2)	22.1	(2.4)	11.0	(1.3)	2.3	(0.7)
	Murcia•	13.8	(1.6)	19.0	(1.7)	25.9	(2.7)	23.3	(1.9)	13.3	(1.5)	3.9	(1.0)	0.8	(0.4)
	Navarre•	5.1	(1.3)	10.8	(1.5)	18.5	(2.0)	24.7	(2.4)	24.3	(2.2)	12.8	(1.5)	3.9	(0.7)
	United Kingdom														
	England	10.5	(1.3)	15.2	(1.3)	21.5	(1.2)	22.9	(1.2)	17.4	(1.1)	8.9	(0.9)	3.7	(0.7)
	Northern Ireland	10.1	(1.3)	16.1	(1.8)	21.8	(2.3)	22.5	(1.6)	17.7	(1.5)	8.8	(1.4)	3.0	(0.6)
	Scotland•	6.6	(1.1)	13.7	(1.1)	24.3	(1.8)	25.6	(1.9)	18.4	(1.4)	8.6	(0.9)	2.7	(0.6)
	Wales	12.8	(1.0)	20.5	(1.4)	26.0	(1.3)	23.4	(1.5)	12.4	(1.1)	4.0	(0.5)	0.9	(0.3)
	United States														
	Connecticut•	10.1	(1.7)	13.8	(1.8)	20.6	(1.6)	22.2	(1.6)	19.2	(2.0)	9.4	(1.3)	4.6	(1.1)
	Florida•	15.8	(2.1)	21.9	(2.4)	26.7	(2.2)	20.8	(2.7)	10.2	(1.5)	4.0	(1.2)	0.6	(0.5)
	Massachusetts•	7.9	(1.3)	13.1	(1.4)	20.9	(2.1)	22.9	(1.7)	18.7	(1.6)	11.1	(1.7)	5.3	(1.3)
Partners	**Argentina**														
	Ciudad Autónoma de Buenos Aires•	22.8	(2.8)	23.0	(2.7)	26.7	(1.8)	18.9	(2.0)	6.7	(1.4)	1.8	(0.7)	0.1	c
	Brazil														
	Acre	59.1	(5.7)	25.0	(3.8)	11.6	(2.4)	3.7	(1.5)	0.5	(0.4)	0.0	c	0.0	c
	Alagoas	63.3	(5.2)	20.3	(4.0)	10.8	(2.3)	4.2	(1.6)	1.3	(0.9)	0.0	c	0.0	c
	Amapá	57.7	(5.9)	27.0	(4.1)	11.3	(2.5)	3.3	(1.7)	0.7	c	0.0	c	0.0	c
	Amazonas	61.9	(3.5)	25.4	(3.5)	9.2	(2.2)	2.2	(1.2)	1.0	(1.0)	0.3	c	0.0	c
	Bahia	46.8	(9.6)	23.2	(4.2)	19.3	(7.2)	7.6	(3.1)	2.7	(1.5)	0.4	c	0.0	c
	Ceará	45.0	(5.4)	27.0	(3.4)	18.7	(3.7)	6.2	(2.1)	2.2	(1.0)	0.9	(0.5)	0.1	c
	Espírito Santo	28.8	(4.3)	29.1	(4.0)	20.2	(3.6)	11.1	(3.0)	7.8	(3.2)	2.6	(1.4)	0.4	c
	Federal District	29.8	(5.4)	25.3	(4.1)	22.6	(3.3)	15.0	(3.0)	6.1	(2.6)	1.3	(0.9)	0.1	c
	Goiás	45.4	(4.6)	28.4	(2.7)	17.2	(2.9)	6.5	(1.5)	2.1	(1.2)	0.4	c	0.0	c
	Maranhão	65.5	(6.9)	20.6	(3.3)	10.2	(3.8)	3.0	(1.5)	0.7	(0.6)	0.0	c	0.0	c
	Mato Grosso	47.3	(4.7)	29.8	(3.9)	14.4	(2.5)	4.9	(2.2)	2.9	(1.9)	0.8	c	0.0	c
	Mato Grosso do Sul	32.5	(4.7)	30.6	(4.0)	21.4	(3.0)	10.6	(2.2)	3.6	(1.5)	1.1	(1.0)	0.2	c
	Minas Gerais	32.8	(4.5)	27.0	(3.1)	22.7	(3.1)	13.3	(2.9)	3.4	(1.6)	0.7	(0.6)	0.0	c
	Pará	58.5	(4.2)	24.7	(4.1)	13.6	(1.8)	3.1	(1.2)	0.1	c	0.0	c	0.0	c
	Paraíba	37.8	(5.7)	28.5	(3.9)	18.6	(4.4)	12.5	(3.3)	2.3	(1.3)	0.3	(0.4)	0.0	c
	Paraná	33.8	(4.5)	27.5	(3.3)	22.0	(3.4)	9.7	(2.2)	4.4	(2.8)	2.1	(2.1)	0.4	c
	Pernambuco	52.0	(5.9)	29.3	(4.8)	15.0	(3.3)	3.0	(1.1)	0.7	(0.5)	0.1	c	0.0	c
	Piauí	42.4	(3.8)	30.0	(3.4)	14.5	(2.4)	8.9	(2.3)	2.7	(1.4)	1.1	(0.5)	0.3	(0.5)
	Rio de Janeiro	40.9	(4.6)	26.9	(3.2)	22.2	(3.5)	7.5	(2.0)	2.1	(1.2)	0.4	c	0.0	c
	Rio Grande do Norte	51.1	(4.3)	23.4	(3.4)	13.7	(1.9)	7.5	(1.9)	2.6	(1.6)	1.1	(0.9)	0.6	(0.4)
	Rio Grande do Sul	31.1	(4.2)	29.3	(3.0)	24.4	(3.0)	10.9	(2.1)	3.4	(1.6)	0.8	(0.6)	0.1	c
	Rondônia	42.7	(4.2)	30.9	(3.4)	21.0	(3.4)	4.8	(2.0)	0.7	(0.7)	0.0	c	0.0	c
	Roraima	55.9	(4.3)	23.7	(4.0)	13.4	(2.8)	5.6	(2.4)	1.4	(0.7)	0.0	c	0.0	c
	Santa Catarina	24.9	(4.6)	22.9	(3.5)	28.5	(3.6)	16.4	(2.7)	6.2	(1.7)	1.2	(1.0)	0.1	c
	São Paulo	34.2	(2.5)	28.0	(2.6)	20.4	(1.5)	11.2	(1.5)	4.7	(0.9)	1.3	(0.6)	0.2	(0.2)
	Sergipe	43.7	(4.9)	28.2	(3.9)	18.9	(3.8)	6.8	(2.3)	2.3	(1.2)	0.2	c	0.0	c
	Tocantins	53.8	(3.3)	27.9	(2.8)	11.5	(2.2)	4.5	(1.6)	1.6	(0.8)	0.7	(0.5)	0.1	c
	Colombia														
	Bogotá	41.8	(2.3)	30.9	(2.4)	19.4	(1.8)	6.8	(1.2)	1.1	(0.5)	0.0	c	0.0	c
	Cali	43.8	(4.5)	28.5	(2.7)	17.6	(2.6)	7.8	(2.1)	1.9	(0.9)	0.3	(0.2)	0.0	c
	Manizales	34.4	(3.4)	33.1	(3.4)	20.6	(3.6)	7.8	(1.7)	3.4	(1.6)	0.8	(0.6)	0.1	c
	Medellín	44.5	(4.0)	25.1	(3.0)	14.9	(2.3)	8.9	(2.1)	4.0	(1.4)	1.8	(1.0)	0.7	(0.6)
	Russian Federation														
	Perm Territory region•	8.6	(1.5)	18.1	(2.0)	27.8	(2.4)	25.5	(1.9)	14.2	(1.7)	4.4	(1.3)	1.4	(0.8)
	United Arab Emirates														
	Abu Dhabi•	23.9	(2.4)	25.7	(1.7)	23.3	(1.6)	16.0	(1.5)	8.0	(1.3)	2.5	(0.6)	0.6	(0.3)
	Ajman	24.0	(7.4)	30.9	(3.6)	25.0	(4.1)	14.1	(3.6)	5.2	(1.7)	0.8	(0.8)	0.0	c
	Dubai•	15.1	(0.8)	19.3	(1.1)	24.5	(1.7)	22.0	(1.9)	12.9	(1.1)	5.2	(0.7)	1.1	(0.4)
	Fujairah	21.1	(4.0)	25.0	(3.9)	29.8	(3.2)	18.0	(3.0)	5.4	(1.5)	0.8	(0.6)	0.1	c
	Ras al-Khaimah	26.3	(6.4)	24.6	(3.7)	24.3	(4.0)	16.8	(2.6)	5.6	(2.3)	2.1	(1.1)	0.3	c
	Sharjah	22.1	(3.7)	24.3	(4.4)	23.1	(3.5)	16.4	(3.5)	10.4	(2.7)	3.2	(1.1)	0.4	c
	Umm al-Quwain	27.3	(3.6)	30.8	(4.7)	24.5	(4.4)	12.8	(3.4)	3.6	(1.6)	1.0	(1.0)	0.0	c

• PISA adjudicated region.

Note: See Table I.2.21 for national data.

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[Part 1/2]

Table B2.I.21 Mean score, variation and gender differences in student performance on the mathematics subscale *quantity*, by region

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	**Australia**																						
	Australian Capital Territory	513	(4.1)	101	(3.0)	509	(6.0)	518	(5.0)	-9	(7.4)	341	(13.2)	384	(9.0)	445	(6.6)	585	(6.6)	641	(6.0)	673	(7.5)
	New South Wales	505	(3.8)	108	(2.7)	505	(5.8)	504	(4.2)	1	(6.6)	327	(6.3)	367	(4.8)	431	(3.5)	579	(5.9)	646	(7.6)	683	(8.8)
	Northern Territory	445	(9.7)	116	(5.7)	450	(8.8)	441	(14.9)	8	(14.9)	243	(20.8)	295	(16.3)	373	(12.1)	526	(11.5)	582	(21.6)	621	(20.4)
	Queensland	498	(3.6)	104	(2.3)	500	(4.7)	496	(4.3)	4	(5.4)	330	(7.3)	366	(5.6)	426	(4.4)	571	(4.7)	633	(4.8)	666	(5.0)
	South Australia	481	(3.5)	97	(2.1)	489	(4.2)	473	(4.4)	**16**	(4.9)	321	(6.3)	357	(5.6)	416	(5.1)	548	(5.0)	608	(5.6)	639	(6.3)
	Tasmania	470	(3.6)	102	(2.5)	478	(5.0)	461	(5.0)	**17**	(6.9)	297	(10.6)	340	(6.8)	405	(5.7)	535	(5.2)	602	(6.3)	641	(10.0)
	Victoria	499	(4.1)	98	(2.2)	507	(5.6)	489	(4.2)	**19**	(5.9)	337	(5.9)	371	(4.8)	431	(4.7)	566	(5.5)	624	(6.7)	657	(8.1)
	Western Australia	512	(3.9)	101	(2.3)	524	(5.6)	500	(5.0)	**24**	(7.3)	347	(5.4)	381	(6.5)	443	(5.5)	583	(5.8)	641	(4.7)	674	(7.8)
	Belgium																						
	Flemish Community•	535	(3.1)	104	(1.8)	539	(4.3)	530	(4.2)	9	(5.9)	353	(6.1)	395	(5.2)	464	(4.2)	612	(3.5)	666	(3.1)	694	(3.6)
	French Community	498	(3.2)	99	(2.0)	504	(3.6)	491	(3.8)	**13**	(3.7)	330	(6.2)	366	(5.9)	427	(4.9)	570	(3.5)	622	(3.0)	654	(4.1)
	German-speaking Community	516	(2.4)	96	(2.5)	515	(4.3)	517	(3.2)	-2	(5.8)	342	(9.7)	384	(8.0)	458	(6.2)	584	(4.6)	633	(6.3)	658	(8.5)
	Canada																						
	Alberta	512	(5.3)	101	(2.2)	519	(5.7)	505	(5.7)	**13**	(4.5)	347	(8.8)	379	(6.8)	442	(6.7)	584	(6.2)	644	(6.7)	678	(7.2)
	British Columbia	523	(5.3)	95	(2.7)	531	(5.9)	515	(6.6)	**16**	(6.6)	365	(7.8)	401	(6.2)	458	(5.2)	590	(6.8)	648	(6.5)	680	(7.4)
	Manitoba	488	(3.5)	101	(2.5)	492	(4.3)	484	(5.1)	7	(6.3)	321	(8.6)	361	(6.7)	420	(4.1)	558	(4.5)	617	(5.3)	653	(7.8)
	New Brunswick	504	(2.9)	93	(2.2)	507	(4.3)	502	(3.9)	5	(6.0)	345	(8.8)	382	(7.1)	443	(4.2)	564	(4.0)	626	(7.3)	662	(8.6)
	Newfoundland and Labrador	485	(4.0)	96	(2.6)	488	(5.9)	482	(4.0)	5	(6.2)	327	(10.7)	362	(5.8)	419	(6.1)	552	(5.6)	611	(7.6)	644	(8.6)
	Nova Scotia	494	(4.1)	95	(2.8)	502	(4.7)	487	(5.8)	**15**	(6.6)	337	(6.7)	371	(8.0)	429	(5.2)	559	(6.9)	614	(8.5)	649	(9.4)
	Ontario	511	(4.9)	100	(2.1)	516	(5.6)	506	(5.0)	**9**	(4.2)	346	(6.5)	381	(6.0)	445	(5.2)	579	(6.1)	640	(6.9)	674	(6.8)
	Prince Edward Island	475	(2.9)	93	(1.7)	476	(4.0)	473	(3.8)	3	(5.1)	322	(5.9)	353	(5.0)	409	(4.5)	540	(3.4)	597	(4.8)	628	(7.2)
	Quebec	534	(3.5)	97	(2.0)	537	(4.5)	531	(3.8)	6	(4.5)	363	(7.3)	404	(5.9)	471	(4.8)	604	(4.3)	654	(4.2)	684	(5.2)
	Saskatchewan	501	(3.5)	93	(2.3)	505	(4.5)	496	(4.1)	8	(5.2)	348	(7.0)	382	(5.8)	436	(4.1)	564	(5.1)	624	(6.2)	654	(6.5)
	Italy																						
	Abruzzo	478	(6.1)	101	(3.8)	481	(7.2)	475	(6.9)	6	(7.5)	300	(12.3)	346	(12.5)	413	(6.6)	550	(6.9)	604	(7.2)	634	(9.6)
	Basilicata	470	(4.4)	93	(2.1)	485	(6.0)	456	(4.7)	**29**	(6.3)	316	(6.5)	350	(6.1)	407	(6.0)	533	(4.7)	588	(6.8)	621	(6.0)
	Bolzano	514	(2.3)	100	(1.7)	526	(3.0)	502	(3.0)	**24**	(3.9)	343	(6.7)	383	(5.8)	451	(4.4)	582	(2.9)	639	(5.3)	673	(6.6)
	Calabria	436	(6.6)	97	(3.3)	446	(7.0)	425	(8.4)	**21**	(8.5)	275	(11.9)	310	(8.6)	369	(9.4)	504	(7.8)	559	(7.2)	590	(9.1)
	Campania	458	(7.5)	96	(3.5)	468	(8.2)	447	(8.5)	**21**	(7.2)	301	(9.5)	336	(9.2)	394	(7.5)	523	(8.9)	580	(10.8)	615	(11.6)
	Emilia Romagna	505	(7.1)	105	(3.9)	515	(11.0)	495	(6.8)	19	(11.7)	327	(13.3)	371	(12.1)	438	(8.4)	579	(8.6)	638	(9.0)	670	(7.9)
	Friuli Venezia Giulia	527	(4.7)	98	(3.9)	535	(6.1)	519	(6.7)	17	(8.8)	353	(16.3)	397	(11.1)	468	(6.4)	593	(4.9)	649	(6.5)	683	(5.1)
	Lazio	481	(7.0)	97	(2.9)	491	(7.6)	468	(7.9)	**23**	(7.6)	320	(10.4)	356	(9.9)	414	(7.7)	547	(8.6)	609	(8.2)	643	(8.8)
	Liguria	494	(7.0)	100	(3.3)	501	(8.5)	487	(7.6)	14	(8.2)	332	(14.6)	367	(11.0)	427	(7.4)	564	(8.1)	621	(6.9)	651	(8.4)
	Lombardia	523	(7.6)	94	(3.0)	531	(8.7)	514	(8.3)	**17**	(8.3)	365	(10.1)	401	(9.6)	461	(8.8)	588	(8.0)	642	(6.9)	670	(9.1)
	Marche	501	(6.4)	95	(4.3)	518	(7.2)	485	(7.2)	**33**	(7.6)	340	(17.3)	377	(12.3)	438	(7.6)	568	(7.2)	621	(10.0)	657	(9.5)
	Molise	470	(2.5)	92	(2.3)	479	(3.4)	461	(3.7)	**19**	(5.1)	317	(7.4)	349	(5.3)	409	(3.9)	533	(4.3)	586	(6.6)	614	(10.0)
	Piemonte	502	(6.6)	98	(2.6)	513	(5.9)	492	(7.9)	**21**	(5.8)	329	(7.6)	370	(10.4)	436	(9.0)	572	(7.7)	624	(7.5)	657	(9.5)
	Puglia	483	(6.1)	91	(2.8)	493	(6.0)	473	(6.9)	**20**	(6.1)	330	(11.6)	365	(9.1)	420	(7.1)	549	(8.0)	601	(5.4)	629	(6.4)
	Sardegna	463	(5.5)	97	(2.8)	465	(5.9)	461	(7.6)	5	(7.9)	300	(9.2)	334	(9.0)	398	(8.6)	530	(5.5)	590	(5.8)	620	(6.0)
	Sicilia	452	(5.9)	93	(3.4)	455	(6.7)	449	(6.7)	5	(6.5)	298	(11.0)	333	(8.5)	392	(7.3)	517	(6.3)	569	(8.5)	601	(7.8)
	Toscana	502	(5.5)	103	(3.7)	503	(8.7)	500	(8.2)	3	(12.9)	326	(12.4)	365	(11.2)	434	(6.5)	574	(6.5)	631	(7.6)	664	(6.4)
	Trento	526	(4.3)	93	(2.2)	526	(5.6)	525	(7.8)	1	(10.4)	365	(9.3)	406	(6.2)	465	(6.6)	591	(5.0)	641	(4.8)	671	(5.6)
	Umbria	500	(6.3)	92	(3.4)	512	(8.7)	488	(6.3)	**23**	(8.2)	340	(12.3)	377	(12.0)	440	(9.7)	564	(5.5)	616	(7.0)	648	(7.7)
	Valle d'Aosta	499	(2.8)	96	(2.5)	507	(4.2)	490	(4.1)	**17**	(6.0)	342	(8.8)	378	(6.9)	435	(5.1)	560	(7.0)	623	(7.1)	664	(9.6)
	Veneto	529	(8.3)	99	(4.3)	539	(9.3)	518	(9.2)	**21**	(9.3)	366	(15.3)	405	(9.7)	462	(8.1)	599	(11.3)	652	(10.1)	682	(11.7)
	Mexico																						
	Aguascalientes	435	(5.7)	84	(2.9)	439	(7.1)	431	(5.7)	8	(5.9)	302	(9.8)	326	(9.3)	376	(7.6)	491	(6.2)	549	(7.1)	582	(8.2)
	Baja California	416	(5.2)	85	(2.9)	422	(6.2)	409	(5.8)	**13**	(6.0)	283	(8.6)	310	(6.8)	357	(5.9)	472	(7.7)	530	(8.2)	564	(9.1)
	Baja California Sur	414	(5.7)	84	(2.2)	421	(6.4)	407	(5.7)	**14**	(4.0)	279	(10.2)	307	(9.4)	355	(7.4)	467	(6.0)	527	(6.5)	558	(7.4)
	Campeche	394	(5.0)	86	(3.2)	402	(5.4)	387	(5.8)	**15**	(5.1)	257	(12.9)	286	(10.7)	337	(7.4)	450	(4.5)	505	(4.2)	538	(6.9)
	Chiapas	364	(8.8)	90	(5.1)	371	(8.8)	357	(9.8)	**14**	(5.9)	216	(17.2)	251	(12.4)	304	(11.0)	423	(9.9)	477	(8.8)	509	(11.8)
	Chihuahua	423	(7.0)	91	(4.0)	433	(8.3)	413	(7.2)	**20**	(7.0)	277	(13.1)	313	(11.0)	362	(6.8)	485	(10.7)	541	(10.9)	570	(10.6)
	Coahuila	420	(9.3)	85	(4.2)	425	(10.0)	415	(10.5)	9	(8.2)	282	(9.1)	313	(7.8)	362	(8.7)	475	(12.8)	536	(16.7)	570	(16.1)
	Colima	430	(6.1)	89	(3.0)	433	(6.5)	427	(6.7)	6	(5.1)	285	(10.7)	315	(8.3)	365	(7.9)	491	(7.5)	545	(9.6)	577	(8.3)
	Distrito Federal	431	(6.1)	87	(2.6)	450	(8.1)	414	(6.6)	**36**	(8.7)	293	(9.3)	319	(7.8)	370	(7.2)	491	(9.5)	548	(8.2)	582	(9.5)
	Durango	426	(8.7)	87	(2.7)	434	(10.1)	419	(8.5)	**15**	(6.2)	284	(8.6)	309	(9.9)	365	(10.5)	487	(9.9)	540	(10.6)	571	(13.6)
	Guanajuato	409	(6.4)	88	(2.9)	420	(7.0)	398	(6.8)	**22**	(5.4)	268	(14.5)	298	(8.8)	349	(8.8)	467	(6.3)	522	(5.0)	557	(8.8)
	Guerrero	357	(4.5)	81	(2.6)	362	(4.9)	353	(5.9)	9	(6.0)	226	(10.9)	255	(8.1)	303	(6.1)	409	(5.4)	464	(6.7)	492	(6.0)
	Hidalgo	404	(6.9)	86	(3.3)	413	(8.5)	396	(6.9)	**17**	(7.0)	260	(10.4)	293	(9.7)	348	(7.3)	462	(8.8)	514	(8.8)	544	(9.5)
	Jalisco	436	(5.9)	85	(2.9)	441	(8.0)	432	(4.9)	10	(5.8)	296	(12.2)	329	(8.6)	382	(7.6)	490	(6.3)	543	(9.5)	577	(10.1)
	Mexico	422	(6.4)	79	(3.5)	430	(7.0)	414	(6.9)	**15**	(5.5)	294	(8.1)	323	(9.2)	370	(6.7)	476	(7.9)	519	(9.2)	547	(12.0)
	Morelos	421	(10.4)	93	(7.6)	424	(12.4)	419	(10.2)	5	(8.5)	273	(22.5)	308	(15.2)	360	(9.5)	479	(12.4)	542	(20.5)	584	(22.9)
	Nayarit	421	(6.7)	89	(3.8)	431	(6.5)	412	(8.2)	**18**	(6.5)	273	(19.3)	309	(14.2)	364	(7.7)	479	(7.7)	537	(8.5)	570	(9.3)
	Nuevo León	438	(8.8)	84	(2.8)	450	(10.4)	424	(7.5)	**26**	(6.8)	306	(9.7)	331	(10.5)	378	(10.0)	493	(10.8)	545	(12.1)	580	(10.5)
	Puebla	419	(5.8)	86	(3.8)	427	(8.1)	410	(6.1)	**17**	(8.2)	276	(15.5)	309	(10.6)	363	(7.0)	477	(6.6)	530	(5.8)	560	(4.8)
	Querétaro	437	(7.0)	87	(3.4)	447	(8.2)	428	(7.3)	**19**	(5.7)	296	(12.5)	327	(8.0)	378	(8.2)	494	(8.5)	553	(9.5)	584	(11.4)
	Quintana Roo	412	(6.0)	83	(2.4)	415	(7.2)	410	(5.8)	6	(5.1)	279	(12.4)	306	(8.2)	355	(6.9)	469	(6.9)	521	(6.4)	550	(9.5)
	San Luis Potosí	415	(8.0)	85	(2.8)	417	(9.5)	413	(7.9)	4	(6.7)	280	(9.4)	308	(8.9)	356	(7.9)	471	(10.2)	527	(9.5)	559	(10.9)
	Sinaloa	415	(4.6)	78	(2.1)	420	(5.5)	411	(5.0)	8	(5.2)	293	(8.3)	320	(5.5)	361	(5.7)	467	(6.4)	520	(6.7)	551	(6.1)
	Tabasco	376	(5.0)	85	(3.8)	383	(7.0)	369	(4.6)	**15**	(6.2)	238	(12.1)	267	(8.6)	319	(6.8)	431	(6.0)	487	(8.7)	521	(8.7)
	Tamaulipas	409	(7.3)	86	(3.3)	420	(10.1)	396	(6.7)	**23**	(9.2)	268	(13.0)	299	(11.0)	352	(6.8)	467	(9.8)	516	(9.1)	552	(12.5)
	Tlaxcala	413	(5.6)	82	(2.0)	417	(5.3)	409	(6.5)	**8**	(4.2)	277	(9.0)	308	(8.1)	358	(6.8)	469	(6.0)	519	(6.5)	549	(7.2)
	Veracruz	397	(7.1)	87	(3.6)	402	(7.1)	393	(8.8)	9	(7.1)	256	(12.9)	288	(11.5)	339	(9.9)	455	(9.3)	509	(10.7)	542	(11.2)
	Yucatán	410	(6.2)	87	(2.6)	421	(6.5)	397	(7.6)	**24**	(6.9)	265	(11.3)	297	(11.5)	350	(9.4)	467	(6.2)	523	(7.5)	555	(9.2)
	Zacatecas	406	(5.8)	87	(3.2)	411	(7.3)	401	(5.5)	10	(5.8)	259	(11.8)	294	(9.6)	347	(7.2)	466	(6.0)	518	(8.7)	546	(7.2)

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).
See Table I.2.22 for national data.

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[Part 2/2]

Table B2.I.21 Mean score, variation and gender differences in student performance on the mathematics subscale *quantity*, by region

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	**Portugal**																						
	Alentejo	485	(10.7)	90	(4.3)	494	(12.3)	475	(10.2)	**18**	(7.0)	332	(14.2)	368	(15.0)	424	(14.2)	546	(12.4)	602	(12.5)	634	(16.9)
	Spain																						
	Andalusia•	478	(4.7)	99	(2.2)	488	(5.6)	467	(5.2)	**21**	(5.3)	317	(8.4)	350	(6.6)	412	(5.3)	547	(5.6)	604	(5.4)	636	(6.3)
	Aragon•	502	(6.2)	105	(2.8)	510	(6.8)	494	(6.6)	**17**	(5.3)	320	(11.1)	359	(9.6)	432	(9.3)	579	(6.2)	631	(6.4)	664	(9.5)
	Asturias•	510	(4.5)	106	(1.9)	519	(6.6)	502	(3.8)	**17**	(5.8)	337	(8.8)	377	(7.6)	442	(6.0)	583	(5.1)	647	(5.9)	682	(6.5)
	Balearic Islands•	479	(6.2)	103	(2.7)	484	(7.3)	474	(6.7)	10	(6.3)	305	(10.9)	344	(8.7)	408	(7.4)	553	(6.8)	609	(6.3)	638	(7.8)
	Basque Country•	511	(2.8)	90	(1.7)	517	(3.4)	506	(3.1)	**11**	(3.2)	357	(5.8)	394	(4.3)	453	(3.6)	573	(3.4)	624	(4.0)	652	(4.3)
	Cantabria•	498	(3.7)	101	(2.3)	505	(4.5)	491	(5.0)	**14**	(6.1)	336	(7.7)	370	(5.4)	427	(5.0)	569	(5.2)	629	(5.3)	661	(7.4)
	Castile and Leon•	519	(4.5)	92	(2.4)	532	(5.8)	506	(4.2)	**26**	(4.8)	364	(8.2)	395	(7.3)	455	(5.4)	585	(4.7)	635	(4.8)	663	(6.0)
	Catalonia•	502	(5.1)	94	(2.6)	512	(6.0)	491	(6.0)	**21**	(6.2)	343	(9.0)	378	(7.3)	438	(7.6)	567	(5.4)	620	(6.9)	652	(7.0)
	Extremadura•	466	(5.1)	103	(2.8)	471	(6.3)	462	(5.1)	9	(5.2)	293	(10.2)	331	(8.4)	398	(7.2)	536	(6.3)	597	(6.0)	631	(7.2)
	Galicia•	500	(4.1)	98	(2.1)	499	(4.8)	501	(5.4)	-2	(5.9)	332	(8.1)	373	(7.4)	436	(6.9)	568	(5.0)	624	(5.0)	653	(6.9)
	La Rioja•	508	(2.4)	113	(3.0)	520	(3.7)	496	(3.7)	**24**	(5.7)	318	(8.1)	362	(6.3)	434	(4.6)	589	(4.0)	648	(4.5)	684	(7.1)
	Madrid•	512	(4.2)	99	(2.9)	522	(4.5)	502	(5.1)	**20**	(4.7)	336	(11.0)	380	(9.8)	446	(5.7)	584	(4.3)	633	(4.9)	663	(6.1)
	Murcia•	466	(5.5)	100	(2.7)	474	(7.4)	459	(4.6)	**15**	(5.7)	295	(13.0)	336	(8.5)	401	(6.8)	536	(6.5)	594	(6.7)	623	(7.1)
	Navarre•	518	(3.5)	96	(2.9)	519	(3.8)	517	(4.7)	2	(4.9)	353	(7.3)	390	(7.0)	454	(5.2)	586	(4.2)	634	(4.7)	664	(6.1)
	United Kingdom																						
	England	495	(4.5)	103	(2.2)	502	(5.7)	489	(4.8)	**14**	(5.6)	324	(8.9)	361	(8.0)	425	(6.5)	569	(4.3)	627	(4.2)	661	(4.6)
	Northern Ireland	491	(3.7)	100	(2.6)	495	(5.6)	487	(5.9)	8	(8.8)	324	(6.4)	360	(5.4)	422	(5.4)	561	(4.9)	620	(5.3)	653	(7.7)
	Scotland•	501	(3.0)	92	(1.7)	506	(3.5)	495	(3.5)	**11**	(3.4)	348	(6.4)	383	(5.7)	438	(4.4)	565	(3.5)	620	(3.7)	650	(5.3)
	Wales	465	(2.3)	92	(1.3)	470	(2.8)	460	(2.9)	**10**	(3.3)	313	(4.8)	346	(3.9)	402	(3.1)	527	(2.5)	582	(3.6)	615	(4.1)
	United States																						
	Connecticut•	502	(6.5)	106	(2.9)	509	(7.1)	495	(6.9)	**14**	(5.3)	323	(10.1)	362	(9.0)	427	(8.8)	577	(7.0)	637	(7.8)	671	(9.7)
	Florida•	458	(6.4)	94	(2.6)	466	(6.9)	450	(6.8)	**16**	(5.0)	307	(7.2)	338	(6.7)	392	(7.2)	522	(6.9)	582	(8.3)	616	(10.7)
	Massachusetts•	506	(6.0)	105	(3.4)	509	(6.2)	504	(6.7)	5	(4.9)	334	(9.4)	372	(7.3)	436	(6.3)	578	(8.5)	642	(9.7)	675	(9.9)
Partners	**Argentina**																						
	Ciudad Autónoma de Buenos Aires•	426	(7.8)	102	(8.1)	432	(8.4)	421	(8.1)	11	(5.6)	245	(29.8)	296	(15.0)	369	(8.4)	495	(6.9)	549	(8.4)	579	(9.0)
	Brazil																						
	Acre	349	(6.0)	78	(3.0)	357	(9.1)	342	(8.3)	15	(12.6)	220	(10.7)	248	(9.6)	294	(6.4)	400	(8.0)	450	(12.8)	481	(12.3)
	Alagoas	344	(8.5)	87	(5.5)	358	(9.8)	333	(9.0)	**25**	(7.2)	202	(17.1)	237	(17.2)	288	(9.7)	399	(11.4)	456	(15.1)	494	(18.7)
	Amapá	350	(11.8)	83	(5.6)	361	(13.1)	340	(11.5)	**21**	(7.9)	214	(20.8)	244	(16.8)	295	(14.0)	405	(12.7)	458	(16.0)	488	(18.4)
	Amazonas	350	(7.5)	82	(7.5)	362	(10.0)	339	(6.1)	**23**	(7.1)	220	(12.4)	248	(7.9)	296	(9.3)	398	(8.3)	450	(12.2)	485	(29.1)
	Bahia	370	(13.5)	93	(8.8)	374	(9.7)	366	(19.5)	7	(16.2)	225	(19.8)	256	(20.5)	310	(15.8)	431	(18.2)	489	(16.7)	521	(21.1)
	Ceará	378	(9.1)	93	(6.4)	387	(9.7)	370	(11.0)	17	(10.3)	232	(12.1)	262	(12.6)	316	(9.3)	435	(11.5)	498	(19.0)	540	(24.6)
	Espírito Santo	421	(9.9)	93	(5.8)	430	(9.5)	413	(13.5)	17	(12.1)	284	(8.4)	309	(7.5)	356	(6.4)	480	(17.8)	555	(22.5)	594	(13.6)
	Federal District	417	(10.5)	95	(7.2)	426	(11.2)	409	(11.1)	**16**	(7.4)	266	(17.8)	294	(18.4)	352	(14.0)	482	(14.2)	544	(15.5)	584	(20.0)
	Goiás	382	(7.8)	86	(4.0)	395	(7.9)	371	(8.9)	**24**	(7.0)	250	(15.8)	277	(8.5)	322	(10.2)	436	(10.0)	499	(13.0)	536	(12.1)
	Maranhão	341	(15.0)	89	(8.9)	355	(18.5)	331	(13.2)	**24**	(9.2)	205	(15.2)	234	(11.2)	280	(14.3)	393	(19.6)	460	(31.3)	504	(33.2)
	Mato Grosso	373	(8.2)	80	(6.4)	375	(7.7)	370	(9.8)	5	(6.3)	254	(7.4)	280	(8.3)	318	(5.9)	420	(11.7)	475	(17.1)	517	(28.7)
	Mato Grosso do Sul	408	(9.4)	85	(4.6)	420	(10.6)	398	(9.2)	**22**	(7.7)	275	(15.5)	302	(12.6)	348	(11.2)	462	(10.0)	522	(12.6)	557	(22.2)
	Minas Gerais	406	(9.1)	85	(4.4)	412	(10.4)	400	(9.5)	12	(7.8)	270	(13.0)	298	(11.4)	345	(9.1)	464	(11.9)	516	(9.6)	545	(13.9)
	Pará	351	(4.7)	79	(3.8)	363	(6.2)	342	(5.7)	**21**	(7.2)	227	(14.0)	252	(7.3)	295	(8.7)	405	(6.2)	454	(7.4)	482	(7.1)
	Paraíba	396	(8.1)	88	(7.4)	408	(9.5)	387	(10.6)	21	(11.8)	262	(20.6)	289	(14.2)	337	(13.5)	453	(7.3)	514	(11.4)	543	(18.1)
	Paraná	414	(12.7)	92	(10.7)	428	(13.0)	401	(13.6)	**27**	(7.4)	283	(10.2)	306	(7.5)	348	(9.1)	471	(17.5)	544	(41.9)	590	(41.6)
	Pernambuco	366	(8.6)	79	(5.0)	383	(9.6)	354	(8.4)	**29**	(4.9)	236	(20.0)	270	(13.8)	316	(10.1)	417	(9.0)	463	(12.8)	498	(19.3)
	Piauí	389	(7.7)	90	(6.5)	399	(8.3)	381	(8.6)	**18**	(6.5)	257	(11.0)	282	(7.9)	325	(10.7)	440	(12.2)	516	(16.0)	552	(25.0)
	Rio de Janeiro	388	(8.8)	87	(5.1)	397	(10.2)	380	(8.4)	**17**	(6.3)	252	(14.3)	278	(14.8)	328	(11.5)	447	(9.5)	498	(14.2)	539	(22.3)
	Rio Grande do Norte	380	(9.7)	98	(7.8)	396	(11.1)	367	(9.8)	**29**	(7.7)	239	(10.2)	265	(11.3)	313	(9.6)	434	(13.5)	513	(21.5)	566	(32.0)
	Rio Grande do Sul	409	(7.0)	84	(3.2)	420	(8.3)	399	(7.2)	**21**	(6.0)	271	(8.3)	299	(11.3)	351	(10.2)	466	(8.0)	518	(7.5)	546	(9.7)
	Rondônia	378	(5.5)	78	(2.4)	387	(5.8)	370	(6.9)	**16**	(6.3)	249	(10.1)	280	(8.8)	326	(7.5)	431	(7.2)	474	(8.3)	503	(8.4)
	Roraima	355	(7.0)	87	(4.3)	361	(8.5)	349	(7.9)	11	(8.2)	213	(17.3)	246	(14.7)	297	(9.5)	413	(10.1)	469	(11.6)	503	(9.2)
	Santa Catarina	425	(9.2)	93	(4.3)	433	(8.7)	417	(11.3)	16	(8.7)	266	(13.4)	301	(15.5)	364	(13.1)	489	(10.4)	543	(11.7)	578	(14.2)
	São Paulo	405	(5.0)	92	(2.9)	412	(5.3)	397	(5.5)	**15**	(4.3)	262	(8.3)	291	(6.1)	341	(5.0)	464	(7.7)	529	(9.8)	567	(10.6)
	Sergipe	388	(9.5)	85	(5.1)	405	(12.0)	375	(9.8)	**30**	(9.6)	257	(12.7)	285	(8.9)	330	(8.0)	442	(13.8)	504	(20.1)	533	(21.6)
	Tocantins	361	(7.4)	92	(5.4)	371	(9.6)	351	(6.5)	**20**	(7.7)	217	(11.3)	248	(9.6)	298	(8.8)	417	(9.7)	484	(15.5)	520	(18.7)
	Colombia																						
	Bogotá	391	(3.5)	79	(2.4)	410	(4.7)	374	(3.9)	**36**	(5.2)	263	(5.7)	290	(5.5)	337	(3.5)	444	(4.7)	492	(6.0)	525	(10.8)
	Cali	380	(7.1)	85	(3.0)	389	(6.9)	372	(8.4)	**17**	(5.8)	242	(7.7)	273	(8.2)	323	(6.9)	436	(8.5)	490	(11.5)	523	(10.2)
	Manizales	407	(5.2)	88	(5.0)	426	(7.8)	389	(4.7)	**37**	(7.9)	268	(7.8)	298	(6.4)	348	(5.5)	461	(7.4)	521	(14.2)	563	(15.7)
	Medellín	394	(8.7)	99	(6.2)	408	(9.4)	381	(11.3)	**26**	(11.4)	249	(7.9)	277	(7.4)	323	(6.8)	455	(12.9)	526	(18.5)	572	(24.8)
	Russian Federation																						
	Perm Territory region•	478	(5.8)	93	(4.0)	483	(6.9)	473	(5.6)	10	(5.1)	326	(9.1)	362	(7.1)	417	(6.0)	541	(6.6)	594	(9.9)	629	(12.5)
	United Arab Emirates																						
	Abu Dhabi•	416	(4.8)	100	(2.4)	405	(6.3)	425	(5.8)	**-20**	(7.8)	260	(5.5)	289	(5.1)	344	(4.9)	484	(6.2)	549	(7.4)	588	(8.2)
	Ajman	397	(8.4)	83	(3.4)	378	(10.4)	414	(13.4)	**-36**	(17.5)	260	(15.0)	291	(14.1)	338	(10.7)	456	(8.5)	503	(8.1)	535	(11.1)
	Dubai•	465	(1.3)	102	(1.2)	471	(2.0)	459	(1.7)	**11**	(2.7)	298	(2.7)	331	(2.4)	393	(2.2)	537	(2.4)	598	(3.1)	632	(5.0)
	Fujairah	406	(9.0)	89	(3.8)	389	(9.1)	424	(9.3)	**-35**	(11.2)	267	(15.6)	295	(11.7)	344	(11.2)	468	(8.5)	525	(9.8)	554	(9.3)
	Ras al-Khaimah	412	(7.8)	89	(4.0)	405	(6.0)	418	(15.2)	-13	(17.1)	273	(11.3)	303	(10.7)	348	(8.4)	472	(8.1)	528	(9.5)	562	(11.8)
	Sharjah	439	(9.9)	97	(4.4)	446	(17.6)	434	(12.4)	12	(23.6)	290	(10.7)	318	(11.5)	371	(9.0)	505	(14.0)	576	(15.9)	604	(10.0)
	Umm al-Quwain	389	(4.5)	84	(3.9)	373	(6.1)	405	(6.5)	**-32**	(8.9)	261	(7.2)	284	(7.5)	328	(9.9)	442	(8.5)	500	(12.0)	537	(14.4)

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

See Table I.2.22 for national data.

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[Part 1/2]

Table B2.I.22 Percentage of students at each proficiency level on the mathematics subscale *uncertainty and data*, by region

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	5.0	(0.9)	8.9	(1.4)	18.2	(1.6)	24.2	(2.2)	21.4	(1.6)	15.5	(1.5)	6.8	(1.3)
	New South Wales	6.3	(0.6)	11.9	(0.8)	20.8	(0.9)	23.5	(1.1)	19.2	(0.9)	12.2	(0.8)	6.1	(0.9)
	Northern Territory	19.6	(2.1)	16.9	(4.0)	22.6	(4.4)	22.0	(4.2)	12.9	(3.1)	4.9	(2.0)	1.0	(0.8)
	Queensland	5.6	(0.8)	12.5	(0.8)	22.3	(1.0)	24.9	(1.2)	19.7	(0.9)	10.7	(0.7)	4.2	(0.6)
	South Australia	7.0	(0.8)	14.2	(1.3)	23.1	(1.4)	25.3	(1.4)	18.6	(1.8)	9.3	(1.3)	2.6	(0.4)
	Tasmania	9.3	(1.0)	15.6	(1.4)	25.0	(2.1)	24.2	(2.4)	15.5	(1.9)	7.8	(1.1)	2.7	(0.7)
	Victoria	5.6	(0.7)	13.1	(0.9)	22.2	(1.1)	26.0	(1.6)	20.1	(1.5)	9.6	(1.0)	3.2	(0.8)
	Western Australia	4.6	(0.6)	11.2	(1.3)	18.0	(1.3)	23.6	(1.4)	23.2	(1.1)	13.8	(0.9)	5.6	(0.7)
	Belgium														
	Flemish Community•	6.8	(1.0)	10.1	(0.6)	16.7	(1.1)	21.2	(1.2)	20.1	(0.8)	15.6	(0.7)	9.6	(0.8)
	French Community	11.6	(1.2)	14.7	(1.0)	22.2	(1.0)	22.5	(1.1)	18.0	(1.1)	8.5	(0.6)	2.6	(0.4)
	German-speaking Community	8.2	(1.0)	11.2	(1.1)	19.9	(1.8)	26.1	(1.8)	22.5	(1.4)	9.9	(1.4)	2.2	(0.6)
	Canada														
	Alberta	4.7	(0.8)	10.2	(1.4)	19.5	(1.2)	26.1	(1.3)	22.3	(1.4)	12.6	(1.3)	4.5	(0.7)
	British Columbia	2.9	(0.6)	9.2	(1.0)	20.5	(1.4)	27.5	(1.6)	23.2	(2.0)	12.5	(1.4)	4.1	(0.8)
	Manitoba	6.2	(1.0)	14.7	(1.3)	24.4	(1.5)	25.3	(1.4)	18.1	(1.6)	8.2	(0.8)	3.1	(0.7)
	New Brunswick	5.3	(0.8)	12.2	(1.2)	24.5	(1.5)	28.8	(1.5)	20.1	(1.5)	7.2	(1.1)	1.8	(0.8)
	Newfoundland and Labrador	8.6	(1.8)	13.4	(1.7)	22.3	(2.0)	27.2	(1.7)	17.7	(1.7)	8.5	(1.1)	2.2	(0.6)
	Nova Scotia	3.7	(0.8)	12.5	(1.7)	26.2	(3.2)	25.6	(1.8)	20.5	(1.9)	9.3	(1.4)	2.3	(0.6)
	Ontario	4.2	(0.6)	10.4	(1.2)	22.4	(1.4)	28.0	(1.1)	20.9	(1.1)	10.9	(1.2)	3.2	(0.5)
	Prince Edward Island	6.3	(1.0)	15.7	(1.1)	25.1	(1.4)	26.8	(1.6)	18.4	(1.5)	6.3	(0.9)	1.4	(0.5)
	Quebec	3.3	(0.5)	8.2	(0.8)	17.0	(1.1)	24.8	(1.2)	24.4	(1.0)	15.9	(1.0)	6.3	(0.7)
	Saskatchewan	4.0	(0.6)	10.6	(0.9)	24.0	(1.5)	28.5	(1.8)	20.9	(1.1)	9.8	(1.1)	2.3	(0.7)
	Italy														
	Abruzzo	10.9	(1.5)	17.2	(1.6)	25.7	(1.9)	24.9	(1.6)	15.6	(1.6)	5.0	(0.9)	0.8	(0.4)
	Basilicata	14.4	(1.6)	20.5	(1.3)	27.4	(1.5)	21.6	(1.4)	11.0	(1.2)	4.0	(0.7)	1.2	(0.4)
	Bolzano	7.9	(0.9)	12.8	(1.0)	19.7	(1.2)	26.1	(1.2)	20.3	(1.5)	10.2	(1.1)	3.0	(0.4)
	Calabria	24.3	(2.6)	24.6	(1.8)	24.3	(1.4)	16.8	(1.5)	7.5	(0.9)	2.0	(0.5)	0.5	(0.3)
	Campania	16.3	(2.4)	20.9	(2.4)	25.7	(1.6)	21.4	(1.9)	11.3	(1.8)	3.2	(0.8)	1.1	(0.4)
	Emilia Romagna	8.3	(1.4)	12.6	(1.4)	21.6	(1.9)	23.9	(1.8)	19.4	(1.6)	10.7	(1.8)	3.6	(0.9)
	Friuli Venezia Giulia	6.0	(1.4)	10.0	(1.5)	18.2	(1.6)	26.6	(1.8)	23.5	(1.7)	12.2	(1.4)	3.6	(0.6)
	Lazio	10.9	(2.0)	17.7	(2.1)	26.1	(1.9)	22.5	(1.7)	14.5	(1.6)	6.5	(1.2)	1.8	(0.5)
	Liguria	8.7	(1.2)	16.1	(1.6)	23.2	(2.0)	24.4	(1.7)	17.2	(1.8)	8.1	(1.3)	2.4	(0.6)
	Lombardia	3.9	(0.9)	10.5	(1.6)	20.1	(2.1)	27.6	(2.0)	23.1	(1.6)	11.6	(1.7)	3.3	(0.9)
	Marche	7.4	(1.5)	13.6	(1.5)	22.5	(1.7)	26.8	(1.7)	18.9	(1.6)	8.6	(1.2)	2.3	(0.5)
	Molise	10.0	(1.0)	21.3	(1.7)	28.3	(2.1)	23.3	(1.9)	12.9	(1.4)	3.4	(0.7)	0.8	(0.4)
	Piemonte	6.5	(1.0)	14.6	(1.8)	22.2	(1.9)	27.5	(1.6)	18.5	(1.7)	8.6	(1.1)	2.1	(0.6)
	Puglia	9.1	(1.7)	17.4	(2.0)	26.7	(2.4)	24.1	(2.5)	16.2	(1.9)	5.5	(1.1)	1.0	(0.4)
	Sardegna	13.4	(2.1)	19.2	(2.0)	26.1	(1.7)	23.7	(2.0)	12.5	(1.3)	4.2	(0.7)	0.9	(0.3)
	Sicilia	14.7	(1.7)	21.8	(1.6)	29.5	(1.8)	21.8	(1.6)	9.3	(1.1)	2.5	(0.6)	0.4	(0.2)
	Toscana	9.0	(1.1)	14.6	(1.6)	21.7	(1.7)	24.5	(1.7)	19.0	(1.9)	8.8	(1.3)	2.5	(0.7)
	Trento	2.8	(0.8)	8.9	(1.5)	21.3	(2.0)	28.3	(1.7)	24.7	(1.7)	11.3	(1.2)	2.6	(0.5)
	Umbria	8.9	(2.1)	13.5	(1.7)	21.4	(1.9)	27.8	(1.9)	18.9	(1.8)	8.2	(1.2)	1.3	(0.5)
	Valle d'Aosta	6.4	(1.0)	13.9	(1.7)	26.1	(2.0)	27.5	(2.6)	17.3	(1.9)	6.9	(1.1)	1.9	(0.5)
	Veneto	4.9	(1.2)	10.5	(1.5)	19.0	(1.8)	26.0	(2.3)	22.3	(1.8)	12.6	(1.8)	4.7	(1.4)
	Mexico														
	Aguascalientes	12.5	(2.1)	26.9	(2.1)	35.4	(2.1)	19.9	(2.2)	4.9	(1.2)	0.4	(0.3)	0.0	c
	Baja California	19.9	(3.6)	35.0	(3.6)	29.6	(2.7)	12.3	(2.6)	2.3	(0.9)	0.8	(0.6)	0.0	c
	Baja California Sur	17.8	(3.1)	32.6	(2.3)	32.8	(2.9)	14.2	(1.8)	2.4	(0.7)	0.2	(0.2)	0.0	c
	Campeche	25.3	(2.7)	38.4	(1.9)	27.1	(2.1)	7.6	(1.2)	1.4	(0.6)	0.2	(0.2)	0.0	c
	Chiapas	36.1	(3.7)	37.2	(2.5)	21.0	(2.2)	5.0	(1.2)	0.7	(0.4)	0.1	c	0.0	c
	Chihuahua	14.3	(2.2)	30.2	(3.3)	33.9	(2.3)	16.9	(2.8)	4.3	(1.3)	0.5	(0.3)	0.0	c
	Coahuila	18.3	(3.3)	33.9	(3.3)	31.7	(2.7)	13.6	(2.4)	2.1	(0.9)	0.3	(0.2)	0.0	c
	Colima	16.5	(2.0)	29.4	(1.8)	31.1	(1.9)	17.3	(2.0)	5.2	(1.3)	0.5	(0.3)	0.0	c
	Distrito Federal	17.2	(2.2)	32.9	(2.7)	30.4	(2.1)	14.9	(2.3)	4.3	(1.0)	0.3	(0.2)	0.0	c
	Durango	14.5	(2.3)	34.0	(2.8)	33.1	(2.4)	15.6	(2.1)	2.8	(0.9)	0.1	(0.1)	0.0	c
	Guanajuato	21.3	(3.3)	33.4	(2.0)	30.5	(2.9)	12.7	(1.8)	2.0	(0.5)	0.1	c	0.0	c
	Guerrero	39.0	(3.0)	38.9	(2.2)	17.7	(1.4)	3.9	(0.9)	0.6	(0.3)	0.0	c	0.0	c
	Hidalgo	24.7	(2.8)	35.0	(2.6)	28.5	(2.6)	10.6	(1.8)	1.2	(0.5)	0.0	c	0.0	c
	Jalisco	10.7	(1.8)	30.7	(2.3)	36.1	(1.8)	18.1	(2.2)	3.9	(0.9)	0.5	(0.3)	0.1	(0.1)
	Mexico	15.9	(1.9)	37.4	(3.1)	34.1	(3.2)	11.0	(1.7)	1.4	(0.8)	0.2	(0.2)	0.0	c
	Morelos	17.4	(3.6)	34.5	(3.0)	30.1	(2.3)	13.3	(2.1)	4.0	(1.8)	0.7	(0.6)	0.0	c
	Nayarit	22.2	(3.4)	30.8	(2.0)	31.7	(2.5)	13.1	(1.8)	2.1	(0.6)	0.0	c	0.0	c
	Nuevo León	11.0	(2.8)	30.1	(3.4)	34.9	(2.3)	19.3	(3.3)	4.3	(1.1)	0.5	(0.4)	0.0	c
	Puebla	19.8	(3.1)	36.6	(2.1)	31.5	(2.2)	10.1	(1.5)	1.7	(0.8)	0.3	(0.2)	0.0	c
	Querétaro	12.5	(2.3)	29.4	(2.8)	35.7	(2.4)	17.4	(2.1)	4.4	(1.1)	0.5	(0.3)	0.0	c
	Quintana Roo	24.0	(3.1)	36.0	(2.1)	28.1	(2.2)	10.3	(1.8)	1.5	(0.4)	0.0	c	0.0	c
	San Luis Potosí	26.8	(2.9)	31.4	(2.5)	28.2	(2.0)	10.9	(1.9)	2.4	(1.0)	0.3	(0.2)	0.0	c
	Sinaloa	18.5	(2.7)	36.1	(2.1)	31.3	(2.2)	12.2	(1.7)	1.8	(0.5)	0.2	(0.2)	0.0	c
	Tabasco	35.5	(2.2)	37.3	(2.0)	20.8	(2.3)	5.4	(1.0)	0.9	(0.5)	0.1	c	0.0	c
	Tamaulipas	23.5	(3.2)	34.2	(2.8)	28.4	(2.2)	10.8	(1.8)	2.8	(1.1)	0.3	(0.2)	0.0	c
	Tlaxcala	21.1	(1.9)	34.0	(2.2)	31.7	(1.9)	10.6	(1.3)	2.5	(0.8)	0.1	(0.1)	0.0	c
	Veracruz	24.3	(3.1)	34.8	(2.7)	27.8	(2.2)	11.2	(2.0)	1.7	(0.7)	0.2	(0.1)	0.0	c
	Yucatán	20.1	(2.1)	34.5	(1.6)	31.0	(1.9)	12.0	(1.8)	2.2	(0.6)	0.2	c	0.0	c
	Zacatecas	19.6	(2.4)	35.5	(2.0)	30.8	(1.8)	12.4	(1.3)	1.6	(0.5)	0.0	c	0.0	c

• PISA adjudicated region.

Note: See Table I.2.23 for national data.

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[Part 2/2]

Table B2.I.22 Percentage of students at each proficiency level on the mathematics subscale *uncertainty and data*, by region

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**														
	Alentejo	7.5	(2.0)	14.8	(3.3)	24.5	(3.2)	27.4	(3.5)	17.3	(2.4)	7.2	(1.6)	1.3	(0.7)
	Spain														
	Andalusia•	8.8	(1.2)	18.5	(1.3)	25.7	(1.3)	24.1	(1.4)	14.9	(1.3)	6.6	(0.8)	1.3	(0.4)
	Aragon•	8.3	(1.1)	13.0	(1.4)	19.3	(2.0)	25.3	(1.6)	20.5	(1.6)	10.4	(1.5)	3.2	(0.8)
	Asturias•	6.7	(1.0)	12.7	(1.2)	22.0	(1.3)	25.5	(1.3)	19.9	(1.3)	10.4	(1.1)	3.0	(0.8)
	Balearic Islands•	10.7	(1.5)	16.0	(1.7)	23.2	(1.4)	27.3	(2.0)	15.8	(1.9)	6.0	(1.1)	1.0	(0.3)
	Basque Country•	4.2	(0.4)	10.8	(0.8)	20.9	(1.0)	27.8	(1.1)	23.1	(0.8)	10.7	(0.7)	2.5	(0.3)
	Cantabria•	8.3	(1.1)	14.5	(1.0)	22.9	(1.4)	23.6	(1.7)	18.4	(1.3)	9.8	(1.1)	2.5	(0.5)
	Castile and Leon•	4.9	(0.9)	11.2	(1.4)	19.7	(1.8)	26.6	(1.7)	24.0	(1.6)	11.0	(1.1)	2.7	(0.5)
	Catalonia•	7.3	(1.2)	14.0	(1.6)	22.0	(1.6)	25.4	(1.7)	19.6	(1.4)	9.0	(1.4)	2.6	(0.6)
	Extremadura•	14.2	(1.7)	18.3	(1.4)	23.0	(1.8)	23.9	(1.7)	14.1	(1.2)	5.3	(0.9)	1.3	(0.4)
	Galicia•	8.7	(1.0)	14.7	(1.5)	22.0	(1.2)	24.7	(1.6)	18.8	(1.6)	8.5	(0.8)	2.6	(0.5)
	La Rioja•	8.6	(1.0)	12.4	(1.0)	20.3	(1.6)	22.2	(1.5)	20.0	(1.1)	12.0	(1.0)	4.4	(0.7)
	Madrid•	4.7	(0.7)	11.4	(1.2)	22.2	(1.4)	27.6	(1.3)	23.4	(1.6)	8.8	(0.9)	1.8	(0.5)
	Murcia•	13.4	(1.2)	18.5	(1.3)	25.4	(1.7)	22.2	(1.7)	14.5	(1.6)	4.8	(0.9)	1.3	(0.5)
	Navarre•	5.2	(0.7)	10.4	(0.9)	19.2	(1.5)	25.7	(1.8)	24.3	(1.5)	11.9	(1.2)	3.3	(0.6)
	United Kingdom														
	England	7.0	(0.7)	13.1	(0.9)	20.9	(1.2)	24.2	(1.0)	20.1	(0.8)	10.5	(0.8)	4.1	(0.5)
	Northern Ireland	7.5	(0.9)	14.8	(1.1)	21.9	(1.3)	23.8	(1.4)	19.3	(1.5)	9.9	(1.1)	2.9	(0.6)
	Scotland•	5.0	(0.7)	11.4	(1.0)	23.5	(1.1)	27.4	(1.2)	20.6	(1.0)	9.7	(0.8)	2.4	(0.4)
	Wales	7.9	(0.7)	16.0	(0.8)	25.6	(1.0)	26.1	(1.1)	16.5	(0.8)	6.5	(0.6)	1.5	(0.2)
	United States														
	Connecticut•	5.8	(1.1)	12.6	(1.2)	20.2	(1.3)	24.1	(1.8)	19.9	(1.8)	12.2	(1.4)	5.3	(1.1)
	Florida•	7.5	(1.3)	19.1	(1.6)	28.1	(1.6)	25.2	(1.6)	14.2	(1.4)	4.6	(0.9)	1.3	(0.5)
	Massachusetts•	3.9	(0.7)	10.2	(1.3)	20.1	(1.7)	25.1	(1.3)	21.1	(1.2)	13.3	(1.6)	6.3	(1.2)
Partners	**Argentina**														
	Ciudad Autónoma de Buenos Aires•	26.5	(2.8)	23.8	(1.8)	27.1	(2.3)	15.0	(1.6)	6.0	(1.0)	1.5	(0.5)	0.1	c
	Brazil														
	Acre	40.7	(4.0)	34.6	(3.3)	19.0	(2.0)	5.1	(1.5)	0.5	(0.3)	0.0	c	0.0	c
	Alagoas	54.3	(5.1)	30.1	(3.9)	12.3	(2.1)	2.9	(0.9)	0.4	(0.3)	0.0	c	0.0	c
	Amapá	37.2	(4.5)	36.8	(3.3)	20.0	(2.9)	5.6	(2.3)	0.4	(0.4)	0.0	c	0.0	c
	Amazonas	41.8	(3.1)	37.8	(2.6)	16.4	(2.2)	3.2	(1.2)	0.8	(0.5)	0.1	c	0.0	c
	Bahia	35.1	(5.5)	32.5	(3.8)	21.2	(3.8)	9.0	(1.9)	2.0	(1.0)	0.1	c	0.0	c
	Ceará	30.3	(4.3)	37.4	(2.9)	22.5	(3.2)	6.9	(2.0)	2.6	(1.2)	0.2	(0.3)	0.0	c
	Espírito Santo	22.9	(2.8)	32.4	(3.6)	24.8	(2.5)	13.6	(2.7)	5.2	(1.8)	1.2	(0.6)	0.0	c
	Federal District	21.4	(5.0)	30.3	(3.4)	27.8	(4.3)	15.7	(2.5)	4.4	(1.8)	0.4	(0.4)	0.0	c
	Goiás	34.7	(3.6)	38.6	(2.8)	19.8	(2.4)	5.7	(0.9)	1.2	(0.7)	0.1	c	0.0	c
	Maranhão	51.6	(7.1)	27.8	(3.0)	14.3	(4.3)	5.3	(2.8)	1.0	(0.7)	0.0	c	0.0	c
	Mato Grosso	40.7	(5.2)	34.6	(3.2)	17.7	(3.3)	5.0	(1.9)	1.8	(1.0)	0.2	c	0.0	c
	Mato Grosso do Sul	20.5	(3.4)	33.3	(2.5)	29.6	(3.0)	12.6	(1.5)	3.7	(1.0)	0.3	(0.2)	0.0	c
	Minas Gerais	18.5	(2.8)	35.6	(2.5)	29.7	(2.6)	13.1	(2.2)	2.8	(1.4)	0.3	c	0.0	c
	Pará	42.1	(3.8)	34.2	(2.5)	18.0	(2.5)	5.3	(1.0)	0.4	(0.3)	0.0	c	0.0	c
	Paraíba	22.6	(3.8)	36.3	(3.6)	27.2	(4.2)	10.7	(1.7)	2.7	(1.1)	0.4	c	0.0	c
	Paraná	26.6	(3.5)	32.8	(3.4)	25.2	(3.3)	10.3	(2.3)	4.0	(2.8)	1.1	(1.2)	0.0	c
	Pernambuco	36.1	(5.8)	38.1	(3.8)	20.4	(4.8)	4.6	(1.8)	0.8	(0.6)	0.1	c	0.0	c
	Piauí	32.0	(3.8)	37.8	(4.0)	18.1	(2.7)	7.9	(1.6)	3.1	(2.1)	0.9	(0.9)	0.2	c
	Rio de Janeiro	25.4	(4.3)	38.2	(3.6)	26.8	(3.2)	7.8	(2.1)	1.6	(1.2)	0.1	c	0.0	c
	Rio Grande do Norte	28.8	(3.0)	37.1	(3.3)	19.6	(2.6)	9.7	(2.0)	3.9	(2.1)	0.8	(0.7)	0.0	c
	Rio Grande do Sul	17.1	(3.5)	34.7	(2.7)	31.9	(3.2)	14.2	(2.4)	2.0	(0.9)	0.1	c	0.0	c
	Rondônia	24.2	(3.4)	38.9	(2.7)	29.1	(2.7)	6.8	(1.3)	0.9	(0.4)	0.1	c	0.0	c
	Roraima	37.9	(4.2)	34.1	(3.2)	18.6	(2.5)	7.3	(2.0)	2.0	(1.1)	0.0	c	0.0	c
	Santa Catarina	19.1	(2.8)	31.7	(2.9)	32.8	(2.4)	13.5	(2.9)	2.8	(1.2)	0.1	c	0.0	c
	São Paulo	20.6	(1.6)	35.5	(1.9)	28.2	(1.7)	11.9	(1.2)	3.3	(0.9)	0.4	(0.3)	0.0	c
	Sergipe	30.3	(4.8)	37.0	(3.2)	22.8	(3.1)	8.7	(3.0)	1.2	(0.8)	0.1	(0.1)	0.0	c
	Tocantins	35.7	(3.4)	34.8	(2.8)	20.1	(3.2)	7.8	(1.6)	1.5	(0.7)	0.2	c	0.0	c
	Colombia														
	Bogotá	23.1	(1.8)	38.4	(2.0)	28.5	(1.5)	8.7	(1.2)	1.2	(0.6)	0.2	(0.2)	0.0	c
	Cali	33.3	(2.8)	35.3	(1.8)	23.3	(2.2)	7.0	(1.4)	1.0	(0.3)	0.0	c	0.0	c
	Manizales	18.5	(2.2)	38.8	(2.5)	29.2	(2.0)	10.9	(1.8)	2.2	(0.8)	0.3	(0.2)	0.0	c
	Medellín	28.0	(2.9)	35.5	(2.4)	22.7	(2.3)	9.4	(1.6)	2.7	(1.0)	1.4	(0.8)	0.2	(0.2)
	Russian Federation														
	Perm Territory region•	10.6	(1.6)	18.9	(1.4)	28.1	(1.8)	24.0	(1.6)	12.5	(1.4)	4.6	(1.0)	1.3	(0.7)
	United Arab Emirates														
	Abu Dhabi•	23.4	(1.6)	28.4	(1.4)	25.5	(1.3)	14.6	(1.0)	5.9	(0.8)	1.8	(0.5)	0.4	(0.2)
	Ajman	28.5	(5.0)	30.8	(2.9)	24.8	(3.1)	12.4	(2.1)	3.2	(1.0)	0.2	(0.2)	0.0	c
	Dubai•	13.1	(0.4)	21.6	(0.8)	25.8	(1.0)	21.6	(0.8)	12.3	(0.9)	4.5	(0.6)	1.1	(0.2)
	Fujairah	27.9	(4.2)	28.6	(2.6)	25.8	(3.0)	13.9	(2.5)	3.6	(1.0)	0.2	(0.2)	0.0	c
	Ras al-Khaimah	23.9	(3.5)	30.3	(2.2)	28.4	(2.6)	13.4	(2.4)	3.4	(1.2)	0.5	(0.3)	0.0	c
	Sharjah	15.2	(2.7)	28.2	(3.7)	27.0	(2.8)	20.3	(2.9)	7.7	(1.7)	1.5	(0.7)	0.2	c
	Umm al-Quwain	28.4	(2.5)	33.3	(2.8)	26.0	(2.9)	9.9	(1.8)	2.1	(1.2)	0.3	c	0.0	c

• PISA adjudicated region.

Note: See Table I.2.23 for national data.

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[Part 1/4]

Table B2.I.23 Percentage of students at each proficiency level on the mathematics subscale *uncertainty and data*, by gender and region

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	5.7	(1.4)	8.9	(2.0)	18.1	(2.8)	23.3	(3.4)	20.0	(2.7)	15.8	(2.5)	8.2	(2.0)
	New South Wales	6.8	(1.0)	12.1	(1.2)	20.2	(1.4)	22.2	(1.5)	19.2	(1.3)	12.4	(1.3)	7.1	(1.4)
	Northern Territory	20.1	(2.9)	16.1	(4.9)	20.1	(4.8)	22.7	(4.4)	13.8	(4.4)	5.5	(3.2)	1.7	(1.6)
	Queensland	6.1	(1.0)	12.0	(1.1)	22.0	(1.4)	24.6	(1.7)	19.7	(1.3)	11.1	(1.2)	4.5	(0.8)
	South Australia	7.6	(1.1)	12.7	(1.6)	22.8	(1.6)	24.4	(2.3)	18.6	(2.4)	10.7	(1.6)	3.3	(0.8)
	Tasmania	9.6	(1.2)	12.8	(1.6)	25.2	(3.0)	23.6	(3.4)	17.2	(2.9)	8.7	(1.7)	2.8	(1.1)
	Victoria	5.6	(0.8)	12.6	(1.3)	21.1	(1.6)	25.5	(2.2)	20.3	(2.2)	10.6	(1.4)	4.3	(1.3)
	Western Australia	3.8	(0.8)	9.8	(1.2)	16.9	(1.7)	23.1	(1.9)	24.8	(1.8)	15.3	(1.5)	6.4	(1.2)
	Belgium														
	Flemish Community•	7.1	(1.5)	9.7	(0.8)	15.9	(1.2)	19.9	(1.3)	19.7	(1.2)	16.4	(0.9)	11.3	(1.0)
	French Community	12.4	(1.5)	14.6	(1.4)	20.1	(1.3)	21.5	(1.4)	18.3	(1.5)	9.9	(1.0)	3.4	(0.7)
	German-speaking Community	10.9	(1.7)	12.4	(1.8)	20.5	(2.5)	23.3	(2.3)	19.0	(2.1)	11.0	(1.6)	3.0	(1.0)
	Canada														
	Alberta	4.4	(1.0)	9.2	(1.6)	19.3	(1.8)	25.6	(1.9)	22.2	(2.0)	13.7	(1.5)	5.6	(1.0)
	British Columbia	2.9	(0.8)	8.7	(1.6)	19.0	(1.9)	27.0	(2.2)	23.6	(2.3)	13.6	(1.8)	5.1	(1.0)
	Manitoba	6.1	(1.2)	15.1	(1.6)	22.8	(2.7)	24.9	(2.3)	18.5	(1.9)	9.1	(1.2)	3.5	(0.9)
	New Brunswick	6.4	(1.2)	12.9	(1.6)	23.9	(2.0)	27.7	(2.2)	19.8	(2.6)	7.1	(1.9)	2.2	(0.9)
	Newfoundland and Labrador	10.6	(2.7)	13.0	(2.6)	20.8	(2.8)	26.6	(2.5)	18.4	(2.3)	8.2	(1.8)	2.5	(1.0)
	Nova Scotia	3.5	(1.0)	12.5	(1.9)	25.0	(3.5)	24.4	(3.5)	21.6	(2.5)	10.1	(1.9)	2.9	(1.0)
	Ontario	4.5	(0.9)	10.5	(1.5)	20.1	(1.7)	26.5	(1.9)	20.9	(1.3)	13.1	(1.8)	4.3	(0.9)
	Prince Edward Island	7.5	(1.2)	15.6	(1.9)	24.1	(2.0)	25.3	(2.1)	18.4	(1.7)	7.7	(1.3)	1.4	(0.6)
	Quebec	3.3	(0.8)	8.0	(1.5)	16.9	(1.8)	23.7	(1.5)	23.7	(1.2)	16.9	(1.2)	7.4	(1.0)
	Saskatchewan	4.4	(0.8)	10.6	(1.2)	22.3	(1.7)	27.9	(2.6)	22.1	(1.9)	9.9	(1.4)	2.8	(1.0)
	Italy														
	Abruzzo	10.6	(1.8)	16.9	(2.3)	24.5	(2.1)	23.7	(2.0)	17.8	(2.5)	5.7	(1.3)	0.9	(0.5)
	Basilicata	14.0	(2.0)	19.7	(2.1)	23.7	(2.3)	22.8	(2.1)	12.6	(1.6)	5.5	(1.1)	1.5	(0.6)
	Bolzano	7.9	(1.2)	13.0	(1.3)	17.0	(1.4)	24.0	(1.5)	21.5	(1.7)	12.5	(1.4)	4.2	(0.7)
	Calabria	22.8	(3.4)	22.8	(2.8)	23.4	(2.6)	17.7	(2.7)	9.4	(1.6)	3.0	(0.9)	0.9	(0.6)
	Campania	16.0	(2.5)	19.6	(2.3)	24.9	(2.1)	21.2	(2.3)	12.1	(1.9)	4.6	(1.2)	1.7	(0.5)
	Emilia Romagna	8.6	(1.9)	12.0	(2.1)	19.2	(2.2)	21.1	(1.9)	21.3	(2.3)	13.0	(2.7)	4.8	(1.3)
	Friuli Venezia Giulia	5.5	(1.3)	10.8	(1.9)	15.9	(2.2)	23.3	(2.3)	24.3	(1.8)	15.1	(1.8)	5.2	(1.0)
	Lazio	10.6	(2.2)	16.2	(2.7)	24.3	(2.5)	22.2	(2.1)	16.0	(1.9)	8.0	(1.4)	2.7	(0.8)
	Liguria	8.2	(1.9)	16.8	(2.1)	23.3	(2.2)	21.6	(2.2)	17.1	(2.5)	9.8	(1.8)	3.1	(0.8)
	Lombardia	4.7	(1.2)	8.9	(1.5)	18.2	(2.1)	25.6	(2.2)	23.0	(2.0)	14.6	(2.0)	5.0	(1.3)
	Marche	5.3	(1.5)	12.1	(2.0)	20.2	(2.2)	26.8	(2.5)	21.3	(2.2)	11.0	(1.7)	3.4	(0.9)
	Molise	9.2	(1.2)	20.7	(2.3)	26.1	(3.0)	23.2	(2.4)	15.7	(2.0)	4.0	(1.0)	1.1	(0.6)
	Piemonte	5.4	(1.0)	11.8	(1.6)	21.1	(1.9)	28.1	(1.9)	20.2	(1.6)	10.8	(1.7)	2.7	(0.8)
	Puglia	8.6	(1.7)	14.0	(1.9)	24.3	(2.3)	25.1	(2.9)	19.1	(2.2)	7.5	(1.3)	1.4	(0.5)
	Sardegna	13.2	(2.6)	17.8	(2.3)	26.0	(2.5)	22.9	(2.3)	12.8	(1.8)	5.9	(1.2)	1.3	(0.5)
	Sicilia	13.9	(2.0)	20.4	(2.2)	28.8	(2.5)	22.3	(2.0)	10.5	(1.2)	3.5	(1.0)	0.7	(0.4)
	Toscana	10.0	(1.9)	14.2	(2.4)	20.6	(2.1)	23.0	(2.0)	19.3	(2.4)	9.6	(1.6)	3.3	(1.0)
	Trento	3.4	(1.1)	9.1	(2.4)	19.6	(2.9)	26.0	(2.6)	24.5	(2.5)	13.3	(1.7)	4.1	(0.9)
	Umbria	8.3	(2.9)	11.7	(1.8)	17.9	(2.6)	27.2	(2.6)	22.5	(2.8)	10.3	(1.8)	2.1	(0.9)
	Valle d'Aosta	6.3	(1.2)	11.6	(2.1)	22.8	(2.4)	28.5	(3.1)	20.1	(2.7)	8.4	(1.6)	2.3	(0.8)
	Veneto	5.7	(1.3)	8.9	(1.8)	16.9	(2.2)	24.4	(2.5)	21.9	(2.2)	15.4	(2.3)	6.8	(1.9)
	Mexico														
	Aguascalientes	12.7	(2.4)	27.5	(2.4)	33.7	(3.3)	20.4	(2.4)	5.0	(1.7)	0.6	(0.5)	0.0	c
	Baja California	19.2	(3.9)	34.1	(4.1)	29.6	(3.4)	14.1	(3.9)	2.1	(0.8)	1.1	(0.8)	0.0	c
	Baja California Sur	16.6	(3.2)	32.9	(3.7)	32.9	(3.8)	14.5	(2.1)	2.9	(0.9)	0.2	c	0.0	c
	Campeche	25.2	(2.9)	37.3	(2.5)	27.3	(3.2)	8.4	(1.7)	1.7	(0.9)	0.2	(0.2)	0.0	c
	Chiapas	32.8	(4.8)	39.6	(3.9)	21.0	(2.9)	5.6	(1.4)	0.9	(0.6)	0.1	c	0.0	c
	Chihuahua	11.8	(3.0)	29.3	(4.1)	35.1	(4.3)	17.2	(3.9)	5.9	(2.1)	0.7	(0.5)	0.0	c
	Coahuila	18.3	(3.7)	32.5	(3.7)	30.9	(3.2)	15.1	(3.2)	2.6	(1.2)	0.6	(0.5)	0.0	c
	Colima	17.7	(2.4)	27.5	(2.7)	31.1	(2.5)	17.0	(2.5)	6.0	(1.6)	0.7	(0.5)	0.0	c
	Distrito Federal	13.2	(2.4)	29.8	(3.6)	33.4	(2.8)	17.7	(2.7)	5.7	(1.4)	0.2	c	0.0	c
	Durango	14.2	(2.6)	32.8	(3.1)	32.2	(2.8)	16.8	(2.5)	3.9	(1.4)	0.1	c	0.0	c
	Guanajuato	20.1	(3.4)	32.2	(3.0)	29.0	(2.9)	15.3	(2.3)	3.2	(1.0)	0.1	c	0.0	c
	Guerrero	38.8	(3.4)	38.1	(3.1)	18.7	(2.5)	3.7	(1.2)	0.8	(0.5)	0.0	c	0.0	c
	Hidalgo	23.2	(3.6)	33.9	(3.9)	29.2	(3.1)	11.9	(2.7)	1.6	(0.9)	0.0	c	0.0	c
	Jalisco	10.9	(2.5)	28.9	(3.2)	35.1	(2.6)	19.1	(2.9)	5.0	(1.1)	0.7	(0.5)	0.3	(0.3)
	Mexico	15.3	(2.6)	36.0	(3.7)	33.1	(4.4)	13.3	(2.0)	1.9	(0.9)	0.4	(0.4)	0.0	c
	Morelos	19.5	(5.1)	31.1	(3.7)	29.0	(3.1)	15.6	(3.1)	4.2	(1.7)	0.6	(0.6)	0.0	c
	Nayarit	20.3	(3.2)	30.7	(2.7)	31.2	(3.4)	15.0	(2.7)	2.8	(0.9)	0.0	c	0.0	c
	Nuevo León	9.2	(2.5)	27.2	(4.5)	36.3	(2.4)	21.5	(4.3)	5.2	(1.5)	0.7	(0.5)	0.0	c
	Puebla	17.7	(3.8)	34.2	(3.0)	33.3	(3.8)	11.6	(2.0)	2.7	(1.4)	0.5	(0.5)	0.0	c
	Querétaro	10.6	(2.6)	27.8	(3.1)	35.5	(3.8)	19.7	(2.8)	5.9	(1.5)	0.5	(0.4)	0.0	c
	Quintana Roo	23.3	(4.2)	34.7	(2.8)	28.7	(2.4)	11.3	(2.1)	2.0	(0.8)	0.0	c	0.0	c
	San Luis Potosí	27.7	(3.2)	30.9	(3.5)	26.7	(2.6)	11.1	(2.2)	3.2	(1.3)	0.5	(0.5)	0.0	c
	Sinaloa	17.9	(3.2)	35.0	(3.0)	31.8	(3.0)	12.8	(2.2)	2.2	(0.8)	0.3	(0.2)	0.0	c
	Tabasco	33.6	(3.6)	35.6	(3.4)	22.7	(3.4)	6.8	(1.6)	1.1	(0.7)	0.1	c	0.0	c
	Tamaulipas	21.9	(4.0)	33.6	(2.9)	28.1	(2.7)	12.1	(2.2)	3.8	(1.6)	0.6	(0.5)	0.0	c
	Tlaxcala	22.5	(2.3)	30.9	(3.0)	32.4	(2.7)	11.6	(1.7)	2.5	(1.1)	0.2	c	0.0	c
	Veracruz	24.6	(3.4)	34.0	(3.5)	27.9	(2.6)	11.4	(2.4)	1.9	(0.7)	0.2	(0.2)	0.0	c
	Yucatán	17.7	(2.7)	32.9	(2.4)	32.5	(3.2)	13.8	(2.4)	2.8	(0.9)	0.3	c	0.0	c
	Zacatecas	18.4	(2.7)	35.1	(2.4)	30.7	(2.5)	14.0	(1.7)	1.8	(0.8)	0.0	c	0.0	c

• PISA adjudicated region.
Note: See Table I.2.24 for national data.
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[Part 2/4]

Table B2.I.23 Percentage of students at each proficiency level on the mathematics subscale *uncertainty and data*, by gender and region

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**														
	Alentejo	6.8	(1.8)	14.2	(4.1)	22.5	(5.1)	28.1	(5.3)	17.2	(3.5)	9.3	(2.4)	2.0	(1.2)
	Spain														
	Andalusia•	9.1	(1.5)	15.3	(1.5)	24.5	(2.1)	24.3	(2.1)	17.0	(2.1)	7.9	(1.4)	1.8	(0.6)
	Aragon•	7.7	(1.4)	12.8	(1.6)	17.6	(1.6)	23.8	(2.1)	21.6	(2.3)	12.2	(2.0)	4.3	(1.1)
	Asturias•	7.6	(1.5)	12.6	(1.5)	21.2	(1.5)	23.9	(2.1)	20.0	(1.8)	11.2	(1.3)	3.6	(1.0)
	Balearic Islands•	11.7	(1.9)	13.0	(2.0)	22.4	(2.0)	27.7	(2.4)	17.3	(2.6)	6.7	(1.5)	1.2	(0.4)
	Basque Country•	3.7	(0.6)	10.6	(1.1)	19.5	(1.3)	26.2	(1.6)	24.7	(1.2)	12.2	(1.0)	3.1	(0.5)
	Cantabria•	8.5	(1.2)	13.0	(1.3)	19.7	(2.2)	22.8	(2.8)	21.0	(1.6)	11.9	(1.6)	3.1	(0.7)
	Castile and Leon•	5.1	(1.2)	11.0	(1.8)	17.5	(2.1)	24.5	(1.9)	24.1	(2.1)	13.9	(2.0)	3.9	(0.8)
	Catalonia•	6.7	(1.4)	11.7	(2.1)	20.7	(2.1)	23.8	(2.3)	20.8	(1.7)	12.4	(2.4)	3.8	(1.0)
	Extremadura•	14.8	(2.1)	17.5	(2.2)	20.0	(2.7)	23.2	(2.0)	16.1	(1.7)	6.7	(1.1)	1.7	(0.6)
	Galicia•	9.7	(1.5)	14.3	(2.0)	20.8	(1.9)	23.6	(2.4)	20.0	(1.7)	9.8	(1.4)	1.8	(0.7)
	La Rioja•	9.3	(1.4)	11.7	(1.6)	16.7	(2.0)	20.8	(1.9)	20.3	(2.0)	15.3	(1.9)	5.9	(1.1)
	Madrid•	4.4	(1.1)	10.6	(1.4)	19.3	(1.8)	26.5	(1.5)	25.5	(2.0)	10.8	(1.3)	2.9	(0.9)
	Murcia•	13.2	(1.6)	17.6	(2.1)	22.6	(2.2)	22.0	(2.7)	16.3	(2.0)	6.2	(1.2)	2.0	(0.8)
	Navarre•	5.5	(1.1)	9.7	(1.1)	17.8	(1.8)	24.2	(2.5)	25.7	(2.1)	12.8	(1.8)	4.4	(1.0)
	United Kingdom														
	England	6.3	(1.0)	12.4	(1.2)	19.4	(1.9)	24.7	(1.4)	20.4	(1.4)	11.9	(1.2)	4.9	(0.9)
	Northern Ireland	7.3	(1.2)	13.7	(1.5)	21.1	(1.7)	24.0	(2.3)	19.9	(2.1)	10.8	(1.5)	3.4	(0.7)
	Scotland•	4.6	(0.7)	10.3	(1.2)	22.1	(1.4)	26.8	(1.5)	22.8	(1.3)	10.6	(1.0)	2.8	(0.5)
	Wales	7.7	(0.9)	15.1	(1.1)	23.9	(1.4)	27.0	(1.6)	17.2	(1.1)	7.4	(0.7)	1.7	(0.4)
	United States														
	Connecticut•	5.5	(1.1)	11.1	(1.9)	19.7	(2.5)	23.2	(2.7)	21.1	(2.1)	13.5	(1.6)	6.0	(1.4)
	Florida•	7.2	(1.6)	18.1	(2.1)	26.4	(1.9)	25.4	(2.0)	15.6	(2.0)	5.8	(1.2)	1.5	(0.6)
	Massachusetts•	3.9	(0.8)	9.5	(1.5)	19.3	(2.1)	25.0	(1.9)	20.9	(2.0)	13.8	(2.0)	7.5	(1.6)
Partners	**Argentina**														
	Ciudad Autónoma de Buenos Aires•	23.9	(3.2)	22.5	(2.7)	27.0	(2.3)	16.8	(2.1)	7.5	(1.4)	2.0	(0.7)	0.3	c
	Brazil														
	Acre	38.0	(5.6)	35.7	(5.6)	20.4	(3.9)	5.4	(2.5)	0.4	(0.5)	0.0	c	0.0	c
	Alagoas	52.7	(6.9)	30.6	(6.0)	12.9	(3.2)	3.5	(1.3)	0.3	(0.3)	0.0	c	0.0	c
	Amapá	33.1	(5.9)	38.4	(5.1)	20.8	(4.5)	7.6	(3.4)	0.1	c	0.0	c	0.0	c
	Amazonas	38.0	(4.9)	40.5	(5.2)	16.8	(3.0)	3.8	(1.6)	0.9	(0.6)	0.0	c	0.0	c
	Bahia	33.7	(5.9)	33.6	(5.1)	19.0	(5.0)	11.7	(3.3)	1.8	(1.9)	0.2	c	0.0	c
	Ceará	28.7	(4.6)	37.3	(3.6)	22.0	(3.6)	8.0	(2.5)	3.5	(1.7)	0.4	(0.5)	0.1	c
	Espírito Santo	20.2	(2.9)	31.3	(3.6)	25.2	(3.5)	15.8	(2.8)	6.4	(2.0)	1.1	(0.9)	0.1	c
	Federal District	20.4	(6.0)	29.7	(4.6)	26.0	(3.9)	16.8	(2.7)	6.5	(2.6)	0.6	(0.6)	0.0	c
	Goiás	30.2	(4.7)	38.2	(4.3)	21.4	(2.8)	8.1	(1.4)	1.9	(1.2)	0.1	c	0.0	c
	Maranhão	48.3	(7.6)	25.3	(3.8)	16.5	(5.1)	7.6	(4.5)	2.1	(1.6)	0.0	c	0.0	c
	Mato Grosso	40.7	(5.8)	34.0	(4.6)	18.4	(3.5)	5.6	(2.1)	1.2	(1.0)	0.0	c	0.0	c
	Mato Grosso do Sul	18.1	(4.0)	30.0	(3.8)	33.1	(3.9)	15.2	(3.1)	3.1	(1.0)	0.4	(0.4)	0.2	c
	Minas Gerais	18.8	(3.6)	31.6	(3.2)	31.7	(3.4)	14.3	(2.6)	3.2	(1.7)	1.3	c	0.0	c
	Pará	37.3	(5.2)	36.8	(5.1)	19.3	(3.2)	5.9	(2.6)	0.8	(0.6)	0.0	c	0.0	c
	Paraíba	21.7	(4.1)	35.8	(4.9)	27.6	(5.2)	10.3	(3.4)	3.8	(1.9)	0.8	c	0.0	c
	Paraná	23.6	(3.8)	30.9	(3.6)	26.5	(4.1)	12.6	(2.8)	5.5	(3.4)	0.9	(1.0)	0.0	c
	Pernambuco	32.8	(5.9)	37.5	(4.1)	22.8	(4.7)	5.4	(2.3)	1.2	(1.1)	0.2	c	0.0	c
	Piauí	30.4	(3.7)	34.4	(4.7)	21.7	(4.0)	8.3	(2.0)	3.9	(2.1)	0.0	c	1.2	c
	Rio de Janeiro	22.5	(4.4)	38.3	(4.6)	26.6	(4.0)	9.9	(2.7)	2.5	(1.7)	0.3	c	0.0	c
	Rio Grande do Norte	22.5	(4.2)	36.7	(4.9)	22.9	(4.6)	10.9	(3.5)	6.3	(3.3)	0.7	c	0.0	c
	Rio Grande do Sul	14.6	(3.7)	34.4	(3.5)	30.1	(3.7)	17.6	(3.1)	3.1	(1.4)	0.0	c	0.2	c
	Rondônia	21.8	(3.6)	36.8	(4.1)	31.6	(3.4)	8.5	(2.0)	1.3	(0.7)	0.1	c	0.0	c
	Roraima	36.4	(5.0)	32.5	(3.9)	22.6	(4.2)	7.0	(2.1)	1.5	(0.8)	0.0	c	0.0	c
	Santa Catarina	17.3	(2.8)	29.5	(3.7)	32.4	(3.2)	16.8	(3.5)	3.9	(1.8)	0.0	c	0.1	c
	São Paulo	18.7	(1.7)	33.5	(2.5)	29.7	(2.9)	13.5	(1.7)	4.0	(1.2)	0.6	(0.4)	0.0	c
	Sergipe	25.0	(5.8)	37.9	(4.7)	22.6	(3.4)	11.8	(4.9)	2.3	(1.7)	0.3	(0.2)	0.0	c
	Tocantins	32.5	(4.1)	32.4	(3.9)	22.5	(3.4)	10.7	(2.5)	1.6	(1.0)	0.4	c	0.0	c
	Colombia														
	Bogotá	18.3	(2.6)	36.0	(2.5)	31.2	(2.4)	12.3	(1.8)	1.9	(1.2)	0.3	(0.4)	0.0	c
	Cali	29.8	(3.2)	34.2	(2.6)	25.7	(2.8)	8.6	(1.8)	1.7	(0.7)	0.0	c	0.0	c
	Manizales	14.8	(2.4)	34.4	(3.2)	31.7	(2.7)	14.5	(3.1)	4.1	(1.4)	0.6	(0.5)	0.0	c
	Medellín	24.3	(3.5)	34.4	(2.9)	24.8	(3.1)	11.1	(2.3)	3.4	(1.5)	1.7	(1.1)	0.3	(0.3)
	Russian Federation														
	Perm Territory region•	11.8	(2.4)	19.5	(1.7)	26.4	(2.5)	22.1	(2.0)	13.0	(2.0)	5.6	(1.4)	1.6	(0.9)
	United Arab Emirates														
	Abu Dhabi•	29.3	(2.2)	27.6	(1.9)	22.0	(1.9)	13.2	(1.3)	5.6	(1.1)	1.8	(0.7)	0.4	(0.3)
	Ajman	35.7	(7.2)	30.0	(5.5)	19.7	(3.6)	11.6	(2.8)	2.7	(1.1)	0.2	c	0.0	c
	Dubai•	13.9	(0.7)	21.1	(1.1)	23.4	(1.5)	20.6	(1.1)	14.2	(1.3)	5.2	(0.8)	1.6	(0.4)
	Fujairah	38.6	(5.3)	30.3	(4.0)	18.2	(3.0)	9.5	(2.0)	3.2	(1.3)	0.2	c	0.0	c
	Ras al-Khaimah	31.1	(5.9)	30.8	(2.7)	24.7	(3.5)	10.6	(2.8)	2.3	(0.8)	0.4	(0.3)	0.0	c
	Sharjah	13.0	(3.6)	26.2	(4.7)	28.0	(4.5)	21.2	(4.4)	8.7	(2.9)	2.5	(1.6)	0.4	c
	Umm al-Quwain	39.8	(3.5)	32.1	(4.8)	20.2	(4.6)	6.0	(3.0)	1.8	c	0.0	c	0.0	c

• PISA adjudicated region.

Note: See Table I.2.24 for national data.

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[Part 3/4]

Table B2.I.23 Percentage of students at each proficiency level on the mathematics subscale *uncertainty and data*, by gender and region

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	4.4	(1.2)	9.0	(1.5)	18.3	(2.0)	25.1	(2.5)	22.8	(2.7)	15.2	(2.3)	5.4	(1.5)
	New South Wales	5.7	(0.7)	11.6	(0.8)	21.5	(1.1)	24.9	(1.3)	19.2	(1.4)	12.0	(1.0)	5.1	(0.9)
	Northern Territory	19.1	(2.8)	17.8	(5.1)	25.1	(6.8)	21.5	(5.6)	12.0	(4.0)	4.4	(2.8)	0.3	c
	Queensland	5.1	(1.0)	13.1	(1.2)	22.7	(1.6)	25.3	(1.5)	19.6	(1.5)	10.4	(1.0)	3.9	(0.9)
	South Australia	6.4	(1.1)	15.7	(1.7)	23.3	(2.2)	26.2	(2.0)	18.6	(2.1)	7.9	(1.6)	1.9	(0.8)
	Tasmania	8.9	(1.8)	18.7	(2.3)	24.7	(2.6)	24.9	(2.5)	13.6	(2.3)	6.8	(1.4)	2.5	(1.1)
	Victoria	5.7	(1.0)	13.8	(1.4)	23.5	(1.6)	26.6	(1.8)	20.0	(1.4)	8.6	(1.3)	2.0	(0.7)
	Western Australia	5.5	(1.0)	12.7	(2.3)	19.1	(2.0)	24.1	(2.2)	21.5	(1.6)	12.2	(1.7)	4.8	(1.0)
	Belgium														
	Flemish Community•	6.4	(1.1)	10.4	(1.0)	17.5	(1.4)	22.5	(1.5)	20.6	(1.2)	14.7	(1.0)	7.8	(0.9)
	French Community	10.8	(1.6)	14.8	(1.3)	24.2	(1.6)	23.5	(1.5)	17.7	(1.2)	7.1	(0.8)	1.9	(0.4)
	German-speaking Community	5.3	(1.3)	10.0	(1.7)	19.3	(2.4)	29.2	(2.6)	26.2	(2.3)	8.7	(2.0)	1.3	(0.8)
	Canada														
	Alberta	5.1	(0.9)	11.4	(2.0)	19.7	(1.8)	26.7	(1.8)	22.5	(1.9)	11.4	(1.7)	3.2	(0.7)
	British Columbia	3.0	(0.8)	9.7	(1.2)	22.1	(1.9)	28.0	(2.0)	22.7	(2.2)	11.5	(1.6)	3.1	(1.1)
	Manitoba	6.2	(1.4)	14.4	(1.7)	26.0	(1.8)	25.8	(2.6)	17.7	(2.2)	7.3	(1.0)	2.6	(0.7)
	New Brunswick	4.2	(0.9)	11.4	(1.5)	25.1	(2.3)	30.0	(2.6)	20.5	(2.3)	7.3	(1.3)	1.5	(0.8)
	Newfoundland and Labrador	6.6	(1.8)	13.9	(2.2)	23.8	(2.4)	27.8	(2.8)	17.1	(2.8)	8.8	(1.5)	2.0	(0.7)
	Nova Scotia	3.8	(1.6)	12.5	(3.0)	27.3	(4.1)	26.9	(2.3)	19.3	(2.8)	8.4	(1.8)	1.7	(0.9)
	Ontario	4.0	(0.7)	10.2	(1.3)	24.6	(1.6)	29.4	(1.5)	20.9	(1.6)	8.8	(1.3)	2.1	(0.6)
	Prince Edward Island	5.1	(1.3)	15.8	(1.6)	26.1	(2.0)	28.4	(2.0)	18.5	(2.0)	4.8	(1.0)	1.4	(0.6)
	Quebec	3.3	(0.5)	8.4	(1.0)	17.1	(1.4)	25.9	(1.8)	25.1	(1.6)	14.9	(1.4)	5.2	(0.9)
	Saskatchewan	3.6	(0.9)	10.6	(1.5)	25.9	(2.0)	29.1	(1.9)	19.5	(1.8)	9.6	(1.6)	1.8	(0.9)
	Italy														
	Abruzzo	11.3	(2.0)	17.5	(2.2)	26.9	(2.5)	26.1	(2.3)	13.3	(1.7)	4.3	(1.1)	0.6	(0.5)
	Basilicata	14.7	(1.9)	21.3	(1.9)	31.0	(2.0)	20.4	(1.9)	9.4	(1.6)	2.4	(0.7)	0.8	(0.4)
	Bolzano	8.0	(1.1)	12.6	(1.5)	22.4	(1.9)	28.2	(1.8)	19.0	(2.5)	7.9	(1.3)	1.9	(0.5)
	Calabria	25.9	(3.7)	26.4	(2.6)	25.2	(2.6)	15.8	(2.2)	5.5	(0.9)	1.0	(0.5)	0.2	c
	Campania	16.7	(3.2)	22.3	(3.6)	26.5	(2.5)	21.6	(2.3)	10.6	(2.3)	1.8	(0.9)	0.6	(0.4)
	Emilia Romagna	7.9	(1.8)	13.3	(1.7)	24.0	(2.3)	26.8	(2.6)	17.3	(2.0)	8.4	(1.8)	2.3	(0.7)
	Friuli Venezia Giulia	6.6	(2.4)	9.2	(1.8)	20.5	(2.4)	30.1	(2.5)	22.6	(2.7)	9.1	(1.4)	1.9	(0.8)
	Lazio	11.4	(2.4)	19.5	(2.3)	28.3	(2.1)	22.9	(2.1)	12.7	(2.1)	4.7	(1.4)	0.6	(0.3)
	Liguria	9.3	(1.7)	15.4	(2.5)	23.0	(2.7)	27.2	(2.2)	17.2	(2.1)	6.3	(1.4)	1.6	(0.6)
	Lombardia	3.0	(1.0)	12.1	(2.2)	22.0	(3.0)	29.6	(2.8)	23.3	(2.4)	8.5	(1.8)	1.5	(0.8)
	Marche	9.4	(2.1)	15.2	(1.7)	24.7	(2.3)	26.7	(2.5)	16.5	(1.9)	6.3	(1.4)	1.2	(0.5)
	Molise	10.8	(1.4)	22.0	(3.0)	30.5	(3.2)	23.4	(2.6)	9.9	(1.8)	2.9	(1.3)	0.4	(0.5)
	Piemonte	7.6	(1.5)	17.2	(2.7)	23.3	(2.6)	27.0	(3.1)	16.8	(2.2)	6.6	(1.2)	1.5	(0.7)
	Puglia	9.6	(2.2)	20.9	(3.1)	29.1	(3.6)	23.1	(3.1)	13.3	(2.0)	3.4	(1.1)	0.6	(0.4)
	Sardegna	13.6	(2.6)	20.6	(2.7)	26.3	(2.3)	24.5	(2.6)	12.1	(1.8)	2.5	(0.7)	0.4	(0.4)
	Sicilia	15.7	(2.2)	23.5	(2.4)	30.3	(2.9)	21.2	(2.3)	7.9	(1.5)	1.3	(0.4)	0.1	c
	Toscana	7.8	(1.8)	15.0	(2.9)	23.0	(3.3)	26.4	(3.1)	18.7	(2.6)	7.7	(1.7)	1.4	(0.6)
	Trento	2.2	(1.1)	8.6	(1.9)	23.4	(2.7)	31.0	(2.5)	25.0	(2.5)	9.0	(1.8)	0.8	(0.4)
	Umbria	9.5	(2.0)	15.3	(2.3)	24.8	(2.3)	28.4	(2.2)	15.4	(1.9)	6.1	(1.3)	0.6	(0.4)
	Valle d'Aosta	6.5	(1.5)	16.3	(1.9)	29.7	(2.8)	26.4	(3.1)	14.4	(1.9)	5.4	(1.2)	1.4	(0.6)
	Veneto	4.2	(1.7)	12.2	(2.0)	21.1	(2.6)	27.7	(3.0)	22.7	(2.9)	9.6	(1.9)	2.5	(1.0)
	Mexico														
	Aguascalientes	12.2	(2.7)	26.3	(3.2)	37.1	(3.3)	19.5	(3.4)	4.7	(1.6)	0.2	c	0.0	c
	Baja California	20.7	(3.6)	36.0	(3.8)	29.7	(2.9)	10.5	(2.5)	2.6	(1.4)	0.5	(0.5)	0.0	c
	Baja California Sur	19.1	(3.7)	32.3	(3.0)	32.6	(3.2)	14.0	(2.1)	1.9	(0.8)	0.1	c	0.0	c
	Campeche	25.4	(3.5)	39.5	(2.8)	26.9	(2.7)	6.9	(1.5)	1.2	(0.5)	0.1	c	0.0	c
	Chiapas	39.2	(4.2)	34.8	(2.8)	21.0	(2.6)	4.4	(1.5)	0.6	(0.4)	0.0	c	0.0	c
	Chihuahua	16.8	(3.0)	31.1	(3.8)	32.6	(3.7)	16.5	(3.7)	2.7	(0.9)	0.3	(0.3)	0.0	c
	Coahuila	18.4	(3.7)	35.4	(4.4)	32.6	(3.6)	12.1	(2.9)	1.5	(0.6)	0.0	c	0.0	c
	Colima	15.4	(2.4)	31.2	(2.1)	31.2	(2.4)	17.5	(2.3)	4.4	(1.3)	0.3	(0.2)	0.0	c
	Distrito Federal	21.1	(3.2)	36.0	(4.0)	27.4	(2.8)	12.2	(2.5)	2.9	(1.1)	0.4	(0.3)	0.0	c
	Durango	14.7	(2.8)	35.1	(3.8)	33.9	(3.3)	14.4	(2.4)	1.7	(0.8)	0.2	(0.1)	0.0	c
	Guanajuato	22.5	(3.8)	34.5	(2.4)	32.0	(3.6)	10.3	(1.9)	0.8	(0.3)	0.0	c	0.0	c
	Guerrero	39.1	(3.8)	39.8	(3.5)	16.7	(2.2)	4.1	(1.0)	0.4	(0.5)	0.0	c	0.0	c
	Hidalgo	26.0	(3.2)	35.9	(2.8)	27.9	(3.2)	9.5	(1.9)	0.8	(0.4)	0.0	c	0.0	c
	Jalisco	10.4	(2.1)	32.4	(2.7)	36.9	(2.2)	17.2	(2.4)	2.9	(1.1)	0.2	c	0.0	c
	Mexico	16.5	(2.6)	38.7	(3.4)	35.0	(3.0)	8.8	(2.1)	1.0	(0.8)	0.0	c	0.0	c
	Morelos	15.6	(2.9)	37.6	(3.8)	31.1	(2.6)	11.2	(2.1)	3.9	(2.0)	0.7	(0.7)	0.0	c
	Nayarit	24.0	(4.3)	30.9	(2.9)	32.2	(3.2)	11.4	(2.1)	1.4	(0.7)	0.1	c	0.0	c
	Nuevo León	12.9	(3.2)	33.4	(3.4)	33.3	(3.1)	16.8	(3.1)	3.2	(1.2)	0.4	(0.4)	0.0	c
	Puebla	21.9	(3.6)	38.8	(2.9)	29.7	(2.7)	8.7	(1.8)	0.9	(0.5)	0.0	c	0.0	c
	Querétaro	14.3	(2.8)	30.9	(3.6)	35.9	(3.1)	15.2	(2.5)	3.1	(1.0)	0.6	(0.3)	0.0	c
	Quintana Roo	24.8	(3.0)	37.4	(2.7)	27.5	(2.7)	9.2	(1.9)	1.1	(0.6)	0.0	c	0.0	c
	San Luis Potosí	26.0	(3.9)	31.9	(3.3)	29.5	(2.8)	10.8	(2.2)	1.7	(0.8)	0.1	c	0.0	c
	Sinaloa	19.0	(2.9)	37.1	(2.8)	30.8	(2.6)	11.7	(2.3)	1.4	(0.7)	0.1	c	0.0	c
	Tabasco	37.4	(2.6)	39.0	(2.6)	18.9	(2.0)	4.1	(0.9)	0.7	(0.5)	0.0	c	0.0	c
	Tamaulipas	25.3	(3.0)	34.9	(4.1)	28.8	(3.1)	9.4	(2.0)	1.6	(1.0)	0.0	c	0.0	c
	Tlaxcala	19.8	(2.1)	36.9	(2.4)	31.1	(2.4)	9.6	(1.5)	2.5	(0.8)	0.1	c	0.0	c
	Veracruz	24.0	(3.6)	35.7	(3.4)	27.6	(2.8)	11.0	(2.5)	1.6	(1.0)	0.1	c	0.0	c
	Yucatán	22.7	(2.5)	36.1	(3.0)	29.4	(3.0)	10.1	(2.3)	1.6	(0.7)	0.0	c	0.0	c
	Zacatecas	20.7	(3.0)	35.9	(3.4)	31.0	(2.4)	10.8	(1.6)	1.5	(0.6)	0.0	c	0.0	c

• PISA adjudicated region.
Note: See Table I.2.24 for national data.
StatLink http://dx.doi.org/10.1787/888932935762



[Part 4/4]

Table B2.I.23 Percentage of students at each proficiency level on the mathematics subscale *uncertainty and data*, by gender and region

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**														
	Alentejo	8.1	(2.5)	15.3	(3.3)	26.5	(3.5)	26.8	(3.6)	17.4	(2.7)	5.2	(1.9)	0.6	(0.5)
	Spain														
	Andalusia•	8.5	(1.5)	21.9	(2.3)	27.0	(2.5)	23.9	(2.1)	12.6	(1.7)	5.2	(1.0)	0.8	(0.5)
	Aragon•	8.9	(1.5)	13.2	(2.2)	20.9	(3.1)	26.7	(2.1)	19.4	(2.3)	8.6	(1.7)	2.2	(0.8)
	Asturias•	5.7	(1.0)	12.7	(1.6)	22.8	(2.2)	27.0	(1.6)	19.7	(2.0)	9.6	(1.5)	2.4	(0.8)
	Balearic Islands•	9.6	(1.8)	18.9	(1.9)	24.0	(1.8)	27.0	(2.6)	14.3	(2.2)	5.3	(1.2)	0.8	(0.4)
	Basque Country•	4.7	(0.6)	11.0	(0.9)	22.3	(1.3)	29.3	(1.4)	21.5	(1.1)	9.3	(1.0)	1.9	(0.4)
	Cantabria•	8.1	(1.5)	16.1	(1.6)	26.3	(2.3)	24.4	(2.1)	15.7	(2.0)	7.6	(1.4)	1.8	(0.6)
	Castile and Leon•	4.6	(1.1)	11.3	(2.0)	22.0	(2.6)	28.8	(2.5)	23.9	(2.1)	8.0	(1.3)	1.4	(0.5)
	Catalonia•	7.9	(1.7)	16.5	(1.9)	23.4	(2.1)	27.3	(2.2)	18.3	(2.5)	5.3	(1.4)	1.3	(0.6)
	Extremadura•	13.6	(1.9)	19.3	(2.0)	25.9	(2.7)	24.6	(2.7)	12.0	(1.5)	3.8	(1.2)	0.8	(0.4)
	Galicia•	7.8	(1.0)	15.2	(2.0)	23.1	(1.9)	25.8	(2.1)	17.5	(2.3)	7.2	(0.9)	3.3	(0.7)
	La Rioja•	8.1	(1.2)	13.1	(1.7)	23.6	(2.0)	23.5	(1.9)	19.7	(1.9)	9.0	(1.3)	3.0	(0.8)
	Madrid•	5.0	(1.1)	12.3	(1.7)	25.2	(2.2)	28.7	(2.2)	21.3	(1.8)	6.8	(1.0)	0.8	(0.4)
	Murcia•	13.5	(1.6)	19.4	(1.8)	28.2	(2.4)	22.3	(1.6)	12.6	(1.6)	3.3	(0.9)	0.6	(0.4)
	Navarre•	4.9	(0.9)	11.1	(1.4)	20.5	(2.6)	27.2	(2.1)	23.0	(1.8)	11.1	(1.1)	2.2	(0.8)
	United Kingdom														
	England	7.7	(0.9)	13.8	(1.2)	22.4	(1.1)	23.8	(1.4)	19.7	(1.2)	9.2	(1.2)	3.4	(0.6)
	Northern Ireland	7.7	(1.2)	15.9	(1.8)	22.8	(1.8)	23.7	(1.9)	18.7	(1.8)	8.9	(1.3)	2.3	(0.7)
	Scotland•	5.4	(1.0)	12.5	(1.4)	24.9	(1.6)	28.0	(1.8)	18.3	(1.4)	8.9	(1.0)	2.0	(0.6)
	Wales	8.1	(0.8)	16.8	(1.2)	27.3	(1.3)	25.0	(1.6)	15.9	(1.3)	5.6	(0.8)	1.2	(0.3)
	United States														
	Connecticut•	6.1	(1.4)	14.0	(2.0)	20.7	(1.8)	24.9	(1.9)	18.7	(1.9)	11.0	(1.6)	4.6	(1.2)
	Florida•	7.9	(1.7)	20.0	(2.4)	29.9	(2.4)	25.0	(2.4)	12.8	(1.7)	3.4	(1.0)	1.1	(0.7)
	Massachusetts•	3.9	(1.0)	10.8	(1.6)	20.9	(2.1)	25.1	(1.7)	21.2	(1.9)	12.9	(1.9)	5.1	(1.2)
Partners	**Argentina**														
	Ciudad Autónoma de Buenos Aires•	28.7	(3.3)	25.0	(2.1)	27.3	(3.0)	13.3	(1.8)	4.8	(1.2)	0.9	(0.6)	0.0	c
	Brazil														
	Acre	43.1	(4.7)	33.6	(4.5)	17.8	(2.7)	4.8	(1.6)	0.6	(0.4)	0.0	c	0.0	c
	Alagoas	55.6	(4.8)	29.8	(3.9)	11.8	(2.6)	2.5	(1.4)	0.5	c	0.0	c	0.0	c
	Amapá	40.7	(4.4)	35.5	(3.3)	19.3	(3.2)	3.9	(2.1)	0.6	(0.7)	0.0	c	0.0	c
	Amazonas	45.3	(3.3)	35.2	(3.4)	16.0	(2.7)	2.6	(1.1)	0.7	(0.7)	0.1	c	0.0	c
	Bahia	36.3	(6.9)	31.6	(4.6)	23.0	(4.0)	6.8	(1.9)	2.3	(1.0)	0.0	c	0.0	c
	Ceará	31.8	(5.7)	37.4	(4.0)	23.0	(4.0)	5.9	(1.8)	1.8	(0.9)	0.1	c	0.0	c
	Espírito Santo	25.3	(4.3)	33.3	(5.4)	24.4	(2.7)	11.6	(3.9)	4.0	(1.9)	1.3	(0.9)	0.0	c
	Federal District	22.2	(4.6)	30.9	(3.4)	29.5	(5.6)	14.7	(2.7)	2.5	(1.5)	0.2	c	0.0	c
	Goiás	38.7	(4.5)	38.8	(3.6)	18.4	(3.3)	3.4	(1.2)	0.7	(0.6)	0.0	c	0.0	c
	Maranhão	54.1	(7.5)	29.6	(4.2)	12.6	(4.5)	3.6	(2.2)	0.1	c	0.0	c	0.0	c
	Mato Grosso	40.7	(6.0)	35.2	(4.6)	17.0	(4.0)	4.4	(2.3)	2.4	(1.3)	0.3	c	0.0	c
	Mato Grosso do Sul	22.4	(3.9)	36.0	(3.1)	26.8	(3.7)	10.6	(2.1)	4.1	(1.3)	0.1	c	0.0	c
	Minas Gerais	18.3	(3.2)	39.3	(3.5)	27.9	(3.2)	11.9	(2.8)	2.5	(1.4)	0.1	c	0.0	c
	Pará	45.7	(5.3)	32.3	(3.7)	17.1	(3.5)	4.8	(1.5)	0.1	c	0.0	c	0.0	c
	Paraíba	23.4	(4.7)	36.8	(5.4)	27.0	(5.0)	11.0	(2.1)	1.8	(1.2)	0.0	c	0.0	c
	Paraná	29.4	(4.3)	34.6	(4.0)	24.0	(3.4)	8.1	(2.7)	2.5	(2.4)	1.3	(1.5)	0.1	c
	Pernambuco	38.6	(6.3)	38.7	(5.2)	18.4	(5.8)	3.9	(1.8)	0.4	(0.4)	0.0	c	0.0	c
	Piauí	33.2	(5.0)	40.4	(5.7)	15.4	(2.6)	7.6	(1.9)	2.5	(2.2)	0.8	(0.8)	0.0	c
	Rio de Janeiro	28.3	(5.6)	38.1	(5.1)	27.0	(4.0)	5.8	(2.0)	0.8	(0.9)	0.0	c	0.0	c
	Rio Grande do Norte	33.9	(4.2)	37.4	(3.5)	16.9	(3.6)	8.8	(2.7)	2.0	(1.3)	1.0	(0.8)	0.0	c
	Rio Grande do Sul	19.3	(4.1)	35.0	(3.4)	33.5	(4.3)	11.2	(2.7)	1.0	(0.9)	0.0	c	0.0	c
	Rondônia	26.5	(4.3)	41.0	(2.5)	26.7	(3.3)	5.2	(1.5)	0.5	(0.5)	0.2	c	0.0	c
	Roraima	39.5	(4.9)	35.8	(4.4)	14.6	(2.7)	7.6	(3.0)	2.5	(1.7)	0.0	c	0.0	c
	Santa Catarina	20.9	(4.2)	33.8	(3.8)	33.1	(3.2)	10.4	(3.2)	1.7	(0.9)	0.1	c	0.0	c
	São Paulo	22.6	(2.2)	37.5	(2.2)	26.7	(1.7)	10.3	(1.3)	2.6	(0.8)	0.3	(0.2)	0.0	c
	Sergipe	34.5	(4.9)	36.2	(3.8)	22.9	(3.8)	6.1	(2.6)	0.3	c	0.0	c	0.0	c
	Tocantins	38.9	(4.1)	37.2	(3.2)	17.7	(3.7)	4.8	(1.1)	1.3	(0.6)	0.0	c	0.0	c
	Colombia														
	Bogotá	27.4	(2.2)	40.5	(2.7)	26.0	(2.3)	5.5	(1.1)	0.6	(0.4)	0.0	c	0.0	c
	Cali	36.0	(3.3)	36.3	(2.2)	21.5	(2.7)	5.8	(1.4)	0.5	(0.3)	0.0	c	0.0	c
	Manizales	22.0	(3.1)	42.9	(3.2)	27.0	(2.2)	7.6	(1.3)	0.5	(0.5)	0.0	c	0.0	c
	Medellín	31.6	(3.7)	36.6	(3.2)	20.8	(2.5)	7.8	(1.6)	2.0	(1.0)	1.1	(0.6)	0.1	c
	Russian Federation														
	Perm Territory region•	9.2	(1.5)	18.3	(1.9)	29.9	(2.0)	26.0	(2.1)	12.0	(1.6)	3.5	(0.9)	1.0	(0.6)
	United Arab Emirates														
	Abu Dhabi•	17.6	(2.1)	29.2	(1.5)	28.9	(1.5)	16.0	(1.6)	6.1	(0.9)	1.8	(0.7)	0.3	(0.3)
	Ajman	21.9	(6.8)	31.5	(3.2)	29.5	(4.9)	13.2	(3.2)	3.8	(1.7)	0.2	c	0.0	c
	Dubai•	12.1	(0.6)	22.2	(1.1)	28.2	(1.3)	22.6	(1.4)	10.4	(1.2)	3.9	(0.7)	0.5	(0.3)
	Fujairah	16.9	(3.7)	26.8	(3.5)	33.6	(4.0)	18.4	(3.5)	4.0	(1.7)	0.2	c	0.0	c
	Ras al-Khaimah	17.1	(3.6)	29.8	(3.2)	32.0	(3.9)	16.1	(3.5)	4.4	(2.3)	0.6	(0.6)	0.0	c
	Sharjah	16.9	(4.1)	29.9	(5.0)	26.1	(3.0)	19.5	(4.1)	6.9	(2.1)	0.7	(0.4)	0.0	c
	Umm al-Quwain	17.4	(2.8)	34.5	(3.9)	31.5	(4.3)	13.6	(3.1)	2.5	(1.5)	0.4	c	0.0	c

• PISA adjudicated region.

Note: See Table I.2.24 for national data.

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[Part 1/2]

Table B2.I.24 Mean score, variation and gender differences in student performance on the mathematics subscale *uncertainty and data*, by region

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	**Australia**																						
	Australian Capital Territory	526	(3.8)	98	(2.9)	527	(5.8)	525	(4.8)	2	(7.5)	357	(9.4)	398	(9.3)	460	(5.6)	598	(6.2)	652	(8.2)	681	(8.3)
	New South Wales	513	(3.7)	102	(2.6)	514	(5.7)	511	(3.7)	2	(6.3)	347	(5.3)	383	(4.1)	444	(3.6)	582	(4.5)	646	(5.2)	679	(8.2)
	Northern Territory	447	(10.9)	112	(6.1)	451	(9.8)	443	(15.2)	8	(13.2)	243	(20.2)	300	(15.9)	382	(12.0)	526	(15.3)	582	(16.0)	615	(18.9)
	Queensland	506	(3.2)	95	(2.1)	507	(4.3)	506	(3.8)	1	(4.9)	353	(6.8)	387	(6.0)	440	(3.8)	573	(4.1)	628	(5.0)	662	(6.2)
	South Australia	495	(3.8)	93	(1.9)	499	(4.4)	491	(4.5)	8	(4.6)	340	(8.3)	376	(5.0)	431	(4.2)	561	(5.9)	616	(6.3)	648	(6.0)
	Tasmania	484	(3.5)	96	(2.2)	488	(4.9)	479	(5.0)	9	(7.0)	324	(9.8)	362	(5.9)	420	(4.6)	547	(6.6)	609	(6.9)	645	(8.7)
	Victoria	503	(3.8)	92	(2.3)	509	(5.1)	497	(3.9)	**12**	(5.3)	353	(5.6)	384	(4.6)	441	(4.7)	566	(5.1)	620	(6.6)	652	(8.1)
	Western Australia	522	(3.2)	96	(2.0)	530	(4.9)	513	(5.3)	**17**	(7.9)	361	(5.1)	394	(5.5)	454	(4.8)	590	(4.5)	643	(5.8)	674	(5.3)
	Belgium																						
	Flemish Community•	528	(3.8)	109	(2.8)	532	(5.1)	523	(4.6)	9	(5.9)	341	(9.6)	382	(8.3)	454	(5.0)	607	(4.2)	667	(4.3)	699	(4.8)
	French Community	482	(3.9)	105	(3.7)	484	(4.3)	480	(4.5)	5	(4.3)	300	(15.2)	347	(8.1)	416	(5.5)	556	(3.5)	612	(3.9)	644	(4.9)
	German-speaking Community	500	(2.3)	94	(2.2)	493	(4.0)	508	(3.2)	**-15**	(5.6)	333	(8.1)	371	(5.4)	439	(3.7)	566	(4.1)	615	(5.9)	644	(7.0)
	Canada																						
	Alberta	517	(4.8)	93	(1.8)	523	(5.5)	511	(4.9)	**12**	(4.4)	361	(8.7)	397	(6.5)	455	(5.3)	582	(6.3)	636	(6.1)	665	(6.9)
	British Columbia	521	(4.1)	86	(2.0)	527	(4.9)	516	(5.0)	11	(5.7)	378	(6.3)	408	(5.7)	463	(4.7)	581	(5.5)	633	(5.6)	662	(6.8)
	Manitoba	495	(2.9)	91	(2.5)	498	(3.7)	493	(4.5)	5	(5.7)	350	(7.0)	379	(6.9)	432	(4.0)	559	(4.6)	613	(6.4)	647	(6.9)
	New Brunswick	498	(2.8)	84	(1.9)	495	(4.2)	501	(3.4)	-5	(5.3)	355	(7.7)	391	(5.2)	441	(4.2)	555	(3.8)	603	(4.5)	634	(7.4)
	Newfoundland and Labrador	491	(5.0)	94	(3.4)	489	(7.3)	494	(4.4)	-5	(6.8)	328	(13.1)	369	(13.7)	431	(6.9)	554	(5.4)	611	(5.5)	642	(6.5)
	Nova Scotia	503	(5.5)	84	(2.5)	506	(4.9)	500	(7.3)	7	(5.8)	370	(6.6)	397	(3.9)	444	(5.1)	562	(8.7)	615	(7.3)	642	(8.8)
	Ontario	511	(4.1)	88	(2.0)	517	(4.9)	506	(4.2)	**11**	(3.9)	365	(6.9)	400	(5.0)	453	(5.2)	572	(5.1)	624	(5.8)	653	(5.8)
	Prince Edward Island	488	(2.7)	85	(1.8)	488	(3.9)	488	(3.4)	0	(4.8)	348	(7.3)	380	(5.2)	428	(4.3)	547	(3.5)	595	(4.4)	626	(5.8)
	Quebec	534	(3.5)	92	(1.7)	537	(4.4)	531	(3.7)	6	(4.1)	375	(5.7)	411	(5.4)	472	(5.4)	599	(3.8)	649	(3.9)	678	(5.2)
	Saskatchewan	507	(2.9)	84	(2.0)	510	(4.0)	505	(3.3)	5	(4.6)	366	(5.9)	400	(4.0)	451	(3.2)	565	(5.0)	616	(5.1)	645	(5.5)
	Italy																						
	Abruzzo	469	(6.0)	93	(3.3)	473	(7.0)	465	(6.9)	8	(7.3)	310	(12.6)	352	(8.5)	411	(6.7)	534	(7.5)	584	(6.6)	613	(8.0)
	Basilicata	455	(4.6)	92	(1.9)	463	(6.8)	448	(4.6)	**15**	(6.8)	302	(7.6)	338	(6.4)	394	(5.9)	515	(4.9)	573	(6.5)	608	(6.5)
	Bolzano	500	(2.2)	96	(1.8)	508	(3.2)	493	(2.9)	**15**	(4.1)	334	(7.6)	371	(4.5)	437	(4.1)	568	(4.0)	621	(4.1)	650	(4.9)
	Calabria	423	(5.8)	96	(3.5)	432	(7.7)	413	(7.2)	18	(9.5)	265	(10.2)	297	(11.5)	359	(7.5)	488	(6.7)	545	(6.5)	578	(7.3)
	Campania	450	(7.8)	94	(3.2)	456	(7.9)	444	(9.6)	12	(7.7)	292	(11.7)	329	(8.5)	386	(9.5)	513	(8.5)	572	(8.7)	602	(9.3)
	Emilia Romagna	499	(6.0)	101	(4.1)	506	(9.5)	491	(6.6)	15	(11.4)	326	(14.8)	370	(9.9)	434	(6.6)	570	(8.4)	625	(9.0)	658	(9.0)
	Friuli Venezia Giulia	514	(5.3)	93	(3.3)	522	(5.6)	505	(7.8)	17	(8.8)	347	(12.8)	386	(11.8)	454	(8.8)	579	(4.9)	629	(5.0)	657	(4.8)
	Lazio	473	(7.8)	94	(3.1)	481	(8.6)	463	(8.4)	**18**	(7.5)	319	(9.7)	354	(9.0)	410	(9.8)	538	(8.7)	598	(9.7)	632	(9.9)
	Liguria	487	(5.9)	95	(2.6)	490	(7.4)	483	(6.6)	7	(7.7)	329	(7.8)	365	(6.9)	420	(6.9)	553	(8.6)	609	(7.2)	640	(7.4)
	Lombardia	515	(6.4)	88	(2.8)	523	(8.0)	507	(6.6)	**15**	(7.8)	367	(9.6)	403	(6.9)	458	(7.0)	576	(8.4)	626	(7.5)	657	(8.8)
	Marche	494	(5.4)	91	(3.3)	509	(6.5)	480	(5.7)	**29**	(6.1)	342	(11.0)	375	(9.9)	433	(6.7)	557	(5.6)	611	(7.1)	639	(8.2)
	Molise	462	(2.4)	85	(2.2)	469	(3.1)	455	(3.5)	**15**	(4.4)	318	(7.5)	356	(5.3)	405	(3.8)	520	(4.6)	569	(5.4)	599	(8.6)
	Piemonte	495	(6.4)	89	(2.7)	506	(5.6)	484	(7.6)	**22**	(5.3)	346	(8.0)	379	(7.6)	434	(9.5)	557	(7.2)	610	(7.3)	639	(7.6)
	Puglia	475	(6.0)	88	(3.4)	487	(5.8)	464	(6.6)	**23**	(5.4)	330	(10.6)	362	(8.7)	415	(7.6)	538	(6.6)	588	(7.0)	618	(9.4)
	Sardegna	460	(5.7)	91	(2.6)	465	(6.7)	455	(6.9)	10	(7.4)	308	(11.2)	341	(9.4)	398	(7.2)	523	(5.5)	577	(5.6)	608	(8.4)
	Sicilia	447	(4.8)	87	(3.4)	452	(6.2)	440	(5.8)	12	(7.1)	299	(15.1)	335	(8.4)	391	(5.1)	505	(5.1)	555	(6.2)	584	(7.3)
	Toscana	491	(5.7)	96	(2.9)	492	(8.0)	489	(8.5)	3	(11.9)	326	(9.0)	363	(6.4)	425	(6.6)	560	(7.6)	613	(8.5)	645	(8.4)
	Trento	518	(4.8)	83	(2.6)	523	(6.6)	512	(6.0)	11	(8.5)	381	(10.9)	412	(8.9)	461	(6.3)	576	(4.9)	622	(4.8)	651	(5.6)
	Umbria	489	(6.5)	92	(3.6)	502	(9.6)	477	(6.1)	**24**	(8.7)	325	(16.3)	364	(14.7)	429	(10.5)	554	(5.4)	604	(5.3)	630	(5.1)
	Valle d'Aosta	489	(2.3)	86	(2.3)	498	(3.5)	480	(3.3)	**18**	(5.1)	347	(8.0)	381	(5.6)	431	(4.9)	548	(4.7)	599	(6.3)	630	(9.4)
	Veneto	517	(7.4)	96	(4.6)	525	(8.4)	508	(8.0)	**17**	(8.0)	358	(14.1)	397	(12.9)	455	(9.9)	582	(10.0)	637	(10.6)	667	(11.1)
	Mexico																						
	Aguascalientes	437	(4.9)	67	(2.5)	437	(5.6)	437	(6.2)	-1	(6.4)	323	(9.3)	349	(7.6)	393	(6.3)	483	(5.2)	524	(5.4)	546	(7.5)
	Baja California	414	(8.0)	68	(3.7)	417	(8.7)	411	(7.7)	7	(4.0)	306	(7.8)	331	(9.6)	369	(8.5)	457	(10.0)	502	(9.2)	527	(11.1)
	Baja California Sur	419	(5.5)	65	(2.7)	421	(6.4)	416	(5.4)	4	(4.2)	312	(11.5)	334	(8.9)	375	(7.4)	462	(5.8)	503	(5.8)	525	(6.3)
	Campeche	398	(4.2)	65	(3.1)	400	(4.1)	396	(5.1)	4	(3.9)	294	(14.7)	315	(8.2)	357	(5.8)	441	(3.7)	480	(4.0)	504	(6.5)
	Chiapas	381	(5.9)	65	(2.8)	385	(6.2)	377	(6.4)	**9**	(4.3)	274	(9.4)	297	(6.9)	337	(6.3)	423	(5.8)	463	(7.9)	488	(10.1)
	Chihuahua	429	(7.3)	69	(2.3)	436	(9.0)	422	(6.8)	**14**	(6.7)	315	(11.9)	343	(8.1)	383	(7.2)	475	(8.8)	516	(11.0)	544	(12.1)
	Coahuila	417	(7.3)	64	(2.9)	420	(7.9)	415	(7.5)	5	(4.8)	316	(9.1)	336	(8.0)	372	(8.2)	461	(8.4)	501	(7.9)	523	(9.2)
	Colima	429	(4.7)	71	(2.4)	430	(5.3)	429	(5.2)	1	(4.6)	315	(6.7)	336	(7.8)	380	(5.8)	477	(6.0)	522	(8.5)	549	(9.2)
	Distrito Federal	422	(4.8)	69	(2.5)	433	(5.7)	412	(5.6)	**21**	(6.1)	311	(7.5)	335	(8.0)	375	(5.3)	468	(7.1)	514	(8.6)	541	(7.5)
	Durango	424	(5.3)	63	(2.0)	428	(5.9)	421	(5.5)	7	(4.1)	318	(7.2)	343	(8.2)	380	(6.7)	468	(6.0)	506	(6.4)	528	(5.7)
	Guanajuato	411	(5.7)	68	(3.2)	417	(6.1)	405	(6.0)	**11**	(4.1)	297	(13.4)	324	(10.5)	366	(7.3)	458	(5.7)	497	(4.6)	519	(6.2)
	Guerrero	375	(3.9)	62	(2.2)	376	(4.5)	373	(4.5)	2	(4.7)	275	(7.8)	296	(7.5)	333	(4.9)	414	(3.5)	452	(4.1)	477	(7.9)
	Hidalgo	402	(5.4)	66	(3.0)	406	(6.6)	400	(5.4)	6	(5.1)	292	(10.2)	317	(6.5)	359	(6.3)	449	(6.7)	489	(7.5)	510	(8.2)
	Jalisco	435	(5.2)	65	(2.5)	438	(6.7)	431	(4.6)	7	(4.5)	329	(8.7)	355	(6.8)	392	(5.8)	476	(6.4)	518	(6.9)	542	(6.4)
	Mexico	415	(4.5)	59	(3.1)	419	(5.0)	412	(5.0)	7	(4.7)	318	(6.9)	341	(6.2)	377	(5.1)	453	(5.3)	491	(7.5)	510	(11.2)
	Morelos	421	(7.9)	69	(6.1)	421	(9.2)	420	(7.7)	0	(6.0)	310	(19.5)	337	(12.4)	376	(8.0)	463	(8.8)	511	(15.6)	541	(20.2)
	Nayarit	411	(5.6)	70	(3.0)	416	(5.8)	406	(6.7)	10	(5.8)	290	(10.2)	317	(10.8)	365	(9.4)	460	(5.8)	499	(5.6)	521	(5.0)
	Nuevo León	437	(8.2)	64	(2.1)	443	(9.3)	429	(7.5)	**14**	(5.6)	335	(7.9)	354	(8.9)	392	(8.5)	480	(9.5)	520	(8.6)	543	(8.6)
	Puebla	409	(5.3)	66	(3.6)	416	(6.7)	402	(5.5)	**13**	(5.9)	295	(12.9)	324	(12.8)	369	(6.5)	453	(4.9)	490	(7.0)	514	(9.2)
	Querétaro	434	(5.5)	66	(3.0)	441	(5.8)	427	(6.1)	**13**	(4.0)	323	(10.1)	348	(9.3)	390	(6.7)	477	(7.0)	518	(9.0)	545	(8.8)
	Quintana Roo	404	(5.7)	65	(2.4)	407	(6.8)	402	(5.4)	5	(4.3)	299	(8.9)	323	(8.6)	360	(6.4)	449	(6.7)	489	(7.0)	511	(8.2)
	San Luis Potosí	406	(6.4)	70	(3.3)	406	(6.7)	406	(7.1)	0	(5.1)	298	(6.2)	319	(4.8)	354	(6.1)	453	(8.0)	497	(10.7)	524	(11.0)
	Sinaloa	414	(5.1)	63	(2.0)	417	(6.1)	412	(5.1)	4	(4.7)	315	(6.4)	335	(6.0)	372	(6.1)	457	(5.8)	496	(6.0)	521	(5.6)
	Tabasco	382	(3.9)	64	(3.0)	388	(5.5)	377	(3.4)	**11**	(4.3)	278	(10.1)	303	(5.5)	340	(4.3)	424	(5.2)	464	(7.1)	491	(8.9)
	Tamaulipas	408	(6.4)	69	(2.7)	414	(8.2)	402	(5.7)	**12**	(5.9)	299	(9.1)	324	(6.8)	361	(7.6)	453	(7.7)	496	(9.7)	526	(13.1)
	Tlaxcala	410	(4.3)	66	(2.1)	411	(4.4)	410	(4.6)	1	(3.0)	300	(8.2)	327	(5.5)	366	(4.3)	453	(4.5)	493	(6.4)	519	(9.8)
	Veracruz	405	(5.4)	67	(2.8)	405	(5.4)	405	(6.6)	1	(5.0)	297	(9.0)	318	(6.1)	359	(6.6)	450	(6.8)	493	(6.9)	517	(9.1)
	Yucatán	413	(4.0)	66	(1.8)	420	(5.0)	406	(4.2)	**14**	(4.7)	307	(7.9)	332	(6.2)	368	(5.3)	457	(5.0)	495	(5.6)	518	(7.6)
	Zacatecas	412	(3.9)	66	(2.4)	415	(4.4)	409	(4.6)	6	(4.4)	304	(9.8)	329	(5.6)	370	(5.0)	457	(3.7)	495	(4.4)	519	(4.3)

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).
See Table I.2.25 for national data.

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[Part 2/2]

Table B2.I.24 Mean score, variation and gender differences in student performance on the mathematics subscale *uncertainty and data*, by region

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	**Portugal**																						
	Alentejo	487	(10.4)	87	(3.3)	494	(12.3)	479	(9.2)	**15**	(6.5)	337	(17.1)	372	(11.8)	430	(14.6)	547	(9.1)	600	(9.6)	627	(11.1)
	Spain																						
	Andalusia•	476	(4.6)	92	(2.1)	483	(6.0)	468	(4.2)	**16**	(5.0)	330	(8.6)	363	(6.3)	414	(5.5)	538	(5.9)	595	(6.8)	628	(6.4)
	Aragon•	500	(5.0)	98	(2.8)	508	(5.7)	492	(5.7)	**16**	(5.3)	328	(10.7)	368	(7.7)	435	(7.6)	568	(5.9)	622	(9.2)	654	(7.5)
	Asturias•	501	(4.6)	96	(2.1)	501	(6.3)	500	(3.9)	1	(5.1)	342	(10.3)	379	(6.9)	438	(5.4)	567	(5.7)	624	(6.0)	652	(6.7)
	Balearic Islands•	476	(5.1)	92	(2.6)	480	(5.7)	473	(5.7)	7	(5.2)	319	(8.1)	353	(10.6)	415	(6.6)	539	(5.0)	591	(6.2)	620	(7.3)
	Basque Country•	511	(2.7)	86	(1.2)	517	(3.3)	505	(3.1)	**12**	(3.3)	364	(3.6)	396	(4.0)	454	(3.4)	572	(3.0)	620	(3.4)	647	(3.5)
	Cantabria•	492	(4.0)	98	(2.3)	500	(4.9)	484	(5.3)	**17**	(6.4)	335	(7.5)	368	(7.6)	427	(4.9)	562	(6.4)	617	(6.1)	646	(4.8)
	Castile and Leon•	511	(4.8)	89	(2.5)	518	(5.8)	504	(5.1)	**14**	(5.1)	359	(8.5)	392	(7.2)	451	(6.8)	575	(4.8)	621	(4.6)	647	(6.1)
	Catalonia•	496	(5.9)	92	(2.3)	508	(7.0)	483	(6.4)	**25**	(6.6)	340	(9.4)	373	(7.7)	433	(7.8)	561	(6.4)	615	(7.4)	646	(7.4)
	Extremadura•	464	(4.6)	98	(2.8)	469	(5.3)	458	(4.9)	**11**	(4.4)	298	(10.2)	335	(9.9)	397	(6.5)	532	(4.3)	587	(5.7)	619	(6.0)
	Galicia•	491	(4.7)	97	(2.4)	490	(5.9)	491	(5.0)	0	(5.7)	325	(12.2)	367	(7.9)	426	(7.8)	560	(5.2)	613	(4.7)	642	(4.0)
	La Rioja•	503	(2.1)	103	(2.4)	513	(3.1)	495	(3.2)	**18**	(4.8)	328	(9.3)	366	(5.5)	434	(4.2)	578	(3.6)	633	(5.7)	665	(4.9)
	Madrid•	505	(3.6)	84	(1.8)	514	(4.8)	496	(3.6)	**18**	(4.6)	361	(8.3)	395	(5.5)	448	(5.3)	566	(4.1)	610	(5.1)	638	(6.0)
	Murcia•	464	(4.9)	96	(2.8)	472	(6.1)	456	(4.6)	**16**	(4.7)	301	(9.4)	339	(7.9)	400	(5.4)	531	(6.9)	586	(6.7)	616	(10.4)
	Navarre•	515	(3.2)	91	(2.1)	520	(4.4)	510	(3.4)	**10**	(4.7)	355	(7.2)	393	(6.8)	456	(4.8)	579	(3.7)	626	(4.9)	654	(5.9)
	United Kingdom																						
	England	503	(3.6)	98	(1.9)	511	(4.9)	497	(4.1)	**14**	(5.5)	340	(5.7)	377	(4.8)	437	(4.5)	572	(3.9)	628	(4.5)	662	(4.9)
	Northern Ireland	496	(3.4)	95	(2.3)	501	(5.2)	491	(5.5)	10	(8.2)	336	(7.1)	373	(5.6)	428	(4.9)	564	(4.2)	619	(5.5)	651	(5.9)
	Scotland•	504	(2.6)	87	(1.7)	510	(2.9)	498	(3.5)	**12**	(3.5)	358	(6.3)	393	(4.8)	446	(3.7)	565	(3.0)	615	(3.0)	646	(4.4)
	Wales	483	(2.7)	88	(1.3)	487	(3.2)	478	(3.2)	**9**	(3.4)	336	(4.8)	369	(3.9)	423	(3.8)	543	(2.9)	596	(4.1)	627	(4.4)
	United States																						
	Connecticut•	512	(5.8)	98	(2.8)	518	(6.3)	505	(6.2)	**13**	(4.7)	353	(8.3)	383	(8.6)	442	(7.4)	581	(6.7)	640	(8.4)	671	(9.8)
	Florida•	475	(5.9)	84	(2.8)	480	(6.2)	468	(6.3)	**12**	(4.1)	342	(7.8)	370	(7.2)	417	(6.1)	530	(6.8)	584	(8.4)	614	(10.7)
	Massachusetts•	523	(6.4)	96	(3.1)	527	(6.5)	518	(7.0)	**9**	(4.2)	370	(7.6)	402	(6.1)	455	(6.8)	589	(9.1)	648	(7.8)	681	(11.5)
Partners	**Argentina**																						
	Ciudad Autónoma de Buenos Aires•	411	(7.6)	101	(8.1)	421	(8.5)	402	(8.0)	**19**	(6.7)	234	(30.3)	284	(15.3)	351	(10.6)	477	(5.6)	532	(6.3)	563	(8.7)
	Brazil																						
	Acre	375	(5.1)	66	(2.4)	379	(7.2)	372	(5.3)	7	(7.2)	275	(10.5)	297	(5.5)	330	(5.8)	419	(6.9)	463	(7.9)	487	(10.4)
	Alagoas	352	(7.6)	69	(4.4)	355	(8.8)	350	(7.6)	5	(5.5)	242	(14.5)	268	(11.8)	309	(8.7)	395	(8.4)	442	(11.4)	471	(13.2)
	Amapá	378	(7.4)	67	(5.5)	383	(9.0)	374	(7.0)	9	(6.3)	275	(15.5)	298	(9.1)	335	(8.4)	422	(8.2)	463	(15.8)	489	(14.1)
	Amazonas	372	(4.8)	64	(4.2)	375	(5.7)	369	(4.4)	6	(3.4)	275	(9.9)	297	(7.1)	333	(5.5)	410	(5.2)	450	(9.2)	475	(12.7)
	Bahia	386	(8.6)	78	(4.9)	387	(9.0)	385	(10.2)	2	(8.6)	255	(18.4)	283	(15.9)	336	(11.8)	436	(9.6)	487	(9.5)	515	(10.8)
	Ceará	393	(8.2)	71	(5.7)	397	(9.3)	389	(9.2)	8	(8.5)	280	(12.7)	305	(12.7)	348	(8.1)	435	(11.1)	483	(18.3)	520	(22.7)
	Espírito Santo	417	(8.0)	78	(5.2)	424	(7.1)	410	(11.1)	13	(9.3)	294	(11.0)	322	(9.0)	362	(5.8)	468	(13.3)	521	(16.5)	555	(16.1)
	Federal District	418	(8.2)	76	(6.8)	423	(10.6)	413	(7.4)	10	(7.5)	291	(14.7)	321	(18.3)	367	(13.4)	470	(8.6)	521	(16.1)	544	(17.1)
	Goiás	385	(3.8)	63	(2.5)	394	(5.2)	377	(4.4)	**17**	(5.9)	290	(9.5)	309	(6.7)	342	(6.0)	424	(4.4)	466	(5.9)	498	(7.0)
	Maranhão	359	(12.6)	75	(5.8)	367	(14.8)	353	(11.7)	**15**	(6.7)	246	(9.3)	266	(10.2)	304	(9.8)	409	(17.5)	458	(23.5)	493	(21.6)
	Mato Grosso	377	(9.0)	70	(5.1)	375	(9.2)	378	(9.5)	-3	(5.6)	270	(10.4)	293	(10.4)	330	(9.0)	420	(9.9)	464	(16.3)	503	(25.3)
	Mato Grosso do Sul	415	(6.7)	70	(3.0)	422	(8.6)	410	(6.9)	12	(7.9)	305	(12.2)	326	(11.4)	367	(9.9)	459	(6.7)	510	(7.4)	536	(9.3)
	Minas Gerais	416	(5.9)	66	(3.8)	419	(7.5)	413	(5.6)	7	(5.5)	310	(9.3)	334	(7.8)	371	(6.2)	460	(8.0)	502	(10.3)	529	(10.7)
	Pará	372	(5.0)	66	(2.9)	378	(5.9)	367	(6.6)	11	(7.8)	268	(9.6)	289	(8.9)	327	(8.2)	417	(5.9)	459	(5.5)	485	(6.9)
	Paraíba	408	(6.0)	67	(4.8)	413	(6.7)	405	(7.9)	8	(8.4)	301	(13.2)	327	(11.8)	363	(8.1)	453	(6.5)	493	(9.7)	526	(12.4)
	Paraná	409	(10.9)	75	(9.6)	416	(10.5)	401	(12.1)	**15**	(5.9)	298	(8.2)	320	(7.7)	355	(7.6)	456	(15.4)	506	(31.7)	548	(37.7)
	Pernambuco	380	(8.7)	64	(3.4)	386	(9.5)	375	(8.6)	**11**	(4.3)	277	(10.0)	301	(7.8)	338	(8.8)	422	(10.8)	458	(11.4)	487	(14.7)
	Piauí	394	(7.9)	74	(9.2)	400	(8.6)	389	(7.9)	**11**	(4.0)	289	(8.3)	306	(9.0)	346	(6.8)	432	(8.6)	494	(22.9)	534	(38.1)
	Rio de Janeiro	400	(7.9)	64	(5.0)	407	(8.6)	393	(8.0)	**14**	(4.7)	298	(11.0)	319	(9.2)	357	(8.5)	442	(9.2)	481	(13.1)	510	(15.2)
	Rio Grande do Norte	400	(7.7)	76	(6.4)	414	(9.5)	390	(7.4)	**23**	(6.7)	287	(10.3)	312	(8.9)	350	(7.3)	444	(11.9)	507	(19.2)	542	(28.6)
	Rio Grande do Sul	418	(6.9)	63	(3.7)	425	(7.3)	412	(7.6)	**14**	(5.4)	316	(13.1)	338	(11.1)	375	(9.1)	462	(7.8)	501	(8.0)	520	(8.0)
	Rondônia	399	(5.7)	61	(3.2)	404	(5.9)	393	(6.5)	**11**	(5.0)	292	(11.9)	318	(10.9)	359	(7.3)	441	(6.4)	475	(6.4)	496	(8.3)
	Roraima	383	(7.1)	71	(4.8)	387	(7.5)	380	(9.1)	6	(8.6)	279	(10.3)	299	(7.1)	336	(8.8)	429	(10.8)	478	(13.3)	510	(19.6)
	Santa Catarina	416	(7.4)	71	(4.3)	424	(7.4)	408	(9.0)	**16**	(7.4)	294	(22.7)	326	(11.1)	375	(8.8)	463	(9.7)	503	(12.5)	531	(12.9)
	São Paulo	413	(3.8)	69	(2.9)	419	(4.2)	407	(4.1)	**12**	(3.1)	304	(6.2)	328	(4.7)	367	(3.6)	457	(4.9)	505	(8.4)	534	(10.0)
	Sergipe	394	(9.0)	64	(4.6)	405	(12.0)	385	(7.9)	**20**	(7.5)	297	(11.1)	317	(6.8)	348	(8.0)	436	(13.5)	482	(15.0)	509	(18.2)
	Tocantins	385	(6.1)	71	(3.6)	394	(7.7)	377	(5.4)	**17**	(5.7)	274	(7.0)	298	(7.4)	337	(6.8)	429	(7.6)	480	(10.3)	505	(10.7)
	Colombia																						
	Bogotá	403	(3.5)	63	(2.1)	415	(4.9)	392	(3.3)	**23**	(4.6)	301	(4.6)	324	(4.3)	362	(3.6)	443	(4.4)	482	(5.3)	509	(7.3)
	Cali	387	(4.9)	67	(2.2)	395	(5.3)	382	(5.4)	**13**	(4.1)	279	(6.7)	302	(5.5)	342	(5.4)	431	(5.8)	474	(6.9)	500	(7.3)
	Manizales	412	(3.9)	64	(3.4)	425	(6.5)	400	(3.6)	**24**	(6.9)	311	(8.2)	335	(6.0)	370	(4.8)	453	(6.3)	495	(8.1)	520	(10.6)
	Medellín	402	(6.6)	76	(5.5)	412	(8.0)	394	(7.3)	**18**	(7.9)	287	(8.1)	313	(6.8)	351	(5.9)	447	(8.8)	499	(13.5)	536	(24.6)
	Russian Federation																						
	Perm Territory region•	466	(5.7)	89	(4.1)	466	(7.2)	467	(5.1)	0	(5.0)	321	(10.5)	355	(7.8)	408	(6.6)	524	(7.2)	579	(9.6)	616	(14.3)
	United Arab Emirates																						
	Abu Dhabi•	421	(4.2)	85	(2.4)	411	(5.5)	430	(5.1)	**-19**	(6.7)	287	(4.9)	315	(4.7)	362	(4.2)	475	(5.4)	533	(6.4)	570	(10.1)
	Ajman	404	(8.7)	77	(4.5)	392	(11.9)	415	(12.4)	-23	(17.4)	281	(14.9)	304	(13.1)	350	(12.5)	458	(10.1)	507	(11.5)	535	(10.2)
	Dubai•	460	(1.1)	91	(1.0)	463	(1.7)	456	(1.6)	**8**	(2.4)	316	(3.1)	345	(2.7)	395	(2.3)	522	(3.2)	579	(4.0)	611	(4.0)
	Fujairah	406	(9.3)	80	(3.1)	385	(8.9)	427	(8.2)	**-42**	(9.1)	274	(15.4)	301	(11.8)	350	(10.9)	462	(9.9)	506	(8.8)	536	(7.4)
	Ras al-Khaimah	412	(6.6)	75	(3.2)	397	(10.0)	425	(8.7)	**-28**	(12.7)	287	(11.6)	316	(10.4)	360	(8.5)	463	(7.9)	506	(6.4)	534	(11.2)
	Sharjah	438	(8.7)	80	(3.5)	447	(14.0)	430	(11.0)	16	(19.6)	310	(11.3)	340	(9.1)	381	(8.0)	494	(9.9)	542	(11.5)	571	(13.7)
	Umm al-Quwain	398	(3.8)	72	(3.2)	378	(4.9)	417	(5.0)	**-39**	(6.5)	278	(7.3)	304	(8.4)	349	(8.0)	444	(6.8)	492	(11.0)	514	(13.5)

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

See Table I.2.25 for national data.

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[Part 1/2]

Table B2.I.25 Percentage of students at each proficiency level in reading, by region

		All students															
		Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to 698.32 score points		Level 6 (above 698.32 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**																
	Australian Capital Territory	1.5	(0.6)	3.8	(0.8)	7.4	(1.1)	15.7	(1.9)	28.6	(1.8)	27.8	(2.6)	13.1	(1.8)	2.1	(0.8)
	New South Wales	1.1	(0.3)	3.6	(0.5)	10.2	(0.8)	21.6	(1.0)	27.0	(1.0)	23.2	(1.0)	11.1	(1.0)	2.3	(0.4)
	Northern Territory	7.4	(1.6)	7.3	(1.5)	13.8	(3.0)	19.9	(3.1)	25.6	(3.2)	19.5	(3.1)	6.2	(2.2)	0.3	c
	Queensland	0.8	(0.2)	3.1	(0.5)	11.1	(0.8)	23.0	(1.2)	28.9	(1.3)	22.2	(1.5)	9.0	(0.9)	2.0	(0.4)
	South Australia	0.9	(0.3)	3.4	(0.7)	11.4	(1.6)	23.8	(1.6)	30.6	(1.7)	21.8	(1.9)	7.4	(0.9)	0.7	(0.3)
	Tasmania	2.0	(0.5)	5.0	(0.9)	13.9	(1.4)	26.3	(1.8)	27.2	(2.1)	18.8	(1.9)	6.1	(1.1)	0.6	(0.3)
	Victoria	0.5	(0.1)	2.4	(0.4)	9.2	(1.0)	20.4	(1.2)	31.8	(1.3)	24.4	(1.1)	9.3	(0.9)	2.0	(0.5)
	Western Australia	0.6	(0.2)	2.4	(0.5)	9.3	(0.9)	20.8	(1.1)	29.1	(1.3)	25.1	(1.3)	10.8	(1.0)	1.9	(0.5)
	Belgium																
	Flemish Community •	1.1	(0.3)	3.3	(0.4)	9.3	(0.7)	19.6	(1.0)	27.4	(1.1)	26.2	(1.0)	11.7	(0.8)	1.5	(0.2)
	French Community	2.3	(0.6)	5.1	(0.7)	11.8	(0.9)	21.6	(1.0)	27.1	(1.2)	22.1	(1.0)	8.7	(0.8)	1.3	(0.3)
	German-speaking Community	1.8	(0.6)	4.2	(0.9)	11.9	(1.3)	20.1	(1.7)	29.6	(1.8)	24.6	(1.8)	7.3	(1.1)	0.6	(0.4)
	Canada																
	Alberta	0.4	(0.2)	2.2	(0.5)	8.0	(0.9)	19.3	(1.2)	30.1	(1.5)	26.2	(1.5)	11.8	(1.0)	2.0	(0.4)
	British Columbia	0.2	(0.2)	1.7	(0.5)	6.0	(1.1)	17.3	(1.6)	30.8	(1.9)	29.2	(1.5)	12.1	(1.2)	2.6	(0.6)
	Manitoba	1.1	(0.4)	3.8	(0.7)	12.1	(1.1)	26.0	(2.2)	28.1	(1.4)	21.4	(1.5)	6.5	(0.9)	0.9	(0.3)
	New Brunswick	0.7	(0.3)	3.7	(0.6)	11.6	(1.0)	25.9	(2.2)	31.9	(2.0)	19.2	(1.4)	6.1	(0.9)	1.0	(0.4)
	Newfoundland and Labrador	0.9	(0.6)	4.0	(1.1)	11.5	(1.3)	22.2	(2.0)	30.9	(2.3)	21.0	(1.3)	7.9	(1.2)	1.7	(0.5)
	Nova Scotia	0.6	(0.5)	3.5	(0.6)	8.2	(1.2)	21.7	(1.6)	35.2	(2.3)	22.0	(2.8)	7.6	(1.7)	1.1	(0.4)
	Ontario	0.4	(0.2)	2.2	(0.4)	7.2	(0.8)	18.3	(1.1)	31.2	(1.1)	26.6	(1.4)	11.6	(1.2)	2.5	(0.4)
	Prince Edward Island	0.7	(0.3)	4.4	(0.9)	13.9	(1.6)	25.7	(1.9)	30.2	(1.8)	19.8	(1.1)	4.8	(0.8)	0.4	(0.3)
	Quebec	0.6	(0.2)	2.4	(0.4)	8.8	(0.8)	19.6	(1.0)	31.0	(1.5)	25.4	(1.2)	10.4	(0.9)	1.8	(0.5)
	Saskatchewan	0.5	(0.2)	3.0	(0.5)	10.3	(1.2)	23.4	(1.2)	33.1	(1.6)	21.2	(1.3)	7.5	(0.9)	1.0	(0.3)
	Italy																
	Abruzzo	1.9	(0.7)	6.3	(1.2)	14.1	(1.7)	23.7	(1.5)	30.4	(2.1)	18.5	(1.7)	4.8	(1.1)	0.3	(0.2)
	Basilicata	0.9	(0.4)	5.2	(1.2)	14.6	(1.7)	30.0	(1.9)	31.5	(2.2)	14.7	(1.5)	2.9	(0.6)	0.1	(0.1)
	Bolzano	1.3	(0.5)	4.3	(0.6)	10.8	(0.9)	22.8	(1.8)	32.5	(1.5)	21.8	(1.1)	6.1	(0.7)	0.4	(0.2)
	Calabria	4.4	(1.8)	11.7	(1.5)	21.2	(2.0)	28.2	(2.1)	23.9	(1.9)	8.9	(1.2)	1.5	(0.5)	0.0	c
	Campania	1.7	(0.6)	8.1	(1.5)	18.4	(2.1)	26.6	(2.3)	26.3	(2.0)	15.8	(3.0)	3.0	(0.9)	0.2	(0.1)
	Emilia Romagna	2.1	(0.6)	5.4	(1.2)	10.5	(1.7)	20.4	(1.8)	30.4	(2.2)	22.3	(1.5)	8.0	(1.1)	1.0	(0.4)
	Friuli Venezia Giulia	0.9	(0.4)	2.8	(1.2)	8.7	(1.6)	18.1	(1.5)	31.6	(2.0)	27.4	(1.6)	9.4	(0.9)	1.1	(0.3)
	Lazio	1.1	(0.6)	5.3	(1.4)	14.5	(2.4)	27.2	(2.0)	29.0	(2.1)	17.8	(2.3)	4.7	(1.0)	0.3	(0.1)
	Liguria	1.4	(0.5)	5.7	(1.5)	12.8	(1.5)	23.6	(1.9)	28.4	(2.1)	20.9	(2.0)	6.7	(1.2)	0.6	(0.3)
	Lombardia	0.6	(0.2)	2.6	(0.6)	7.2	(1.2)	19.2	(2.1)	31.8	(2.4)	28.1	(2.2)	9.4	(1.6)	0.9	(0.3)
	Marche	0.5	(0.3)	3.9	(1.2)	11.9	(1.6)	24.9	(1.8)	31.2	(2.0)	21.2	(1.8)	5.9	(1.0)	0.5	(0.2)
	Molise	1.9	(0.5)	5.5	(0.9)	14.3	(1.8)	26.3	(2.8)	32.5	(1.9)	15.8	(1.4)	3.4	(0.8)	0.3	(0.2)
	Piemonte	0.8	(0.4)	2.5	(0.8)	9.6	(1.2)	24.0	(1.9)	32.9	(1.8)	22.4	(1.5)	7.1	(1.3)	0.8	(0.3)
	Puglia	1.2	(0.5)	4.6	(1.1)	10.8	(1.3)	24.3	(2.1)	32.7	(2.3)	20.2	(2.1)	5.6	(1.0)	0.5	(0.2)
	Sardegna	3.3	(0.9)	7.2	(1.4)	16.8	(1.7)	26.3	(2.0)	27.4	(2.2)	15.7	(1.7)	3.1	(0.6)	0.2	(0.1)
	Sicilia	2.9	(0.9)	7.5	(1.1)	19.3	(2.1)	29.6	(1.9)	26.7	(2.0)	12.0	(1.5)	1.9	(0.4)	0.2	(0.1)
	Toscana	2.1	(0.6)	5.9	(1.3)	13.3	(1.8)	21.4	(2.3)	29.5	(1.7)	20.4	(1.9)	6.6	(1.2)	0.6	(0.3)
	Trento	0.9	(0.4)	2.8	(1.0)	8.0	(1.1)	20.4	(2.1)	27.7	(2.3)	27.1	(1.8)	11.7	(1.2)	1.4	(0.4)
	Umbria	1.8	(0.8)	4.3	(1.4)	11.9	(1.4)	22.3	(1.9)	32.6	(1.9)	21.9	(1.9)	4.8	(0.6)	0.4	(0.2)
	Valle d'Aosta	1.1	(0.5)	2.7	(0.8)	10.3	(1.7)	24.7	(2.3)	32.1	(2.2)	22.0	(1.5)	6.3	(0.8)	0.9	(0.4)
	Veneto	1.4	(0.6)	2.7	(0.8)	7.6	(1.2)	18.3	(1.5)	30.1	(2.3)	27.6	(1.7)	10.5	(1.6)	1.8	(0.5)
	Mexico																
	Aguascalientes	1.5	(0.8)	6.8	(1.4)	21.8	(2.2)	35.3	(2.1)	26.2	(2.3)	7.5	(1.2)	0.9	(0.4)	0.0	c
	Baja California	1.5	(0.7)	9.7	(2.2)	29.2	(2.8)	34.6	(2.6)	19.0	(2.3)	5.4	(1.2)	0.7	(0.5)	0.0	c
	Baja California Sur	1.6	(0.8)	10.5	(2.6)	28.1	(2.2)	37.9	(2.1)	18.4	(2.0)	3.5	(1.0)	0.1	c	0.0	c
	Campeche	2.5	(1.1)	13.2	(2.1)	31.0	(2.5)	34.6	(2.3)	15.1	(1.7)	3.2	(0.8)	0.3	(0.3)	0.1	c
	Chiapas	9.1	(2.3)	23.5	(2.9)	34.8	(3.1)	23.6	(2.6)	7.7	(1.4)	1.2	(0.6)	0.1	c	0.0	c
	Chihuahua	2.2	(0.8)	7.4	(1.7)	21.7	(3.1)	34.9	(1.9)	24.5	(3.1)	8.7	(2.1)	0.5	(0.4)	0.0	c
	Coahuila	1.1	(0.6)	10.3	(2.1)	26.4	(2.9)	35.2	(2.2)	21.9	(3.0)	4.8	(1.5)	0.3	(0.3)	0.0	c
	Colima	1.5	(0.7)	8.7	(1.7)	23.7	(2.1)	34.1	(2.0)	23.4	(1.7)	7.6	(1.1)	0.9	(0.4)	0.0	c
	Distrito Federal	1.1	(0.6)	6.4	(1.5)	20.7	(2.2)	38.2	(2.3)	25.9	(2.5)	6.7	(1.4)	1.0	(0.4)	0.1	c
	Durango	1.4	(0.4)	8.5	(1.9)	25.7	(2.4)	34.0	(1.9)	24.2	(3.1)	5.7	(1.2)	0.5	(0.3)	0.0	c
	Guanajuato	3.6	(1.1)	13.6	(2.0)	29.6	(2.6)	31.5	(2.5)	17.3	(2.5)	4.2	(1.1)	0.1	(0.2)	0.0	c
	Guerrero	9.2	(1.5)	24.6	(2.2)	35.5	(2.6)	22.9	(2.0)	7.0	(1.3)	0.9	(0.3)	0.0	c	0.0	c
	Hidalgo	3.9	(1.1)	12.1	(1.8)	29.5	(3.0)	33.3	(2.6)	17.4	(2.4)	3.7	(0.8)	0.1	(0.1)	0.0	c
	Jalisco	1.8	(0.7)	7.9	(1.3)	25.9	(2.8)	34.4	(2.3)	23.6	(2.5)	5.7	(1.4)	0.7	(0.5)	0.0	c
	Mexico	1.0	(0.5)	6.9	(1.3)	25.6	(2.8)	38.3	(2.9)	23.3	(2.6)	4.3	(1.3)	0.6	(0.5)	0.1	c
	Morelos	4.0	(2.1)	10.2	(2.1)	25.1	(2.4)	34.5	(2.9)	20.2	(2.4)	5.2	(1.8)	0.8	(0.6)	0.0	c
	Nayarit	3.2	(1.1)	11.6	(2.1)	29.8	(2.7)	33.2	(2.0)	17.8	(2.4)	4.0	(1.0)	0.3	(0.3)	0.0	c
	Nuevo León	1.2	(0.7)	6.8	(2.3)	23.6	(3.2)	37.4	(2.5)	24.4	(2.8)	6.0	(1.7)	0.5	(0.4)	0.0	c
	Puebla	2.6	(1.1)	10.2	(1.9)	26.6	(2.2)	37.0	(2.7)	19.5	(2.3)	3.9	(1.1)	0.1	c	0.0	c
	Querétaro	1.0	(0.6)	5.7	(1.5)	22.1	(3.1)	35.2	(2.4)	26.3	(3.9)	8.8	(1.8)	0.9	(0.6)	0.0	c
	Quintana Roo	1.9	(0.9)	9.4	(1.5)	25.8	(2.3)	35.8	(1.7)	22.6	(2.0)	4.2	(0.9)	0.2	(0.3)	0.0	c
	San Luis Potosí	2.8	(1.0)	11.2	(2.1)	26.6	(2.8)	33.2	(2.0)	20.7	(2.5)	5.1	(1.5)	0.3	(0.3)	0.0	c
	Sinaloa	1.9	(0.8)	12.9	(1.8)	29.7	(1.9)	34.4	(2.4)	18.1	(2.3)	2.7	(0.7)	0.2	(0.2)	0.0	c
	Tabasco	3.8	(0.9)	17.3	(1.9)	34.8	(2.3)	31.7	(2.2)	11.0	(1.6)	1.4	(0.7)	0.1	c	0.0	c
	Tamaulipas	2.8	(0.9)	10.5	(1.7)	28.0	(2.6)	36.6	(2.6)	18.1	(2.0)	3.7	(1.0)	0.2	(0.2)	0.0	c
	Tlaxcala	3.4	(0.8)	12.7	(1.8)	28.5	(2.5)	32.0	(1.8)	18.2	(2.4)	5.0	(1.1)	0.2	(0.2)	0.0	c
	Veracruz	3.0	(0.8)	14.8	(2.1)	30.6	(2.1)	32.1	(2.3)	16.0	(1.8)	3.3	(0.9)	0.3	(0.3)	0.0	c
	Yucatán	1.7	(0.7)	10.8	(1.9)	27.6	(2.0)	35.7	(2.2)	19.2	(1.7)	4.7	(1.0)	0.4	(0.2)	0.0	c
	Zacatecas	3.1	(0.9)	12.5	(1.8)	31.3	(2.1)	34.6	(1.9)	15.4	(1.8)	3.1	(0.7)	0.1	c	0.0	c

• PISA adjudicated region.

Note: See Table I.4.1a for national data.

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[Part 2/2]

Table B2.I.25 Percentage of students at each proficiency level in reading, by region

		All students															
		Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to 698.32 score points		Level 6 (above 698.32 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**																
	Alentejo	0.7	(0.5)	3.6	(1.4)	11.8	(2.2)	28.4	(2.8)	31.7	(2.9)	18.8	(2.6)	4.8	(1.6)	0.2	c
	Spain																
	Andalusia•	1.6	(0.4)	5.2	(1.1)	14.5	(1.2)	27.9	(1.4)	30.3	(1.6)	16.2	(1.1)	4.0	(0.6)	0.3	(0.2)
	Aragon•	1.1	(0.4)	4.4	(0.9)	12.4	(1.5)	23.0	(1.5)	32.5	(1.8)	19.9	(1.6)	5.9	(1.1)	0.6	(0.4)
	Asturias•	1.3	(0.6)	3.7	(0.6)	10.4	(1.1)	22.1	(1.3)	30.5	(1.4)	23.2	(1.7)	7.4	(0.9)	1.3	(0.5)
	Balearic Islands•	2.0	(0.4)	5.9	(0.8)	14.6	(1.6)	26.5	(1.7)	29.5	(1.7)	17.3	(1.4)	4.0	(0.8)	0.3	(0.2)
	Basque Country•	1.0	(0.2)	3.5	(0.4)	9.9	(0.6)	23.5	(1.0)	35.0	(1.0)	22.1	(1.1)	4.6	(0.5)	0.4	(0.1)
	Cantabria•	0.7	(0.3)	4.2	(0.7)	13.7	(1.3)	27.4	(1.5)	31.4	(1.6)	18.0	(1.5)	4.3	(0.6)	0.3	(0.2)
	Castile and Leon•	0.6	(0.3)	2.7	(0.5)	9.6	(0.9)	23.3	(1.8)	33.2	(1.5)	23.7	(1.7)	6.2	(1.1)	0.6	(0.4)
	Catalonia•	0.5	(0.2)	3.5	(0.8)	11.1	(1.2)	24.2	(2.4)	31.5	(2.0)	21.9	(1.6)	6.7	(1.2)	0.6	(0.2)
	Extremadura•	3.9	(0.7)	8.2	(1.0)	17.5	(1.4)	26.8	(1.4)	26.3	(1.5)	13.9	(1.3)	3.1	(0.6)	0.3	(0.2)
	Galicia•	1.2	(0.3)	4.0	(0.8)	11.2	(1.1)	22.9	(1.5)	30.6	(1.4)	23.2	(1.6)	6.2	(1.1)	0.8	(0.3)
	La Rioja•	2.4	(0.5)	4.1	(0.6)	12.4	(0.9)	24.1	(1.5)	29.4	(1.7)	20.9	(1.2)	5.9	(0.6)	0.8	(0.3)
	Madrid•	0.5	(0.2)	2.4	(0.6)	8.4	(1.0)	23.4	(1.7)	32.7	(1.7)	24.3	(1.8)	7.4	(1.0)	0.9	(0.4)
	Murcia•	2.6	(0.6)	7.9	(0.9)	16.6	(1.4)	29.1	(1.3)	27.1	(1.6)	13.7	(1.5)	2.9	(0.7)	0.2	(0.2)
	Navarre•	0.7	(0.3)	2.6	(0.7)	9.3	(0.9)	22.3	(1.3)	32.3	(2.1)	24.5	(2.0)	7.2	(0.9)	1.0	(0.3)
	United Kingdom																
	England	1.6	(0.3)	4.0	(0.6)	11.1	(0.9)	23.1	(1.2)	29.5	(1.2)	21.5	(1.3)	7.8	(0.7)	1.3	(0.3)
	Northern Ireland	1.1	(0.3)	4.1	(0.7)	11.5	(1.3)	24.4	(1.4)	29.8	(1.5)	20.8	(1.3)	7.1	(0.8)	1.2	(0.3)
	Scotland•	0.5	(0.2)	2.7	(0.5)	9.3	(0.9)	23.9	(1.2)	33.8	(1.3)	22.0	(1.0)	6.9	(0.6)	0.9	(0.3)
	Wales	1.0	(0.2)	4.9	(0.5)	14.7	(0.9)	28.5	(1.3)	29.8	(0.9)	16.3	(0.8)	4.2	(0.5)	0.5	(0.1)
	United States																
	Connecticut•	0.4	(0.2)	3.2	(0.9)	9.7	(1.3)	19.6	(1.5)	28.2	(1.3)	24.4	(1.8)	11.7	(1.4)	2.9	(0.5)
	Florida•	0.7	(0.3)	3.6	(0.7)	13.2	(1.5)	25.8	(1.6)	30.9	(1.5)	20.4	(2.1)	4.9	(1.0)	0.6	(0.4)
	Massachusetts•	0.6	(0.4)	2.3	(0.5)	8.6	(1.2)	18.5	(1.8)	29.8	(1.5)	24.2	(1.8)	12.9	(1.6)	3.2	(0.9)
Partners	**Argentina**																
	Ciudad Autónoma de Buenos Aires•	9.3	(2.3)	10.6	(1.5)	17.2	(1.9)	26.0	(1.8)	24.2	(2.1)	10.2	(1.6)	2.3	(0.7)	0.2	(0.2)
	Brazil																
	Acre	5.2	(1.3)	21.6	(2.8)	36.3	(3.3)	27.0	(2.5)	8.4	(2.3)	1.4	(0.8)	0.2	(0.1)	0.0	c
	Alagoas	9.9	(2.2)	30.3	(3.6)	35.8	(3.2)	18.8	(3.7)	4.3	(1.4)	0.8	(0.5)	0.0	c	0.0	c
	Amapá	3.7	(1.3)	17.3	(3.3)	35.4	(3.0)	29.2	(3.7)	12.0	(3.3)	2.3	(1.5)	0.1	c	0.0	c
	Amazonas	4.8	(1.3)	21.8	(2.6)	38.8	(3.0)	25.0	(2.8)	7.9	(1.9)	1.5	(0.8)	0.1	c	0.0	c
	Bahia	6.8	(2.5)	20.2	(4.4)	36.4	(3.8)	20.7	(3.6)	11.1	(3.0)	4.0	(1.5)	0.8	(0.8)	0.0	c
	Ceará	6.1	(1.9)	17.2	(3.3)	32.9	(2.9)	26.6	(3.8)	13.5	(3.0)	3.3	(1.2)	0.4	(0.3)	0.0	c
	Espírito Santo	2.4	(0.8)	12.0	(1.3)	29.5	(2.9)	29.9	(2.3)	15.6	(2.6)	8.8	(3.2)	1.7	(1.1)	0.0	c
	Federal District	4.1	(3.0)	10.9	(2.0)	24.8	(3.5)	31.1	(2.8)	22.0	(3.1)	6.2	(2.2)	0.9	(1.0)	0.1	c
	Goiás	4.2	(1.1)	18.3	(2.8)	36.3	(2.8)	27.8	(3.0)	10.6	(1.7)	2.6	(1.2)	0.3	c	0.0	c
	Maranhão	10.6	(2.9)	23.8	(3.8)	32.9	(4.7)	21.8	(3.7)	9.0	(3.5)	1.8	(1.2)	0.1	c	0.0	c
	Mato Grosso	7.2	(1.7)	20.7	(3.4)	36.5	(4.0)	24.8	(3.6)	7.8	(2.3)	2.8	(1.4)	0.3	(0.3)	0.0	c
	Mato Grosso do Sul	1.3	(0.8)	9.4	(1.8)	30.1	(2.6)	35.5	(3.0)	17.6	(2.9)	5.6	(1.6)	0.3	(0.2)	0.1	(0.1)
	Minas Gerais	2.1	(0.8)	10.4	(2.0)	27.2	(2.4)	34.1	(2.3)	20.2	(2.6)	5.4	(1.6)	0.5	(0.4)	0.0	c
	Pará	5.1	(1.9)	20.6	(2.8)	34.0	(2.7)	28.0	(3.4)	10.8	(2.0)	1.4	(1.3)	0.0	c	0.0	c
	Paraíba	4.5	(2.3)	15.1	(2.6)	28.8	(2.5)	28.2	(4.3)	17.8	(2.2)	5.3	(1.8)	0.3	(0.4)	0.0	c
	Paraná	2.6	(1.2)	13.6	(2.6)	29.0	(3.0)	28.6	(2.8)	19.2	(2.0)	6.1	(2.3)	0.9	(1.1)	0.0	c
	Pernambuco	6.3	(1.7)	23.0	(2.7)	36.6	(2.8)	25.2	(2.8)	7.5	(2.0)	1.2	(0.7)	0.1	(0.2)	0.0	c
	Piauí	3.2	(1.2)	16.8	(2.4)	34.0	(3.0)	29.9	(3.7)	11.6	(2.1)	3.7	(1.9)	0.8	(0.8)	0.1	c
	Rio de Janeiro	3.7	(1.4)	15.6	(2.7)	29.0	(2.6)	32.9	(3.2)	15.7	(2.9)	2.9	(0.8)	0.2	(0.2)	0.0	c
	Rio Grande do Norte	4.6	(1.1)	20.8	(2.7)	34.8	(3.0)	24.5	(2.8)	10.6	(2.2)	3.8	(1.5)	0.8	(0.5)	0.0	c
	Rio Grande do Sul	1.1	(0.6)	9.7	(2.0)	25.6	(3.1)	36.3	(3.9)	21.8	(2.7)	5.3	(1.6)	0.2	c	0.0	c
	Rondônia	3.0	(1.2)	15.7	(2.6)	34.4	(2.7)	33.9	(3.0)	11.7	(1.9)	1.2	(0.8)	0.0	c	0.0	c
	Roraima	9.2	(1.8)	22.6	(3.0)	33.6	(3.3)	23.0	(3.1)	8.1	(1.7)	2.9	(1.3)	0.6	(0.3)	0.0	c
	Santa Catarina	5.6	(2.6)	12.0	(3.0)	21.7	(2.7)	34.3	(3.5)	20.3	(2.8)	5.8	(1.8)	0.3	(0.3)	0.1	c
	São Paulo	2.9	(0.7)	11.6	(1.3)	29.1	(1.6)	32.3	(1.7)	17.6	(1.4)	5.6	(0.9)	0.7	(0.3)	0.0	c
	Sergipe	3.6	(1.1)	18.1	(3.1)	35.3	(4.5)	27.0	(3.0)	13.1	(3.7)	2.8	(1.6)	0.1	c	0.0	c
	Tocantins	7.4	(2.0)	21.9	(3.2)	33.8	(2.8)	25.0	(2.5)	10.3	(2.0)	1.5	(0.5)	0.1	c	0.0	c
	Colombia																
	Bogotá	1.6	(0.4)	10.1	(1.1)	29.4	(1.9)	37.4	(1.9)	18.1	(1.4)	3.2	(0.6)	0.2	c	0.0	c
	Cali	3.4	(1.0)	14.2	(2.1)	31.6	(2.7)	32.0	(2.3)	15.4	(2.1)	3.2	(1.1)	0.2	(0.2)	0.0	c
	Manizales	1.2	(0.5)	7.9	(1.3)	28.0	(1.8)	38.1	(2.5)	20.1	(1.8)	4.4	(1.2)	0.3	(0.3)	0.0	c
	Medellín	2.4	(0.8)	12.2	(1.4)	30.9	(2.6)	29.4	(2.5)	17.5	(1.8)	6.2	(1.8)	1.3	(0.6)	0.0	c
	Russian Federation																
	Perm Territory region•	1.7	(0.5)	4.7	(0.9)	14.1	(1.5)	26.1	(1.6)	30.6	(1.8)	17.6	(1.6)	4.6	(0.9)	0.5	(0.4)
	United Arab Emirates																
	Abu Dhabi•	4.2	(0.7)	12.5	(1.2)	23.6	(1.4)	27.9	(1.2)	21.9	(1.3)	8.3	(1.1)	1.5	(0.5)	0.1	(0.1)
	Ajman	4.2	(2.1)	15.1	(3.1)	25.8	(3.7)	31.9	(3.0)	18.4	(2.9)	4.0	(1.2)	0.6	(0.5)	0.0	c
	Dubai•	2.6	(0.2)	7.4	(0.4)	16.8	(0.9)	25.2	(0.9)	27.5	(0.8)	15.7	(0.7)	4.4	(0.4)	0.4	(0.2)
	Fujairah	5.4	(2.3)	14.0	(2.6)	24.0	(2.9)	30.8	(2.9)	21.6	(2.9)	4.0	(1.3)	0.2	(0.2)	0.0	c
	Ras al-Khaimah	4.2	(1.4)	13.8	(2.3)	26.1	(2.3)	33.5	(2.9)	18.2	(2.0)	3.7	(1.1)	0.5	(0.5)	0.0	c
	Sharjah	1.3	(0.6)	6.6	(1.8)	22.0	(2.6)	31.8	(2.8)	27.6	(3.0)	9.4	(1.6)	1.2	(0.4)	0.0	c
	Umm al-Quwain	4.6	(1.4)	20.1	(2.5)	28.7	(3.0)	28.2	(3.2)	14.2	(2.4)	3.9	(1.2)	0.3	c	0.0	c

• PISA adjudicated region.

Note: See Table I.4.1a for national data.

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[Part 1/4]

Table B2.I.26 Percentage of students at each proficiency level in reading, by gender and region

		Boys															
		Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to 698.32 score points		Level 6 (above 698.32 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**																
	Australian Capital Territory	2.4	(1.1)	6.2	(1.4)	10.3	(1.8)	18.6	(3.0)	28.8	(2.6)	22.6	(3.0)	9.9	(2.0)	1.3	(0.7)
	New South Wales	1.8	(0.5)	5.3	(0.7)	14.0	(1.2)	23.9	(1.4)	24.8	(1.6)	19.2	(1.3)	9.0	(1.2)	1.9	(0.6)
	Northern Territory	9.2	(1.9)	8.8	(2.5)	15.2	(4.1)	21.7	(5.7)	23.5	(5.8)	16.4	(4.1)	5.1	(2.6)	0.0	c
	Queensland	1.3	(0.4)	4.5	(0.9)	14.2	(1.3)	24.5	(1.9)	28.1	(1.9)	19.2	(2.3)	7.0	(1.4)	1.2	(0.4)
	South Australia	1.6	(0.6)	4.5	(1.1)	14.6	(2.1)	25.6	(2.2)	30.3	(2.0)	17.7	(2.0)	5.4	(0.9)	0.4	(0.3)
	Tasmania	3.0	(0.9)	7.1	(1.3)	15.2	(1.6)	27.6	(2.4)	27.7	(2.3)	15.0	(2.8)	4.0	(1.1)	0.3	(0.2)
	Victoria	0.7	(0.3)	3.4	(0.6)	12.0	(1.5)	22.4	(1.8)	31.7	(1.8)	21.0	(1.5)	7.0	(1.3)	1.8	(0.7)
	Western Australia	0.8	(0.3)	3.5	(0.7)	10.6	(1.5)	22.7	(2.0)	29.8	(1.9)	22.8	(1.9)	8.6	(1.9)	1.3	(0.6)
	Belgium																
	Flemish Community •	1.6	(0.5)	4.6	(0.8)	11.2	(1.1)	21.4	(1.2)	27.3	(1.4)	23.4	(1.4)	9.5	(0.9)	1.0	(0.3)
	French Community	3.6	(0.9)	7.1	(1.2)	13.4	(1.1)	22.0	(1.4)	26.9	(1.7)	19.6	(1.5)	6.6	(1.0)	0.9	(0.4)
	German-speaking Community	3.4	(1.2)	6.7	(1.7)	17.0	(2.0)	21.6	(2.4)	26.5	(2.4)	18.7	(2.8)	5.6	(1.4)	0.6	(0.5)
	Canada																
	Alberta	0.7	(0.4)	3.2	(0.9)	9.8	(1.4)	21.8	(1.7)	29.9	(2.6)	23.0	(1.9)	10.0	(1.3)	1.4	(0.4)
	British Columbia	0.4	(0.3)	2.6	(0.8)	7.8	(1.3)	19.6	(2.3)	31.0	(2.5)	26.5	(1.9)	10.4	(1.6)	1.6	(0.6)
	Manitoba	1.8	(0.7)	5.7	(1.1)	15.7	(1.8)	28.0	(2.5)	26.3	(2.0)	17.0	(1.6)	4.8	(1.2)	0.5	(0.3)
	New Brunswick	1.2	(0.7)	6.0	(1.1)	16.2	(2.0)	28.9	(3.0)	29.6	(2.1)	13.8	(2.0)	3.9	(0.9)	0.4	(0.3)
	Newfoundland and Labrador	1.6	(1.1)	7.1	(2.0)	16.0	(2.4)	24.5	(2.6)	28.8	(3.0)	16.3	(2.1)	4.9	(1.4)	0.8	c
	Nova Scotia	1.0	(0.8)	5.5	(1.1)	11.3	(1.6)	24.3	(2.7)	33.8	(3.1)	18.3	(3.7)	5.2	(2.1)	0.5	(0.5)
	Ontario	0.7	(0.3)	3.4	(0.8)	10.0	(1.3)	21.9	(1.6)	30.3	(1.6)	22.8	(1.7)	9.2	(1.2)	1.7	(0.5)
	Prince Edward Island	1.3	(0.6)	7.2	(1.7)	19.2	(2.5)	27.2	(2.7)	27.3	(3.0)	14.8	(1.6)	3.0	(0.9)	0.1	c
	Quebec	0.9	(0.4)	3.4	(0.6)	11.8	(1.1)	22.5	(1.3)	31.2	(1.7)	21.8	(1.8)	7.5	(1.1)	0.9	(0.3)
	Saskatchewan	0.8	(0.4)	4.6	(0.9)	14.2	(1.9)	25.8	(1.9)	30.6	(2.2)	18.0	(1.5)	5.6	(1.1)	0.4	(0.4)
	Italy																
	Abruzzo	3.0	(1.1)	9.9	(1.9)	18.9	(2.7)	26.3	(2.1)	25.7	(2.4)	12.8	(2.2)	3.3	(1.1)	0.1	c
	Basilicata	1.6	(0.9)	7.9	(1.9)	17.6	(1.8)	31.2	(2.6)	26.9	(2.7)	12.3	(1.6)	2.4	(0.7)	0.1	c
	Bolzano	1.9	(0.9)	5.9	(1.1)	13.2	(1.7)	26.1	(2.6)	29.8	(2.2)	17.3	(1.4)	5.4	(0.9)	0.4	(0.3)
	Calabria	5.9	(2.7)	14.9	(2.2)	25.9	(3.0)	26.2	(2.8)	19.2	(2.3)	6.4	(1.3)	1.3	(0.5)	0.0	c
	Campania	2.8	(1.0)	11.5	(2.1)	22.0	(2.7)	26.7	(2.5)	21.7	(2.4)	13.0	(2.2)	2.2	(0.8)	0.1	c
	Emilia Romagna	3.7	(1.0)	7.9	(2.0)	13.8	(2.8)	22.2	(2.5)	27.4	(3.2)	19.1	(2.6)	5.4	(1.1)	0.5	(0.4)
	Friuli Venezia Giulia	1.5	(0.7)	4.3	(1.7)	11.0	(1.8)	22.7	(1.9)	31.6	(3.0)	21.9	(2.0)	6.5	(1.0)	0.4	(0.3)
	Lazio	1.9	(1.0)	7.6	(2.1)	17.4	(3.0)	27.5	(2.6)	25.9	(2.3)	15.8	(2.5)	3.8	(1.1)	0.2	(0.2)
	Liguria	2.6	(0.9)	8.2	(2.4)	16.6	(1.9)	26.5	(2.4)	26.3	(2.5)	14.9	(2.3)	4.7	(1.1)	0.3	(0.2)
	Lombardia	1.1	(0.5)	4.0	(1.0)	10.3	(2.1)	20.7	(3.2)	30.2	(3.3)	25.0	(2.9)	8.1	(1.7)	0.6	(0.4)
	Marche	0.6	(0.5)	5.1	(1.7)	14.9	(2.2)	26.1	(2.0)	30.6	(2.5)	17.7	(2.1)	4.6	(1.0)	0.3	(0.2)
	Molise	3.2	(0.8)	8.4	(1.2)	18.4	(2.7)	28.9	(3.4)	27.0	(2.7)	11.4	(1.6)	2.3	(0.9)	0.5	(0.3)
	Piemonte	1.5	(0.8)	3.7	(1.0)	12.4	(2.1)	27.5	(2.4)	32.1	(2.3)	17.5	(1.6)	4.9	(1.2)	0.4	(0.3)
	Puglia	2.3	(1.1)	7.7	(2.0)	14.1	(1.6)	24.7	(2.2)	29.8	(2.4)	16.7	(2.1)	4.5	(1.2)	0.2	(0.2)
	Sardegna	4.7	(1.4)	9.0	(2.3)	20.6	(2.8)	27.6	(2.3)	23.5	(3.1)	12.0	(1.7)	2.5	(0.8)	0.1	c
	Sicilia	4.5	(1.3)	9.9	(1.9)	20.9	(2.3)	29.2	(2.2)	23.9	(2.1)	9.9	(1.8)	1.6	(0.6)	0.1	c
	Toscana	3.4	(0.9)	8.4	(1.9)	16.7	(2.7)	22.8	(2.4)	28.2	(2.5)	15.8	(1.9)	4.3	(1.2)	0.4	(0.3)
	Trento	1.4	(0.7)	4.7	(1.8)	11.5	(1.7)	24.7	(3.0)	27.5	(3.1)	21.7	(2.7)	7.6	(1.6)	0.8	(0.5)
	Umbria	2.9	(1.3)	7.4	(2.2)	13.9	(2.3)	23.0	(2.5)	29.9	(2.7)	18.6	(2.7)	3.9	(1.1)	0.4	(0.3)
	Valle d'Aosta	1.5	(0.8)	3.9	(1.1)	13.6	(2.1)	25.7	(3.5)	31.4	(3.0)	18.7	(1.8)	4.9	(1.3)	0.4	c
	Veneto	1.9	(0.9)	4.5	(1.4)	11.0	(1.9)	21.5	(2.4)	29.5	(3.3)	22.5	(2.7)	7.9	(2.0)	1.1	(0.6)
	Mexico																
	Aguascalientes	2.5	(1.3)	9.3	(1.9)	25.5	(3.1)	34.7	(3.0)	20.9	(2.4)	6.4	(1.3)	0.7	(0.5)	0.0	c
	Baja California	2.0	(1.4)	12.5	(3.1)	31.7	(3.6)	32.7	(3.1)	16.9	(2.7)	3.9	(1.4)	0.2	c	0.0	c
	Baja California Sur	2.3	(1.2)	12.8	(3.3)	30.0	(2.9)	36.5	(2.8)	15.8	(2.3)	2.7	(1.0)	0.0	c	0.0	c
	Campeche	3.0	(1.2)	15.7	(3.0)	34.5	(4.1)	31.3	(3.2)	13.0	(1.6)	2.4	(0.8)	0.2	(0.2)	0.0	c
	Chiapas	12.3	(3.0)	26.9	(3.3)	35.8	(3.7)	18.9	(2.8)	5.0	(1.6)	1.1	(0.8)	0.2	c	0.0	c
	Chihuahua	2.5	(1.4)	9.3	(2.2)	26.2	(4.4)	33.5	(2.8)	20.1	(3.7)	8.0	(2.6)	0.4	(0.5)	0.0	c
	Coahuila	1.8	(0.8)	14.1	(3.1)	29.8	(3.4)	30.4	(2.8)	19.1	(3.2)	4.3	(1.6)	0.4	(0.4)	0.0	c
	Colima	2.7	(1.1)	12.9	(2.8)	26.1	(2.7)	33.5	(3.2)	18.9	(2.2)	5.2	(1.2)	0.7	(0.4)	0.0	c
	Distrito Federal	1.8	(1.0)	7.8	(2.4)	21.0	(3.7)	37.6	(2.7)	25.3	(3.5)	5.6	(1.5)	0.9	(0.6)	0.0	c
	Durango	2.3	(0.7)	11.0	(2.5)	29.8	(3.0)	31.4	(2.3)	21.6	(4.2)	3.5	(1.2)	0.4	(0.3)	0.0	c
	Guanajuato	4.3	(1.7)	16.7	(2.5)	32.6	(3.0)	27.9	(3.0)	14.4	(2.0)	3.9	(1.0)	0.3	c	0.0	c
	Guerrero	12.3	(2.3)	27.3	(3.4)	35.2	(3.7)	19.7	(2.6)	4.9	(1.1)	0.6	(0.3)	0.0	c	0.0	c
	Hidalgo	5.4	(2.3)	13.4	(2.4)	32.3	(3.8)	30.6	(3.2)	15.0	(2.3)	3.2	(1.1)	0.1	c	0.0	c
	Jalisco	2.8	(1.2)	11.1	(2.2)	30.1	(4.0)	32.5	(3.0)	18.1	(2.6)	4.6	(1.2)	0.7	(0.5)	0.0	c
	Mexico	1.3	(0.7)	7.9	(1.9)	28.5	(3.2)	38.2	(3.7)	20.3	(3.1)	3.1	(1.1)	0.6	(0.5)	0.1	c
	Morelos	6.9	(3.8)	12.9	(3.0)	25.0	(3.8)	33.1	(4.6)	17.6	(2.6)	3.9	(1.5)	0.5	(0.4)	0.0	c
	Nayarit	4.1	(1.5)	13.6	(2.7)	32.4	(2.9)	32.9	(2.7)	13.9	(2.8)	2.6	(1.0)	0.4	(0.4)	0.0	c
	Nuevo León	1.9	(1.3)	9.1	(3.5)	25.6	(3.6)	36.9	(2.9)	20.7	(3.3)	5.4	(2.0)	0.4	(0.4)	0.0	c
	Puebla	3.9	(1.8)	12.5	(2.9)	30.6	(3.3)	34.2	(3.6)	16.0	(2.7)	2.9	(1.1)	0.0	c	0.0	c
	Querétaro	1.1	(0.7)	7.4	(2.1)	26.5	(3.9)	33.9	(3.4)	22.7	(4.1)	7.9	(1.8)	0.4	(0.3)	0.0	c
	Quintana Roo	3.5	(1.6)	13.7	(2.3)	29.1	(3.0)	32.4	(2.5)	18.8	(2.5)	2.5	(0.7)	0.1	c	0.0	c
	San Luis Potosí	4.6	(1.9)	16.4	(3.6)	31.3	(3.4)	29.3	(3.0)	14.7	(2.8)	3.7	(1.3)	0.1	c	0.0	c
	Sinaloa	3.3	(1.4)	18.7	(2.5)	34.6	(2.4)	29.0	(3.0)	13.1	(2.4)	1.3	(0.6)	0.0	c	0.0	c
	Tabasco	6.2	(1.4)	22.2	(3.2)	38.0	(4.3)	24.5	(2.5)	8.3	(1.7)	0.8	(0.7)	0.1	c	0.0	c
	Tamaulipas	3.7	(1.3)	12.4	(2.5)	30.3	(3.9)	33.7	(3.4)	16.2	(2.3)	3.6	(1.3)	0.1	(0.2)	0.0	c
	Tlaxcala	5.2	(1.4)	16.0	(2.8)	30.5	(4.4)	29.2	(2.4)	14.9	(2.7)	4.1	(1.2)	0.2	c	0.0	c
	Veracruz	3.9	(1.3)	18.4	(3.0)	31.5	(3.1)	30.2	(3.1)	14.0	(2.5)	2.0	(0.8)	0.1	c	0.0	c
	Yucatán	2.1	(1.0)	12.7	(2.8)	29.2	(2.9)	32.9	(3.1)	17.5	(2.6)	5.1	(1.3)	0.6	(0.4)	0.0	c
	Zacatecas	4.2	(1.4)	15.9	(2.6)	34.7	(3.4)	30.5	(3.0)	12.4	(2.0)	2.3	(1.0)	0.0	c	0.0	c

• PISA adjudicated region.

Note: See Table I.4.2a for national data.

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[Part 2/4]

Table B2.I.26 **Percentage of students at each proficiency level in reading, by gender and region**

		Boys															
		Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to 698.32 score points		Level 6 (above 698.32 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**																
	Alentejo	1.2	(0.8)	5.1	(2.4)	15.8	(3.2)	31.3	(4.1)	28.1	(3.5)	14.3	(2.9)	4.1	(2.0)	0.1	c
	Spain																
	Andalusia•	2.7	(0.7)	6.9	(1.4)	16.8	(1.6)	27.4	(2.0)	28.1	(2.0)	14.3	(1.6)	3.6	(0.9)	0.3	c
	Aragon•	1.8	(0.7)	6.8	(1.3)	15.0	(2.3)	26.0	(1.5)	29.8	(2.1)	15.9	(1.8)	4.2	(1.1)	0.4	(0.4)
	Asturias•	2.2	(1.0)	5.5	(1.3)	13.8	(2.0)	26.2	(2.2)	28.3	(2.0)	18.9	(1.8)	4.4	(1.0)	0.7	(0.6)
	Balearic Islands•	2.9	(0.8)	8.0	(1.4)	18.0	(2.5)	27.4	(2.7)	26.8	(2.2)	13.8	(1.5)	3.0	(1.0)	0.1	c
	Basque Country•	1.4	(0.3)	4.5	(0.6)	13.0	(0.9)	26.3	(1.4)	33.1	(1.2)	18.0	(1.1)	3.5	(0.5)	0.3	(0.1)
	Cantabria•	1.2	(0.5)	5.9	(1.0)	18.2	(1.6)	26.8	(1.9)	28.7	(2.1)	16.3	(1.7)	2.8	(0.9)	0.2	c
	Castile and Leon•	1.1	(0.6)	3.6	(0.8)	11.5	(1.3)	24.2	(2.0)	30.7	(1.6)	21.9	(2.2)	6.6	(1.5)	0.5	(0.4)
	Catalonia•	0.8	(0.5)	4.9	(1.1)	13.8	(1.5)	25.1	(3.1)	29.9	(2.9)	18.7	(1.8)	6.3	(1.4)	0.5	(0.4)
	Extremadura•	6.4	(1.3)	10.8	(1.7)	20.0	(1.8)	25.9	(2.0)	22.8	(2.0)	11.6	(1.5)	2.5	(0.9)	0.1	c
	Galicia•	2.1	(0.6)	6.2	(1.3)	14.0	(1.9)	24.7	(2.1)	29.1	(2.6)	19.3	(2.2)	4.0	(1.3)	0.6	(0.3)
	La Rioja•	3.7	(0.9)	5.4	(1.0)	14.7	(1.7)	24.8	(2.6)	27.1	(2.4)	19.3	(1.6)	4.5	(1.1)	0.4	(0.3)
	Madrid•	0.6	(0.3)	3.4	(0.9)	11.1	(1.3)	26.5	(2.4)	31.1	(2.5)	20.9	(2.0)	5.7	(1.3)	0.7	(0.4)
	Murcia•	3.8	(0.9)	11.5	(1.5)	17.8	(1.9)	30.1	(2.2)	23.4	(1.9)	10.7	(1.8)	2.5	(0.7)	0.2	c
	Navarre•	1.3	(0.6)	4.1	(1.3)	13.4	(1.6)	25.3	(2.4)	32.2	(2.8)	18.8	(1.8)	4.5	(1.1)	0.4	(0.3)
	United Kingdom																
	England	2.1	(0.5)	5.2	(1.0)	12.6	(1.1)	24.8	(1.6)	28.5	(1.6)	20.3	(1.8)	5.8	(1.0)	0.7	(0.3)
	Northern Ireland	1.4	(0.5)	5.5	(1.1)	13.2	(1.8)	26.4	(2.2)	29.7	(2.5)	17.4	(2.0)	5.6	(1.0)	0.8	(0.3)
	Scotland•	0.8	(0.4)	3.8	(0.7)	11.6	(1.2)	26.6	(1.4)	31.6	(1.6)	19.7	(1.4)	5.5	(0.8)	0.4	(0.2)
	Wales	1.5	(0.4)	6.7	(0.8)	17.0	(1.2)	29.5	(1.6)	27.9	(1.2)	13.7	(1.1)	3.3	(0.6)	0.3	(0.2)
	United States																
	Connecticut•	0.6	(0.4)	3.8	(1.1)	11.7	(1.6)	20.9	(2.2)	28.2	(1.7)	22.6	(2.2)	10.2	(1.5)	2.0	(0.6)
	Florida•	0.9	(0.5)	5.0	(1.2)	15.8	(2.0)	26.5	(1.9)	29.3	(2.2)	17.6	(2.1)	4.5	(1.1)	0.4	(0.3)
	Massachusetts•	0.9	(0.5)	2.9	(0.7)	11.4	(1.9)	20.9	(2.6)	30.1	(2.3)	21.6	(2.1)	10.0	(1.6)	2.2	(0.9)
Partners	**Argentina**																
	Ciudad Autónoma de Buenos Aires•	11.5	(2.8)	11.7	(1.8)	18.7	(2.6)	25.7	(2.6)	21.8	(2.6)	8.3	(1.6)	2.0	(0.8)	0.2	(0.2)
	Brazil																
	Acre	8.3	(2.6)	27.3	(4.1)	37.1	(4.3)	21.0	(4.1)	5.3	(2.4)	0.8	(0.6)	0.2	c	0.0	c
	Alagoas	13.9	(4.0)	34.6	(5.5)	35.8	(4.4)	12.5	(4.2)	2.9	(1.4)	0.3	c	0.0	c	0.0	c
	Amapá	5.6	(2.2)	22.4	(4.7)	37.5	(4.5)	23.1	(4.2)	10.2	(4.9)	1.3	(1.2)	0.0	c	0.0	c
	Amazonas	7.5	(2.1)	29.3	(3.9)	35.9	(4.1)	19.9	(4.0)	6.4	(2.6)	0.9	(0.7)	0.0	c	0.0	c
	Bahia	12.1	(4.4)	26.3	(5.7)	32.5	(5.8)	16.8	(4.4)	7.8	(2.7)	3.9	(2.1)	0.8	c	0.0	c
	Ceará	8.4	(2.5)	20.8	(3.9)	33.8	(3.4)	24.1	(4.4)	10.0	(3.9)	2.6	(1.5)	0.3	c	0.0	c
	Espírito Santo	3.8	(1.5)	14.9	(2.4)	31.0	(3.8)	29.7	(3.2)	12.8	(3.2)	6.9	(3.0)	1.0	(1.0)	0.0	c
	Federal District	5.1	(4.0)	14.1	(3.4)	27.1	(4.6)	28.9	(3.1)	18.6	(3.4)	5.5	(2.4)	0.7	(0.8)	0.0	c
	Goiás	7.4	(2.1)	23.4	(3.8)	35.4	(3.5)	22.4	(3.6)	8.5	(2.1)	2.8	(1.7)	0.2	c	0.0	c
	Maranhão	14.9	(4.7)	26.5	(4.9)	30.7	(5.7)	18.1	(4.4)	8.0	(5.0)	1.7	(1.6)	0.0	c	0.0	c
	Mato Grosso	10.8	(2.6)	27.2	(4.7)	35.4	(4.2)	19.6	(4.4)	5.1	(2.3)	1.8	(1.4)	0.2	c	0.0	c
	Mato Grosso do Sul	2.7	(1.4)	13.1	(2.7)	32.1	(3.3)	33.8	(3.4)	14.4	(3.3)	3.8	(1.7)	0.1	c	0.0	c
	Minas Gerais	3.7	(1.5)	14.9	(3.1)	30.1	(3.0)	30.7	(3.1)	15.9	(3.0)	4.1	(2.1)	0.5	c	0.0	c
	Pará	7.8	(3.2)	25.3	(3.3)	34.0	(3.8)	25.9	(4.5)	6.3	(3.1)	0.7	(0.7)	0.0	c	0.0	c
	Paraíba	6.7	(3.0)	18.3	(3.5)	30.5	(3.6)	24.8	(6.7)	13.8	(3.7)	5.5	(2.7)	0.3	c	0.0	c
	Paraná	3.8	(1.8)	17.6	(4.0)	30.7	(4.1)	24.3	(3.4)	17.0	(2.2)	6.2	(2.3)	0.5	c	0.0	c
	Pernambuco	9.7	(3.2)	27.6	(4.2)	35.1	(3.9)	20.2	(3.6)	6.0	(2.0)	1.3	(1.0)	0.1	c	0.0	c
	Piauí	5.9	(2.3)	21.6	(3.2)	35.0	(4.1)	25.9	(3.9)	8.3	(3.1)	2.5	(2.2)	0.7	(0.9)	0.1	c
	Rio de Janeiro	5.5	(2.3)	20.4	(3.3)	32.9	(2.8)	28.0	(3.6)	11.4	(3.1)	1.8	(1.0)	0.1	c	0.0	c
	Rio Grande do Norte	6.8	(2.2)	24.7	(4.6)	34.7	(4.4)	19.8	(3.7)	10.4	(3.1)	3.3	(1.6)	0.3	c	0.0	c
	Rio Grande do Sul	2.1	(1.2)	14.8	(3.6)	30.6	(4.5)	31.5	(5.2)	17.7	(3.1)	3.3	(1.0)	0.0	c	0.0	c
	Rondônia	4.8	(2.0)	20.1	(3.1)	41.1	(4.0)	26.6	(4.6)	6.7	(2.0)	0.7	(0.6)	0.0	c	0.0	c
	Roraima	15.3	(3.7)	26.6	(4.0)	30.3	(4.0)	20.4	(3.8)	6.4	(1.7)	0.9	(0.7)	0.1	c	0.0	c
	Santa Catarina	6.9	(3.0)	15.6	(3.7)	24.6	(3.1)	30.5	(3.3)	17.8	(2.5)	4.5	(1.7)	0.1	c	0.0	c
	São Paulo	4.0	(0.8)	15.6	(2.0)	32.8	(2.2)	29.9	(2.2)	12.9	(1.7)	4.1	(0.9)	0.7	(0.5)	0.0	c
	Sergipe	5.9	(2.2)	24.2	(5.1)	32.9	(6.7)	21.1	(4.0)	12.6	(5.0)	3.1	(1.9)	0.1	c	0.0	c
	Tocantins	9.7	(3.3)	26.0	(4.3)	34.1	(4.0)	20.3	(3.1)	8.6	(2.8)	1.3	(0.8)	0.0	c	0.0	c
	Colombia																
	Bogotá	2.2	(0.7)	11.8	(1.7)	29.4	(2.9)	36.1	(3.5)	17.2	(2.6)	3.2	(1.0)	0.1	c	0.0	c
	Cali	4.6	(1.4)	17.7	(2.5)	34.5	(3.2)	28.3	(3.2)	12.4	(2.1)	2.2	(1.1)	0.3	(0.2)	0.0	c
	Manizales	1.6	(0.7)	9.7	(1.6)	30.4	(2.6)	34.9	(3.0)	18.0	(3.0)	4.9	(1.9)	0.4	c	0.0	c
	Medellín	3.0	(1.3)	14.3	(2.4)	32.7	(3.5)	28.0	(3.1)	15.6	(2.6)	5.4	(1.8)	0.9	(0.6)	0.1	c
	Russian Federation																
	Perm Territory region•	2.6	(0.9)	6.2	(1.3)	17.7	(1.9)	28.0	(1.9)	27.4	(2.3)	14.3	(1.9)	3.4	(0.9)	0.3	(0.3)
	United Arab Emirates																
	Abu Dhabi•	7.7	(1.2)	19.9	(2.0)	28.5	(2.0)	23.1	(1.4)	14.6	(1.4)	5.3	(1.1)	0.8	(0.5)	0.0	c
	Ajman	8.7	(4.3)	26.7	(5.8)	30.2	(5.7)	22.9	(5.1)	10.4	(3.4)	1.0	(0.8)	0.1	c	0.0	c
	Dubai•	4.4	(0.4)	11.4	(0.7)	19.9	(1.0)	24.6	(1.1)	24.4	(1.1)	12.2	(1.0)	2.8	(0.6)	0.4	(0.3)
	Fujairah	9.6	(3.8)	23.8	(3.7)	31.6	(4.4)	21.8	(3.8)	11.6	(2.0)	1.6	(0.8)	0.1	c	0.0	c
	Ras al-Khaimah	7.6	(2.8)	21.0	(3.8)	30.2	(2.9)	29.1	(3.9)	10.3	(2.3)	1.7	(1.0)	0.1	c	0.0	c
	Sharjah	2.3	(1.3)	9.7	(3.5)	25.8	(4.8)	31.4	(4.7)	22.6	(4.8)	7.0	(2.9)	1.2	(0.7)	0.1	c
	Umm al-Quwain	9.2	(2.7)	36.1	(4.4)	33.2	(5.7)	16.5	(3.6)	4.0	(2.7)	1.1	(1.2)	0.0	c	0.0	c

• PISA adjudicated region.

Note: See Table I.4.2a for national data.

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[Part 3/4]

Table B2.I.26 Percentage of students at each proficiency level in reading, by gender and region

		Girls															
		Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to 698.32 score points		Level 6 (above 698.32 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**																
	Australian Capital Territory	0.6	(0.5)	1.4	(0.9)	4.4	(1.4)	12.7	(2.2)	28.4	(2.7)	33.1	(4.0)	16.5	(2.8)	2.9	(1.4)
	New South Wales	0.3	(0.2)	1.8	(0.5)	6.1	(0.8)	19.2	(1.3)	29.3	(1.8)	27.3	(1.6)	13.3	(1.3)	2.8	(0.5)
	Northern Territory	5.7	(1.8)	5.8	(1.7)	12.4	(3.0)	18.2	(3.9)	27.6	(4.2)	22.5	(4.7)	7.3	(3.7)	0.6	c
	Queensland	0.3	(0.2)	1.7	(0.5)	8.0	(1.1)	21.5	(1.5)	29.7	(1.9)	25.2	(1.7)	11.0	(1.3)	2.7	(0.7)
	South Australia	0.3	(0.3)	2.3	(0.6)	8.2	(1.4)	22.0	(2.0)	30.9	(2.4)	25.8	(2.3)	9.3	(1.3)	1.1	(0.5)
	Tasmania	0.9	(0.7)	2.8	(1.3)	12.5	(2.0)	24.8	(2.8)	26.7	(2.9)	22.9	(2.5)	8.4	(1.9)	1.0	(0.6)
	Victoria	0.3	(0.2)	1.2	(0.5)	6.1	(0.9)	18.0	(1.4)	32.0	(1.6)	28.2	(1.5)	12.0	(1.2)	2.2	(0.5)
	Western Australia	0.4	(0.2)	1.3	(0.5)	8.0	(1.1)	18.6	(1.4)	28.3	(2.2)	27.6	(2.2)	13.2	(1.9)	2.7	(0.8)
	Belgium																
	Flemish Community •	0.5	(0.3)	2.1	(0.6)	7.3	(0.8)	17.7	(1.4)	27.6	(1.5)	29.0	(1.3)	13.9	(1.1)	2.0	(0.4)
	French Community	1.1	(0.5)	3.0	(0.6)	10.2	(1.3)	21.2	(1.6)	27.3	(1.5)	24.7	(1.3)	10.9	(1.1)	1.7	(0.4)
	German-speaking Community	0.1	c	1.5	(1.0)	6.4	(1.6)	18.4	(2.2)	32.9	(2.8)	31.0	(2.6)	9.1	(1.6)	0.6	(0.6)
	Canada																
	Alberta	0.1	c	1.0	(0.4)	6.0	(1.1)	16.5	(1.6)	30.4	(2.1)	29.8	(1.9)	13.7	(1.5)	2.6	(0.7)
	British Columbia	0.0	c	0.9	(0.5)	4.3	(1.3)	15.0	(1.7)	30.6	(2.7)	31.9	(2.0)	13.9	(1.7)	3.5	(1.2)
	Manitoba	0.3	(0.3)	1.7	(0.8)	8.2	(1.6)	23.9	(3.0)	29.9	(2.1)	26.1	(2.2)	8.4	(1.3)	1.4	(0.5)
	New Brunswick	0.2	(0.2)	1.4	(0.6)	6.8	(1.1)	22.7	(2.1)	34.3	(3.2)	24.8	(2.2)	8.4	(1.5)	1.5	(0.7)
	Newfoundland and Labrador	0.2	c	1.0	(0.5)	7.1	(1.4)	19.9	(2.6)	32.9	(3.4)	25.5	(2.4)	10.8	(1.8)	2.7	(0.9)
	Nova Scotia	0.2	c	1.4	(0.6)	5.1	(1.6)	19.1	(2.5)	36.7	(3.1)	25.9	(3.1)	10.1	(2.2)	1.6	(0.7)
	Ontario	0.1	(0.1)	1.1	(0.4)	4.5	(0.7)	14.8	(1.6)	32.0	(1.7)	30.2	(1.7)	13.9	(1.6)	3.4	(0.7)
	Prince Edward Island	0.1	c	1.6	(0.6)	8.5	(1.4)	24.2	(1.9)	33.2	(2.1)	25.0	(2.1)	6.7	(1.2)	0.7	(0.5)
	Quebec	0.3	(0.2)	1.4	(0.4)	6.0	(0.9)	16.8	(1.4)	30.7	(2.0)	29.0	(1.8)	13.2	(1.4)	2.6	(0.8)
	Saskatchewan	0.2	c	1.3	(0.4)	6.1	(0.9)	20.9	(1.6)	35.7	(2.1)	24.6	(2.0)	9.7	(1.2)	1.6	(0.6)
	Italy																
	Abruzzo	0.9	(0.5)	2.7	(0.9)	9.5	(1.7)	21.2	(2.0)	35.0	(3.2)	24.0	(2.5)	6.3	(1.6)	0.4	(0.3)
	Basilicata	0.2	(0.2)	2.6	(0.9)	11.6	(2.3)	28.9	(2.3)	35.9	(2.4)	17.1	(2.1)	3.4	(0.8)	0.2	(0.2)
	Bolzano	0.6	(0.4)	2.6	(0.6)	8.4	(1.1)	19.5	(1.8)	35.3	(1.7)	26.4	(2.0)	6.8	(0.9)	0.4	(0.3)
	Calabria	2.9	(1.9)	8.4	(1.9)	16.3	(2.4)	30.3	(3.0)	28.9	(2.8)	11.5	(1.8)	1.7	(0.5)	0.0	c
	Campania	0.6	(0.3)	4.6	(1.4)	14.9	(2.4)	26.4	(3.7)	31.0	(2.7)	18.6	(4.5)	3.7	(1.4)	0.3	(0.2)
	Emilia Romagna	0.4	(0.3)	2.7	(0.9)	7.1	(1.5)	18.4	(2.5)	33.5	(2.5)	25.6	(2.5)	10.8	(1.7)	1.6	(0.6)
	Friuli Venezia Giulia	0.2	c	1.2	(1.0)	6.3	(2.3)	13.3	(3.0)	31.7	(3.3)	33.2	(2.9)	12.4	(1.9)	1.8	(0.6)
	Lazio	0.2	(0.2)	2.4	(0.9)	10.9	(2.7)	26.9	(3.4)	32.9	(3.1)	20.4	(2.7)	5.9	(1.3)	0.4	(0.3)
	Liguria	0.2	c	3.0	(1.2)	8.8	(2.1)	20.5	(2.3)	30.6	(2.9)	27.2	(3.0)	8.7	(1.9)	1.0	(0.6)
	Lombardia	0.1	c	1.2	(0.7)	3.9	(1.3)	17.7	(2.2)	33.6	(3.0)	31.4	(2.6)	10.9	(2.4)	1.3	(0.7)
	Marche	0.4	(0.4)	2.7	(1.2)	9.0	(1.8)	23.8	(2.6)	31.7	(2.2)	24.7	(2.4)	7.2	(1.5)	0.6	(0.4)
	Molise	0.6	(0.4)	2.5	(1.3)	10.1	(1.7)	23.8	(2.9)	38.1	(3.5)	20.3	(2.1)	4.5	(1.5)	0.1	c
	Piemonte	0.2	c	1.3	(0.9)	6.9	(1.7)	20.6	(3.2)	33.7	(2.3)	27.2	(2.3)	9.1	(1.9)	1.1	(0.6)
	Puglia	0.1	c	1.6	(0.8)	7.5	(1.7)	23.9	(3.1)	35.6	(3.3)	23.8	(3.0)	6.6	(1.6)	0.9	(0.4)
	Sardegna	1.9	(1.4)	5.3	(2.0)	12.8	(2.0)	24.9	(3.0)	31.5	(2.8)	19.6	(2.4)	3.9	(1.0)	0.3	(0.2)
	Sicilia	0.9	(0.7)	4.6	(1.5)	17.3	(3.2)	30.0	(2.9)	30.1	(3.2)	14.6	(2.1)	2.3	(0.6)	0.3	(0.2)
	Toscana	0.5	(0.6)	2.8	(1.3)	9.0	(2.1)	19.7	(3.4)	31.0	(3.0)	26.4	(3.0)	9.6	(2.1)	1.0	(0.5)
	Trento	0.3	c	0.5	(0.6)	3.9	(1.6)	15.2	(2.7)	27.9	(2.7)	33.5	(3.0)	16.6	(2.0)	2.1	(0.7)
	Umbria	0.8	(0.5)	1.3	(1.0)	9.9	(1.5)	21.5	(2.5)	35.1	(2.3)	25.1	(2.3)	5.8	(1.1)	0.4	(0.3)
	Valle d'Aosta	0.6	c	1.5	(1.0)	6.7	(1.9)	23.6	(2.6)	32.9	(2.8)	25.6	(2.6)	7.7	(1.6)	1.4	(0.7)
	Veneto	0.8	(0.5)	0.9	(0.6)	4.1	(1.3)	15.0	(2.1)	30.6	(3.0)	32.8	(2.4)	13.2	(1.7)	2.6	(0.7)
	Mexico																
	Aguascalientes	0.0	c	4.3	(1.1)	18.0	(2.0)	35.8	(2.5)	31.5	(3.1)	8.7	(1.7)	1.2	(0.7)	0.5	c
	Baja California	1.0	(0.7)	6.7	(1.8)	26.6	(2.9)	36.5	(3.4)	21.1	(2.5)	7.1	(1.7)	1.1	(0.7)	0.0	c
	Baja California Sur	0.8	(0.8)	8.1	(2.4)	26.1	(2.7)	39.3	(2.5)	21.1	(2.4)	4.3	(1.7)	0.2	c	0.0	c
	Campeche	2.0	(1.4)	10.6	(2.3)	27.5	(2.9)	38.0	(2.9)	17.2	(2.8)	4.1	(1.2)	0.5	c	0.0	c
	Chiapas	6.0	(2.1)	20.2	(3.3)	33.8	(3.6)	28.3	(3.3)	10.3	(1.8)	1.3	(0.7)	0.1	c	0.0	c
	Chihuahua	2.0	(1.1)	5.6	(1.8)	17.2	(2.7)	36.3	(2.5)	29.0	(3.7)	9.4	(2.1)	0.6	(0.6)	0.0	c
	Coahuila	0.0	c	6.5	(1.8)	22.9	(3.9)	40.1	(4.1)	24.7	(3.8)	5.3	(1.9)	0.5	c	0.0	c
	Colima	0.4	c	4.5	(1.4)	21.5	(2.6)	34.7	(2.4)	27.8	(2.6)	10.0	(1.8)	1.1	(0.7)	0.0	c
	Distrito Federal	0.5	(0.4)	5.0	(1.7)	20.4	(2.6)	38.8	(3.4)	26.5	(3.1)	7.6	(2.2)	1.1	(0.6)	0.1	c
	Durango	0.6	(0.4)	6.1	(1.8)	21.9	(3.1)	36.5	(3.7)	26.6	(4.4)	7.7	(2.1)	0.6	(0.4)	0.0	c
	Guanajuato	2.9	(1.3)	10.7	(2.3)	26.8	(3.0)	35.0	(3.9)	20.0	(4.1)	4.6	(1.6)	0.1	c	0.0	c
	Guerrero	6.0	(1.5)	21.8	(2.8)	35.7	(2.9)	26.2	(2.3)	9.2	(2.0)	1.1	(0.6)	0.0	c	0.0	c
	Hidalgo	2.6	(0.9)	11.0	(2.4)	27.1	(3.2)	35.6	(3.2)	19.4	(3.4)	4.1	(1.0)	0.2	c	0.0	c
	Jalisco	0.9	(0.4)	5.0	(1.2)	22.2	(2.8)	36.1	(3.5)	28.5	(2.9)	6.6	(1.9)	0.7	(0.6)	0.0	c
	Mexico	0.6	(0.6)	6.0	(1.5)	22.7	(3.5)	38.4	(3.4)	26.3	(3.0)	5.4	(2.0)	0.6	(0.6)	0.0	c
	Morelos	1.3	(0.7)	7.8	(1.8)	25.1	(3.2)	35.8	(3.7)	22.4	(3.3)	6.4	(2.4)	1.1	(1.0)	0.0	c
	Nayarit	2.3	(1.3)	9.7	(2.3)	27.4	(3.9)	33.5	(2.4)	21.5	(3.3)	5.5	(1.5)	0.2	c	0.0	c
	Nuevo León	0.5	(0.7)	4.3	(1.6)	21.4	(3.5)	37.9	(3.5)	28.6	(3.5)	6.7	(1.9)	0.7	(0.6)	0.0	c
	Puebla	1.5	(0.9)	8.0	(2.3)	22.7	(2.8)	39.7	(3.3)	22.9	(3.2)	4.9	(1.5)	0.2	c	0.0	c
	Querétaro	0.9	(0.6)	4.1	(1.8)	17.9	(3.3)	36.4	(3.3)	29.6	(4.0)	9.7	(2.2)	1.4	(1.0)	0.0	c
	Quintana Roo	0.7	c	5.0	(1.4)	22.5	(3.1)	39.3	(2.5)	26.6	(2.5)	6.0	(1.4)	0.0	c	0.0	c
	San Luis Potosí	1.1	(0.6)	6.7	(1.4)	22.6	(3.3)	36.7	(2.4)	26.0	(2.9)	6.4	(2.0)	0.5	(0.5)	0.0	c
	Sinaloa	0.6	(0.5)	7.9	(2.0)	25.5	(2.4)	39.0	(3.0)	22.5	(2.9)	3.9	(1.2)	0.4	(0.3)	0.1	c
	Tabasco	1.5	(0.8)	12.7	(1.7)	31.8	(2.6)	38.5	(2.7)	13.5	(2.3)	2.0	(0.9)	0.1	c	0.0	c
	Tamaulipas	2.0	(1.3)	8.4	(1.6)	25.5	(2.2)	39.9	(2.9)	20.3	(2.7)	3.8	(1.3)	0.2	c	0.0	c
	Tlaxcala	1.7	(0.9)	9.7	(1.9)	26.7	(3.0)	34.6	(2.7)	21.2	(3.1)	5.7	(1.4)	0.2	(0.2)	0.0	c
	Veracruz	2.1	(0.9)	10.9	(2.2)	29.7	(2.8)	34.2	(2.6)	18.1	(2.0)	4.6	(1.9)	0.4	(0.5)	0.0	c
	Yucatán	1.2	(0.9)	8.7	(2.2)	26.0	(2.5)	38.7	(2.5)	21.0	(2.5)	4.2	(1.3)	0.2	c	0.0	c
	Zacatecas	2.0	(0.8)	9.2	(1.7)	27.9	(2.5)	38.6	(2.4)	18.5	(2.2)	3.8	(0.9)	0.1	c	0.0	c

• PISA adjudicated region.

Note: See Table I.4.2a for national data.

StatLink http://dx.doi.org/10.1787/888932935762



[Part 4/4]

Table B2.I.26 Percentage of students at each proficiency level in reading, by gender and region

		Girls															
		Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to 698.32 score points		Level 6 (above 698.32 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**																
	Alentejo	0.5	c	2.1	(1.0)	7.7	(2.5)	25.6	(3.4)	35.4	(3.8)	23.3	(4.0)	5.5	(2.5)	0.0	c
	Spain																
	Andalusia•	0.4	(0.4)	3.3	(1.2)	12.0	(1.7)	28.4	(1.6)	32.7	(2.5)	18.2	(1.7)	4.5	(0.9)	0.4	(0.3)
	Aragon•	0.4	(0.4)	2.1	(0.8)	9.8	(1.5)	20.1	(2.2)	35.2	(2.7)	23.9	(2.4)	7.6	(2.1)	0.9	(0.6)
	Asturias•	0.4	(0.3)	1.9	(0.7)	7.1	(1.2)	18.1	(1.8)	32.8	(1.9)	27.5	(2.4)	10.3	(1.5)	1.9	(0.8)
	Balearic Islands•	1.2	(0.6)	3.8	(0.8)	11.2	(1.6)	25.5	(2.3)	32.1	(2.5)	20.8	(1.8)	5.0	(1.3)	0.4	(0.4)
	Basque Country•	0.6	(0.2)	2.4	(0.5)	6.8	(0.7)	20.7	(1.1)	37.0	(1.4)	26.2	(1.6)	5.7	(0.6)	0.6	(0.2)
	Cantabria•	0.2	c	2.4	(0.8)	8.9	(1.7)	28.1	(2.3)	34.2	(2.2)	19.7	(2.3)	5.8	(1.2)	0.5	(0.5)
	Castile and Leon•	0.2	c	1.8	(0.6)	7.7	(1.2)	22.4	(2.6)	35.9	(2.3)	25.5	(2.2)	5.8	(1.6)	0.7	(0.5)
	Catalonia•	0.1	c	2.1	(0.8)	8.1	(1.7)	23.3	(2.7)	33.3	(2.4)	25.3	(2.5)	7.2	(2.0)	0.7	(0.5)
	Extremadura•	1.3	(0.5)	5.6	(1.2)	15.0	(1.8)	27.7	(1.9)	29.8	(1.9)	16.3	(1.6)	3.8	(0.9)	0.5	(0.4)
	Galicia•	0.3	(0.3)	1.9	(0.7)	8.4	(1.2)	21.1	(2.3)	32.0	(1.8)	27.1	(2.0)	8.3	(1.6)	0.9	(0.5)
	La Rioja•	1.2	(0.4)	2.9	(0.7)	10.4	(1.3)	23.4	(1.8)	31.4	(2.8)	22.4	(2.1)	7.2	(1.0)	1.2	(0.4)
	Madrid•	0.3	(0.2)	1.3	(0.6)	5.6	(1.4)	20.1	(2.6)	34.3	(1.8)	27.9	(2.4)	9.2	(1.3)	1.2	(0.6)
	Murcia•	1.3	(0.5)	4.2	(0.9)	15.3	(1.9)	28.1	(1.8)	30.8	(2.2)	16.8	(1.7)	3.3	(1.1)	0.3	(0.3)
	Navarre•	0.2	(0.2)	1.2	(0.5)	5.4	(1.0)	19.5	(2.2)	32.3	(2.2)	30.0	(3.2)	9.8	(1.6)	1.6	(0.5)
	United Kingdom																
	England	1.1	(0.4)	3.0	(0.6)	9.8	(1.1)	21.5	(1.5)	30.5	(1.5)	22.6	(1.3)	9.6	(0.9)	1.9	(0.5)
	Northern Ireland	0.8	(0.4)	2.6	(0.7)	9.7	(1.7)	22.3	(1.9)	29.9	(2.0)	24.4	(2.0)	8.8	(1.0)	1.6	(0.5)
	Scotland•	0.1	(0.1)	1.7	(0.6)	6.8	(1.2)	21.3	(1.6)	35.9	(2.1)	24.2	(1.3)	8.4	(1.0)	1.5	(0.4)
	Wales	0.5	(0.2)	3.0	(0.6)	12.5	(1.1)	27.5	(1.7)	31.8	(1.4)	19.0	(1.3)	5.1	(0.8)	0.7	(0.2)
	United States																
	Connecticut•	0.2	(0.2)	2.5	(0.8)	7.7	(1.4)	18.2	(1.6)	28.3	(2.0)	26.2	(2.1)	13.2	(1.9)	3.7	(0.8)
	Florida•	0.4	(0.2)	2.2	(0.6)	10.5	(1.7)	25.1	(2.2)	32.5	(1.7)	23.2	(2.5)	5.2	(1.1)	0.9	(0.6)
	Massachusetts•	0.4	(0.2)	1.7	(0.8)	6.0	(1.0)	16.2	(1.8)	29.5	(2.2)	26.6	(2.4)	15.6	(1.9)	4.1	(1.1)
Partners	**Argentina**																
	Ciudad Autónoma de Buenos Aires•	7.3	(2.1)	9.6	(1.8)	15.9	(2.1)	26.2	(2.1)	26.3	(2.9)	11.8	(2.3)	2.6	(0.9)	0.3	c
	Brazil																
	Acre	2.4	(1.2)	16.4	(3.3)	35.6	(4.8)	32.4	(3.9)	11.2	(3.0)	2.0	(1.5)	0.1	c	0.0	c
	Alagoas	6.8	(2.7)	27.0	(3.9)	35.8	(4.0)	23.8	(4.1)	5.4	(2.0)	1.2	(0.7)	0.0	c	0.0	c
	Amapá	2.1	(1.3)	13.0	(4.0)	33.7	(4.6)	34.4	(5.0)	13.6	(2.8)	3.2	(2.4)	0.1	c	0.0	c
	Amazonas	2.3	(1.5)	15.0	(2.3)	41.5	(4.2)	29.8	(3.2)	9.3	(2.5)	2.0	(1.1)	0.2	c	0.0	c
	Bahia	2.4	(1.9)	15.1	(4.1)	39.6	(4.4)	24.1	(4.1)	13.9	(4.8)	4.1	(1.5)	0.8	(0.9)	0.0	c
	Ceará	3.9	(2.4)	13.9	(3.7)	32.1	(4.2)	28.9	(3.8)	16.8	(3.4)	3.9	(1.4)	0.6	(0.4)	0.0	c
	Espírito Santo	1.2	(0.7)	9.4	(2.0)	28.3	(4.0)	30.1	(3.4)	18.2	(2.9)	10.4	(4.0)	2.4	(1.5)	0.1	c
	Federal District	3.1	(2.5)	7.9	(1.9)	22.7	(3.4)	33.1	(3.2)	25.1	(4.0)	6.8	(2.5)	1.1	(1.3)	0.2	c
	Goiás	1.4	(0.7)	13.8	(3.0)	37.1	(4.3)	32.6	(3.8)	12.6	(2.4)	2.3	(1.1)	0.3	c	0.0	c
	Maranhão	7.5	(2.4)	21.7	(4.3)	34.5	(5.2)	24.6	(4.2)	9.7	(2.9)	1.8	(1.1)	0.1	c	0.0	c
	Mato Grosso	3.8	(1.5)	14.6	(3.1)	37.5	(5.4)	29.7	(4.5)	10.3	(3.2)	3.7	(1.6)	0.5	(0.5)	0.0	c
	Mato Grosso do Sul	0.2	c	6.5	(1.8)	28.6	(3.5)	36.9	(4.0)	20.2	(3.6)	7.0	(2.0)	0.4	(0.3)	0.2	(0.2)
	Minas Gerais	0.6	(0.6)	6.2	(1.4)	24.5	(3.5)	37.3	(3.5)	24.2	(3.8)	6.6	(1.8)	0.5	(0.5)	0.0	c
	Pará	3.1	(1.3)	17.1	(3.8)	34.1	(3.8)	29.6	(4.0)	14.1	(3.6)	2.0	(2.2)	0.0	c	0.0	c
	Paraíba	2.6	(1.8)	12.4	(3.0)	27.3	(3.5)	31.1	(3.8)	21.1	(4.9)	5.2	(2.4)	0.3	c	0.0	c
	Paraná	1.4	(0.9)	9.7	(2.2)	27.4	(3.1)	32.8	(3.8)	21.3	(2.8)	6.0	(2.7)	1.4	(1.5)	0.0	c
	Pernambuco	3.6	(1.4)	19.4	(3.8)	37.8	(4.4)	29.2	(4.3)	8.6	(3.0)	1.2	(0.7)	0.1	(0.2)	0.0	c
	Piauí	1.2	(0.8)	13.1	(3.6)	33.2	(4.0)	32.9	(4.6)	14.0	(2.2)	4.6	(2.3)	0.8	(1.0)	0.1	c
	Rio de Janeiro	2.1	(1.4)	11.0	(2.9)	25.2	(4.0)	37.6	(4.2)	20.0	(4.5)	3.9	(1.5)	0.3	(0.3)	0.0	c
	Rio Grande do Norte	2.9	(1.1)	17.7	(2.9)	34.9	(3.7)	28.3	(3.5)	10.7	(2.7)	4.3	(1.9)	1.3	(0.6)	0.0	c
	Rio Grande do Sul	0.0	c	5.1	(2.0)	21.0	(3.3)	40.7	(3.6)	25.7	(3.2)	7.2	(2.6)	0.4	c	0.0	c
	Rondônia	1.3	(0.8)	11.5	(2.8)	28.0	(3.5)	40.9	(3.5)	16.5	(3.1)	1.8	(1.5)	0.0	c	0.0	c
	Roraima	3.2	(1.8)	18.6	(3.2)	36.9	(3.9)	25.6	(3.8)	9.8	(2.4)	5.0	(2.6)	1.0	(0.7)	0.0	c
	Santa Catarina	4.3	(2.6)	8.4	(3.2)	18.8	(3.9)	37.9	(5.2)	22.8	(4.4)	7.0	(2.4)	0.5	(0.5)	0.2	c
	São Paulo	1.9	(0.8)	7.7	(1.3)	25.5	(2.0)	34.8	(2.1)	22.3	(1.9)	7.1	(1.3)	0.8	(0.4)	0.0	c
	Sergipe	1.8	(0.8)	13.2	(3.0)	37.1	(4.5)	31.7	(3.9)	13.5	(4.1)	2.6	(1.6)	0.1	c	0.0	c
	Tocantins	5.0	(1.4)	17.8	(2.9)	33.5	(3.8)	29.6	(3.0)	12.1	(2.4)	1.7	(0.7)	0.2	c	0.0	c
	Colombia																
	Bogotá	1.0	(0.5)	8.5	(1.4)	29.3	(2.5)	38.7	(2.9)	19.0	(2.0)	3.3	(0.8)	0.2	c	0.0	c
	Cali	2.5	(0.9)	11.5	(2.4)	29.4	(3.3)	34.8	(3.0)	17.6	(2.5)	3.9	(1.4)	0.2	c	0.0	c
	Manizales	0.8	(0.6)	6.1	(1.7)	25.8	(2.1)	41.0	(3.6)	22.1	(1.9)	3.9	(1.7)	0.3	(0.3)	0.0	c
	Medellín	1.8	(0.7)	10.2	(1.5)	29.2	(2.9)	30.7	(3.1)	19.4	(1.9)	7.0	(2.3)	1.7	(1.0)	0.0	c
	Russian Federation																
	Perm Territory region•	0.8	(0.4)	3.0	(0.9)	10.3	(1.5)	24.0	(2.4)	34.1	(2.1)	21.3	(2.3)	5.9	(1.2)	0.7	(0.6)
	United Arab Emirates																
	Abu Dhabi•	0.8	(0.4)	5.2	(1.1)	18.8	(1.6)	32.5	(2.1)	29.1	(1.9)	11.2	(1.5)	2.2	(0.7)	0.1	(0.1)
	Ajman	0.0	c	4.2	(2.0)	21.7	(5.4)	40.3	(4.5)	25.8	(5.1)	6.7	(2.1)	1.1	(0.9)	0.1	c
	Dubai•	0.6	(0.2)	3.3	(0.6)	13.5	(1.3)	25.9	(1.2)	30.8	(1.3)	19.3	(1.3)	6.1	(0.7)	0.5	(0.3)
	Fujairah	1.0	(0.8)	4.0	(1.9)	16.3	(3.1)	40.1	(3.6)	31.8	(3.2)	6.5	(1.8)	0.3	c	0.0	c
	Ras al-Khaimah	0.9	(0.9)	7.0	(2.7)	22.1	(3.4)	37.7	(4.5)	25.7	(3.8)	5.6	(1.8)	0.9	(1.0)	0.0	c
	Sharjah	0.0	c	4.2	(1.6)	18.9	(4.0)	32.1	(4.2)	31.6	(4.0)	11.4	(3.0)	1.3	(0.7)	0.5	c
	Umm al-Quwain	0.7	c	4.6	(1.9)	24.4	(3.9)	39.5	(5.2)	24.1	(5.5)	6.6	(2.5)	0.0	c	0.0	c

• PISA adjudicated region.

Note: See Table I.4.2a for national data.

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[Part 1/2]

Table B2.I.27 Mean score, variation and gender differences in student performance in reading, by region

		All students				Gender differences						Percentiles									
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	**Australia**																						
	Australian Capital Territory	525	(3.6)	102	(3.1)	501	(5.5)	550	(4.8)	**-49**	(7.5)	329	(15.8)	385	(9.7)	467	(5.9)	597	(5.1)	644	(4.5)	667	(7.6)
	New South Wales	513	(3.3)	101	(2.1)	493	(5.5)	533	(3.7)	**-41**	(6.5)	339	(7.0)	382	(4.9)	446	(4.3)	584	(4.4)	641	(5.3)	671	(5.7)
	Northern Territory	466	(8.3)	123	(5.8)	449	(10.1)	482	(11.4)	**-33**	(14.1)	224	(23.5)	293	(18.7)	395	(11.3)	556	(8.6)	604	(16.1)	637	(16.5)
	Queensland	508	(3.4)	97	(2.1)	491	(4.3)	525	(4.0)	**-34**	(4.8)	346	(6.2)	384	(5.9)	443	(3.8)	575	(4.1)	631	(5.9)	663	(6.3)
	South Australia	500	(4.0)	92	(2.0)	484	(4.4)	517	(4.5)	**-33**	(4.3)	343	(8.0)	380	(6.2)	441	(4.8)	566	(6.0)	616	(5.2)	644	(6.0)
	Tasmania	485	(3.6)	98	(2.9)	468	(4.8)	503	(5.1)	**-35**	(6.8)	312	(11.4)	359	(7.7)	420	(5.1)	555	(5.7)	607	(6.4)	640	(10.3)
	Victoria	517	(3.5)	92	(1.8)	502	(5.1)	534	(3.5)	**-31**	(5.1)	360	(7.2)	395	(4.9)	459	(4.4)	579	(4.7)	633	(5.8)	661	(6.2)
	Western Australia	519	(3.1)	94	(2.1)	507	(5.3)	533	(4.4)	**-26**	(7.5)	360	(6.5)	395	(5.0)	458	(4.8)	585	(3.3)	637	(4.8)	666	(7.0)
	Belgium																						
	Flemish Community•	518	(3.0)	99	(2.2)	503	(4.4)	532	(3.8)	**-30**	(5.7)	342	(8.0)	385	(5.7)	454	(4.3)	590	(3.4)	637	(3.3)	663	(3.2)
	French Community	497	(3.9)	105	(2.9)	480	(4.3)	514	(4.4)	**-34**	(4.0)	306	(10.9)	357	(7.3)	430	(5.9)	573	(4.0)	626	(4.2)	656	(4.0)
	German-speaking Community	499	(2.3)	98	(2.6)	474	(3.8)	526	(3.2)	**-52**	(5.3)	323	(11.1)	365	(9.3)	438	(4.8)	571	(4.6)	615	(5.4)	638	(5.1)
	Canada																						
	Alberta	525	(4.1)	92	(1.8)	511	(4.6)	541	(4.3)	**-29**	(3.7)	370	(8.9)	405	(6.9)	466	(5.3)	590	(4.4)	640	(3.8)	666	(4.3)
	British Columbia	535	(4.5)	89	(2.7)	522	(5.1)	548	(5.5)	**-26**	(6.1)	382	(11.4)	418	(7.3)	479	(5.4)	595	(4.6)	646	(6.6)	674	(6.8)
	Manitoba	495	(3.3)	94	(2.6)	475	(4.2)	517	(4.6)	**-41**	(5.9)	336	(8.7)	374	(5.6)	433	(5.0)	563	(4.4)	613	(4.6)	643	(8.5)
	New Brunswick	497	(2.6)	90	(2.6)	473	(4.2)	521	(3.7)	**-49**	(6.0)	342	(7.6)	378	(5.6)	440	(4.1)	557	(5.0)	612	(5.4)	639	(8.1)
	Newfoundland and Labrador	503	(3.7)	96	(2.4)	476	(5.2)	529	(4.0)	**-53**	(5.5)	335	(10.7)	378	(6.3)	442	(6.6)	567	(5.2)	624	(6.5)	657	(7.1)
	Nova Scotia	508	(3.1)	89	(2.8)	489	(4.4)	529	(4.4)	**-40**	(6.5)	350	(10.9)	394	(9.8)	454	(6.5)	569	(5.5)	621	(6.3)	647	(8.8)
	Ontario	528	(4.4)	92	(1.8)	510	(5.4)	546	(4.2)	**-36**	(3.9)	366	(7.7)	408	(5.7)	471	(5.5)	592	(5.0)	643	(5.7)	672	(5.8)
	Prince Edward Island	488	(2.7)	90	(2.0)	465	(4.2)	512	(3.2)	**-48**	(5.1)	333	(9.5)	369	(6.0)	427	(4.2)	553	(3.8)	603	(4.7)	626	(7.1)
	Quebec	520	(3.6)	93	(2.1)	502	(4.0)	537	(4.0)	**-36**	(4.1)	358	(6.4)	397	(5.3)	461	(4.5)	585	(3.9)	635	(4.5)	663	(6.9)
	Saskatchewan	505	(2.8)	89	(2.0)	487	(3.9)	525	(3.4)	**-37**	(4.6)	353	(6.8)	389	(6.6)	448	(4.1)	566	(4.2)	615	(6.5)	647	(5.4)
	Italy																						
	Abruzzo	480	(5.8)	97	(3.8)	454	(8.0)	506	(6.0)	**-53**	(7.3)	309	(14.3)	347	(10.8)	417	(8.1)	549	(5.7)	597	(7.9)	627	(8.3)
	Basilicata	474	(5.4)	85	(3.1)	459	(7.2)	490	(5.0)	**-31**	(6.4)	325	(11.5)	361	(10.7)	421	(8.1)	534	(4.9)	578	(4.8)	606	(6.4)
	Bolzano	497	(2.4)	92	(1.8)	481	(3.4)	513	(2.9)	**-32**	(4.2)	329	(6.9)	371	(6.5)	440	(3.9)	561	(3.6)	608	(4.0)	635	(4.2)
	Calabria	434	(7.2)	98	(5.8)	415	(9.0)	454	(8.7)	**-39**	(10.4)	268	(17.5)	306	(15.5)	365	(11.0)	505	(6.2)	555	(7.1)	584	(8.5)
	Campania	464	(9.3)	95	(3.7)	444	(8.2)	483	(11.2)	**-39**	(9.1)	301	(10.2)	336	(8.9)	397	(9.7)	533	(12.4)	585	(10.6)	612	(9.8)
	Emilia Romagna	498	(6.5)	102	(4.5)	474	(10.5)	523	(7.5)	**-49**	(13.3)	312	(12.9)	356	(15.0)	435	(11.7)	571	(6.6)	621	(6.2)	648	(5.7)
	Friuli Venezia Giulia	518	(4.1)	92	(4.1)	497	(5.2)	541	(7.7)	**-45**	(9.0)	352	(18.6)	394	(11.0)	462	(8.8)	583	(3.3)	627	(4.1)	655	(5.5)
	Lazio	480	(7.2)	92	(3.8)	465	(8.2)	499	(8.2)	**-34**	(7.2)	321	(14.4)	358	(11.3)	418	(10.1)	546	(7.6)	595	(6.8)	625	(9.4)
	Liguria	490	(6.9)	98	(3.9)	466	(8.4)	516	(7.7)	**-51**	(9.2)	319	(13.3)	357	(13.2)	425	(7.5)	562	(7.9)	612	(7.6)	640	(8.2)
	Lombardia	521	(5.9)	89	(3.2)	506	(8.2)	537	(6.4)	**-31**	(7.8)	363	(9.6)	404	(9.6)	467	(8.5)	583	(6.9)	627	(5.3)	651	(6.4)
	Marche	497	(6.3)	89	(3.9)	484	(6.8)	509	(7.1)	**-25**	(6.2)	341	(16.3)	378	(11.3)	438	(8.3)	559	(6.2)	608	(6.0)	635	(7.6)
	Molise	476	(2.6)	91	(2.2)	455	(3.6)	499	(3.4)	**-44**	(4.8)	310	(7.7)	355	(8.0)	419	(6.2)	539	(3.8)	585	(7.3)	615	(8.2)
	Piemonte	506	(4.8)	87	(2.8)	487	(5.1)	523	(6.1)	**-36**	(4.9)	356	(9.7)	393	(8.9)	450	(5.9)	565	(6.4)	615	(7.0)	641	(7.8)
	Puglia	493	(5.9)	92	(3.8)	473	(7.1)	513	(6.8)	**-40**	(7.2)	326	(14.5)	371	(12.2)	439	(8.6)	556	(6.3)	605	(6.6)	632	(5.8)
	Sardegna	464	(7.0)	100	(4.1)	445	(7.2)	483	(9.3)	**-38**	(8.4)	285	(16.2)	331	(14.9)	400	(9.5)	535	(7.0)	585	(5.7)	612	(6.6)
	Sicilia	455	(5.7)	93	(2.8)	440	(6.9)	472	(7.4)	**-32**	(8.2)	291	(11.9)	333	(9.2)	394	(7.1)	520	(6.4)	570	(7.5)	600	(5.9)
	Toscana	488	(5.8)	102	(4.1)	465	(7.8)	517	(8.2)	**-52**	(12.1)	303	(15.6)	347	(11.4)	422	(8.9)	560	(6.5)	612	(7.2)	640	(8.1)
	Trento	521	(5.2)	94	(4.0)	496	(7.7)	550	(7.8)	**-54**	(11.9)	359	(19.2)	400	(9.7)	458	(9.6)	589	(5.7)	637	(4.1)	662	(5.1)
	Umbria	492	(7.0)	94	(5.2)	474	(10.8)	510	(5.2)	**-36**	(10.8)	320	(23.9)	366	(16.8)	434	(10.3)	558	(5.4)	604	(4.3)	627	(5.4)
	Valle d'Aosta	502	(2.5)	90	(2.5)	486	(3.9)	519	(3.5)	**-32**	(5.6)	351	(10.6)	388	(8.3)	444	(3.6)	564	(4.7)	613	(4.6)	641	(7.1)
	Veneto	521	(6.0)	97	(4.8)	499	(8.5)	544	(6.4)	**-45**	(8.3)	349	(14.3)	394	(13.3)	464	(7.9)	588	(5.5)	636	(8.2)	662	(8.4)
	Mexico																						
	Aguascalientes	447	(4.9)	79	(3.0)	432	(6.2)	462	(4.5)	**-30**	(5.3)	313	(10.8)	345	(10.4)	395	(6.6)	503	(4.5)	547	(5.8)	574	(6.9)
	Baja California	428	(7.2)	79	(3.6)	416	(8.4)	440	(6.8)	**-24**	(5.2)	305	(15.0)	330	(10.7)	372	(9.6)	481	(8.4)	530	(8.4)	560	(10.2)
	Baja California Sur	423	(5.8)	73	(2.8)	413	(6.6)	434	(5.7)	**-20**	(4.6)	298	(10.5)	326	(11.1)	375	(8.6)	474	(4.8)	517	(5.8)	543	(8.3)
	Campeche	413	(5.1)	78	(3.3)	402	(4.9)	424	(6.1)	**-22**	(4.4)	285	(11.7)	311	(11.8)	360	(6.4)	466	(4.9)	511	(6.6)	539	(7.6)
	Chiapas	371	(8.6)	82	(4.1)	357	(9.1)	386	(8.7)	**-30**	(5.7)	234	(11.7)	266	(11.8)	318	(11.5)	426	(7.3)	474	(10.2)	505	(12.9)
	Chihuahua	444	(9.4)	83	(2.7)	432	(12.4)	455	(7.9)	**-23**	(8.6)	302	(13.7)	336	(13.4)	392	(10.4)	500	(10.3)	550	(10.5)	575	(12.8)
	Coahuila	431	(8.6)	76	(3.1)	419	(10.0)	443	(7.8)	**-25**	(6.6)	304	(8.7)	329	(9.7)	379	(8.9)	485	(10.5)	529	(10.5)	554	(11.2)
	Colima	440	(4.1)	82	(2.9)	423	(5.5)	457	(4.2)	**-34**	(6.0)	303	(9.1)	333	(8.6)	384	(6.4)	497	(5.5)	546	(7.0)	573	(7.9)
	Distrito Federal	448	(5.5)	76	(3.4)	441	(7.5)	454	(5.8)	-13	(7.2)	317	(13.6)	352	(10.1)	401	(6.2)	498	(6.2)	542	(7.9)	570	(9.7)
	Durango	436	(7.0)	77	(2.6)	422	(8.2)	449	(6.9)	**-27**	(6.5)	306	(9.4)	335	(8.7)	385	(8.1)	492	(7.7)	532	(8.4)	562	(10.2)
	Guanajuato	414	(6.7)	82	(3.0)	403	(6.9)	424	(7.6)	**-22**	(6.1)	273	(12.2)	305	(10.7)	359	(8.8)	471	(7.2)	521	(7.6)	549	(8.3)
	Guerrero	368	(5.2)	79	(2.9)	355	(5.8)	381	(5.7)	**-26**	(5.2)	238	(10.2)	265	(6.8)	314	(7.0)	422	(7.6)	471	(6.4)	499	(8.1)
	Hidalgo	414	(6.3)	81	(3.4)	404	(7.5)	422	(6.4)	**-19**	(6.0)	273	(13.2)	309	(9.9)	361	(7.6)	470	(8.3)	518	(7.1)	543	(8.9)
	Jalisco	436	(6.2)	79	(3.2)	421	(6.7)	450	(6.3)	**-29**	(4.7)	306	(12.1)	336	(6.8)	383	(8.4)	492	(6.9)	535	(8.2)	563	(9.8)
	Mexico	437	(6.3)	73	(4.2)	428	(6.8)	445	(7.3)	**-17**	(6.3)	317	(8.5)	344	(8.6)	388	(7.1)	487	(7.5)	528	(9.8)	552	(11.3)
	Morelos	425	(9.7)	86	(6.5)	410	(11.8)	439	(8.8)	**-30**	(8.8)	272	(27.4)	315	(18.1)	371	(13.6)	482	(8.3)	532	(12.1)	563	(17.9)
	Nayarit	418	(7.4)	81	(3.0)	406	(6.8)	429	(8.9)	**-23**	(5.8)	281	(11.9)	314	(9.6)	364	(9.4)	473	(8.1)	522	(8.8)	548	(10.2)
	Nuevo León	442	(7.3)	75	(4.1)	431	(8.4)	453	(7.4)	**-22**	(4.9)	317	(15.6)	346	(12.3)	393	(9.4)	494	(7.6)	536	(9.6)	563	(11.3)
	Puebla	423	(6.6)	78	(4.1)	409	(7.0)	436	(7.4)	**-27**	(6.8)	288	(15.1)	322	(13.2)	374	(9.5)	477	(7.2)	521	(7.3)	547	(9.0)
	Querétaro	451	(9.1)	78	(2.8)	440	(9.9)	461	(8.6)	**-21**	(5.2)	321	(13.5)	350	(9.7)	398	(10.0)	503	(9.9)	551	(10.5)	579	(8.9)
	Quintana Roo	430	(5.9)	77	(2.6)	412	(7.0)	449	(5.3)	**-37**	(5.0)	296	(16.7)	328	(10.0)	379	(6.8)	486	(5.6)	528	(6.9)	549	(6.0)
	San Luis Potosí	425	(6.9)	82	(3.7)	402	(7.5)	444	(6.6)	**-42**	(5.4)	286	(11.7)	316	(10.0)	369	(8.0)	484	(8.4)	528	(9.1)	555	(8.6)
	Sinaloa	417	(5.4)	76	(2.8)	395	(6.2)	436	(5.7)	**-41**	(5.5)	295	(7.5)	318	(5.9)	363	(7.2)	470	(7.6)	516	(6.5)	540	(7.2)
	Tabasco	395	(4.5)	74	(2.9)	378	(5.4)	411	(4.3)	**-34**	(4.0)	273	(7.7)	298	(6.9)	345	(5.6)	446	(5.5)	490	(7.5)	515	(8.7)
	Tamaulipas	421	(6.0)	77	(3.3)	413	(7.2)	429	(6.6)	**-16**	(6.8)	287	(13.5)	317	(9.4)	369	(6.9)	473	(7.1)	519	(9.5)	545	(9.4)
	Tlaxcala	418	(6.4)	82	(2.7)	404	(6.5)	431	(7.1)	**-26**	(4.2)	276	(9.4)	310	(9.4)	364	(8.2)	476	(7.6)	522	(6.1)	554	(8.7)
	Veracruz	410	(5.3)	79	(3.0)	399	(5.6)	423	(6.8)	**-24**	(6.6)	281	(8.2)	310	(6.8)	356	(7.3)	465	(6.0)	514	(8.8)	540	(10.6)
	Yucatán	426	(6.5)	77	(2.2)	420	(8.1)	432	(6.0)	-11	(6.1)	300	(8.8)	326	(7.8)	372	(8.0)	478	(6.5)	525	(6.1)	554	(11.3)
	Zacatecas	412	(5.6)	77	(2.2)	398	(6.5)	425	(5.2)	**-26**	(4.6)	280	(10.8)	313	(8.9)	360	(6.8)	463	(5.7)	512	(7.4)	539	(8.7)

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

See Table I.4.3a for national data.

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[Part 2/2]

Table B2.I.27 Mean score, variation and gender differences in student performance in reading, by region

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	**Portugal**																						
	Alentejo	490	(8.5)	86	(4.6)	472	(10.2)	507	(8.3)	**-35**	(7.6)	342	(16.5)	376	(14.8)	437	(11.0)	549	(10.7)	598	(10.5)	626	(13.8)
	Spain																						
	Andalusia•	477	(4.2)	92	(2.4)	464	(5.5)	490	(4.5)	**-26**	(5.4)	317	(11.0)	356	(10.4)	419	(5.8)	540	(4.0)	586	(4.5)	619	(5.7)
	Aragon•	493	(5.8)	92	(3.0)	474	(6.4)	512	(6.1)	**-38**	(5.3)	330	(11.0)	369	(9.8)	434	(8.9)	556	(5.5)	607	(6.7)	635	(7.9)
	Asturias•	504	(5.2)	96	(3.6)	481	(7.0)	527	(4.7)	**-46**	(6.3)	335	(12.1)	382	(9.1)	444	(6.6)	570	(4.5)	620	(5.5)	649	(8.6)
	Balearic Islands•	476	(4.5)	95	(2.1)	459	(5.0)	493	(5.4)	**-34**	(5.7)	308	(7.2)	348	(6.0)	416	(6.9)	543	(4.9)	594	(6.5)	621	(6.6)
	Basque Country•	498	(2.8)	86	(1.4)	483	(3.4)	513	(2.8)	**-30**	(3.1)	342	(6.8)	384	(5.2)	448	(3.3)	557	(2.8)	600	(2.7)	626	(3.4)
	Cantabria•	485	(3.5)	88	(2.0)	470	(3.9)	501	(4.3)	**-31**	(4.4)	336	(7.3)	369	(6.7)	428	(5.1)	547	(3.7)	596	(4.5)	623	(5.4)
	Castile and Leon•	505	(5.5)	86	(2.2)	498	(6.7)	513	(5.5)	**-15**	(5.5)	353	(10.4)	391	(7.8)	451	(5.9)	567	(5.9)	610	(6.7)	637	(6.8)
	Catalonia•	501	(4.7)	89	(1.8)	489	(5.5)	514	(5.7)	**-24**	(6.1)	346	(9.0)	383	(5.9)	443	(5.3)	563	(5.6)	612	(7.1)	640	(7.3)
	Extremadura•	457	(4.9)	102	(2.4)	438	(6.0)	477	(4.8)	**-39**	(5.4)	276	(10.2)	322	(9.1)	393	(6.7)	530	(4.9)	581	(6.3)	609	(8.4)
	Galicia•	499	(4.7)	94	(2.6)	480	(5.8)	518	(5.1)	**-38**	(5.5)	332	(11.4)	375	(9.8)	441	(6.5)	566	(5.4)	612	(6.0)	638	(7.7)
	La Rioja•	490	(2.4)	101	(2.7)	475	(3.6)	504	(3.0)	**-29**	(4.7)	312	(9.5)	364	(6.3)	430	(3.7)	559	(3.4)	610	(4.3)	639	(5.0)
	Madrid•	511	(4.8)	86	(2.3)	497	(5.6)	526	(4.9)	**-30**	(4.4)	364	(11.1)	401	(6.4)	455	(5.7)	572	(5.6)	618	(5.4)	647	(6.4)
	Murcia•	462	(5.0)	95	(2.4)	445	(6.3)	479	(4.4)	**-34**	(4.2)	291	(8.8)	332	(9.5)	401	(6.8)	529	(5.0)	580	(7.2)	607	(7.0)
	Navarre•	509	(3.2)	89	(2.1)	487	(4.2)	531	(3.9)	**-44**	(4.8)	354	(6.9)	391	(6.3)	454	(4.4)	571	(4.7)	617	(4.9)	646	(5.8)
	United Kingdom																						
	England	500	(4.2)	98	(2.6)	487	(5.4)	512	(4.5)	**-24**	(5.4)	328	(8.5)	371	(8.3)	438	(5.8)	568	(3.8)	621	(4.5)	652	(5.2)
	Northern Ireland	498	(3.9)	95	(2.7)	484	(5.4)	512	(5.2)	**-27**	(7.6)	333	(9.6)	373	(7.1)	436	(5.0)	565	(5.7)	618	(5.3)	646	(5.9)
	Scotland•	506	(3.0)	87	(1.8)	493	(3.2)	520	(3.5)	**-27**	(3.4)	357	(7.2)	394	(5.1)	450	(3.9)	565	(3.6)	614	(3.8)	645	(4.8)
	Wales	480	(2.7)	90	(1.7)	466	(3.2)	493	(3.2)	**-27**	(3.5)	325	(6.3)	365	(4.7)	421	(3.7)	541	(3.2)	593	(3.9)	624	(4.6)
	United States																						
	Connecticut•	521	(6.5)	99	(2.7)	510	(7.1)	532	(6.7)	**-22**	(5.0)	352	(10.2)	388	(9.6)	456	(7.5)	590	(6.0)	645	(7.3)	674	(8.8)
	Florida•	492	(6.1)	89	(2.6)	481	(7.0)	503	(5.9)	**-22**	(4.1)	342	(10.4)	377	(7.2)	433	(7.1)	555	(7.0)	602	(7.4)	630	(7.6)
	Massachusetts•	527	(6.1)	98	(2.9)	511	(6.2)	542	(6.6)	**-32**	(4.2)	359	(10.0)	399	(7.7)	464	(7.1)	595	(7.7)	652	(7.3)	682	(8.2)
Partners	**Argentina**																						
	Ciudad Autónoma de Buenos Aires•	429	(9.0)	118	(8.3)	416	(10.1)	441	(8.9)	**-25**	(6.2)	205	(32.6)	268	(24.8)	360	(13.0)	511	(7.7)	566	(8.5)	597	(10.4)
	Brazil																						
	Acre	383	(7.4)	76	(3.9)	365	(8.7)	400	(8.7)	**-35**	(9.4)	261	(10.4)	289	(8.6)	330	(7.2)	431	(8.9)	480	(14.3)	511	(16.1)
	Alagoas	355	(7.8)	75	(3.8)	339	(9.6)	369	(7.7)	**-30**	(7.1)	237	(14.1)	262	(8.9)	303	(10.5)	405	(11.5)	453	(11.5)	482	(11.9)
	Amapá	396	(10.6)	77	(5.3)	380	(13.9)	410	(9.6)	**-29**	(9.4)	271	(11.6)	299	(12.7)	344	(9.8)	445	(13.4)	501	(18.8)	529	(20.3)
	Amazonas	382	(6.2)	74	(4.0)	365	(7.5)	397	(6.8)	**-33**	(6.8)	265	(12.7)	290	(9.1)	332	(7.2)	429	(9.5)	478	(11.0)	505	(14.2)
	Bahia	388	(10.2)	91	(6.8)	367	(12.6)	405	(9.9)	**-38**	(10.8)	251	(19.8)	281	(15.6)	329	(14.6)	442	(14.1)	510	(18.1)	550	(23.1)
	Ceará	397	(10.4)	86	(4.3)	382	(11.7)	410	(11.5)	**-28**	(10.3)	252	(16.9)	286	(14.0)	339	(11.6)	456	(14.0)	510	(12.7)	541	(14.5)
	Espírito Santo	427	(9.9)	90	(6.1)	412	(9.8)	441	(12.3)	**-28**	(11.8)	287	(7.7)	317	(7.7)	367	(7.2)	483	(16.6)	555	(23.3)	592	(20.2)
	Federal District	428	(9.9)	89	(9.0)	415	(11.4)	440	(9.3)	**-25**	(6.1)	274	(35.3)	313	(24.8)	371	(12.6)	491	(9.5)	539	(14.9)	564	(16.7)
	Goiás	393	(7.1)	77	(4.7)	378	(9.4)	407	(6.5)	**-28**	(7.6)	268	(10.0)	296	(10.2)	341	(9.0)	441	(8.0)	495	(12.1)	529	(16.3)
	Maranhão	369	(13.6)	88	(7.8)	355	(17.2)	379	(11.7)	**-24**	(10.2)	217	(25.1)	258	(16.0)	313	(12.2)	426	(19.9)	484	(20.9)	517	(23.8)
	Mato Grosso	382	(9.2)	82	(5.7)	361	(8.9)	401	(10.5)	**-40**	(7.6)	249	(10.5)	279	(11.3)	327	(9.6)	434	(12.3)	486	(17.7)	527	(25.9)
	Mato Grosso do Sul	428	(7.1)	77	(3.9)	412	(9.6)	440	(6.9)	**-27**	(7.3)	304	(13.2)	332	(8.8)	376	(7.6)	478	(7.4)	530	(14.5)	560	(12.2)
	Minas Gerais	427	(7.7)	81	(3.7)	410	(9.6)	443	(6.2)	**-33**	(6.6)	293	(12.7)	323	(11.8)	375	(9.6)	483	(7.8)	530	(9.7)	560	(9.5)
	Pará	387	(7.5)	77	(4.3)	370	(7.3)	400	(9.1)	**-31**	(8.3)	260	(16.6)	285	(10.9)	333	(9.6)	441	(8.3)	490	(9.2)	515	(8.8)
	Paraíba	411	(8.0)	88	(7.1)	398	(10.1)	423	(8.7)	**-25**	(10.3)	267	(21.2)	299	(17.3)	351	(13.4)	476	(6.7)	527	(13.0)	556	(13.5)
	Paraná	422	(8.8)	88	(6.5)	409	(9.8)	435	(9.4)	**-26**	(8.1)	286	(14.8)	312	(11.7)	360	(8.7)	483	(12.3)	539	(14.9)	568	(23.9)
	Pernambuco	376	(7.3)	76	(4.8)	363	(9.6)	387	(6.4)	**-25**	(7.0)	252	(13.9)	280	(9.6)	324	(9.0)	425	(7.8)	476	(10.8)	500	(11.9)
	Piauí	403	(9.0)	82	(7.5)	384	(9.6)	417	(8.8)	**-32**	(4.6)	278	(12.6)	304	(9.2)	346	(7.6)	451	(11.7)	510	(22.7)	546	(29.1)
	Rio de Janeiro	408	(8.8)	80	(3.6)	389	(9.6)	426	(8.7)	**-36**	(7.1)	272	(16.6)	302	(11.3)	350	(13.4)	466	(9.5)	509	(9.7)	533	(9.3)
	Rio Grande do Norte	393	(7.9)	85	(4.6)	380	(10.1)	404	(7.8)	**-23**	(8.3)	265	(10.1)	290	(9.4)	334	(7.2)	445	(12.5)	508	(16.3)	548	(19.5)
	Rio Grande do Sul	433	(6.4)	76	(3.7)	412	(7.2)	452	(6.8)	**-40**	(6.4)	305	(13.3)	331	(10.4)	379	(9.8)	485	(7.1)	531	(9.2)	556	(11.7)
	Rondônia	400	(6.4)	71	(2.7)	380	(6.9)	419	(6.9)	**-39**	(6.2)	281	(9.8)	308	(7.6)	351	(7.6)	451	(8.4)	491	(8.5)	515	(10.1)
	Roraima	377	(7.9)	87	(4.8)	355	(9.8)	399	(9.5)	**-45**	(12.4)	236	(11.0)	266	(9.6)	317	(9.2)	433	(9.4)	489	(18.2)	530	(21.5)
	Santa Catarina	423	(10.3)	90	(6.8)	408	(10.1)	437	(12.3)	**-28**	(8.0)	257	(24.0)	301	(25.7)	366	(18.0)	483	(9.9)	533	(11.9)	561	(11.4)
	São Paulo	422	(4.1)	84	(2.5)	405	(4.3)	438	(4.8)	**-33**	(4.4)	285	(9.2)	316	(6.1)	366	(4.3)	478	(5.3)	531	(6.3)	563	(7.5)
	Sergipe	397	(11.1)	80	(5.4)	385	(14.0)	407	(10.1)	**-23**	(9.9)	273	(9.3)	298	(9.5)	342	(8.7)	451	(16.3)	507	(21.7)	531	(18.2)
	Tocantins	381	(7.6)	81	(3.8)	368	(10.0)	394	(7.3)	**-26**	(8.7)	246	(11.7)	274	(12.3)	324	(9.3)	436	(10.5)	488	(10.1)	517	(11.8)
	Colombia																						
	Bogotá	422	(3.8)	73	(1.5)	418	(4.9)	427	(4.0)	**-9**	(4.5)	299	(6.3)	328	(5.1)	374	(5.4)	472	(4.1)	514	(5.1)	539	(6.5)
	Cali	408	(6.8)	80	(2.7)	395	(6.7)	418	(7.4)	**-24**	(4.1)	276	(10.0)	305	(8.0)	355	(6.7)	464	(8.0)	510	(8.5)	541	(11.2)
	Manizales	431	(4.3)	73	(3.8)	425	(6.4)	436	(4.2)	-11	(6.6)	313	(8.0)	339	(6.7)	384	(5.6)	480	(6.3)	525	(6.8)	552	(9.2)
	Medellín	423	(6.9)	86	(4.3)	414	(7.9)	432	(7.7)	**-18**	(7.5)	289	(8.5)	318	(8.6)	363	(5.3)	480	(9.6)	538	(13.0)	571	(15.8)
	Russian Federation																						
	Perm Territory region•	482	(6.0)	94	(3.4)	465	(6.8)	501	(6.0)	**-37**	(4.5)	322	(9.3)	360	(9.5)	423	(7.2)	547	(5.8)	598	(8.1)	627	(7.9)
	United Arab Emirates																						
	Abu Dhabi•	431	(4.9)	96	(2.2)	397	(5.7)	463	(5.3)	**-66**	(6.9)	269	(7.1)	304	(5.4)	365	(5.3)	498	(5.4)	552	(6.4)	586	(8.2)
	Ajman	414	(9.8)	86	(6.3)	373	(15.5)	452	(10.6)	**-79**	(19.3)	268	(16.8)	296	(18.0)	353	(14.0)	476	(8.8)	522	(11.4)	549	(14.2)
	Dubai•	468	(1.3)	100	(1.0)	445	(1.8)	493	(1.8)	**-48**	(2.5)	295	(3.7)	335	(3.2)	401	(2.6)	538	(2.7)	594	(3.4)	624	(4.0)
	Fujairah	415	(11.8)	89	(5.2)	374	(10.6)	457	(7.1)	**-83**	(10.3)	258	(19.8)	294	(17.2)	355	(15.7)	482	(10.1)	525	(8.0)	548	(9.8)
	Ras al-Khaimah	415	(6.5)	84	(4.8)	384	(9.9)	444	(9.8)	**-60**	(13.1)	272	(14.6)	301	(13.2)	358	(11.3)	474	(6.0)	518	(6.7)	544	(11.9)
	Sharjah	451	(7.6)	83	(3.6)	435	(14.9)	465	(11.0)	-30	(19.2)	314	(17.2)	345	(10.1)	394	(10.4)	510	(7.9)	556	(6.9)	583	(6.7)
	Umm al-Quwain	400	(4.1)	85	(3.1)	352	(5.1)	447	(5.4)	**-95**	(6.5)	265	(12.9)	288	(7.7)	336	(7.7)	460	(8.5)	511	(10.3)	546	(14.9)

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

See Table I.4.3a for national data.

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[Part 1/2]

Table B2.I.28 Percentage of students at each proficiency level in science, by region

		All students													
		Below Level 1 (below 334.94 score points)		Level 1 (from 334.94 to less than 409.54 score points)		Level 2 (from 409.54 to less than 484.14 score points)		Level 3 (from 484.14 to less than 558.73 score points)		Level 4 (from 558.73 to less than 633.33 score points)		Level 5 (from 633.33 to less than 707.93 score points)		Level 6 (above 707.93 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	4.1	(0.8)	8.0	(1.1)	17.3	(1.5)	27.7	(1.9)	25.9	(2.1)	13.7	(1.5)	3.2	(0.9)
	New South Wales	3.9	(0.5)	10.1	(0.8)	20.4	(0.9)	27.1	(1.1)	22.2	(0.9)	12.8	(1.0)	3.6	(0.6)
	Northern Territory	12.5	(1.7)	13.1	(2.3)	19.3	(3.0)	27.3	(3.6)	19.0	(3.4)	6.2	(2.1)	2.6	(1.2)
	Queensland	3.1	(0.5)	10.3	(0.8)	22.7	(1.0)	29.0	(1.4)	22.8	(1.2)	10.0	(0.8)	2.1	(0.4)
	South Australia	3.8	(0.7)	10.7	(1.2)	24.2	(1.4)	28.5	(1.7)	21.9	(1.3)	9.4	(1.4)	1.5	(0.6)
	Tasmania	6.3	(0.8)	13.6	(1.2)	22.9	(1.8)	26.4	(2.0)	20.8	(1.6)	8.2	(1.2)	1.7	(0.6)
	Victoria	2.9	(0.4)	10.5	(0.9)	22.5	(1.3)	30.1	(1.5)	22.7	(1.3)	9.2	(1.0)	2.0	(0.5)
	Western Australia	2.1	(0.4)	8.7	(0.9)	19.0	(1.3)	29.0	(1.5)	25.3	(1.7)	12.7	(1.0)	3.2	(0.6)
	Belgium														
	Flemish Community•	4.8	(0.5)	10.4	(0.7)	19.3	(0.8)	28.0	(1.0)	25.4	(0.9)	10.7	(0.7)	1.5	(0.3)
	French Community	7.3	(0.9)	13.7	(1.0)	24.5	(1.1)	29.7	(1.1)	19.7	(1.1)	4.8	(0.5)	0.3	(0.1)
	German-speaking Community	5.0	(1.0)	10.0	(1.3)	20.6	(1.8)	34.4	(2.5)	23.7	(2.2)	5.8	(1.0)	0.5	(0.3)
	Canada														
	Alberta	1.9	(0.5)	6.9	(1.0)	18.1	(1.4)	29.9	(1.5)	26.9	(1.5)	13.4	(1.3)	2.9	(0.6)
	British Columbia	1.4	(0.4)	5.7	(0.9)	17.4	(1.4)	30.0	(1.7)	29.8	(1.6)	12.8	(1.3)	2.9	(0.6)
	Manitoba	3.9	(0.8)	12.3	(1.1)	24.9	(2.0)	30.6	(1.9)	20.6	(1.3)	6.9	(0.8)	0.9	(0.4)
	New Brunswick	2.7	(0.6)	11.1	(1.0)	25.4	(1.9)	33.3	(1.8)	20.3	(1.4)	6.4	(1.1)	0.9	(0.6)
	Newfoundland and Labrador	3.2	(0.7)	10.0	(1.6)	22.0	(1.8)	33.2	(2.3)	21.6	(1.7)	8.7	(1.2)	1.3	(0.4)
	Nova Scotia	2.2	(0.6)	8.3	(1.5)	23.8	(2.5)	34.5	(2.6)	22.9	(2.5)	7.4	(1.3)	0.8	(0.4)
	Ontario	2.7	(0.5)	8.2	(0.8)	20.3	(1.4)	31.5	(1.2)	25.2	(1.3)	9.9	(1.0)	2.2	(0.5)
	Prince Edward Island	3.3	(0.7)	13.9	(1.3)	27.5	(1.8)	31.8	(1.8)	18.3	(1.5)	4.8	(1.0)	0.5	(0.3)
	Quebec	2.4	(0.5)	8.2	(0.8)	23.3	(1.3)	34.5	(1.4)	24.7	(1.2)	6.2	(0.7)	0.6	(0.2)
	Saskatchewan	2.6	(0.4)	8.3	(0.8)	24.3	(1.1)	32.7	(2.0)	22.9	(1.5)	8.4	(1.2)	0.8	(0.4)
	Italy														
	Abruzzo	5.5	(1.4)	14.7	(1.7)	29.9	(2.3)	30.1	(2.3)	16.0	(1.7)	3.4	(0.8)	0.4	(0.3)
	Basilicata	4.9	(1.0)	20.7	(1.5)	34.4	(1.5)	26.5	(1.8)	11.3	(1.4)	2.1	(0.5)	0.1	(0.2)
	Bolzano	2.7	(0.6)	9.8	(0.9)	21.7	(1.3)	31.3	(1.4)	24.6	(1.2)	8.9	(0.9)	1.1	(0.3)
	Calabria	14.1	(2.1)	26.0	(1.9)	32.4	(2.1)	20.4	(1.8)	6.2	(1.0)	0.9	(0.3)	0.0	c
	Campania	8.5	(2.0)	21.2	(2.7)	32.2	(1.8)	25.8	(2.4)	10.6	(1.8)	1.7	(0.6)	0.1	c
	Emilia Romagna	3.5	(0.9)	10.4	(1.6)	22.3	(2.1)	32.0	(2.2)	23.6	(2.3)	7.3	(1.3)	0.8	(0.4)
	Friuli Venezia Giulia	1.9	(1.0)	7.3	(1.6)	18.0	(1.4)	34.1	(2.2)	27.5	(2.0)	9.8	(1.0)	1.4	(0.4)
	Lazio	4.0	(1.1)	16.3	(2.4)	29.6	(2.2)	30.1	(1.9)	15.6	(1.7)	4.2	(1.0)	0.3	(0.2)
	Liguria	3.7	(0.9)	13.4	(1.6)	24.4	(1.8)	31.0	(1.9)	20.5	(1.9)	6.0	(1.1)	0.9	(0.4)
	Lombardia	1.7	(0.5)	7.1	(1.2)	19.9	(2.7)	32.8	(2.2)	28.0	(2.3)	9.7	(1.7)	0.9	(0.4)
	Marche	2.8	(1.1)	10.6	(1.6)	24.9	(1.7)	33.6	(2.2)	21.5	(1.8)	6.0	(0.8)	0.5	(0.2)
	Molise	5.5	(0.8)	16.6	(1.5)	34.3	(1.9)	32.2	(1.8)	9.7	(1.4)	1.5	(0.5)	0.1	c
	Piemonte	3.0	(0.6)	10.3	(1.2)	23.3	(1.8)	34.0	(2.1)	22.7	(1.8)	5.9	(1.0)	0.7	(0.3)
	Puglia	5.0	(1.3)	14.8	(1.8)	29.0	(2.1)	31.3	(2.1)	16.8	(1.7)	2.9	(0.6)	0.1	(0.1)
	Sardegna	6.3	(1.3)	16.0	(1.8)	31.3	(1.9)	29.4	(1.8)	14.3	(1.6)	2.6	(0.6)	0.1	c
	Sicilia	8.9	(1.6)	21.6	(2.2)	31.7	(1.8)	26.4	(2.1)	9.6	(1.3)	1.6	(0.5)	0.1	(0.1)
	Toscana	4.7	(0.9)	12.4	(1.1)	24.2	(2.2)	29.7	(1.8)	22.6	(1.9)	6.0	(0.8)	0.4	(0.2)
	Trento	1.5	(0.6)	6.5	(1.2)	19.3	(1.7)	33.0	(1.9)	27.7	(1.9)	10.8	(1.2)	1.1	(0.4)
	Umbria	4.1	(1.5)	11.3	(1.9)	23.1	(1.5)	35.5	(2.1)	21.0	(2.0)	4.6	(1.1)	0.4	(0.2)
	Valle d'Aosta	2.7	(0.7)	10.1	(1.3)	24.2	(1.8)	35.4	(1.8)	21.7	(1.9)	5.4	(0.9)	0.5	(0.4)
	Veneto	2.5	(0.9)	7.1	(1.4)	19.6	(1.7)	31.1	(2.3)	26.4	(2.0)	11.3	(1.8)	2.1	(0.6)
	Mexico														
	Aguascalientes	8.0	(1.4)	28.7	(2.2)	39.6	(2.5)	19.4	(2.2)	3.6	(1.0)	0.6	(0.3)	0.0	c
	Baja California	11.6	(2.2)	35.2	(3.2)	36.5	(2.0)	14.0	(1.8)	2.4	(0.9)	0.2	c	0.0	c
	Baja California Sur	10.7	(1.6)	34.0	(2.3)	38.8	(2.2)	14.2	(1.7)	2.2	(0.7)	0.1	c	0.0	c
	Campeche	15.6	(2.7)	37.2	(2.4)	34.5	(2.3)	10.8	(1.3)	1.8	(0.6)	0.2	(0.2)	0.0	c
	Chiapas	28.0	(4.2)	40.1	(2.5)	25.6	(3.1)	5.6	(1.3)	0.7	(0.4)	0.0	c	0.0	c
	Chihuahua	9.9	(2.2)	29.6	(3.7)	37.4	(2.8)	18.8	(4.0)	3.9	(1.4)	0.3	(0.5)	0.0	c
	Coahuila	11.5	(2.6)	31.1	(3.1)	38.5	(2.8)	16.4	(2.9)	2.3	(0.7)	0.1	(0.1)	0.0	c
	Colima	10.5	(1.5)	29.6	(1.8)	37.0	(2.2)	18.3	(1.8)	4.0	(1.2)	0.6	(0.3)	0.0	c
	Distrito Federal	8.4	(2.1)	30.8	(2.7)	41.9	(2.8)	16.0	(2.1)	2.8	(0.9)	0.2	c	0.0	c
	Durango	9.3	(1.9)	32.4	(3.0)	40.9	(3.3)	15.9	(2.4)	1.5	(0.5)	0.1	(0.1)	0.0	c
	Guanajuato	16.5	(2.9)	35.7	(2.6)	34.8	(2.8)	11.2	(1.3)	1.6	(0.6)	0.0	c	0.0	c
	Guerrero	27.9	(3.1)	43.8	(2.3)	23.5	(2.2)	4.4	(0.9)	0.4	(0.2)	0.0	c	0.0	c
	Hidalgo	15.0	(2.1)	33.3	(3.1)	36.2	(2.5)	13.7	(1.8)	1.7	(0.6)	0.0	c	0.0	c
	Jalisco	6.8	(1.4)	29.6	(2.9)	39.5	(1.9)	20.1	(2.8)	3.9	(0.9)	0.2	(0.2)	0.0	c
	Mexico	8.2	(1.4)	35.3	(2.7)	41.9	(2.7)	12.8	(2.6)	1.6	(0.6)	0.2	(0.2)	0.0	c
	Morelos	10.8	(3.6)	31.7	(3.2)	37.0	(3.2)	16.3	(2.5)	3.7	(1.3)	0.5	(0.5)	0.0	c
	Nayarit	15.8	(2.6)	35.7	(2.6)	34.9	(2.7)	12.3	(1.8)	1.4	(0.7)	0.0	c	0.0	c
	Nuevo León	6.8	(1.8)	28.8	(3.4)	41.0	(3.6)	19.1	(3.3)	4.0	(0.9)	0.2	(0.2)	0.0	c
	Puebla	11.3	(2.8)	28.9	(2.0)	40.8	(3.1)	16.0	(2.0)	2.9	(0.9)	0.1	c	0.0	c
	Querétaro	8.2	(1.7)	29.7	(3.4)	39.4	(3.5)	18.6	(2.3)	3.9	(1.1)	0.2	(0.2)	0.0	c
	Quintana Roo	12.2	(2.4)	33.1	(2.0)	38.3	(2.8)	14.6	(2.4)	1.7	(0.7)	0.1	c	0.0	c
	San Luis Potosí	12.5	(1.8)	34.6	(2.9)	35.5	(1.8)	15.0	(2.7)	2.4	(0.9)	0.0	c	0.0	c
	Sinaloa	13.4	(2.1)	39.2	(2.4)	34.6	(2.2)	11.5	(1.8)	1.3	(0.5)	0.1	c	0.0	c
	Tabasco	19.9	(2.5)	42.6	(3.1)	29.0	(2.6)	7.9	(1.3)	0.6	(0.4)	0.0	c	0.0	c
	Tamaulipas	12.8	(2.3)	34.5	(3.2)	36.2	(2.5)	14.2	(2.3)	2.2	(0.9)	0.1	(0.2)	0.0	c
	Tlaxcala	13.4	(1.8)	34.6	(2.5)	37.3	(2.4)	13.3	(1.7)	1.3	(0.4)	0.0	c	0.0	c
	Veracruz	16.7	(2.3)	37.6	(2.9)	33.6	(2.6)	11.2	(2.4)	0.9	(0.6)	0.0	c	0.0	c
	Yucatán	13.1	(2.3)	33.8	(2.2)	36.3	(2.5)	14.3	(1.6)	2.3	(0.7)	0.1	c	0.0	c
	Zacatecas	17.1	(2.2)	36.0	(2.2)	34.4	(2.2)	11.5	(1.4)	1.0	(0.4)	0.0	c	0.0	c

• PISA adjudicated region.

Note: See Table I.5.1a for national data.

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[Part 2/2]

Table B2.I.28 Percentage of students at each proficiency level in science, by region

		All students													
		Below Level 1 (below 334.94 score points)		Level 1 (from 334.94 to less than 409.54 score points)		Level 2 (from 409.54 to less than 484.14 score points)		Level 3 (from 484.14 to less than 558.73 score points)		Level 4 (from 558.73 to less than 633.33 score points)		Level 5 (from 633.33 to less than 707.93 score points)		Level 6 (above 707.93 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**														
	Alentejo	2.7	(0.9)	12.0	(2.8)	29.2	(2.4)	35.5	(3.3)	16.4	(2.5)	4.0	(1.3)	0.2	c
	Spain														
	Andalusia•	4.5	(0.9)	14.1	(1.4)	30.3	(1.9)	30.9	(1.6)	15.8	(1.4)	4.1	(0.8)	0.3	(0.2)
	Aragon•	3.9	(1.0)	11.9	(1.4)	23.9	(1.6)	31.5	(1.9)	21.2	(1.4)	6.8	(1.1)	0.8	(0.3)
	Asturias•	2.7	(0.7)	8.9	(1.2)	23.7	(1.7)	31.1	(1.6)	24.2	(1.7)	8.1	(1.2)	1.2	(0.4)
	Balearic Islands•	4.2	(0.9)	14.9	(1.4)	30.2	(1.7)	32.0	(1.6)	16.2	(1.6)	2.4	(0.5)	0.1	c
	Basque Country•	2.9	(0.4)	8.9	(0.6)	25.3	(0.9)	36.8	(0.9)	21.4	(1.0)	4.4	(0.4)	0.3	(0.1)
	Cantabria•	3.4	(0.7)	11.6	(1.1)	27.2	(1.8)	31.8	(1.9)	19.9	(1.7)	5.6	(0.8)	0.6	(0.3)
	Castile and Leon•	1.6	(0.5)	7.1	(0.9)	23.3	(1.5)	35.6	(1.8)	25.8	(1.6)	6.3	(0.9)	0.4	(0.2)
	Catalonia•	2.9	(0.7)	12.6	(1.3)	29.6	(1.7)	34.5	(2.3)	17.0	(1.9)	3.2	(0.7)	0.2	(0.1)
	Extremadura•	6.0	(0.9)	15.1	(1.3)	28.7	(1.4)	29.3	(1.4)	16.0	(1.4)	4.2	(0.7)	0.6	(0.3)
	Galicia•	2.8	(0.6)	9.7	(1.1)	23.3	(1.7)	33.9	(1.6)	23.4	(1.5)	6.4	(1.1)	0.5	(0.3)
	La Rioja•	4.3	(0.7)	8.9	(0.8)	23.0	(1.2)	31.5	(1.3)	25.3	(1.3)	6.6	(0.9)	0.4	(0.2)
	Madrid•	2.2	(0.6)	8.2	(1.1)	22.7	(1.6)	34.3	(1.5)	25.3	(1.7)	6.8	(0.8)	0.5	(0.3)
	Murcia•	5.3	(1.0)	15.6	(1.3)	30.4	(1.6)	30.8	(1.6)	14.5	(1.7)	3.1	(0.6)	0.3	(0.2)
	Navarre•	2.6	(0.7)	8.2	(1.2)	23.8	(1.7)	34.5	(1.5)	23.2	(1.4)	7.0	(1.1)	0.7	(0.2)
	United Kingdom														
	England	4.3	(0.6)	10.6	(1.0)	21.9	(1.1)	28.0	(1.1)	23.4	(1.1)	9.8	(0.8)	1.9	(0.4)
	Northern Ireland	4.7	(0.7)	12.1	(1.3)	23.7	(1.5)	27.8	(1.5)	21.4	(1.3)	8.3	(0.9)	2.0	(0.5)
	Scotland•	2.7	(0.4)	9.4	(0.7)	24.9	(1.2)	32.4	(1.2)	21.8	(1.0)	7.5	(0.7)	1.3	(0.3)
	Wales	5.2	(0.6)	14.2	(0.8)	27.1	(1.3)	29.5	(1.3)	18.4	(0.9)	4.9	(0.6)	0.8	(0.2)
	United States														
	Connecticut•	3.3	(0.8)	10.2	(1.4)	21.4	(1.6)	29.4	(1.7)	22.8	(1.5)	10.7	(1.1)	2.2	(0.6)
	Florida•	5.1	(1.0)	16.1	(1.6)	28.4	(1.6)	28.2	(2.0)	16.6	(1.6)	4.9	(1.0)	0.6	(0.4)
	Massachusetts•	2.6	(0.6)	8.9	(1.0)	21.2	(2.0)	29.4	(1.5)	23.8	(1.8)	11.3	(1.5)	2.9	(0.7)
Partners	**Argentina**														
	Ciudad Autónoma de Buenos Aires•	19.3	(2.4)	21.4	(2.0)	27.3	(1.9)	22.3	(2.1)	8.1	(1.4)	1.4	(0.6)	0.0	c
	Brazil														
	Acre	24.6	(3.2)	43.1	(2.9)	26.3	(3.3)	5.6	(1.4)	0.3	(0.3)	0.1	c	0.0	c
	Alagoas	46.1	(5.2)	36.4	(3.1)	14.1	(3.1)	3.1	(1.6)	0.4	(0.4)	0.0	c	0.0	c
	Amapá	25.3	(5.0)	40.4	(4.1)	26.2	(4.2)	7.3	(3.3)	0.7	(0.7)	0.0	c	0.0	c
	Amazonas	27.2	(3.2)	43.7	(3.5)	23.0	(2.8)	5.2	(1.6)	0.9	(0.8)	0.0	c	0.0	c
	Bahia	24.8	(5.2)	38.3	(3.8)	24.1	(4.7)	9.8	(2.6)	2.7	(1.2)	0.4	(0.4)	0.0	c
	Ceará	25.2	(4.3)	37.8	(3.6)	26.1	(3.7)	8.5	(2.2)	2.1	(1.0)	0.2	c	0.0	c
	Espírito Santo	12.7	(1.9)	31.3	(3.0)	31.7	(3.4)	15.4	(2.0)	7.7	(3.1)	1.1	(0.5)	0.0	c
	Federal District	13.3	(3.6)	31.3	(3.1)	33.0	(2.9)	17.8	(2.1)	4.1	(1.2)	0.5	(0.6)	0.0	c
	Goiás	20.9	(3.7)	38.2	(3.0)	28.2	(3.0)	10.6	(1.8)	2.0	(0.6)	0.1	(0.1)	0.0	c
	Maranhão	41.9	(6.1)	33.4	(4.0)	17.0	(3.5)	6.3	(3.4)	1.4	(1.2)	0.0	c	0.0	c
	Mato Grosso	26.1	(3.7)	42.0	(3.8)	23.4	(3.1)	5.8	(1.6)	2.5	(1.5)	0.2	(0.3)	0.0	c
	Mato Grosso do Sul	12.5	(2.6)	35.9	(2.6)	34.4	(3.5)	14.9	(3.4)	2.2	(0.5)	0.1	c	0.0	c
	Minas Gerais	13.9	(2.9)	30.5	(2.9)	35.5	(3.0)	16.2	(2.8)	3.3	(1.0)	0.6	(0.4)	0.0	c
	Pará	28.7	(3.4)	39.4	(3.3)	25.0	(2.3)	6.6	(1.1)	0.3	c	0.0	c	0.0	c
	Paraíba	16.3	(4.2)	33.8	(2.7)	31.4	(4.1)	14.7	(1.5)	3.5	(1.2)	0.4	c	0.0	c
	Paraná	15.1	(2.9)	35.2	(3.1)	30.9	(3.5)	13.0	(2.2)	5.2	(3.0)	0.8	(1.0)	0.0	c
	Pernambuco	31.1	(4.1)	38.7	(3.0)	22.6	(3.8)	6.6	(1.9)	0.9	(0.7)	0.1	(0.2)	0.0	c
	Piauí	19.3	(3.1)	37.3	(4.2)	29.5	(3.4)	10.2	(1.8)	3.0	(2.0)	0.7	(0.6)	0.0	c
	Rio de Janeiro	19.6	(3.4)	34.8	(2.9)	32.0	(2.7)	12.2	(2.2)	1.4	(0.7)	0.0	c	0.0	c
	Rio Grande do Norte	26.8	(3.5)	37.8	(3.3)	23.2	(3.2)	9.4	(2.4)	2.7	(1.4)	0.1	c	0.0	c
	Rio Grande do Sul	10.7	(1.8)	33.9	(2.9)	37.4	(3.2)	16.2	(2.5)	1.7	(0.8)	0.0	c	0.0	c
	Rondônia	20.3	(3.2)	42.2	(3.5)	30.1	(3.3)	6.5	(1.5)	0.8	(0.4)	0.0	c	0.0	c
	Roraima	33.4	(3.1)	34.8	(3.1)	22.3	(2.8)	6.4	(1.8)	2.8	(1.7)	0.3	c	0.0	c
	Santa Catarina	13.5	(3.9)	30.5	(3.1)	37.4	(3.0)	16.0	(2.9)	2.6	(0.9)	0.1	c	0.0	c
	São Paulo	13.1	(1.3)	34.1	(1.7)	34.1	(1.6)	14.8	(1.4)	3.5	(0.8)	0.3	(0.2)	0.0	c
	Sergipe	19.8	(3.2)	41.5	(4.0)	28.0	(3.8)	9.0	(3.4)	1.6	(1.1)	0.0	c	0.0	c
	Tocantins	28.7	(3.3)	39.7	(3.3)	23.1	(2.9)	7.3	(1.7)	1.1	(0.5)	0.1	c	0.0	c
	Colombia														
	Bogotá	13.5	(1.8)	36.3	(2.2)	35.6	(2.0)	12.6	(1.6)	1.9	(0.5)	0.2	(0.2)	0.0	c
	Cali	18.9	(2.9)	35.8	(2.9)	31.4	(2.6)	11.8	(2.2)	2.0	(0.8)	0.1	c	0.0	c
	Manizales	8.8	(1.2)	33.4	(2.5)	35.8	(2.3)	17.3	(2.1)	4.3	(1.1)	0.3	(0.2)	0.0	c
	Medellín	13.9	(1.8)	34.8	(2.8)	31.9	(2.4)	14.3	(2.1)	4.2	(1.5)	0.8	(0.5)	0.0	c
	Russian Federation														
	Perm Territory region•	4.8	(1.0)	15.2	(1.5)	31.0	(1.8)	31.3	(1.8)	14.5	(1.5)	3.1	(1.0)	0.2	(0.2)
	United Arab Emirates														
	Abu Dhabi•	14.3	(1.3)	24.2	(1.4)	29.0	(1.5)	21.2	(1.3)	9.0	(1.0)	2.1	(0.5)	0.2	(0.1)
	Ajman	17.1	(4.3)	27.6	(3.5)	31.8	(3.5)	18.8	(2.4)	4.6	(1.3)	0.2	c	0.0	c
	Dubai•	7.7	(0.4)	19.0	(0.6)	27.3	(0.8)	25.7	(0.8)	15.2	(0.7)	4.3	(0.4)	0.7	(0.2)
	Fujairah	12.8	(3.0)	30.4	(2.8)	33.9	(3.1)	17.8	(2.8)	4.8	(1.2)	0.4	(0.3)	0.0	c
	Ras al-Khaimah	10.6	(2.8)	29.3	(2.7)	35.6	(3.0)	19.4	(2.3)	4.4	(0.8)	0.6	(0.4)	0.0	c
	Sharjah	8.7	(2.2)	24.8	(3.7)	32.0	(2.2)	23.2	(3.3)	9.9	(2.5)	1.3	(0.6)	0.0	c
	Umm al-Quwain	16.8	(2.5)	32.4	(4.3)	31.0	(4.1)	15.0	(2.4)	4.5	(1.4)	0.4	c	0.0	c

• PISA adjudicated region.

Note: See Table I.5.1a for national data.

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[Part 1/4]

Table B2.I.29 Percentage of students at each proficiency level in science, by gender and region

		Boys													
		Below Level 1 (below 334.94 score points)		Level 1 (from 334.94 to less than 409.54 score points)		Level 2 (from 409.54 to less than 484.14 score points)		Level 3 (from 484.14 to less than 558.73 score points)		Level 4 (from 558.73 to less than 633.33 score points)		Level 5 (from 633.33 to less than 707.93 score points)		Level 6 (above 707.93 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	5.1	(1.2)	8.3	(1.8)	16.3	(1.9)	26.6	(2.8)	24.8	(2.9)	15.5	(2.6)	3.3	(1.4)
	New South Wales	4.6	(0.8)	10.8	(1.0)	20.2	(1.3)	25.6	(1.4)	21.2	(1.4)	13.2	(1.5)	4.3	(1.0)
	Northern Territory	13.0	(2.5)	14.1	(4.0)	17.9	(4.4)	22.6	(5.0)	23.3	(5.1)	5.1	(2.3)	4.0	(2.4)
	Queensland	3.5	(0.7)	10.1	(1.0)	22.3	(1.4)	27.5	(2.2)	23.7	(2.0)	10.6	(1.3)	2.3	(0.6)
	South Australia	4.0	(0.9)	9.9	(1.4)	24.3	(2.0)	28.1	(2.0)	21.4	(2.4)	10.4	(2.3)	1.9	(0.9)
	Tasmania	6.8	(1.1)	12.5	(1.5)	22.4	(2.3)	27.6	(2.8)	21.0	(2.2)	7.9	(1.8)	1.8	(1.1)
	Victoria	2.8	(0.5)	10.5	(1.1)	21.3	(1.5)	29.0	(1.7)	23.5	(1.5)	10.1	(1.4)	2.7	(0.8)
	Western Australia	2.0	(0.5)	7.7	(1.0)	17.6	(1.7)	28.7	(2.2)	26.8	(2.2)	13.7	(1.6)	3.7	(0.9)
	Belgium														
	Flemish Community•	5.4	(0.9)	10.7	(1.0)	18.1	(1.0)	26.7	(1.2)	25.3	(1.2)	12.1	(1.0)	1.9	(0.4)
	French Community	8.6	(1.1)	13.4	(1.4)	22.3	(1.8)	28.4	(1.5)	21.1	(1.4)	5.7	(0.8)	0.4	(0.2)
	German-speaking Community	6.5	(1.3)	11.9	(2.1)	19.3	(2.0)	30.2	(2.7)	23.9	(2.6)	7.3	(1.9)	0.9	(0.6)
	Canada														
	Alberta	2.3	(0.7)	6.6	(1.5)	17.5	(1.8)	30.0	(1.9)	25.5	(1.7)	14.6	(1.6)	3.5	(0.8)
	British Columbia	1.6	(0.6)	5.7	(1.0)	17.0	(2.0)	28.0	(2.5)	30.2	(2.9)	14.4	(2.3)	3.2	(1.2)
	Manitoba	4.6	(1.3)	12.8	(1.6)	23.4	(2.0)	29.6	(2.9)	21.1	(1.9)	7.5	(1.1)	1.0	(0.6)
	New Brunswick	3.1	(0.8)	12.3	(1.8)	25.0	(2.7)	32.5	(2.6)	19.5	(1.9)	6.9	(1.4)	0.6	(0.5)
	Newfoundland and Labrador	4.4	(1.2)	11.4	(2.9)	21.5	(2.6)	31.2	(3.8)	21.4	(3.0)	9.0	(1.8)	1.2	(0.8)
	Nova Scotia	2.8	(0.9)	9.3	(2.0)	21.1	(2.8)	33.8	(2.9)	24.1	(3.4)	8.1	(2.2)	0.8	(0.6)
	Ontario	3.1	(0.9)	8.7	(1.2)	19.5	(1.8)	29.7	(1.8)	25.4	(1.6)	10.9	(1.3)	2.6	(0.7)
	Prince Edward Island	3.9	(1.0)	16.3	(1.8)	25.8	(2.3)	29.9	(2.4)	17.5	(1.8)	6.0	(1.3)	0.6	(0.5)
	Quebec	2.7	(0.8)	8.2	(1.0)	23.1	(1.6)	33.3	(1.7)	25.2	(1.7)	6.8	(0.8)	0.7	(0.3)
	Saskatchewan	3.2	(0.7)	9.3	(1.4)	23.0	(1.7)	31.4	(2.2)	23.6	(2.5)	8.5	(1.6)	1.0	(0.5)
	Italy														
	Abruzzo	7.2	(2.1)	15.5	(2.4)	29.4	(3.2)	28.0	(2.5)	15.7	(1.9)	3.7	(1.1)	0.5	(0.4)
	Basilicata	5.5	(1.4)	20.3	(2.1)	32.5	(2.8)	26.5	(2.6)	12.5	(1.7)	2.6	(0.7)	0.1	c
	Bolzano	2.9	(0.7)	9.8	(1.2)	21.0	(2.1)	29.3	(2.2)	24.5	(1.4)	10.6	(1.2)	1.9	(0.5)
	Calabria	14.4	(2.6)	26.2	(2.6)	30.3	(3.0)	20.8	(2.2)	6.9	(1.5)	1.3	(0.6)	0.0	c
	Campania	9.0	(2.0)	21.5	(2.4)	30.8	(2.2)	25.0	(2.1)	11.1	(2.1)	2.4	(0.8)	0.1	c
	Emilia Romagna	4.0	(1.3)	11.4	(2.2)	20.5	(2.5)	30.3	(2.6)	24.6	(3.0)	8.2	(1.6)	1.0	(0.6)
	Friuli Venezia Giulia	1.9	(1.1)	8.0	(1.8)	18.0	(2.2)	30.8	(2.8)	27.5	(3.0)	12.1	(1.7)	1.8	(0.7)
	Lazio	4.3	(1.4)	15.3	(2.8)	28.0	(2.7)	29.7	(2.3)	17.2	(2.1)	5.2	(1.4)	0.3	(0.2)
	Liguria	4.2	(1.4)	14.0	(2.5)	24.4	(1.9)	30.3	(2.8)	19.5	(2.3)	6.7	(1.3)	1.0	(0.5)
	Lombardia	2.3	(0.7)	7.5	(1.4)	17.9	(3.0)	30.4	(2.4)	28.2	(2.7)	12.4	(2.3)	1.2	(0.5)
	Marche	2.1	(1.0)	9.0	(1.7)	24.4	(2.4)	33.1	(2.7)	23.2	(2.3)	7.4	(1.5)	0.7	(0.4)
	Molise	6.7	(1.1)	17.9	(2.0)	32.5	(2.2)	30.7	(2.5)	10.5	(1.7)	1.7	(0.6)	0.2	c
	Piemonte	3.0	(0.9)	8.9	(1.4)	22.2	(2.4)	34.3	(3.1)	24.2	(1.9)	6.6	(1.2)	0.9	(0.4)
	Puglia	6.8	(1.9)	14.5	(2.3)	25.1	(2.3)	31.5	(2.5)	18.3	(2.1)	3.7	(1.0)	0.1	(0.1)
	Sardegna	6.8	(2.0)	16.7	(2.4)	30.3	(2.6)	28.2	(2.4)	15.1	(1.9)	2.7	(0.8)	0.1	c
	Sicilia	9.2	(1.9)	22.8	(2.5)	30.3	(2.2)	25.6	(2.5)	10.3	(1.5)	1.8	(0.7)	0.0	c
	Toscana	5.8	(1.3)	13.4	(2.0)	25.1	(2.3)	27.5	(2.5)	22.2	(2.4)	5.5	(1.0)	0.4	(0.3)
	Trento	1.9	(0.9)	7.9	(1.7)	20.1	(2.4)	31.5	(2.6)	25.3	(2.6)	11.7	(1.7)	1.5	(0.6)
	Umbria	5.4	(2.2)	11.1	(2.6)	20.4	(1.9)	34.3	(3.0)	22.6	(2.4)	5.6	(1.5)	0.4	(0.4)
	Valle d'Aosta	3.5	(1.1)	11.2	(2.0)	23.6	(2.5)	33.4	(3.2)	21.7	(2.6)	6.0	(1.3)	0.6	(0.5)
	Veneto	2.6	(1.0)	8.6	(1.8)	19.9	(2.5)	27.0	(2.2)	26.8	(3.0)	12.4	(2.6)	2.8	(0.8)
	Mexico														
	Aguascalientes	7.8	(1.8)	28.4	(2.9)	38.3	(2.8)	20.5	(2.8)	4.4	(1.6)	0.6	(0.4)	0.0	c
	Baja California	10.9	(2.6)	34.0	(4.5)	37.3	(3.1)	15.0	(2.5)	2.5	(1.0)	0.3	c	0.0	c
	Baja California Sur	8.3	(1.9)	32.4	(3.3)	40.3	(2.8)	16.1	(2.6)	2.8	(1.3)	0.1	c	0.0	c
	Campeche	13.5	(3.1)	36.3	(3.5)	36.8	(3.3)	10.9	(1.6)	2.3	(1.1)	0.2	c	0.0	c
	Chiapas	28.8	(4.9)	39.4	(2.9)	25.4	(4.3)	5.3	(1.4)	1.0	(0.6)	0.1	c	0.0	c
	Chihuahua	9.2	(3.0)	29.3	(4.4)	36.6	(3.4)	19.6	(4.7)	5.0	(1.6)	0.4	(0.5)	0.0	c
	Coahuila	12.1	(3.4)	30.1	(4.3)	34.0	(4.1)	19.9	(4.2)	3.7	(1.3)	0.2	(0.3)	0.0	c
	Colima	11.3	(2.3)	28.3	(3.4)	35.1	(3.2)	20.0	(2.4)	4.6	(1.5)	0.7	(0.3)	0.0	c
	Distrito Federal	7.4	(2.3)	27.0	(3.6)	43.6	(3.4)	18.6	(2.9)	3.1	(1.2)	0.2	c	0.0	c
	Durango	10.5	(2.5)	31.1	(3.6)	39.2	(4.3)	17.1	(3.5)	2.0	(0.9)	0.1	(0.1)	0.0	c
	Guanajuato	17.3	(2.9)	33.1	(3.2)	34.5	(3.4)	12.7	(2.0)	2.5	(0.9)	0.1	c	0.0	c
	Guerrero	27.8	(3.4)	43.3	(3.0)	23.8	(2.4)	4.8	(1.3)	0.4	(0.3)	0.0	c	0.0	c
	Hidalgo	14.5	(2.9)	31.1	(4.1)	36.0	(3.4)	16.1	(2.1)	2.2	(0.9)	0.1	c	0.0	c
	Jalisco	7.9	(2.0)	28.4	(3.4)	38.4	(3.0)	20.4	(3.5)	4.6	(1.4)	0.4	(0.3)	0.0	c
	Mexico	7.4	(1.8)	32.3	(4.2)	43.5	(5.2)	14.4	(3.7)	2.0	(0.9)	0.4	(0.4)	0.0	c
	Morelos	11.9	(5.3)	29.4	(3.8)	36.9	(3.6)	17.0	(3.2)	4.2	(1.3)	0.6	(0.6)	0.0	c
	Nayarit	13.0	(2.8)	34.8	(4.4)	36.9	(3.6)	13.9	(3.1)	1.3	(1.0)	0.0	c	0.0	c
	Nuevo León	6.5	(1.9)	26.0	(3.6)	40.7	(3.7)	21.4	(4.0)	5.2	(1.3)	0.2	(0.2)	0.0	c
	Puebla	10.2	(3.2)	26.9	(2.7)	40.4	(4.3)	18.8	(2.8)	3.5	(1.2)	0.2	c	0.0	c
	Querétaro	7.7	(2.2)	26.3	(4.3)	40.4	(5.2)	20.3	(3.0)	4.9	(1.5)	0.4	(0.3)	0.0	c
	Quintana Roo	13.6	(3.0)	32.1	(2.5)	37.0	(3.7)	15.2	(2.9)	2.0	(1.1)	0.0	c	0.0	c
	San Luis Potosí	14.9	(2.5)	34.4	(3.9)	33.3	(2.9)	14.2	(3.0)	3.2	(1.5)	0.1	c	0.0	c
	Sinaloa	14.3	(3.2)	38.0	(3.8)	34.1	(2.9)	12.1	(2.1)	1.3	(0.6)	0.1	c	0.0	c
	Tabasco	18.4	(3.3)	43.9	(4.1)	28.1	(3.3)	8.6	(2.0)	0.9	(0.6)	0.1	c	0.0	c
	Tamaulipas	13.3	(3.3)	32.3	(4.0)	35.6	(3.8)	15.4	(3.0)	3.2	(1.5)	0.2	(0.4)	0.0	c
	Tlaxcala	13.4	(2.1)	32.8	(3.8)	37.3	(3.2)	15.0	(2.1)	1.5	(0.9)	0.1	c	0.0	c
	Veracruz	17.5	(3.0)	37.3	(3.4)	33.0	(2.7)	11.3	(2.2)	0.9	(0.6)	0.0	c	0.0	c
	Yucatán	12.3	(3.0)	32.4	(3.4)	36.8	(3.0)	15.6	(2.2)	2.7	(1.1)	0.2	c	0.0	c
	Zacatecas	16.8	(2.7)	37.3	(3.0)	33.2	(2.7)	11.6	(2.0)	1.1	(0.6)	0.0	c	0.0	c

• PISA adjudicated region.

Note: See Table I.5.2a for national data.

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[Part 2/4]

Table B2.I.29 Percentage of students at each proficiency level in science, by gender and region

		Boys													
		Below Level 1 (below 334.94 score points)		Level 1 (from 334.94 to less than 409.54 score points)		Level 2 (from 409.54 to less than 484.14 score points)		Level 3 (from 484.14 to less than 558.73 score points)		Level 4 (from 558.73 to less than 633.33 score points)		Level 5 (from 633.33 to less than 707.93 score points)		Level 6 (above 707.93 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**														
	Alentejo	3.1	(1.2)	11.9	(3.5)	28.6	(3.5)	34.2	(4.7)	16.5	(3.8)	5.4	(2.0)	0.2	c
	Spain														
	Andalusia•	5.3	(1.1)	13.2	(1.5)	26.9	(1.9)	31.7	(2.0)	17.2	(1.9)	5.4	(1.2)	0.3	(0.3)
	Aragon•	4.2	(1.3)	12.5	(1.8)	23.5	(1.8)	29.3	(2.4)	22.0	(2.0)	7.5	(1.3)	1.1	(0.4)
	Asturias•	3.6	(0.9)	9.7	(1.4)	21.9	(1.7)	30.0	(2.1)	24.9	(2.1)	8.4	(1.7)	1.5	(0.7)
	Balearic Islands•	3.9	(1.1)	14.8	(1.9)	29.4	(2.3)	32.0	(2.0)	17.0	(1.9)	2.8	(0.8)	0.1	c
	Basque Country•	2.8	(0.6)	8.7	(0.9)	24.1	(1.2)	35.1	(1.5)	23.5	(1.3)	5.4	(0.6)	0.5	(0.2)
	Cantabria•	3.7	(1.0)	11.3	(1.5)	24.0	(2.5)	30.8	(2.6)	23.1	(2.5)	6.3	(1.0)	0.8	(0.4)
	Castile and Leon•	2.0	(0.8)	7.3	(1.4)	21.6	(2.0)	33.0	(1.9)	27.3	(1.9)	8.1	(1.3)	0.6	(0.3)
	Catalonia•	2.2	(0.9)	12.8	(1.7)	28.6	(2.5)	32.5	(2.4)	19.3	(2.4)	4.4	(1.1)	0.3	(0.2)
	Extremadura•	6.8	(1.3)	14.7	(1.9)	26.7	(2.5)	27.7	(1.9)	17.7	(2.1)	5.5	(1.0)	0.9	(0.5)
	Galicia•	3.2	(0.9)	10.3	(1.7)	22.5	(2.0)	32.4	(2.3)	24.2	(1.9)	7.0	(1.4)	0.4	(0.3)
	La Rioja•	4.9	(1.0)	9.8	(1.3)	21.6	(1.7)	27.9	(1.9)	26.7	(1.9)	8.5	(1.4)	0.7	(0.5)
	Madrid•	2.7	(0.6)	8.1	(1.1)	21.7	(1.9)	32.3	(1.9)	26.4	(2.1)	8.1	(1.2)	0.7	(0.4)
	Murcia•	6.5	(1.3)	16.0	(1.9)	29.0	(2.0)	28.7	(2.2)	15.6	(1.9)	3.8	(1.0)	0.4	(0.3)
	Navarre•	3.3	(0.9)	9.6	(1.6)	21.5	(2.3)	33.4	(2.3)	23.9	(2.2)	7.5	(1.5)	0.7	(0.4)
	United Kingdom														
	England	3.8	(0.7)	10.0	(1.2)	20.8	(1.4)	27.1	(1.4)	25.0	(1.5)	11.0	(1.3)	2.3	(0.6)
	Northern Ireland	4.4	(1.0)	11.8	(1.5)	22.4	(2.0)	28.9	(2.3)	22.2	(2.1)	7.9	(1.1)	2.3	(0.6)
	Scotland•	2.6	(0.5)	9.4	(0.9)	23.9	(1.4)	30.9	(1.7)	23.4	(1.2)	8.3	(0.8)	1.4	(0.4)
	Wales	5.3	(1.0)	12.7	(1.0)	26.0	(1.6)	29.8	(1.5)	19.4	(1.3)	5.8	(0.8)	1.0	(0.3)
	United States														
	Connecticut•	2.8	(0.8)	10.1	(1.5)	20.3	(1.9)	27.5	(2.1)	24.1	(1.9)	12.5	(1.4)	2.7	(0.6)
	Florida•	5.6	(1.3)	14.9	(1.8)	25.9	(1.7)	28.2	(1.8)	18.3	(2.2)	6.3	(1.2)	0.7	(0.6)
	Massachusetts•	2.8	(0.7)	9.2	(1.2)	20.1	(2.0)	28.4	(1.9)	24.7	(2.0)	11.6	(1.8)	3.2	(1.0)
Partners	**Argentina**														
	Ciudad Autónoma de Buenos Aires•	19.0	(2.6)	19.7	(2.8)	28.4	(2.5)	22.2	(2.8)	9.1	(1.9)	1.6	(0.7)	0.0	c
	Brazil														
	Acre	22.1	(3.3)	44.0	(4.1)	28.0	(4.5)	5.4	(2.0)	0.4	c	0.0	c	0.0	c
	Alagoas	43.3	(6.0)	37.1	(3.6)	15.4	(4.6)	3.8	(1.7)	0.4	c	0.0	c	0.0	c
	Amapá	22.6	(5.4)	40.0	(6.4)	28.0	(5.5)	8.4	(3.9)	1.0	(1.1)	0.0	c	0.0	c
	Amazonas	27.0	(4.4)	42.7	(5.2)	23.3	(4.2)	5.6	(1.8)	1.4	(1.1)	0.0	c	0.0	c
	Bahia	27.0	(6.0)	34.7	(4.6)	23.8	(6.9)	10.7	(4.2)	3.2	(1.3)	0.6	(0.6)	0.0	c
	Ceará	23.7	(4.7)	39.9	(4.6)	24.0	(4.2)	9.2	(2.6)	2.9	(1.6)	0.4	c	0.0	c
	Espírito Santo	11.1	(2.6)	31.7	(3.1)	31.0	(3.3)	17.0	(2.2)	8.1	(3.2)	1.0	(0.7)	0.0	c
	Federal District	14.5	(4.2)	30.3	(3.8)	31.3	(4.0)	17.2	(2.7)	6.3	(1.9)	0.5	c	0.0	c
	Goiás	19.9	(4.2)	37.9	(4.7)	27.6	(3.8)	11.5	(2.1)	3.0	(0.8)	0.1	c	0.0	c
	Maranhão	39.4	(7.2)	32.0	(5.8)	18.4	(4.4)	7.6	(4.3)	2.6	(2.5)	0.0	c	0.0	c
	Mato Grosso	28.9	(4.3)	39.8	(4.0)	23.6	(3.8)	5.6	(1.6)	2.0	(1.5)	0.1	c	0.0	c
	Mato Grosso do Sul	13.7	(3.6)	33.9	(4.3)	34.6	(3.2)	15.5	(3.8)	2.2	(0.8)	0.2	c	0.0	c
	Minas Gerais	17.5	(4.3)	26.5	(3.1)	35.5	(4.4)	17.0	(3.2)	2.8	(1.3)	0.8	(0.5)	0.0	c
	Pará	31.4	(4.4)	36.6	(3.6)	26.7	(3.7)	5.0	(1.9)	0.2	c	0.0	c	0.0	c
	Paraíba	17.3	(4.6)	32.7	(4.0)	30.7	(5.6)	13.6	(3.9)	4.9	(2.1)	0.8	c	0.0	c
	Paraná	14.7	(3.5)	34.2	(3.3)	29.6	(4.0)	14.8	(2.7)	6.5	(3.4)	0.2	c	0.0	c
	Pernambuco	31.4	(5.2)	36.8	(5.1)	22.9	(5.5)	7.4	(2.7)	1.4	(1.1)	0.2	c	0.0	c
	Piauí	20.6	(4.8)	36.9	(6.9)	28.5	(5.7)	10.9	(2.2)	2.1	(2.2)	1.0	(0.7)	0.0	c
	Rio de Janeiro	21.5	(4.3)	34.6	(3.4)	30.1	(3.6)	12.3	(2.6)	1.5	(0.8)	0.0	c	0.0	c
	Rio Grande do Norte	26.4	(4.5)	37.9	(4.3)	22.5	(4.2)	9.4	(3.3)	3.7	(2.2)	0.1	c	0.0	c
	Rio Grande do Sul	12.7	(2.5)	32.6	(3.7)	36.4	(3.4)	16.2	(2.3)	2.0	(1.0)	0.1	c	0.0	c
	Rondônia	21.3	(3.8)	42.5	(4.5)	28.9	(4.2)	6.2	(1.6)	1.1	(0.7)	0.0	c	0.0	c
	Roraima	35.7	(4.3)	33.2	(3.9)	23.2	(3.7)	5.9	(2.3)	2.1	(1.5)	0.0	c	0.0	c
	Santa Catarina	12.7	(4.0)	30.3	(3.1)	36.5	(3.8)	18.0	(3.6)	2.4	(0.9)	0.1	c	0.0	c
	São Paulo	13.8	(1.8)	33.6	(2.1)	33.9	(2.1)	14.4	(1.7)	3.8	(1.1)	0.4	(0.4)	0.0	c
	Sergipe	19.5	(4.3)	39.1	(5.9)	27.7	(5.2)	11.2	(5.2)	2.4	(1.5)	0.1	c	0.0	c
	Tocantins	29.6	(4.4)	36.8	(4.7)	24.3	(4.0)	8.0	(2.2)	1.1	(0.6)	0.1	c	0.0	c
	Colombia														
	Bogotá	10.0	(2.1)	32.6	(2.9)	37.7	(2.7)	16.4	(2.5)	2.8	(0.9)	0.4	(0.5)	0.0	c
	Cali	17.0	(3.2)	34.2	(3.5)	31.6	(3.0)	14.3	(2.8)	2.8	(1.2)	0.2	c	0.0	c
	Manizales	7.5	(1.2)	28.9	(2.5)	34.6	(2.7)	21.7	(2.6)	6.7	(1.6)	0.5	(0.5)	0.1	c
	Medellín	10.9	(2.0)	33.3	(3.4)	34.4	(3.4)	15.4	(2.4)	5.0	(2.0)	0.9	(0.8)	0.0	c
	Russian Federation														
	Perm Territory region•	5.8	(1.4)	15.5	(1.8)	28.7	(2.3)	30.1	(2.5)	15.6	(1.9)	4.0	(1.4)	0.3	c
	United Arab Emirates														
	Abu Dhabi•	21.8	(2.0)	27.6	(1.9)	25.2	(1.6)	16.5	(1.3)	7.2	(1.2)	1.6	(0.6)	0.1	(0.1)
	Ajman	26.4	(8.1)	31.9	(4.4)	24.8	(4.9)	14.3	(3.0)	2.5	(1.5)	0.0	c	0.0	c
	Dubai•	10.3	(0.6)	20.9	(1.0)	25.4	(1.4)	23.2	(1.1)	14.6	(0.9)	4.7	(0.6)	0.9	(0.4)
	Fujairah	20.2	(4.7)	36.5	(3.8)	26.3	(4.9)	11.3	(2.8)	5.1	(1.3)	0.5	(0.5)	0.0	c
	Ras al-Khaimah	14.1	(4.6)	34.4	(4.7)	34.2	(4.4)	13.9	(2.8)	2.9	(1.1)	0.5	(0.3)	0.0	c
	Sharjah	8.6	(3.0)	25.6	(5.8)	32.4	(4.8)	22.2	(5.1)	9.6	(3.9)	1.5	(0.9)	0.1	c
	Umm al-Quwain	29.1	(4.9)	41.4	(6.7)	21.9	(5.7)	5.1	(2.4)	2.3	(1.2)	0.1	c	0.0	c

• PISA adjudicated region.
Note: See Table I.5.2a for national data.
StatLink http://dx.doi.org/10.1787/888932935762



[Part 3/4]

Table B2.I.29 Percentage of students at each proficiency level in science, by gender and region

		Girls													
		Below Level 1 (below 334.94 score points)		Level 1 (from 334.94 to less than 409.54 score points)		Level 2 (from 409.54 to less than 484.14 score points)		Level 3 (from 484.14 to less than 558.73 score points)		Level 4 (from 558.73 to less than 633.33 score points)		Level 5 (from 633.33 to less than 707.93 score points)		Level 6 (above 707.93 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	3.1	(1.0)	7.7	(1.7)	18.3	(2.2)	28.8	(3.1)	27.1	(2.6)	11.9	(2.2)	3.0	(1.1)
	New South Wales	3.2	(0.6)	9.3	(1.1)	20.5	(1.2)	28.6	(1.7)	23.2	(1.6)	12.3	(1.2)	2.8	(0.5)
	Northern Territory	12.0	(2.0)	12.1	(3.3)	20.7	(4.7)	31.8	(5.6)	14.9	(3.6)	7.2	(3.9)	1.2	c
	Queensland	2.7	(0.6)	10.6	(1.2)	23.2	(1.4)	30.5	(1.6)	21.8	(1.4)	9.3	(1.1)	1.8	(0.4)
	South Australia	3.5	(0.9)	11.5	(1.5)	24.1	(2.0)	28.8	(2.2)	22.5	(2.3)	8.4	(1.5)	1.2	(0.6)
	Tasmania	5.7	(1.3)	14.9	(1.9)	23.5	(2.8)	25.2	(2.8)	20.6	(2.1)	8.5	(2.1)	1.6	(0.7)
	Victoria	3.0	(0.6)	10.5	(1.2)	23.9	(1.7)	31.4	(2.5)	21.7	(2.3)	8.2	(1.3)	1.2	(0.4)
	Western Australia	2.2	(0.6)	9.9	(1.4)	20.5	(2.2)	29.3	(2.3)	23.7	(2.2)	11.6	(1.8)	2.8	(0.9)
	Belgium														
	Flemish Community•	4.2	(0.7)	10.1	(1.0)	20.5	(1.3)	29.2	(1.3)	25.6	(1.3)	9.2	(0.9)	1.1	(0.3)
	French Community	6.1	(1.0)	14.1	(1.3)	26.7	(1.7)	30.9	(1.7)	18.3	(1.7)	3.8	(0.6)	0.2	c
	German-speaking Community	3.4	(1.1)	7.9	(1.4)	22.0	(3.0)	39.0	(3.5)	23.6	(2.9)	4.2	(1.2)	0.0	c
	Canada														
	Alberta	1.5	(0.6)	7.2	(1.1)	18.7	(2.1)	29.9	(2.7)	28.4	(2.1)	12.0	(1.6)	2.3	(0.8)
	British Columbia	1.3	(0.5)	5.7	(1.2)	17.9	(1.7)	31.9	(2.0)	29.4	(2.1)	11.2	(1.5)	2.6	(0.8)
	Manitoba	3.1	(1.0)	11.9	(1.8)	26.4	(3.0)	31.6	(2.5)	20.1	(2.2)	6.2	(1.0)	0.8	(0.4)
	New Brunswick	2.3	(0.7)	9.8	(1.4)	25.7	(2.4)	34.1	(2.2)	21.1	(2.0)	5.9	(1.4)	1.1	(1.3)
	Newfoundland and Labrador	2.1	(0.7)	8.7	(1.8)	22.6	(2.3)	35.2	(3.0)	21.7	(2.0)	8.3	(1.5)	1.4	(0.7)
	Nova Scotia	1.5	(0.7)	7.3	(1.5)	26.6	(4.5)	35.3	(3.8)	21.8	(2.5)	6.7	(1.6)	0.8	(0.7)
	Ontario	2.3	(0.5)	7.6	(0.9)	21.1	(1.8)	33.3	(1.4)	24.9	(1.5)	9.0	(1.0)	1.8	(0.5)
	Prince Edward Island	2.7	(0.9)	11.4	(1.8)	29.2	(2.3)	33.7	(2.1)	19.1	(2.1)	3.6	(1.1)	0.3	(0.3)
	Quebec	2.1	(0.5)	8.2	(1.0)	23.5	(1.9)	35.8	(2.0)	24.2	(1.9)	5.6	(1.1)	0.6	(0.2)
	Saskatchewan	2.0	(0.6)	7.3	(1.4)	25.6	(2.0)	34.0	(3.2)	22.2	(1.7)	8.3	(1.3)	0.6	(0.4)
	Italy														
	Abruzzo	3.8	(1.2)	13.9	(2.2)	30.3	(2.6)	32.2	(3.0)	16.3	(2.3)	3.2	(1.1)	0.3	(0.3)
	Basilicata	4.3	(1.2)	21.0	(2.3)	36.3	(2.6)	26.5	(2.1)	10.1	(1.6)	1.6	(0.6)	0.2	(0.2)
	Bolzano	2.5	(0.6)	9.7	(1.3)	22.4	(1.9)	33.4	(2.0)	24.7	(1.9)	7.1	(1.1)	0.4	(0.3)
	Calabria	13.8	(3.2)	25.9	(2.2)	34.6	(2.9)	19.9	(2.4)	5.4	(1.0)	0.4	(0.3)	0.0	c
	Campania	7.9	(2.5)	20.9	(3.7)	33.6	(2.2)	26.7	(3.8)	10.0	(1.9)	1.0	(0.5)	0.1	c
	Emilia Romagna	3.0	(1.1)	9.4	(1.8)	24.3	(2.7)	33.9	(2.3)	22.5	(2.8)	6.4	(1.3)	0.6	(0.5)
	Friuli Venezia Giulia	1.9	(1.1)	6.5	(2.3)	18.0	(2.4)	37.7	(3.1)	27.6	(2.6)	7.4	(1.1)	1.0	(0.4)
	Lazio	3.6	(1.4)	17.6	(2.9)	31.6	(3.1)	30.6	(2.5)	13.6	(2.1)	2.9	(0.9)	0.2	c
	Liguria	3.2	(1.2)	12.8	(2.2)	24.5	(2.5)	31.8	(2.7)	21.6	(2.9)	5.3	(1.5)	0.7	(0.6)
	Lombardia	1.0	(0.4)	6.6	(1.6)	21.9	(3.9)	35.4	(2.9)	27.8	(3.0)	6.7	(1.6)	0.5	(0.5)
	Marche	3.5	(1.5)	12.1	(2.3)	25.4	(2.0)	34.1	(2.6)	19.9	(2.0)	4.7	(1.2)	0.3	(0.2)
	Molise	4.3	(1.1)	15.4	(2.9)	36.1	(3.5)	33.7	(2.5)	9.0	(2.0)	1.4	(0.7)	0.1	c
	Piemonte	3.0	(0.7)	11.7	(1.8)	24.4	(2.5)	33.8	(2.5)	21.3	(2.3)	5.3	(1.3)	0.5	(0.3)
	Puglia	3.3	(1.2)	15.2	(2.5)	32.9	(3.2)	31.1	(2.8)	15.2	(2.1)	2.1	(0.8)	0.1	c
	Sardegna	5.8	(1.5)	15.2	(2.6)	32.4	(2.6)	30.7	(2.8)	13.5	(2.3)	2.4	(0.9)	0.1	c
	Sicilia	8.6	(1.9)	20.2	(3.1)	33.3	(2.7)	27.3	(3.2)	8.9	(1.6)	1.4	(0.8)	0.3	(0.2)
	Toscana	3.2	(1.1)	11.1	(2.4)	23.1	(3.0)	32.6	(2.5)	22.9	(3.2)	6.6	(1.6)	0.4	(0.3)
	Trento	1.0	(0.6)	4.8	(1.9)	18.4	(2.9)	34.9	(3.4)	30.5	(3.2)	9.7	(2.0)	0.7	(0.4)
	Umbria	2.8	(1.3)	11.4	(2.3)	25.7	(2.4)	36.6	(2.3)	19.5	(2.4)	3.7	(1.3)	0.3	(0.2)
	Valle d'Aosta	1.8	(0.7)	8.9	(1.7)	24.7	(2.6)	37.5	(2.5)	21.8	(2.8)	4.8	(1.5)	0.4	c
	Veneto	2.3	(1.5)	5.5	(1.5)	19.3	(2.2)	35.3	(3.1)	26.0	(2.3)	10.2	(1.8)	1.3	(0.5)
	Mexico														
	Aguascalientes	8.2	(1.8)	29.0	(2.7)	41.0	(3.4)	18.3	(2.5)	2.9	(0.9)	0.6	(0.5)	0.0	c
	Baja California	12.4	(2.8)	36.5	(3.4)	35.7	(2.5)	13.1	(2.2)	2.3	(1.1)	0.1	c	0.0	c
	Baja California Sur	13.3	(2.4)	35.7	(2.6)	37.3	(2.7)	12.2	(1.7)	1.5	(0.6)	0.0	c	0.0	c
	Campeche	17.7	(3.4)	38.1	(3.8)	32.1	(3.3)	10.6	(2.0)	1.2	(0.7)	0.3	(0.2)	0.0	c
	Chiapas	27.2	(4.2)	40.9	(3.5)	25.8	(3.1)	5.8	(1.6)	0.3	(0.3)	0.0	c	0.0	c
	Chihuahua	10.6	(2.7)	29.9	(4.0)	38.3	(3.8)	18.1	(3.9)	2.9	(1.5)	0.2	c	0.0	c
	Coahuila	10.9	(2.3)	32.1	(3.8)	43.1	(3.4)	12.9	(2.7)	0.9	(0.6)	0.0	c	0.0	c
	Colima	9.7	(1.7)	30.9	(3.3)	38.9	(2.9)	16.6	(2.3)	3.4	(1.4)	0.4	c	0.0	c
	Distrito Federal	9.4	(2.0)	34.4	(3.3)	40.2	(3.7)	13.4	(2.4)	2.5	(1.1)	0.1	c	0.0	c
	Durango	8.2	(2.0)	33.5	(3.4)	42.5	(4.0)	14.8	(3.0)	1.0	(0.7)	0.0	c	0.0	c
	Guanajuato	15.8	(3.5)	38.3	(3.1)	35.1	(3.5)	9.9	(1.9)	0.8	(0.4)	0.0	c	0.0	c
	Guerrero	28.0	(3.6)	44.3	(2.7)	23.1	(3.3)	4.1	(1.1)	0.4	(0.4)	0.0	c	0.0	c
	Hidalgo	15.4	(2.2)	35.2	(3.7)	36.4	(3.7)	11.7	(2.5)	1.3	(0.7)	0.0	c	0.0	c
	Jalisco	5.7	(1.9)	30.6	(4.0)	40.4	(3.0)	19.8	(3.3)	3.4	(1.2)	0.1	c	0.0	c
	Mexico	9.1	(1.7)	38.2	(3.7)	40.4	(3.4)	11.1	(2.6)	1.1	(0.6)	0.0	c	0.0	c
	Morelos	9.9	(2.6)	33.7	(3.9)	37.2	(3.6)	15.6	(3.1)	3.2	(1.8)	0.5	(0.5)	0.0	c
	Nayarit	18.4	(3.4)	36.5	(2.9)	32.9	(3.2)	10.7	(1.9)	1.4	(0.8)	0.0	c	0.0	c
	Nuevo León	7.1	(2.2)	32.0	(4.1)	41.3	(5.1)	16.6	(3.1)	2.7	(1.0)	0.3	c	0.0	c
	Puebla	12.3	(3.0)	30.8	(2.5)	41.1	(2.9)	13.4	(2.0)	2.3	(1.1)	0.0	c	0.0	c
	Querétaro	8.7	(1.8)	32.7	(3.4)	38.5	(2.9)	17.0	(2.9)	2.9	(1.2)	0.1	c	0.0	c
	Quintana Roo	10.7	(2.7)	34.1	(3.2)	39.7	(4.1)	13.9	(2.7)	1.4	(0.6)	0.1	c	0.0	c
	San Luis Potosí	10.4	(2.0)	34.9	(3.6)	37.5	(2.4)	15.6	(3.3)	1.6	(0.7)	0.0	c	0.0	c
	Sinaloa	12.6	(2.3)	40.3	(3.5)	34.9	(2.8)	11.0	(2.1)	1.2	(0.7)	0.0	c	0.0	c
	Tabasco	21.3	(3.1)	41.4	(3.5)	29.8	(3.2)	7.2	(1.2)	0.4	(0.4)	0.0	c	0.0	c
	Tamaulipas	12.2	(2.1)	36.8	(4.0)	36.9	(2.8)	12.9	(2.5)	1.2	(0.7)	0.0	c	0.0	c
	Tlaxcala	13.5	(1.8)	36.3	(2.4)	37.4	(2.6)	11.7	(1.8)	1.1	(0.8)	0.0	c	0.0	c
	Veracruz	15.9	(2.9)	37.8	(3.8)	34.3	(3.7)	11.1	(3.2)	0.8	(0.8)	0.1	c	0.0	c
	Yucatán	14.0	(2.6)	35.3	(3.3)	35.8	(3.9)	13.0	(2.1)	1.8	(0.8)	0.0	c	0.0	c
	Zacatecas	17.3	(2.9)	34.8	(2.5)	35.6	(3.0)	11.3	(1.6)	0.9	(0.7)	0.0	c	0.0	c

• PISA adjudicated region.

Note: See Table I.5.2a for national data.

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[Part 4/4]

Table B2.I.29 Percentage of students at each proficiency level in science, by gender and region

		Girls													
		Below Level 1 (below 334.94 score points)		Level 1 (from 334.94 to less than 409.54 score points)		Level 2 (from 409.54 to less than 484.14 score points)		Level 3 (from 484.14 to less than 558.73 score points)		Level 4 (from 558.73 to less than 633.33 score points)		Level 5 (from 633.33 to less than 707.93 score points)		Level 6 (above 707.93 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**														
	Alentejo	2.4	(1.2)	12.1	(3.0)	29.7	(3.4)	36.7	(4.1)	16.3	(2.6)	2.6	(1.5)	0.1	c
	Spain														
	Andalusia•	3.7	(1.1)	15.1	(2.6)	34.0	(2.7)	30.1	(2.0)	14.1	(1.5)	2.8	(0.9)	0.3	(0.3)
	Aragon•	3.7	(1.1)	11.2	(1.8)	24.3	(2.2)	33.6	(2.3)	20.5	(1.9)	6.0	(1.3)	0.6	(0.4)
	Asturias•	1.8	(0.7)	8.1	(1.5)	25.6	(2.6)	32.1	(2.1)	23.4	(2.0)	7.9	(1.2)	1.0	(0.4)
	Balearic Islands•	4.5	(1.1)	15.0	(1.7)	31.0	(2.2)	32.0	(2.4)	15.5	(2.2)	2.0	(0.6)	0.0	c
	Basque Country•	2.9	(0.5)	9.0	(0.9)	26.6	(1.4)	38.5	(1.3)	19.4	(1.1)	3.3	(0.4)	0.2	(0.1)
	Cantabria•	3.0	(0.8)	11.9	(1.6)	30.4	(2.7)	32.9	(2.2)	16.5	(1.8)	4.8	(1.0)	0.5	(0.3)
	Castile and Leon•	1.2	(0.5)	6.8	(1.1)	24.9	(1.8)	38.2	(2.6)	24.3	(2.2)	4.4	(0.9)	0.1	c
	Catalonia•	3.6	(0.9)	12.3	(1.9)	30.7	(3.0)	36.7	(3.3)	14.6	(2.1)	2.0	(0.6)	0.1	c
	Extremadura•	5.2	(1.0)	15.5	(1.6)	30.8	(2.0)	31.0	(2.1)	14.3	(1.8)	2.8	(0.9)	0.4	(0.2)
	Galicia•	2.4	(0.7)	9.1	(1.6)	24.1	(2.3)	35.4	(2.4)	22.7	(2.0)	5.8	(1.1)	0.6	(0.4)
	La Rioja•	3.7	(0.9)	8.1	(1.2)	24.3	(2.0)	34.9	(2.2)	24.0	(1.7)	4.9	(1.2)	0.2	c
	Madrid•	1.7	(0.7)	8.3	(1.4)	23.7	(2.1)	36.4	(2.6)	24.2	(2.2)	5.6	(0.9)	0.2	c
	Murcia•	4.0	(1.1)	15.2	(2.0)	31.8	(2.4)	32.9	(2.2)	13.5	(2.1)	2.3	(0.6)	0.3	(0.2)
	Navarre•	2.0	(0.7)	6.9	(1.3)	26.0	(2.0)	35.5	(2.3)	22.4	(1.9)	6.6	(1.4)	0.7	(0.3)
	United Kingdom														
	England	4.8	(0.8)	11.2	(1.2)	22.9	(1.4)	28.9	(1.4)	21.9	(1.2)	8.7	(0.9)	1.6	(0.4)
	Northern Ireland	5.0	(0.9)	12.4	(2.0)	25.1	(2.0)	26.6	(2.1)	20.6	(1.9)	8.7	(1.4)	1.7	(0.6)
	Scotland•	2.7	(0.6)	9.3	(1.1)	25.9	(1.8)	33.9	(1.5)	20.2	(1.5)	6.7	(1.1)	1.2	(0.4)
	Wales	5.0	(0.7)	15.7	(1.3)	28.3	(1.6)	29.2	(1.7)	17.4	(1.2)	3.9	(0.7)	0.6	(0.2)
	United States														
	Connecticut•	3.7	(1.1)	10.4	(1.7)	22.5	(2.3)	31.2	(2.3)	21.6	(1.7)	8.8	(1.6)	1.8	(1.0)
	Florida•	4.7	(0.9)	17.4	(1.9)	31.0	(2.3)	28.2	(3.0)	14.8	(1.7)	3.4	(1.2)	0.5	(0.5)
	Massachusetts•	2.4	(0.9)	8.5	(1.2)	22.2	(2.3)	30.3	(2.2)	22.9	(2.3)	11.0	(1.6)	2.6	(0.8)
Partners	**Argentina**														
	Ciudad Autónoma de Buenos Aires•	19.6	(2.7)	23.0	(2.4)	26.4	(2.3)	22.4	(2.5)	7.3	(1.6)	1.3	(0.7)	0.1	c
	Brazil														
	Acre	26.9	(4.8)	42.3	(3.9)	24.8	(3.6)	5.7	(1.8)	0.3	c	0.0	c	0.0	c
	Alagoas	48.3	(5.4)	35.7	(4.3)	13.1	(2.9)	2.6	(1.8)	0.4	(0.5)	0.0	c	0.0	c
	Amapá	27.6	(5.5)	40.8	(5.3)	24.8	(4.4)	6.5	(3.7)	0.4	c	0.0	c	0.0	c
	Amazonas	27.4	(3.4)	44.6	(3.7)	22.7	(3.2)	4.7	(1.8)	0.6	c	0.0	c	0.0	c
	Bahia	23.1	(6.3)	41.3	(5.7)	24.3	(4.4)	9.0	(2.2)	2.2	(1.5)	0.2	c	0.0	c
	Ceará	26.7	(5.3)	35.9	(3.8)	28.0	(4.2)	7.9	(2.4)	1.4	(0.8)	0.0	c	0.0	c
	Espírito Santo	14.2	(2.7)	30.9	(3.8)	32.4	(4.9)	13.9	(3.0)	7.4	(3.5)	1.2	(0.9)	0.1	c
	Federal District	12.2	(3.5)	32.2	(3.2)	34.6	(3.2)	18.4	(3.5)	2.1	(1.1)	0.5	(0.5)	0.0	c
	Goiás	21.8	(4.2)	38.4	(4.2)	28.8	(3.7)	9.8	(2.4)	1.1	(0.7)	0.1	c	0.0	c
	Maranhão	43.7	(6.4)	34.4	(4.5)	16.0	(3.7)	5.4	(3.1)	0.4	c	0.0	c	0.0	c
	Mato Grosso	23.5	(4.1)	44.1	(5.2)	23.3	(3.8)	5.9	(2.2)	2.9	(1.8)	0.3	c	0.0	c
	Mato Grosso do Sul	11.5	(2.4)	37.5	(3.6)	34.3	(4.7)	14.4	(3.7)	2.2	(0.9)	0.1	c	0.0	c
	Minas Gerais	10.6	(2.2)	34.2	(3.9)	35.5	(2.8)	15.6	(3.8)	3.7	(1.5)	0.4	(0.4)	0.0	c
	Pará	26.8	(3.4)	41.5	(4.1)	23.7	(3.3)	7.7	(1.9)	0.3	c	0.0	c	0.0	c
	Paraíba	15.4	(4.3)	34.7	(3.8)	31.9	(4.0)	15.5	(2.9)	2.4	(1.6)	0.0	c	0.0	c
	Paraná	15.5	(3.2)	36.1	(4.4)	32.1	(4.1)	11.2	(2.4)	3.8	(3.0)	1.3	(1.7)	0.0	c
	Pernambuco	31.0	(4.8)	40.2	(3.1)	22.3	(3.6)	5.9	(1.9)	0.6	(0.6)	0.1	(0.2)	0.0	c
	Piauí	18.2	(3.0)	37.6	(4.0)	30.2	(2.9)	9.7	(2.3)	3.8	(2.0)	0.4	(0.6)	0.0	c
	Rio de Janeiro	17.7	(3.7)	35.0	(4.4)	33.8	(4.2)	12.1	(2.6)	1.3	(0.8)	0	c	0.0	c
	Rio Grande do Norte	27.0	(4.0)	37.8	(4.2)	23.7	(3.6)	9.4	(2.4)	1.9	(1.1)	0.2	c	0.0	c
	Rio Grande do Sul	8.8	(2.2)	35.1	(3.5)	38.4	(4.1)	16.2	(3.4)	1.5	(0.9)	0.0	c	0.0	c
	Rondônia	19.3	(4.1)	42.0	(4.9)	31.3	(3.6)	6.8	(2.4)	0.6	(0.6)	0.0	c	0.0	c
	Roraima	31.2	(3.5)	36.5	(4.0)	21.4	(3.4)	6.8	(2.3)	3.6	(2.3)	0.5	c	0.0	c
	Santa Catarina	14.2	(4.6)	30.6	(4.2)	38.3	(4.1)	14.1	(3.1)	2.7	(1.3)	0.1	c	0.0	c
	São Paulo	12.4	(1.8)	34.6	(2.9)	34.3	(2.2)	15.2	(2.0)	3.2	(0.9)	0.3	(0.2)	0.0	c
	Sergipe	20.0	(3.6)	43.4	(4.3)	28.3	(4.1)	7.3	(2.9)	1.0	(1.0)	0.0	c	0.0	c
	Tocantins	27.8	(3.7)	42.5	(3.5)	21.9	(3.7)	6.7	(1.7)	1.1	(0.6)	0.0	c	0.0	c
	Colombia														
	Bogotá	16.6	(2.1)	39.6	(2.8)	33.6	(2.7)	9.2	(1.4)	1.0	(0.5)	0.0	c	0.0	c
	Cali	20.3	(3.3)	37.1	(3.7)	31.2	(3.4)	10.0	(2.3)	1.4	(0.6)	0.0	c	0.0	c
	Manizales	10.0	(2.0)	37.6	(3.8)	37.0	(3.4)	13.3	(3.0)	2.1	(1.3)	0.0	c	0.0	c
	Medellín	16.8	(2.6)	36.2	(3.8)	29.6	(2.8)	13.2	(2.9)	3.5	(1.6)	0.8	(0.6)	0.0	c
	Russian Federation														
	Perm Territory region•	3.8	(1.0)	14.8	(1.8)	33.3	(2.4)	32.5	(2.6)	13.3	(1.8)	2.0	(0.8)	0.1	c
	United Arab Emirates														
	Abu Dhabi•	7.0	(1.5)	21.0	(1.7)	32.7	(1.8)	25.9	(2.1)	10.7	(1.2)	2.6	(0.7)	0.2	(0.2)
	Ajman	8.4	(2.9)	23.6	(5.1)	38.2	(4.4)	23.0	(3.7)	6.5	(2.1)	0.3	c	0.0	c
	Dubai•	4.9	(0.4)	17.1	(1.0)	29.4	(1.5)	28.3	(1.4)	15.9	(1.0)	3.9	(0.6)	0.4	(0.3)
	Fujairah	5.2	(1.9)	24.1	(4.1)	41.6	(3.7)	24.5	(3.3)	4.4	(1.5)	0.2	c	0.0	c
	Ras al-Khaimah	7.3	(3.5)	24.5	(3.3)	37.0	(4.2)	24.6	(3.6)	5.7	(1.2)	0.8	(0.7)	0.1	c
	Sharjah	8.8	(2.8)	24.2	(4.7)	31.6	(3.9)	24.0	(4.0)	10.1	(3.2)	1.2	(0.8)	0.0	c
	Umm al-Quwain	4.8	(1.3)	23.6	(3.6)	39.8	(4.8)	24.5	(4.0)	6.5	(2.4)	0.8	c	0.0	c

• PISA adjudicated region.

Note: See Table I.5.2a for national data.

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[Part 1/2]

Table B2.I.30 Mean score, variation and gender differences in student performance in science, by region

		All students				Gender differences						Percentiles									
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	**Australia**																						
	Australian Capital Territory	534	(3.9)	104	(3.1)	534	(5.5)	533	(5.2)	1	(7.4)	346	(11.1)	395	(8.3)	470	(6.8)	608	(6.5)	663	(6.1)	694	(8.3)
	New South Wales	526	(3.6)	105	(2.1)	525	(5.6)	527	(4.1)	-2	(6.7)	347	(7.0)	389	(4.7)	454	(3.7)	600	(5.7)	662	(5.3)	695	(6.6)
	Northern Territory	483	(10.2)	124	(4.8)	486	(10.7)	480	(14.3)	6	(14.7)	255	(14.5)	308	(17.3)	406	(12.8)	566	(12.4)	625	(15.3)	666	(32.7)
	Queensland	519	(3.1)	97	(1.7)	521	(4.0)	517	(3.7)	4	(4.5)	356	(6.2)	392	(4.9)	453	(3.6)	587	(4.2)	642	(3.9)	674	(5.7)
	South Australia	513	(3.7)	97	(2.2)	515	(4.4)	510	(4.6)	5	(5.0)	348	(6.8)	386	(5.9)	448	(4.5)	582	(5.4)	637	(5.9)	668	(6.8)
	Tasmania	500	(3.8)	105	(3.0)	501	(5.2)	499	(5.8)	2	(7.9)	322	(10.6)	363	(6.6)	430	(5.8)	573	(5.4)	634	(8.6)	667	(8.5)
	Victoria	518	(3.8)	96	(2.0)	523	(5.3)	512	(3.7)	11	(5.4)	359	(5.8)	393	(5.0)	454	(5.2)	583	(4.3)	639	(6.4)	672	(7.3)
	Western Australia	535	(3.7)	98	(1.8)	541	(5.7)	528	(5.2)	13	(8.1)	375	(7.0)	405	(5.4)	467	(5.1)	602	(4.7)	659	(5.3)	692	(7.1)
	Belgium																						
	Flemish Community•	518	(3.2)	102	(2.0)	520	(4.8)	516	(3.9)	4	(5.9)	337	(6.3)	380	(5.8)	453	(5.1)	592	(3.5)	642	(3.0)	670	(3.7)
	French Community	487	(3.3)	97	(2.3)	489	(3.8)	485	(3.9)	4	(4.1)	315	(7.2)	354	(7.3)	424	(5.3)	558	(3.4)	606	(3.6)	634	(3.9)
	German-speaking Community	508	(2.4)	91	(2.6)	506	(4.0)	510	(3.3)	-4	(5.6)	338	(13.5)	380	(7.3)	453	(5.4)	570	(4.2)	617	(5.4)	642	(7.0)
	Canada																						
	Alberta	539	(4.7)	94	(1.9)	542	(4.9)	537	(5.1)	5	(3.6)	377	(7.8)	417	(6.2)	478	(5.8)	604	(5.5)	657	(6.1)	688	(6.0)
	British Columbia	544	(3.9)	90	(2.4)	548	(4.7)	541	(5.4)	7	(6.3)	392	(8.8)	430	(5.7)	485	(5.3)	605	(5.4)	656	(4.7)	687	(6.5)
	Manitoba	503	(3.2)	93	(2.4)	503	(4.2)	502	(4.6)	1	(5.9)	347	(8.6)	381	(6.5)	438	(4.6)	568	(4.5)	623	(5.7)	652	(6.6)
	New Brunswick	507	(2.6)	87	(2.3)	504	(4.0)	510	(4.1)	-6	(6.2)	360	(5.1)	392	(6.6)	451	(4.0)	565	(4.5)	617	(6.2)	651	(9.2)
	Newfoundland and Labrador	514	(3.6)	93	(2.1)	510	(5.0)	518	(4.0)	-8	(5.5)	357	(9.7)	393	(7.0)	455	(5.6)	575	(4.9)	633	(6.9)	663	(6.0)
	Nova Scotia	516	(3.0)	85	(2.6)	518	(4.8)	515	(4.3)	3	(6.7)	371	(9.4)	407	(9.4)	460	(4.4)	574	(5.9)	625	(6.1)	653	(9.1)
	Ontario	527	(4.3)	93	(1.9)	528	(5.4)	525	(4.0)	3	(4.1)	367	(6.1)	405	(5.8)	467	(4.9)	590	(5.3)	644	(5.7)	676	(7.9)
	Prince Edward Island	495	(3.0)	86	(2.0)	492	(4.3)	497	(3.6)	-5	(5.2)	352	(7.4)	381	(5.4)	436	(4.9)	555	(4.3)	605	(4.6)	635	(7.8)
	Quebec	516	(3.3)	84	(1.9)	516	(3.9)	515	(3.5)	2	(3.7)	371	(7.3)	406	(5.7)	462	(4.1)	575	(3.6)	619	(4.3)	645	(5.4)
	Saskatchewan	516	(2.9)	89	(2.0)	516	(4.0)	517	(3.5)	-2	(4.8)	366	(7.8)	405	(5.3)	458	(3.7)	579	(5.3)	630	(6.2)	659	(7.1)
	Italy																						
	Abruzzo	482	(5.6)	89	(4.0)	478	(7.0)	487	(6.1)	-9	(6.5)	330	(13.5)	367	(10.7)	425	(7.2)	544	(7.1)	595	(6.7)	624	(8.1)
	Basilicata	465	(3.9)	83	(1.8)	467	(5.5)	463	(4.6)	4	(6.4)	335	(7.8)	361	(5.8)	408	(5.1)	521	(4.3)	575	(4.8)	605	(5.7)
	Bolzano	519	(2.2)	90	(1.7)	523	(3.0)	515	(2.6)	**8**	(3.5)	364	(5.2)	396	(4.2)	459	(4.6)	583	(3.7)	633	(4.3)	661	(4.3)
	Calabria	431	(5.7)	89	(3.7)	433	(6.4)	428	(8.0)	4	(8.8)	282	(15.5)	318	(9.3)	372	(8.0)	491	(6.6)	541	(6.5)	573	(6.7)
	Campania	457	(7.7)	87	(3.3)	457	(7.1)	456	(10.0)	1	(8.1)	311	(11.4)	342	(10.4)	398	(8.6)	516	(8.9)	568	(9.5)	595	(8.1)
	Emilia Romagna	512	(6.2)	92	(3.2)	513	(8.8)	510	(7.1)	3	(10.3)	350	(8.5)	389	(10.5)	452	(8.2)	577	(7.1)	625	(6.3)	654	(7.9)
	Friuli Venezia Giulia	531	(4.7)	86	(4.3)	535	(4.0)	528	(7.1)	7	(7.0)	379	(15.0)	414	(12.9)	478	(6.9)	589	(4.2)	639	(5.1)	668	(5.8)
	Lazio	484	(6.6)	86	(2.4)	488	(6.7)	478	(8.1)	10	(6.9)	343	(9.6)	373	(8.4)	423	(8.5)	543	(7.5)	596	(7.5)	628	(7.5)
	Liguria	501	(6.2)	92	(3.5)	500	(8.3)	502	(7.1)	-2	(9.4)	346	(9.1)	379	(9.9)	438	(9.7)	566	(7.1)	615	(7.7)	650	(10.3)
	Lombardia	529	(6.8)	86	(2.8)	534	(8.2)	524	(7.4)	9	(7.8)	383	(9.2)	416	(7.3)	474	(9.1)	589	(7.4)	635	(8.2)	662	(8.1)
	Marche	507	(5.2)	86	(4.2)	514	(5.5)	499	(6.1)	**15**	(5.4)	359	(14.5)	392	(12.9)	450	(7.8)	566	(4.8)	615	(5.9)	642	(5.8)
	Molise	468	(2.3)	79	(2.2)	466	(3.5)	470	(3.2)	-4	(5.0)	331	(9.0)	365	(5.9)	417	(3.9)	520	(3.6)	564	(5.6)	593	(9.0)
	Piemonte	509	(4.4)	87	(2.6)	515	(4.4)	503	(6.3)	12	(6.8)	355	(8.1)	391	(7.9)	453	(6.4)	570	(5.8)	616	(6.9)	644	(8.4)
	Puglia	483	(5.0)	86	(3.5)	484	(5.9)	483	(6.0)	2	(6.5)	334	(13.2)	367	(10.2)	426	(8.8)	545	(5.6)	591	(4.7)	617	(7.0)
	Sardegna	473	(5.4)	87	(3.2)	472	(6.3)	475	(7.1)	-3	(7.7)	325	(11.4)	360	(10.7)	417	(6.8)	533	(6.0)	584	(5.7)	611	(6.6)
	Sicilia	454	(6.2)	89	(3.5)	453	(6.6)	456	(8.4)	-3	(8.4)	308	(12.2)	340	(8.4)	394	(8.0)	518	(6.6)	565	(7.2)	593	(6.9)
	Toscana	501	(4.4)	93	(2.9)	495	(5.9)	508	(8.4)	-13	(11.3)	337	(8.5)	375	(8.3)	438	(5.6)	568	(5.7)	617	(4.9)	644	(5.2)
	Trento	533	(3.9)	85	(2.3)	529	(5.7)	537	(7.1)	-7	(9.9)	386	(10.5)	420	(7.0)	478	(6.7)	592	(3.6)	641	(5.2)	667	(5.8)
	Umbria	501	(6.3)	87	(4.1)	504	(9.5)	499	(5.5)	4	(9.0)	344	(15.9)	383	(12.9)	448	(10.7)	562	(5.8)	608	(5.1)	633	(6.1)
	Valle d'Aosta	508	(2.5)	84	(2.5)	505	(3.8)	511	(3.6)	-5	(5.3)	361	(8.6)	396	(6.3)	452	(4.4)	565	(4.5)	612	(5.6)	639	(6.6)
	Veneto	531	(6.1)	92	(4.2)	532	(7.7)	531	(7.0)	1	(8.3)	372	(12.9)	412	(11.0)	473	(7.5)	595	(7.7)	647	(7.7)	675	(8.6)
	Mexico																						
	Aguascalientes	435	(3.9)	72	(2.5)	437	(5.1)	432	(4.0)	5	(5.0)	320	(8.7)	343	(5.6)	385	(4.8)	481	(4.8)	528	(5.9)	553	(8.5)
	Baja California	417	(5.7)	70	(2.7)	421	(6.4)	414	(5.9)	7	(4.6)	307	(7.2)	329	(8.0)	371	(5.9)	465	(7.1)	505	(7.5)	534	(9.3)
	Baja California Sur	418	(4.7)	68	(2.3)	425	(5.6)	411	(5.2)	**14**	(5.0)	309	(9.9)	332	(6.0)	372	(6.2)	463	(5.4)	506	(6.4)	533	(9.6)
	Campeche	405	(4.6)	70	(2.4)	410	(4.8)	400	(5.5)	**10**	(4.7)	292	(9.5)	315	(8.7)	357	(6.0)	451	(4.5)	494	(5.8)	521	(11.1)
	Chiapas	377	(7.5)	71	(3.6)	377	(8.7)	376	(7.0)	1	(4.8)	263	(13.3)	286	(10.4)	328	(9.0)	425	(9.1)	466	(8.0)	492	(8.8)
	Chihuahua	429	(9.3)	75	(3.0)	434	(10.8)	425	(8.5)	9	(6.1)	308	(11.6)	335	(10.4)	379	(9.6)	481	(9.7)	524	(12.3)	554	(12.9)
	Coahuila	421	(7.2)	70	(2.6)	426	(9.3)	417	(6.4)	9	(6.8)	304	(9.5)	329	(10.2)	373	(8.9)	470	(9.6)	512	(8.4)	536	(9.1)
	Colima	429	(4.8)	75	(3.6)	431	(5.5)	428	(5.4)	4	(5.0)	309	(7.6)	332	(7.2)	378	(5.9)	478	(6.2)	526	(9.2)	556	(10.0)
	Distrito Federal	427	(5.3)	68	(3.6)	434	(7.0)	420	(4.9)	**13**	(6.1)	316	(13.7)	341	(8.5)	381	(5.7)	470	(6.5)	514	(8.8)	541	(8.6)
	Durango	423	(6.0)	65	(2.9)	424	(6.9)	422	(6.0)	2	(4.7)	312	(11.0)	339	(8.7)	378	(7.2)	468	(6.6)	506	(7.0)	528	(7.5)
	Guanajuato	404	(5.8)	73	(3.2)	408	(6.1)	400	(6.5)	8	(4.8)	284	(14.4)	311	(10.7)	356	(7.7)	454	(5.3)	495	(6.3)	522	(9.5)
	Guerrero	372	(5.3)	68	(3.8)	373	(5.4)	371	(6.2)	2	(4.8)	260	(12.6)	286	(10.5)	329	(6.0)	417	(5.4)	458	(6.0)	483	(6.1)
	Hidalgo	411	(5.4)	72	(2.2)	415	(6.4)	406	(5.7)	9	(5.1)	289	(8.8)	316	(7.3)	362	(7.6)	460	(6.7)	502	(5.5)	526	(7.4)
	Jalisco	436	(6.0)	69	(2.6)	437	(7.0)	435	(6.2)	2	(5.1)	325	(8.1)	349	(7.9)	390	(6.7)	482	(8.8)	526	(7.9)	551	(8.0)
	Mexico	421	(5.4)	62	(3.1)	427	(5.9)	415	(5.7)	**11**	(4.7)	319	(7.1)	343	(6.8)	378	(5.4)	461	(6.3)	500	(9.1)	526	(11.0)
	Morelos	425	(8.9)	76	(6.6)	426	(11.0)	424	(8.4)	1	(7.5)	304	(23.3)	332	(16.1)	376	(8.4)	473	(8.8)	520	(12.9)	552	(16.6)
	Nayarit	407	(5.5)	70	(2.6)	412	(5.5)	402	(6.8)	11	(5.7)	292	(9.2)	318	(8.6)	359	(7.3)	454	(6.9)	499	(6.4)	525	(8.2)
	Nuevo León	435	(7.4)	69	(2.8)	441	(7.8)	429	(7.2)	**13**	(4.0)	324	(11.8)	348	(9.0)	388	(8.5)	481	(8.1)	525	(8.7)	553	(9.4)
	Puebla	423	(6.1)	73	(4.5)	429	(7.9)	417	(5.9)	12	(6.5)	295	(17.5)	329	(13.7)	378	(8.2)	471	(5.3)	516	(6.5)	540	(9.9)
	Querétaro	432	(6.5)	71	(3.1)	439	(7.8)	426	(6.4)	**13**	(4.9)	317	(10.3)	342	(8.4)	386	(8.9)	479	(7.6)	524	(8.0)	553	(9.7)
	Quintana Roo	416	(6.4)	69	(1.9)	416	(7.5)	417	(6.2)	-1	(5.0)	300	(13.1)	326	(8.1)	370	(7.2)	463	(6.1)	504	(6.8)	527	(7.7)
	San Luis Potosí	416	(6.3)	71	(2.7)	413	(6.9)	419	(6.9)	-5	(6.1)	303	(9.0)	327	(5.5)	366	(5.4)	465	(8.6)	509	(9.6)	535	(9.9)
	Sinaloa	408	(4.3)	66	(2.3)	407	(4.7)	408	(5.1)	-1	(4.7)	301	(6.1)	324	(7.2)	362	(4.8)	453	(5.6)	495	(6.8)	520	(9.1)
	Tabasco	391	(4.3)	66	(2.9)	393	(5.1)	388	(4.3)	5	(4.1)	284	(7.8)	307	(7.2)	346	(5.6)	433	(5.9)	477	(8.7)	506	(7.8)
	Tamaulipas	414	(6.8)	72	(3.6)	417	(9.1)	411	(5.4)	6	(6.7)	297	(11.1)	325	(9.2)	366	(6.9)	463	(7.8)	504	(7.7)	533	(13.9)
	Tlaxcala	412	(4.4)	69	(2.1)	415	(4.9)	410	(4.7)	5	(3.9)	295	(8.7)	321	(7.2)	367	(5.8)	460	(4.9)	499	(6.1)	523	(6.5)
	Veracruz	401	(5.5)	70	(3.0)	400	(5.3)	403	(7.1)	-3	(5.9)	285	(10.4)	312	(8.5)	356	(6.1)	448	(6.9)	492	(8.8)	516	(7.2)
	Yucatán	415	(5.5)	72	(2.6)	420	(6.5)	411	(5.6)	9	(4.9)	299	(10.5)	323	(8.8)	368	(6.8)	462	(5.2)	508	(5.6)	535	(6.4)
	Zacatecas	402	(4.6)	70	(2.1)	401	(5.0)	403	(5.2)	-2	(4.7)	285	(11.8)	313	(8.4)	355	(6.0)	451	(5.5)	493	(5.6)	515	(6.6)

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

See Table I.5.3a for national data.

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[Part 2/2]

Table B2.I.30 Mean score, variation and gender differences in student performance in science, by region

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	**Portugal**																						
	Alentejo	494	(8.2)	81	(3.3)	495	(10.0)	492	(7.9)	3	(7.5)	356	(13.0)	391	(11.2)	443	(11.7)	548	(8.3)	595	(11.0)	626	(11.8)
	Spain																						
	Andalusia•	486	(4.3)	87	(2.0)	491	(5.5)	481	(4.2)	**10**	(4.9)	339	(8.8)	375	(6.4)	429	(4.8)	544	(5.6)	599	(6.5)	628	(6.6)
	Aragon•	504	(5.2)	93	(4.2)	504	(6.1)	504	(5.8)	1	(5.8)	348	(12.0)	381	(8.1)	443	(7.0)	569	(5.4)	622	(6.3)	648	(7.4)
	Asturias•	517	(4.7)	91	(2.4)	516	(6.5)	517	(4.3)	-1	(5.7)	364	(10.2)	402	(7.6)	457	(5.4)	580	(5.5)	631	(4.8)	658	(6.9)
	Balearic Islands•	483	(4.5)	83	(2.3)	486	(5.0)	480	(5.5)	7	(5.4)	342	(8.2)	376	(6.9)	427	(6.8)	543	(4.7)	588	(4.4)	612	(4.5)
	Basque Country•	506	(2.4)	82	(1.4)	510	(3.2)	501	(2.5)	**10**	(3.2)	364	(5.1)	400	(4.2)	455	(2.8)	561	(2.6)	605	(3.4)	631	(3.5)
	Cantabria•	501	(3.7)	88	(1.9)	506	(3.8)	495	(5.0)	**11**	(4.8)	353	(9.9)	387	(5.5)	443	(5.1)	562	(4.7)	612	(4.4)	641	(5.2)
	Castile and Leon•	519	(4.2)	79	(1.9)	523	(5.8)	515	(3.7)	9	(5.0)	385	(8.5)	417	(6.3)	466	(5.2)	574	(4.1)	619	(4.3)	643	(4.0)
	Catalonia•	492	(4.2)	80	(2.0)	498	(5.3)	486	(4.9)	**12**	(5.8)	355	(8.4)	388	(5.4)	436	(5.2)	547	(4.8)	594	(5.8)	620	(5.9)
	Extremadura•	483	(4.5)	93	(2.0)	487	(5.4)	479	(4.7)	8	(4.7)	325	(7.8)	363	(8.8)	421	(4.8)	546	(5.1)	600	(5.4)	631	(7.8)
	Galicia•	512	(4.8)	86	(2.3)	511	(5.6)	512	(5.7)	0	(5.8)	363	(9.3)	397	(7.6)	455	(6.0)	573	(5.3)	619	(6.2)	644	(5.9)
	La Rioja•	510	(2.1)	92	(2.2)	512	(3.2)	507	(3.2)	5	(4.8)	346	(12.1)	392	(6.6)	454	(3.4)	576	(3.3)	620	(5.0)	644	(4.0)
	Madrid•	517	(4.0)	84	(2.3)	520	(4.7)	515	(4.3)	6	(4.2)	376	(8.9)	407	(7.1)	463	(5.6)	576	(4.2)	622	(4.5)	647	(5.8)
	Murcia•	479	(4.7)	87	(2.6)	479	(6.0)	480	(4.3)	-1	(4.3)	333	(8.8)	365	(6.4)	422	(5.5)	539	(6.0)	589	(8.7)	620	(7.0)
	Navarre•	514	(3.5)	86	(2.6)	514	(4.4)	514	(4.2)	-1	(4.8)	369	(9.5)	406	(5.8)	460	(3.9)	573	(4.6)	622	(5.3)	650	(5.7)
	United Kingdom																						
	England	516	(4.0)	101	(2.2)	523	(5.4)	509	(4.3)	**14**	(5.5)	343	(7.0)	384	(5.9)	449	(5.6)	587	(4.1)	642	(4.2)	674	(5.6)
	Northern Ireland	507	(3.9)	101	(2.7)	510	(6.3)	504	(5.8)	5	(9.2)	338	(7.6)	375	(7.3)	438	(5.2)	578	(5.2)	635	(6.5)	669	(7.4)
	Scotland•	513	(3.0)	89	(2.0)	517	(3.3)	510	(3.6)	**7**	(3.3)	365	(6.9)	400	(4.5)	454	(3.7)	574	(3.2)	627	(4.2)	658	(5.3)
	Wales	491	(3.0)	94	(1.6)	496	(3.4)	485	(3.5)	**11**	(3.5)	334	(6.2)	370	(4.5)	428	(4.1)	556	(3.4)	609	(3.9)	639	(5.4)
	United States																						
	Connecticut•	521	(5.7)	98	(2.8)	528	(6.2)	514	(6.1)	**14**	(4.5)	354	(10.8)	389	(9.5)	455	(8.5)	588	(5.7)	647	(6.0)	679	(7.5)
	Florida•	485	(6.4)	92	(2.4)	491	(7.4)	478	(6.2)	**13**	(4.8)	334	(8.5)	366	(7.2)	421	(7.5)	549	(8.2)	604	(7.3)	637	(7.6)
	Massachusetts•	527	(6.0)	98	(3.0)	529	(6.1)	526	(6.8)	3	(4.6)	367	(7.1)	403	(5.6)	460	(6.5)	594	(7.9)	654	(9.4)	685	(7.7)
Partners	**Argentina**																						
	Ciudad Autónoma de Buenos Aires•	425	(8.6)	112	(8.2)	428	(9.7)	422	(9.0)	6	(7.1)	224	(31.6)	276	(16.3)	361	(10.2)	502	(8.2)	557	(7.6)	587	(8.5)
	Brazil																						
	Acre	380	(6.2)	66	(3.2)	383	(5.6)	377	(9.3)	6	(9.3)	272	(11.2)	296	(9.0)	336	(6.7)	424	(7.8)	464	(8.6)	491	(10.3)
	Alagoas	346	(8.4)	71	(4.8)	352	(9.4)	341	(8.8)	11	(6.8)	234	(14.3)	259	(10.6)	297	(7.7)	391	(11.4)	439	(14.2)	470	(19.4)
	Amapá	382	(10.1)	70	(5.5)	388	(11.4)	377	(9.5)	11	(6.0)	272	(10.7)	293	(9.1)	334	(11.0)	427	(13.5)	475	(17.4)	503	(18.6)
	Amazonas	376	(4.8)	68	(4.1)	377	(6.5)	375	(4.5)	3	(5.6)	266	(9.8)	292	(8.0)	330	(6.5)	419	(6.8)	461	(9.6)	494	(15.5)
	Bahia	390	(9.2)	80	(4.5)	392	(11.3)	389	(9.0)	3	(8.4)	271	(15.5)	290	(10.9)	336	(13.8)	442	(12.7)	498	(13.3)	536	(13.8)
	Ceará	386	(9.1)	80	(6.0)	389	(10.6)	384	(10.1)	6	(9.7)	255	(15.9)	287	(13.1)	334	(9.6)	437	(11.0)	490	(17.2)	525	(18.8)
	Espírito Santo	428	(7.9)	86	(7.2)	433	(7.7)	424	(11.3)	9	(11.2)	293	(11.4)	322	(10.5)	370	(5.2)	482	(13.5)	552	(28.4)	584	(19.0)
	Federal District	423	(7.7)	80	(5.8)	426	(9.0)	420	(7.8)	5	(6.6)	293	(20.0)	322	(19.2)	367	(10.1)	477	(9.7)	527	(9.9)	556	(13.2)
	Goiás	396	(6.4)	75	(3.2)	400	(7.2)	393	(7.2)	7	(6.7)	278	(12.0)	302	(10.7)	344	(9.0)	444	(7.8)	500	(9.0)	529	(8.9)
	Maranhão	359	(13.7)	79	(7.9)	367	(16.7)	354	(12.1)	13	(7.6)	240	(16.4)	266	(11.8)	305	(9.1)	408	(17.6)	466	(30.0)	503	(26.9)
	Mato Grosso	381	(8.4)	78	(6.9)	378	(8.2)	383	(9.8)	-5	(7.0)	262	(14.5)	290	(11.0)	333	(8.2)	425	(10.2)	477	(17.7)	520	(36.2)
	Mato Grosso do Sul	415	(6.6)	71	(3.6)	414	(8.4)	415	(6.5)	-1	(6.9)	302	(14.0)	326	(10.1)	365	(8.6)	461	(8.8)	512	(13.1)	540	(9.9)
	Minas Gerais	420	(7.9)	79	(3.8)	417	(9.5)	422	(7.4)	-5	(6.3)	292	(13.6)	319	(13.2)	368	(9.3)	472	(7.8)	517	(7.2)	547	(12.6)
	Pará	377	(3.8)	70	(3.9)	374	(4.9)	379	(4.5)	-5	(5.3)	265	(9.4)	288	(7.8)	328	(6.2)	425	(5.7)	469	(8.4)	498	(9.2)
	Paraíba	412	(7.5)	81	(5.9)	413	(9.4)	411	(8.8)	2	(10.1)	281	(21.8)	312	(15.1)	358	(11.6)	462	(6.8)	520	(7.2)	548	(9.0)
	Paraná	416	(10.5)	83	(9.5)	419	(10.3)	413	(12.0)	6	(7.6)	288	(16.9)	315	(13.5)	361	(7.9)	464	(14.3)	529	(30.6)	568	(33.3)
	Pernambuco	374	(7.5)	73	(4.7)	376	(9.3)	372	(7.3)	4	(6.6)	262	(7.1)	286	(8.2)	324	(7.7)	421	(10.0)	471	(12.3)	502	(15.5)
	Piauí	403	(8.5)	78	(7.5)	401	(9.0)	404	(8.7)	-4	(5.0)	284	(9.6)	308	(9.2)	348	(7.6)	448	(8.9)	505	(24.7)	544	(31.1)
	Rio de Janeiro	401	(6.8)	73	(3.4)	398	(8.1)	403	(6.8)	-5	(6.2)	281	(10.2)	306	(8.9)	350	(9.3)	451	(8.4)	495	(8.2)	520	(11.8)
	Rio Grande do Norte	387	(7.7)	79	(5.5)	389	(10.3)	386	(6.8)	3	(7.3)	271	(9.2)	294	(7.3)	331	(6.5)	437	(12.3)	493	(17.3)	529	(22.6)
	Rio Grande do Sul	419	(5.3)	68	(2.8)	418	(6.1)	421	(6.1)	-3	(5.9)	306	(9.1)	332	(7.6)	373	(6.0)	469	(7.0)	504	(6.6)	527	(9.9)
	Rondônia	389	(6.3)	67	(2.3)	387	(6.3)	391	(7.4)	-4	(5.8)	276	(8.7)	305	(7.3)	345	(7.0)	434	(8.1)	474	(8.0)	498	(9.9)
	Roraima	375	(7.7)	83	(6.1)	369	(7.6)	381	(10.4)	-12	(10.1)	248	(11.3)	276	(7.3)	317	(6.5)	427	(9.6)	480	(19.7)	533	(37.6)
	Santa Catarina	418	(8.0)	74	(4.3)	420	(8.3)	417	(9.3)	3	(7.3)	295	(15.5)	320	(16.1)	368	(12.3)	469	(8.0)	513	(8.7)	537	(9.5)
	São Paulo	417	(4.6)	76	(2.6)	417	(5.0)	418	(4.9)	-1	(3.6)	298	(5.9)	323	(5.3)	366	(4.1)	466	(6.6)	518	(8.2)	547	(9.8)
	Sergipe	394	(10.0)	71	(5.2)	398	(12.7)	391	(8.8)	8	(7.1)	280	(10.0)	306	(9.8)	347	(7.4)	440	(14.0)	489	(20.0)	518	(21.8)
	Tocantins	378	(6.5)	73	(3.7)	379	(8.4)	378	(6.1)	2	(6.9)	265	(6.8)	288	(6.7)	327	(7.6)	424	(9.7)	475	(11.6)	509	(11.9)
	Colombia																						
	Bogotá	411	(4.4)	69	(2.1)	424	(5.4)	399	(4.6)	**24**	(4.8)	299	(5.1)	324	(6.1)	364	(5.1)	457	(5.9)	500	(6.2)	528	(7.1)
	Cali	402	(7.7)	76	(3.0)	410	(8.1)	396	(7.9)	**14**	(4.2)	279	(10.1)	305	(8.9)	351	(8.0)	453	(8.7)	501	(10.4)	528	(10.6)
	Manizales	429	(4.2)	72	(3.4)	441	(5.0)	417	(4.8)	**24**	(6.1)	317	(4.4)	339	(4.7)	378	(4.8)	475	(8.3)	524	(9.9)	555	(8.8)
	Medellín	418	(6.8)	80	(4.6)	426	(7.3)	410	(9.1)	16	(9.2)	298	(6.2)	322	(5.1)	362	(5.5)	467	(9.3)	524	(14.4)	559	(19.7)
	Russian Federation																						
	Perm Territory region•	480	(5.3)	86	(3.5)	481	(6.5)	479	(5.0)	2	(4.5)	336	(9.5)	370	(8.0)	424	(6.6)	537	(7.1)	587	(8.4)	618	(11.3)
	United Arab Emirates																						
	Abu Dhabi•	440	(4.8)	96	(2.3)	417	(6.1)	462	(5.7)	**-45**	(7.6)	284	(5.5)	316	(5.4)	372	(5.5)	505	(6.0)	566	(7.4)	600	(8.7)
	Ajman	420	(9.1)	82	(4.3)	395	(14.8)	444	(10.9)	**-49**	(18.8)	284	(13.5)	312	(13.0)	359	(14.3)	480	(8.7)	529	(10.2)	556	(11.7)
	Dubai•	474	(1.4)	98	(1.1)	467	(2.1)	481	(1.7)	**-14**	(2.7)	315	(2.5)	348	(2.7)	404	(1.9)	544	(2.2)	600	(2.9)	633	(5.2)
	Fujairah	425	(8.6)	80	(3.1)	405	(8.4)	446	(7.9)	**-41**	(9.7)	299	(13.0)	324	(10.3)	368	(10.6)	480	(8.9)	531	(8.9)	559	(9.1)
	Ras al-Khaimah	431	(6.6)	77	(3.2)	416	(9.5)	446	(9.7)	**-30**	(12.9)	308	(10.6)	332	(11.6)	377	(10.7)	482	(7.7)	532	(6.7)	560	(8.6)
	Sharjah	450	(10.3)	85	(2.9)	449	(15.8)	452	(13.6)	-3	(20.2)	315	(9.3)	340	(10.0)	389	(10.6)	509	(13.3)	565	(13.1)	594	(11.3)
	Umm al-Quwain	415	(4.0)	82	(3.7)	377	(5.9)	452	(5.4)	**-75**	(7.9)	293	(8.3)	313	(5.2)	355	(5.2)	470	(8.0)	525	(11.5)	556	(14.5)

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

See Table I.5.3a for national data.

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[Part 1/2]

Table B2.I.31 Top performers in mathematics, reading and science, by region

		15-year-old students who are:																Percentage of top performers in mathematics who are also top performers in reading and science	
		not top performers in any of the three domains		top performers only in mathematics		top performers only in reading		top performers only in science		top performers in mathematics and reading but not in science		top performers in mathematics and science but not in reading		top performers in reading and science but not in mathematics		top performers in all three domains			
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**																		
	Australian Capital Territory	76.5	(2.1)	3.4	(0.9)	2.1	(0.7)	1.3	(0.5)	1.2	(0.6)	3.5	(0.9)	1.5	(0.8)	10.5	(1.4)	56.5	(6.1)
	New South Wales	77.9	(1.5)	3.4	(0.5)	1.4	(0.5)	1.9	(0.4)	1.0	(0.2)	3.4	(0.5)	1.2	(0.2)	9.8	(1.0)	56.1	(3.0)
	Northern Territory	89.2	(2.7)	1.1	(0.8)	0.9	(0.9)	2.2	(1.1)	0.0	c	0.9	(0.9)	0.0	c	4.5	(1.9)	68.9	(15.7)
	Queensland	81.1	(1.2)	3.8	(0.6)	1.7	(0.4)	1.7	(0.3)	1.4	(0.4)	2.5	(0.5)	1.0	(0.3)	6.9	(0.8)	47.5	(3.8)
	South Australia	84.3	(1.3)	2.7	(0.7)	1.4	(0.5)	2.4	(0.5)	0.7	(0.3)	2.6	(0.9)	1.5	(0.4)	4.4	(0.7)	42.5	(5.6)
	Tasmania	86.9	(1.4)	2.1	(0.7)	0.7	(0.4)	1.9	(0.7)	0.3	(0.2)	2.3	(0.7)	1.5	(0.5)	4.3	(0.9)	47.3	(8.9)
	Victoria	82.4	(1.4)	2.6	(0.7)	2.6	(0.5)	1.6	(0.5)	1.2	(0.3)	2.1	(0.6)	1.2	(0.3)	6.2	(1.0)	51.3	(5.2)
	Western Australia	76.7	(1.5)	4.4	(0.8)	1.7	(0.5)	2.5	(0.5)	1.2	(0.4)	3.7	(0.7)	1.6	(0.4)	8.1	(1.1)	46.5	(4.8)
	Belgium																		
	Flemish Community•	72.7	(1.3)	10.5	(0.9)	1.2	(0.3)	0.5	(0.1)	3.5	(0.4)	3.2	(0.4)	0.3	(0.1)	8.1	(0.7)	32.1	(2.0)
	French Community	84.2	(0.9)	4.5	(0.6)	3.2	(0.5)	0.3	(0.1)	3.0	(0.4)	1.0	(0.3)	0.3	(0.1)	3.5	(0.5)	29.4	(3.5)
	German-speaking Community	83.4	(1.3)	6.5	(1.1)	1.8	(0.5)	0.3	c	2.0	(0.5)	1.9	(0.8)	0.4	(0.3)	3.7	(0.6)	26.0	(4.4)
	Canada																		
	Alberta	76.5	(1.7)	3.6	(0.6)	2.1	(0.4)	2.8	(0.7)	1.5	(0.4)	3.4	(0.8)	1.7	(0.4)	8.4	(0.8)	49.9	(2.8)
	British Columbia	76.4	(1.9)	3.9	(0.7)	2.7	(0.6)	2.4	(0.6)	1.3	(0.4)	2.6	(0.6)	1.9	(0.4)	8.8	(1.0)	53.2	(3.9)
	Manitoba	85.7	(1.3)	3.6	(0.7)	2.1	(0.5)	1.2	(0.4)	0.8	(0.2)	1.9	(0.6)	0.7	(0.3)	3.9	(0.7)	37.8	(6.3)
	New Brunswick	86.0	(1.3)	3.9	(1.0)	2.0	(0.6)	1.2	(0.7)	0.9	(0.5)	1.9	(0.6)	0.8	(0.4)	3.4	(0.7)	33.8	(5.9)
	Newfoundland and Labrador	84.5	(1.5)	2.2	(0.8)	2.7	(0.6)	2.0	(0.8)	0.8	(0.5)	1.7	(0.6)	1.4	(0.5)	4.7	(0.9)	50.4	(8.2)
	Nova Scotia	85.3	(1.2)	2.8	(0.7)	2.6	(1.1)	1.7	(0.8)	1.0	(0.4)	1.5	(0.6)	1.4	(1.3)	3.7	(0.9)	41.0	(7.4)
	Ontario	78.6	(1.7)	3.8	(0.5)	3.5	(0.6)	1.3	(0.5)	2.0	(0.4)	2.2	(0.4)	1.5	(0.4)	7.2	(1.0)	47.6	(3.5)
	Prince Edward Island	90.2	(1.2)	2.4	(0.5)	1.5	(0.5)	1.0	(0.3)	0.7	(0.3)	1.2	(0.5)	0.6	(0.3)	2.4	(0.5)	36.4	(6.4)
	Quebec	74.5	(1.5)	11.3	(0.9)	2.6	(0.5)	0.3	(0.2)	4.7	(0.7)	1.7	(0.3)	0.2	(0.1)	4.7	(0.7)	20.8	(2.7)
	Saskatchewan	83.8	(1.3)	4.0	(0.7)	1.7	(0.4)	1.6	(0.4)	1.3	(0.5)	2.0	(0.7)	0.7	(0.2)	4.9	(0.8)	40.4	(5.2)
	Italy																		
	Abruzzo	90.2	(1.5)	2.9	(0.7)	1.9	(0.6)	0.5	(0.2)	1.2	(0.6)	1.3	(0.5)	0.4	(0.2)	1.7	(0.7)	23.5	(8.8)
	Basilicata	93.4	(0.8)	2.4	(0.5)	1.1	(0.4)	0.4	(0.2)	0.8	(0.4)	0.7	(0.3)	0.2	(0.2)	0.9	(0.3)	18.7	(5.7)
	Bolzano	82.7	(1.1)	4.8	(0.5)	1.2	(0.3)	2.4	(0.5)	1.2	(0.3)	3.6	(0.6)	0.4	(0.2)	3.6	(0.5)	27.3	(2.9)
	Calabria	96.6	(0.8)	1.5	(0.5)	0.6	(0.3)	0.1	(0.1)	0.4	(0.3)	0.2	(0.2)	0.0	c	0.5	(0.2)	17.2	(6.0)
	Campania	93.5	(1.4)	2.5	(0.8)	1.4	(0.6)	0.4	(0.3)	0.8	(0.4)	0.4	(0.2)	0.2	(0.1)	0.8	(0.4)	17.0	(8.7)
	Emilia Romagna	81.8	(2.3)	5.9	(1.1)	2.6	(0.6)	0.9	(0.4)	1.6	(0.5)	2.4	(0.8)	0.7	(0.3)	4.1	(0.9)	29.5	(4.3)
	Friuli Venezia Giulia	77.7	(1.4)	6.7	(1.1)	2.8	(0.7)	1.4	(0.4)	1.6	(0.4)	3.8	(0.8)	1.0	(0.3)	4.9	(0.7)	28.9	(3.2)
	Lazio	89.3	(1.6)	3.5	(0.9)	1.6	(0.5)	0.8	(0.5)	1.2	(0.4)	1.3	(0.4)	0.2	(0.2)	2.0	(0.6)	24.9	(6.1)
	Liguria	85.9	(1.9)	4.1	(0.7)	2.2	(0.7)	1.0	(0.3)	1.0	(0.3)	1.8	(0.5)	0.7	(0.4)	3.5	(0.8)	33.9	(5.4)
	Lombardia	79.4	(2.8)	4.9	(1.0)	2.8	(0.7)	1.8	(0.5)	2.4	(0.7)	3.5	(0.9)	0.6	(0.4)	4.6	(1.0)	29.8	(4.4)
	Marche	86.7	(1.7)	3.8	(0.8)	1.9	(0.6)	1.0	(0.3)	1.1	(0.4)	2.2	(0.5)	0.4	(0.2)	2.9	(0.6)	29.4	(4.0)
	Molise	93.3	(1.0)	2.5	(0.6)	1.4	(0.5)	0.2	(0.2)	1.1	(0.5)	0.4	(0.2)	0.0	c	1.1	(0.4)	21.5	(7.2)
	Piemonte	84.7	(2.0)	4.6	(0.8)	2.3	(0.7)	1.1	(0.4)	1.8	(0.5)	1.7	(0.4)	0.4	(0.2)	3.3	(0.8)	29.2	(4.6)
	Puglia	89.9	(1.4)	2.9	(0.6)	2.3	(0.8)	0.4	(0.3)	1.9	(0.7)	0.7	(0.4)	0.4	(0.3)	1.5	(0.5)	22.1	(7.6)
	Sardegna	93.1	(1.0)	1.9	(0.5)	1.7	(0.5)	0.8	(0.4)	0.7	(0.3)	0.9	(0.3)	0.2	(0.2)	0.7	(0.3)	17.2	(5.4)
	Sicilia	95.8	(0.9)	1.1	(0.5)	1.0	(0.2)	0.6	(0.3)	0.4	(0.2)	0.4	(0.3)	0.2	(0.1)	0.6	(0.2)	24.7	(10.9)
	Toscana	84.3	(1.6)	5.4	(1.0)	2.3	(0.8)	0.8	(0.3)	1.6	(0.4)	2.2	(0.6)	0.6	(0.3)	2.8	(0.5)	23.6	(4.0)
	Trento	76.3	(1.6)	5.3	(1.0)	4.0	(0.9)	2.0	(0.5)	2.5	(0.8)	3.3	(0.5)	1.2	(0.4)	5.5	(0.8)	33.1	(4.5)
	Umbria	87.8	(1.4)	4.3	(0.7)	1.7	(0.6)	0.9	(0.4)	1.2	(0.5)	1.7	(0.7)	0.3	(0.2)	2.1	(0.6)	22.2	(5.9)
	Valle d'Aosta	87.2	(1.4)	3.1	(0.7)	2.4	(0.7)	1.1	(0.5)	1.4	(0.4)	1.5	(0.5)	0.4	(0.3)	2.9	(0.6)	32.7	(6.1)
	Veneto	75.8	(2.9)	5.8	(1.4)	2.6	(0.5)	1.9	(0.5)	2.3	(0.8)	4.1	(1.1)	1.0	(0.3)	6.4	(1.4)	34.4	(4.2)
	Mexico																		
	Aguascalientes	97.5	(0.7)	1.1	(0.6)	0.5	(0.3)	0.0	c	0.3	(0.2)	0.0	c	0.0	c	0.0	c	0.0	c
	Baja California	98.9	(0.6)	0.0	c	0.5	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Baja California Sur	99.4	(0.3)	0.4	(0.2)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Campeche	99.2	(0.4)	0.3	(0.2)	0.0	c	0.1	(0.1)	0.1	(0.1)	0.0	c	0.0	c	0.0	c	0.0	c
	Chiapas	99.6	(0.2)	0.3	(0.2)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Chihuahua	98.3	(0.9)	0.9	(0.5)	0.3	(0.3)	0.0	c	0.2	(0.2)	0.0	c	0.0	c	0.0	c	0.0	c
	Coahuila	99.3	(0.5)	0.3	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.1	(0.1)	19.4	(17.9)
	Colima	97.9	(0.7)	0.8	(0.3)	0.4	(0.3)	0.0	c	0.3	(0.2)	0.0	c	0.0	c	0.2	(0.1)	16.3	(7.6)
	Distrito Federal	98.3	(0.6)	0.5	(0.3)	0.7	(0.4)	0.0	c	0.3	(0.2)	0.0	c	0.0	c	0.0	c	0.0	c
	Durango	99.2	(0.3)	0.3	(0.2)	0.3	(0.2)	0.0	c	0.0	c	0.0	c	0.0	c	0.1	(0.1)	15.4	(14.6)
	Guanajuato	99.5	(0.3)	0.3	(0.2)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Guerrero	99.9	(0.1)	0.1	(0.1)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Hidalgo	99.5	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Jalisco	98.5	(0.7)	0.7	(0.4)	0.4	(0.3)	0.0	c	0.2	(0.2)	0.0	c	0.0	c	0.1	(0.1)	11.9	(10.2)
	Mexico	99.1	(0.7)	0.3	(0.2)	0.3	(0.3)	0.0	c	0.2	(0.2)	0.0	c	0.0	c	0.1	(0.2)	25.6	(25.0)
	Morelos	97.9	(1.1)	1.1	(0.6)	0.3	(0.2)	0.0	c	0.0	c	0.1	(0.2)	0.0	c	0.2	(0.3)	14.9	(13.2)
	Nayarit	99.3	(0.4)	0.3	(0.2)	0.3	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Nuevo León	98.4	(0.7)	0.9	(0.4)	0.3	(0.3)	0.1	(0.1)	0.1	(0.1)	0.0	c	0.0	c	0.0	c	0.0	c
	Puebla	99.4	(0.3)	0.4	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Querétaro	97.9	(0.8)	1.0	(0.4)	0.6	(0.5)	0.0	c	0.2	(0.2)	0.0	c	0.0	c	0.1	(0.1)	7.4	(5.8)
	Quintana Roo	99.4	(0.3)	0.4	(0.2)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	San Luis Potosí	99.2	(0.5)	0.5	(0.3)	0.2	(0.2)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Sinaloa	99.5	(0.2)	0.2	(0.2)	0.1	(0.2)	0.0	c	0.1	(0.1)	0.0	c	0.0	c	0.0	c	0.0	c
	Tabasco	99.8	(0.2)	0.1	(0.1)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Tamaulipas	99.2	(0.6)	0.5	(0.5)	0.0	c	0.0	c	0.1	(0.1)	0.0	c	0.0	c	0.0	c	0.0	c
	Tlaxcala	99.4	(0.3)	0.4	(0.3)	0.2	(0.1)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Veracruz	99.4	(0.4)	0.3	(0.3)	0.1	(0.1)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Yucatán	99.2	(0.4)	0.4	(0.3)	0.0	c	0.0	c	0.1	(0.1)	0.0	c	0.0	c	0.0	c	0.0	c
	Zacatecas	99.7	(0.2)	0.3	(0.2)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c

• PISA adjudicated region.

Note: See Table I.2.29 for national data.

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[Part 2/2]

Table B2.I.31 Top performers in mathematics, reading and science, by region

		15-year-old students who are:																Percentage of top performers in mathematics who are also top performers in reading and science	
		not top performers in any of the three domains		top performers only in mathematics		top performers only in reading		top performers only in science		top performers in mathematics and reading but not in science		top performers in mathematics and science but not in reading		top performers in reading and science but not in mathematics		top performers in all three domains			
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**																		
	Alentejo	88.5	(2.3)	4.4	(1.3)	1.3	(0.9)	0.2	(0.2)	1.6	(0.6)	1.8	(0.8)	0.0	c	1.9	(1.0)	19.8	(8.9)
	Spain																		
	Andalusia•	91.6	(0.9)	1.9	(0.5)	1.3	(0.4)	0.9	(0.3)	0.8	(0.3)	1.3	(0.5)	0.5	(0.2)	1.8	(0.5)	31.1	(7.6)
	Aragon•	85.6	(1.7)	4.1	(0.9)	1.3	(0.4)	1.1	(0.4)	1.4	(0.5)	2.6	(0.6)	0.5	(0.4)	3.4	(0.8)	29.3	(4.6)
	Asturias•	82.9	(1.5)	4.0	(0.7)	2.3	(0.5)	1.3	(0.4)	1.5	(0.5)	3.1	(0.9)	0.7	(0.2)	4.2	(0.9)	33.1	(6.3)
	Balearic Islands•	91.2	(1.0)	3.1	(0.7)	2.2	(0.8)	0.6	(0.3)	1.0	(0.3)	0.7	(0.3)	0.2	(0.2)	0.9	(0.3)	15.1	(5.1)
	Basque Country•	87.4	(0.8)	5.2	(0.5)	1.3	(0.2)	0.7	(0.2)	1.4	(0.3)	1.7	(0.2)	0.2	(0.1)	2.2	(0.3)	20.7	(2.7)
	Cantabria•	87.0	(1.1)	4.7	(0.8)	0.9	(0.5)	1.3	(0.4)	1.2	(0.3)	2.3	(0.6)	0.2	(0.2)	2.4	(0.4)	22.2	(3.7)
	Castile and Leon•	84.6	(1.5)	5.1	(0.8)	1.7	(0.5)	1.3	(0.4)	2.0	(0.5)	2.2	(0.6)	0.4	(0.3)	2.7	(0.5)	22.6	(3.9)
	Catalonia•	87.5	(1.7)	3.9	(1.0)	3.3	(0.9)	0.4	(0.3)	2.0	(0.5)	0.9	(0.3)	0.1	(0.1)	2.0	(0.6)	22.7	(6.9)
	Extremadura•	91.6	(1.0)	2.0	(0.5)	0.9	(0.3)	1.5	(0.4)	0.6	(0.3)	1.4	(0.4)	0.2	(0.1)	1.6	(0.4)	28.8	(6.6)
	Galicia•	86.6	(1.4)	2.8	(0.5)	2.7	(0.5)	1.8	(0.5)	0.9	(0.3)	1.9	(0.6)	0.9	(0.5)	2.3	(0.5)	29.1	(4.7)
	La Rioja•	82.4	(0.9)	7.3	(0.7)	1.2	(0.3)	1.0	(0.3)	2.1	(0.4)	2.6	(0.4)	0.3	(0.2)	3.2	(0.6)	20.9	(3.8)
	Madrid•	83.9	(1.6)	4.3	(1.0)	2.8	(0.5)	1.5	(0.4)	1.8	(0.4)	2.0	(0.5)	0.4	(0.3)	3.4	(0.6)	29.5	(4.8)
	Murcia•	92.6	(1.3)	2.4	(0.8)	1.0	(0.5)	0.7	(0.3)	0.6	(0.3)	1.2	(0.4)	0.0	c	1.4	(0.4)	26.0	(7.3)
	Navarre•	82.3	(1.5)	6.3	(0.8)	1.7	(0.4)	0.9	(0.3)	1.9	(0.6)	2.2	(0.6)	0.5	(0.2)	4.1	(0.8)	28.2	(4.5)
	United Kingdom																		
	England	83.4	(1.1)	2.6	(0.4)	1.3	(0.3)	2.1	(0.4)	1.0	(0.3)	2.8	(0.5)	0.9	(0.3)	6.0	(0.7)	48.2	(3.8)
	Northern Ireland	85.6	(1.2)	2.3	(0.5)	1.2	(0.3)	2.0	(0.4)	0.7	(0.3)	1.8	(0.4)	0.9	(0.3)	5.5	(0.7)	53.7	(4.5)
	Scotland•	85.4	(0.8)	3.1	(0.5)	1.5	(0.3)	1.6	(0.3)	1.3	(0.3)	2.1	(0.3)	0.7	(0.2)	4.5	(0.6)	41.2	(4.2)
	Wales	91.6	(0.6)	1.2	(0.2)	1.1	(0.3)	1.3	(0.4)	0.5	(0.2)	1.2	(0.2)	0.7	(0.2)	2.5	(0.4)	46.2	(4.7)
	United States																		
	Connecticut•	77.6	(2.0)	3.6	(0.7)	3.4	(0.6)	1.6	(0.4)	2.5	(0.6)	2.7	(0.6)	1.0	(0.4)	7.6	(1.1)	46.5	(4.2)
	Florida•	90.8	(1.5)	1.4	(0.4)	1.6	(0.4)	1.3	(0.4)	0.7	(0.3)	1.0	(0.3)	0.6	(0.2)	2.6	(0.7)	45.6	(5.8)
	Massachusetts•	76.4	(2.5)	3.8	(0.8)	2.9	(0.6)	1.2	(0.4)	2.6	(0.8)	2.6	(0.7)	1.0	(0.3)	9.5	(1.5)	51.1	(3.6)
Partners	**Argentina**																		
	Ciudad Autónoma de Buenos Aires•	96.1	(0.8)	0.4	(0.2)	1.8	(0.6)	0.8	(0.4)	0.3	(0.2)	0.1	(0.1)	0.4	(0.2)	0.1	(0.1)	14.4	(10.1)
	Brazil																		
	Acre	99.8	(0.1)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Alagoas	99.9	(0.1)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Amapá	99.9	(0.2)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Amazonas	99.6	(0.3)	0.2	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Bahia	98.8	(1.1)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Ceará	98.5	(0.8)	0.9	(0.5)	0.3	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Espírito Santo	96.8	(1.4)	1.0	(0.6)	0.6	(0.6)	0.0	c	0.4	(0.3)	0.0	c	0.0	c	0.6	(0.4)	28.6	(17.9)
	Federal District	98.2	(1.4)	0.7	(0.5)	0.4	(0.5)	0.0	c	0.0	c	0.0	c	0.0	c	0.3	(0.4)	24.3	(19.6)
	Goiás	99.4	(0.5)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Maranhão	99.7	(0.3)	0.3	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Mato Grosso	99.3	(0.5)	0.0	c	0.2	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Mato Grosso do Sul	99.3	(0.5)	0.0	c	0.3	(0.2)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Minas Gerais	98.9	(0.6)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Pará	100.0	(0.0)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Paraíba	98.9	(0.5)	0.4	(0.3)	0.3	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Paraná	97.8	(2.1)	0.9	(1.0)	0.3	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Pernambuco	99.7	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Piauí	98.4	(1.1)	0.4	(0.4)	0.3	(0.4)	0.2	(0.2)	0.0	c	0.0	c	0.0	c	0.4	(0.5)	37.3	(30.6)
	Rio de Janeiro	99.7	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Rio Grande do Norte	97.9	(1.0)	1.3	(0.9)	0.4	(0.2)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Rio Grande do Sul	99.6	(0.4)	0.2	(0.2)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Rondônia	99.9	(0.2)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Roraima	99.2	(0.3)	0.0	c	0.4	(0.4)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Santa Catarina	99.3	(0.5)	0.3	(0.2)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	São Paulo	98.3	(0.6)	0.7	(0.4)	0.5	(0.2)	0.0	c	0.2	(0.1)	0.1	(0.1)	0.0	c	0.0	c	0.0	c
	Sergipe	99.6	(0.3)	0.3	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Tocantins	99.6	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Colombia																		
	Bogotá	99.5	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.1	(0.2)	0.0	c	0.0	c	0.0	c
	Cali	99.7	(0.2)	0.0	c	0.2	(0.1)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Manizales	99.2	(0.4)	0.2	(0.2)	0.2	(0.2)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Medellín	97.7	(1.1)	0.6	(0.4)	0.6	(0.4)	0.1	(0.1)	0.3	(0.2)	0.2	(0.2)	0.0	c	0.4	(0.3)	28.3	(10.4)
	Russian Federation																		
	Perm Territory region•	89.4	(2.0)	3.7	(0.8)	1.8	(0.5)	0.5	(0.2)	1.7	(0.6)	1.3	(0.5)	0.1	(0.1)	1.4	(0.7)	17.5	(5.5)
	United Arab Emirates																		
	Abu Dhabi•	96.0	(0.8)	1.1	(0.2)	0.5	(0.2)	0.6	(0.2)	0.2	(0.1)	0.7	(0.3)	0.2	(0.1)	0.7	(0.3)	26.3	(8.9)
	Ajman	99.2	(0.6)	0.0	c	0.4	(0.4)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Dubai•	90.6	(0.7)	2.6	(0.4)	1.3	(0.3)	0.7	(0.2)	0.4	(0.2)	1.3	(0.3)	0.6	(0.2)	2.5	(0.3)	36.5	(5.0)
	Fujairah	99.0	(0.5)	0.5	(0.4)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Ras al-Khaimah	98.7	(0.6)	0.3	(0.2)	0.0	c	0.3	(0.2)	0.0	c	0.2	(0.1)	0.0	c	0.0	c	0.0	c
	Sharjah	96.5	(1.1)	1.5	(0.7)	0.3	(0.2)	0.4	(0.4)	0.3	(0.3)	0.4	(0.3)	0.0	c	0.6	(0.3)	21.7	(7.3)
	Umm al-Quwain	98.5	(0.9)	0.9	(0.7)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c

• PISA adjudicated region.

Note: See Table I.2.29 for national data.

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[Part 1/4]

Table B2.I.32 Top performers in mathematics, reading and science, by gender and region

		Boys who are:																Percentage of boys who are top performers in mathematics and are also top performers in reading and science	
		not top performers in any of the three domains		top performers only in mathematics		top performers only in reading		top performers only in science		top performers in mathematics and reading but not in science		top performers in mathematics and science but not in reading		top performers in reading and science but not in mathematics		top performers in all three domains			
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**																		
	Australian Capital Territory	76.7	(2.8)	4.0	(1.4)	0.2	(0.2)	2.0	(0.8)	0.0	c	6.0	(1.6)	0.7	(0.7)	10.0	(1.8)	49.3	(8.4)
	New South Wales	77.1	(2.2)	4.6	(0.8)	0.0	c	2.2	(0.5)	0.6	(0.2)	5.2	(0.8)	0.4	(0.2)	9.7	(1.5)	48.2	(4.0)
	Northern Territory	88.9	(3.3)	1.9	(1.6)	0.0	c	3.0	(1.7)	0.0	c	1.0	(1.5)	0.0	c	5.0	(2.6)	63.9	(25.2)
	Queensland	80.9	(1.6)	4.9	(0.9)	0.6	(0.4)	2.2	(0.5)	0.7	(0.3)	3.7	(1.0)	0.7	(0.3)	6.3	(1.1)	40.3	(5.4)
	South Australia	83.7	(2.0)	3.5	(0.9)	0.3	(0.2)	3.0	(0.9)	0.3	(0.2)	4.1	(1.5)	0.8	(0.4)	4.4	(0.9)	35.8	(6.9)
	Tasmania	87.1	(2.1)	2.9	(1.1)	0.0	c	2.2	(0.9)	0.0	c	3.5	(1.4)	0.4	(0.6)	3.6	(1.3)	36.8	(14.2)
	Victoria	82.1	(2.1)	3.6	(1.0)	0.6	(0.4)	2.0	(0.7)	0.8	(0.3)	3.5	(1.0)	0.6	(0.3)	6.8	(1.5)	46.2	(6.2)
	Western Australia	75.2	(2.3)	6.4	(1.2)	0.5	(0.3)	2.7	(0.8)	0.6	(0.4)	5.9	(1.3)	0.7	(0.4)	8.0	(2.1)	38.1	(7.4)
	Belgium																		
	Flemish Community•	70.8	(1.5)	13.1	(1.2)	0.3	(0.2)	0.5	(0.2)	1.8	(0.4)	5.1	(0.7)	0.1	(0.1)	8.3	(0.8)	29.3	(2.3)
	French Community	83.8	(1.4)	6.6	(1.1)	1.2	(0.5)	0.3	(0.2)	2.3	(0.6)	1.8	(0.6)	0.2	(0.1)	3.8	(0.6)	26.4	(4.1)
	German-speaking Community	82.1	(1.9)	8.3	(1.6)	0.7	(0.5)	0.5	c	0.8	(0.5)	3.0	(1.4)	0.2	c	4.4	(1.1)	27.0	(6.7)
	Canada																		
	Alberta	75.9	(2.0)	4.5	(0.9)	0.6	(0.4)	3.3	(0.9)	0.9	(0.4)	4.9	(1.1)	1.0	(0.5)	9.0	(1.1)	46.5	(4.2)
	British Columbia	75.7	(2.3)	5.1	(1.0)	0.9	(0.5)	3.3	(1.0)	0.8	(0.6)	3.9	(1.2)	1.3	(0.5)	9.1	(1.4)	48.1	(5.4)
	Manitoba	85.5	(1.8)	4.8	(1.1)	0.8	(0.5)	1.4	(0.5)	0.4	(0.3)	3.0	(1.0)	0.4	(0.5)	3.7	(1.0)	31.2	(7.7)
	New Brunswick	87.2	(2.0)	4.6	(1.3)	0.0	c	1.4	(0.8)	0.5	(0.5)	2.5	(0.9)	0.3	(0.4)	3.3	(1.0)	30.5	(8.2)
	Newfoundland and Labrador	85.6	(2.1)	3.1	(1.4)	0.7	(0.5)	2.8	(1.2)	0.0	c	2.8	(1.0)	0.7	(0.5)	4.0	(1.2)	38.9	(10.8)
	Nova Scotia	85.3	(1.7)	4.1	(1.3)	0.8	(0.9)	2.4	(1.7)	0.9	(0.5)	2.5	(1.2)	0.9	(1.6)	3.1	(1.1)	29.5	(9.4)
	Ontario	78.3	(1.9)	5.6	(0.9)	1.2	(0.4)	1.6	(0.6)	1.3	(0.4)	3.6	(0.9)	0.7	(0.3)	7.6	(1.2)	41.8	(4.6)
	Prince Edward Island	89.4	(1.5)	3.6	(0.8)	0.0	c	1.7	(0.6)	0.0	c	2.2	(0.9)	0.3	(0.2)	2.4	(0.8)	28.4	(8.7)
	Quebec	73.6	(1.8)	15.0	(1.4)	0.7	(0.3)	0.3	(0.2)	3.1	(0.9)	2.7	(0.5)	0.1	(0.1)	4.5	(0.7)	17.7	(2.3)
	Saskatchewan	83.9	(1.8)	5.4	(1.2)	0.6	(0.3)	1.9	(0.8)	0.6	(0.3)	2.8	(1.0)	0.4	(0.3)	4.4	(1.0)	33.4	(6.5)
	Italy																		
	Abruzzo	89.8	(1.9)	4.4	(1.1)	0.7	(0.4)	0.6	(0.3)	0.9	(0.7)	1.8	(0.7)	0.2	(0.2)	1.6	(0.9)	19.0	(10.0)
	Basilicata	92.2	(1.2)	3.8	(1.0)	0.5	(0.3)	0.6	(0.4)	0.8	(0.6)	1.0	(0.5)	0.0	c	1.1	(0.6)	15.6	(8.0)
	Bolzano	78.6	(1.5)	7.6	(0.9)	0.3	(0.3)	2.5	(0.8)	1.0	(0.4)	5.5	(1.1)	0.2	(0.2)	4.4	(0.7)	23.8	(3.5)
	Calabria	95.7	(1.2)	2.4	(0.9)	0.0	c	0.2	(0.2)	0.4	(0.5)	0.4	(0.3)	0.0	c	0.8	(0.4)	19.7	(7.1)
	Campania	92.3	(1.8)	4.0	(1.2)	0.5	(0.4)	0.7	(0.6)	0.8	(0.4)	0.8	(0.3)	0.0	c	0.9	(0.5)	14.2	(8.1)
	Emilia Romagna	79.6	(3.0)	9.2	(1.9)	0.5	(0.3)	1.3	(0.6)	1.4	(0.6)	4.0	(1.2)	0.3	(0.2)	3.7	(0.8)	20.1	(3.5)
	Friuli Venezia Giulia	74.9	(1.8)	9.8	(1.6)	0.0	c	1.6	(0.7)	0.8	(0.4)	6.7	(1.4)	0.6	(0.4)	4.9	(0.9)	22.1	(3.5)
	Lazio	87.4	(1.9)	5.4	(1.3)	0.7	(0.4)	1.1	(0.8)	1.0	(0.4)	2.1	(0.7)	0.1	(0.2)	2.1	(0.7)	20.3	(6.0)
	Liguria	85.2	(2.3)	5.9	(1.2)	0.4	(0.3)	0.9	(0.4)	0.8	(0.6)	3.0	(0.8)	0.3	(0.3)	3.5	(1.1)	26.2	(6.7)
	Lombardia	76.3	(3.1)	7.2	(1.6)	0.9	(0.4)	2.3	(0.8)	2.0	(0.8)	5.6	(1.5)	0.0	c	5.4	(1.3)	26.9	(5.5)
	Marche	84.5	(2.2)	5.9	(1.6)	0.5	(0.3)	1.2	(0.5)	1.0	(0.5)	3.4	(0.8)	0.2	(0.2)	3.3	(0.8)	24.7	(5.4)
	Molise	92.7	(1.2)	3.9	(1.2)	0.7	(0.6)	0.0	c	0.9	(0.6)	0.6	(0.4)	0.0	c	1.1	(0.6)	17.3	(8.1)
	Piemonte	83.6	(2.1)	7.1	(1.3)	0.4	(0.3)	1.2	(0.6)	1.5	(0.6)	2.7	(0.8)	0.0	c	3.3	(1.1)	22.7	(7.1)
	Puglia	88.7	(1.8)	4.7	(1.1)	1.0	(0.5)	0.7	(0.5)	1.8	(0.8)	1.2	(0.7)	0.2	(0.2)	1.7	(0.8)	18.0	(8.6)
	Sardegna	93.0	(1.4)	2.5	(1.0)	0.9	(0.4)	0.8	(0.5)	0.8	(0.4)	1.1	(0.5)	0.0	c	0.8	(0.4)	15.1	(7.3)
	Sicilia	95.3	(1.5)	1.8	(0.8)	0.7	(0.4)	0.6	(0.3)	0.5	(0.4)	0.6	(0.4)	0.0	c	0.6	(0.4)	17.5	(10.5)
	Toscana	84.7	(2.3)	7.3	(1.5)	0.8	(0.4)	0.8	(0.4)	1.3	(0.6)	2.5	(0.6)	0.2	(0.2)	2.4	(0.7)	18.0	(4.4)
	Trento	76.4	(2.3)	7.7	(1.6)	1.1	(0.7)	2.2	(0.6)	1.6	(0.7)	5.3	(1.0)	0.0	c	5.5	(1.2)	27.5	(5.0)
	Umbria	85.9	(2.1)	6.1	(1.2)	0.7	(0.4)	1.1	(0.6)	1.3	(0.8)	2.7	(1.1)	0.0	c	2.0	(0.7)	16.8	(5.4)
	Valle d'Aosta	86.3	(1.9)	4.8	(1.3)	0.9	(0.6)	1.1	(0.7)	1.4	(0.8)	2.5	(1.0)	0.3	(0.3)	2.7	(0.8)	23.6	(6.1)
	Veneto	73.0	(3.5)	9.4	(1.9)	0.3	(0.3)	1.7	(0.5)	2.1	(1.2)	6.9	(1.7)	0.2	(0.3)	6.3	(1.5)	25.5	(4.7)
	Mexico																		
	Aguascalientes	97.0	(1.1)	1.9	(1.1)	0.4	(0.4)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Baja California	99.1	(0.6)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Baja California Sur	99.2	(0.5)	0.7	(0.5)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Campeche	99.4	(0.4)	0.4	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Chiapas	99.4	(0.5)	0.4	(0.4)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Chihuahua	97.9	(1.0)	1.4	(0.8)	0.0	c	0.0	c	0.1	(0.2)	0.0	c	0.0	c	0.0	c	0.0	c
	Coahuila	99.0	(0.7)	0.5	(0.5)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.2	(0.2)	22.6	(22.7)
	Colima	97.6	(0.8)	1.4	(0.7)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.4	(0.3)	16.6	(11.5)
	Distrito Federal	98.1	(0.8)	0.9	(0.6)	0.5	(0.4)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Durango	99.2	(0.4)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.1	(0.1)	24.5	(22.0)
	Guanajuato	99.2	(0.6)	0.4	(0.4)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Guerrero	99.8	(0.2)	0.2	(0.2)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Hidalgo	99.4	(0.5)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Jalisco	98.1	(0.8)	0.9	(0.6)	0.3	(0.3)	0.0	c	0.2	(0.2)	0.0	c	0.0	c	0.2	(0.2)	12.7	(11.5)
	Mexico	98.8	(0.8)	0.5	(0.4)	0.0	c	0.0	c	0.2	(0.3)	0.0	c	0.0	c	0.3	(0.4)	29.6	(28.3)
	Morelos	97.7	(1.1)	1.4	(0.8)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Nayarit	99.0	(0.6)	0.6	(0.5)	0.4	(0.4)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Nuevo León	98.2	(1.1)	1.2	(0.7)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Puebla	99.2	(0.5)	0.6	(0.5)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Querétaro	97.8	(0.8)	1.5	(0.7)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.1	(0.2)	7.7	(7.8)
	Quintana Roo	99.5	(0.3)	0.4	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	San Luis Potosí	98.9	(0.6)	0.9	(0.5)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Sinaloa	99.5	(0.4)	0.4	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Tabasco	99.7	(0.3)	0.2	(0.2)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Tamaulipas	98.8	(1.0)	0.9	(0.8)	0.0	c	0.0	c	0.1	(0.1)	0.0	c	0.0	c	0.0	c	0.0	c
	Tlaxcala	99.2	(0.5)	0.6	(0.4)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Veracruz	99.4	(0.5)	0.4	(0.4)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Yucatán	98.7	(0.6)	0.6	(0.4)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Zacatecas	99.7	(0.3)	0.3	(0.2)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c

• PISA adjudicated region.

Note: See Table I.2.30 for national data.

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[Part 2/4]

Table B2.I.32 **Top performers in mathematics, reading and science, by gender and region**

		Boys who are:																Percentage of boys who are top performers in mathematics and are also top performers in reading and science	
		not top performers in any of the three domains		top performers only in mathematics		top performers only in reading		top performers only in science		top performers in mathematics and reading but not in science		top performers in mathematics and science but not in reading		top performers in reading and science but not in mathematics		top performers in all three domains			
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**																		
	Alentejo	86.5	(3.3)	6.1	(2.1)	0.4	(0.4)	0.0	c	1.5	(1.2)	2.9	(1.5)	0.0	c	2.4	(1.4)	18.4	(9.6)
	Spain																		
	Andalusia•	90.1	(1.5)	2.8	(0.8)	0.6	(0.3)	1.3	(0.5)	0.9	(0.5)	2.0	(0.9)	0.3	(0.2)	2.0	(0.7)	26.5	(7.8)
	Aragon•	83.6	(1.9)	6.4	(1.3)	0.2	(0.2)	1.4	(0.7)	1.1	(0.6)	3.9	(1.1)	0.0	c	3.2	(0.9)	21.8	(5.3)
	Asturias•	82.5	(1.9)	6.2	(1.0)	0.5	(0.3)	1.6	(0.5)	1.0	(0.6)	4.7	(1.3)	0.0	c	3.5	(1.2)	22.7	(7.1)
	Balearic Islands•	91.2	(1.3)	3.7	(1.0)	1.2	(0.8)	0.8	(0.5)	0.9	(0.5)	1.1	(0.5)	0.0	c	1.0	(0.5)	14.7	(7.6)
	Basque Country•	85.6	(1.0)	7.0	(0.7)	0.5	(0.2)	1.0	(0.3)	1.0	(0.3)	2.5	(0.4)	0.0	c	2.2	(0.5)	16.9	(3.2)
	Cantabria•	85.5	(1.5)	6.5	(1.4)	0.0	c	1.6	(0.6)	0.8	(0.4)	3.5	(1.0)	0.0	c	2.0	(0.7)	15.8	(5.5)
	Castile and Leon•	80.2	(1.9)	7.7	(1.1)	1.0	(0.5)	1.8	(0.7)	2.2	(0.7)	3.2	(1.1)	0.4	(0.3)	3.4	(0.8)	20.6	(4.7)
	Catalonia•	85.2	(2.6)	5.9	(1.7)	1.7	(0.9)	0.6	(0.4)	2.5	(0.7)	1.5	(0.5)	0.0	c	2.4	(0.9)	20.0	(7.5)
	Extremadura•	90.0	(1.3)	2.9	(0.9)	0.0	c	2.0	(0.6)	0.4	(0.3)	2.6	(0.7)	0.2	(0.2)	1.7	(0.6)	22.7	(7.9)
	Galicia•	86.6	(1.7)	3.8	(0.8)	1.4	(0.5)	2.4	(0.7)	0.7	(0.4)	2.6	(1.0)	0.7	(0.5)	1.8	(0.6)	19.9	(6.3)
	La Rioja•	78.5	(1.5)	10.9	(1.7)	0.0	c	0.9	(0.4)	1.1	(0.5)	4.6	(0.8)	0.0	c	3.6	(1.0)	17.7	(5.1)
	Madrid•	82.8	(2.2)	6.0	(1.4)	0.9	(0.5)	1.8	(0.7)	1.5	(0.6)	3.0	(0.9)	0.2	(0.3)	3.7	(0.9)	26.2	(6.0)
	Murcia•	91.0	(1.9)	3.7	(1.2)	0.5	(0.3)	0.8	(0.5)	0.8	(0.6)	1.9	(0.7)	0.0	c	1.4	(0.7)	18.6	(8.0)
	Navarre•	82.5	(1.6)	7.9	(1.5)	0.4	(0.3)	1.3	(0.6)	0.9	(0.5)	3.3	(0.9)	0.3	(0.3)	3.2	(1.0)	21.1	(6.4)
	United Kingdom																		
	England	82.4	(1.7)	3.5	(0.6)	0.2	(0.2)	2.9	(0.7)	0.5	(0.3)	4.6	(0.8)	0.4	(0.2)	5.4	(0.9)	38.2	(4.5)
	Northern Ireland	86.1	(1.6)	3.0	(0.8)	0.3	(0.2)	2.2	(0.7)	0.4	(0.3)	2.4	(0.7)	0.4	(0.4)	5.2	(0.9)	47.7	(5.3)
	Scotland•	84.7	(0.9)	4.1	(0.7)	0.5	(0.3)	2.2	(0.4)	0.9	(0.4)	3.2	(0.5)	0.3	(0.2)	4.1	(0.6)	33.1	(4.0)
	Wales	90.9	(0.8)	1.6	(0.4)	0.3	(0.2)	2.0	(0.7)	0.4	(0.2)	1.9	(0.4)	0.5	(0.2)	2.4	(0.5)	37.8	(5.5)
	United States																		
	Connecticut•	76.7	(2.4)	4.6	(1.1)	1.9	(0.6)	2.3	(0.7)	1.6	(0.6)	4.2	(1.1)	0.5	(0.4)	8.2	(1.3)	44.1	(5.5)
	Florida•	90.1	(1.7)	1.7	(0.7)	0.7	(0.4)	1.9	(0.7)	0.0	c	1.4	(0.5)	0.6	(0.4)	3.2	(0.8)	46.6	(7.4)
	Massachusetts•	76.6	(2.8)	5.6	(1.3)	1.3	(0.6)	1.6	(0.7)	1.8	(0.7)	4.0	(1.1)	0.4	(0.3)	8.8	(1.5)	43.4	(4.2)
Partners	**Argentina**																		
	Ciudad Autónoma de Buenos Aires•	96.3	(1.1)	0.6	(0.3)	1.2	(0.6)	0.7	(0.5)	0.3	(0.4)	0.3	(0.3)	0.0	c	0.3	(0.2)	18.0	(12.3)
	Brazil																		
	Acre	99.8	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Alagoas	99.9	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Amapá	100.0	(0.0)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Amazonas	99.5	(0.6)	0.5	(0.6)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Bahia	98.3	(1.6)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Ceará	98.0	(1.3)	1.5	(0.9)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Espírito Santo	96.8	(1.3)	1.8	(1.0)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.5	(0.6)	20.3	(22.1)
	Federal District	97.7	(1.2)	1.4	(1.0)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Goiás	99.3	(0.7)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Maranhão	99.3	(0.6)	0.7	(0.6)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Mato Grosso	99.7	(0.4)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Mato Grosso do Sul	99.4	(0.5)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Minas Gerais	98.6	(0.8)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Pará	100.0	(0.0)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Paraíba	98.1	(0.8)	0.8	(0.7)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Paraná	98.0	(2.3)	1.4	(1.9)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Pernambuco	99.5	(0.5)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Piauí	98.2	(1.3)	0.6	(0.6)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.7	(0.6)	47.0	(37.0)
	Rio de Janeiro	99.7	(0.5)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Rio Grande do Norte	97.4	(2.0)	2.3	(1.8)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Rio Grande do Sul	99.6	(0.5)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Rondônia	99.9	(0.4)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Roraima	99.8	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Santa Catarina	99.6	(0.4)	0.3	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	São Paulo	98.0	(0.9)	1.0	(0.5)	0.3	(0.3)	0.0	c	0.3	(0.2)	0.2	(0.2)	0.0	c	0.0	c	0.0	c
	Sergipe	99.3	(0.7)	0.6	(0.6)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Tocantins	99.7	(0.4)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Colombia																		
	Bogotá	99.3	(0.6)	0.0	c	0.0	c	0.0	c	0.0	c	0.3	(0.4)	0.0	c	0.0	c	0.0	c
	Cali	99.6	(0.3)	0.0	c	0.2	(0.2)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Manizales	98.7	(0.8)	0.5	(0.5)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Medellín	97.7	(1.3)	0.9	(0.7)	0.0	c	0.0	c	0.3	(0.3)	0.0	c	0.0	c	0.6	(0.5)	26.0	(12.9)
	Russian Federation																		
	Perm Territory region•	88.7	(2.4)	4.9	(1.2)	0.8	(0.5)	0.6	(0.3)	1.3	(0.6)	2.1	(0.8)	0.0	c	1.6	(0.9)	15.9	(6.4)
	United Arab Emirates																		
	Abu Dhabi•	96.5	(0.9)	1.6	(0.4)	0.0	c	0.4	(0.3)	0.2	(0.2)	0.7	(0.4)	0.0	c	0.6	(0.3)	19.1	(7.7)
	Ajman	99.9	(0.2)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Dubai•	90.2	(0.8)	3.8	(0.6)	0.3	(0.2)	0.9	(0.3)	0.0	c	2.0	(0.5)	0.2	(0.2)	2.6	(0.5)	30.4	(6.3)
	Fujairah	98.8	(0.5)	0.6	(0.5)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Ras al-Khaimah	99.2	(0.4)	0.3	(0.3)	0.0	c	0.2	(0.2)	0.0	c	0.2	(0.2)	0.0	c	0.0	c	0.0	c
	Sharjah	95.8	(2.2)	2.2	(1.5)	0.0	c	0.0	c	0.0	c	0.5	(0.4)	0.0	c	0.9	(0.6)	22.1	(7.7)
	Umm al-Quwain	98.4	(1.3)	1.5	(1.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c

• PISA adjudicated region.

Note: See Table I.2.30 for national data.

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[Part 3/4]

Table B2.I.32 Top performers in mathematics, reading and science, by gender and region

		Girls who are:																Percentage of girls who are top performers in mathematics and are also top performers in reading and science	
		not top performers in any of the three domains		top performers only in mathematics		top performers only in reading		top performers only in science		top performers in mathematics and reading but not in science		top performers in mathematics and science but not in reading		top performers in reading and science but not in mathematics		top performers in all three domains			
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**																		
	Australian Capital Territory	76.3	(3.0)	2.7	(1.1)	4.0	(1.4)	0.7	(0.6)	2.1	(1.1)	1.0	(0.7)	2.4	(1.6)	11.0	(1.8)	65.6	(6.3)
	New South Wales	78.8	(1.6)	2.1	(0.5)	2.7	(0.9)	1.7	(0.5)	1.4	(0.5)	1.4	(0.4)	2.0	(0.5)	10.0	(1.1)	67.2	(4.0)
	Northern Territory	89.4	(4.6)	0.0	c	c	c	1.5	(2.0)	0.0	c	0.0	c	0.0	c	4.0	(2.5)	78.4	(17.0)
	Queensland	81.3	(1.5)	2.7	(0.8)	2.7	(0.6)	1.1	(0.4)	2.1	(0.6)	1.2	(0.4)	1.3	(0.4)	7.6	(1.1)	55.9	(5.6)
	South Australia	84.9	(1.8)	1.9	(1.0)	2.5	(0.9)	1.9	(0.8)	1.1	(0.6)	1.0	(0.6)	2.2	(0.7)	4.4	(0.9)	52.6	(8.6)
	Tasmania	86.7	(2.2)	1.4	(0.6)	1.1	(0.6)	1.6	(0.8)	0.7	(0.4)	1.0	(0.8)	2.6	(1.1)	5.0	(1.3)	61.9	(9.2)
	Victoria	82.7	(1.5)	1.3	(0.6)	4.9	(1.0)	1.2	(0.5)	1.7	(0.5)	0.6	(0.4)	1.9	(0.5)	5.6	(1.1)	60.5	(7.2)
	Western Australia	78.4	(2.4)	2.3	(0.8)	3.1	(1.1)	2.3	(0.8)	1.9	(0.6)	1.2	(0.7)	2.7	(0.8)	8.2	(1.4)	60.7	(5.6)
	Belgium																		
	Flemish Community•	74.5	(1.6)	7.8	(1.0)	2.2	(0.5)	0.5	(0.2)	5.2	(0.6)	1.3	(0.3)	0.5	(0.2)	8.0	(0.7)	35.7	(2.6)
	French Community	84.7	(1.2)	2.3	(0.6)	5.3	(0.9)	0.2	(0.2)	3.8	(0.6)	0.2	c	0.4	(0.2)	3.2	(0.6)	34.0	(4.7)
	German-speaking Community	84.9	(1.9)	4.6	(1.2)	3.0	(1.0)	0.1	c	3.3	(0.9)	0.7	(0.5)	0.6	(0.5)	2.8	(0.8)	24.4	(6.7)
	Canada																		
	Alberta	77.1	(2.1)	2.6	(0.8)	3.9	(0.9)	2.2	(0.8)	2.1	(0.8)	1.8	(0.6)	2.4	(0.7)	7.9	(1.1)	54.9	(4.9)
	British Columbia	77.2	(2.5)	2.7	(0.8)	4.6	(1.1)	1.6	(0.6)	1.8	(0.6)	1.2	(0.5)	2.5	(0.7)	8.5	(1.6)	60.0	(5.1)
	Manitoba	86.0	(1.5)	2.3	(0.8)	3.5	(0.7)	1.1	(0.6)	1.3	(0.3)	0.8	(0.5)	1.1	(0.5)	4.0	(0.9)	47.9	(8.5)
	New Brunswick	84.7	(1.9)	3.2	(1.4)	3.8	(1.1)	0.9	(1.0)	1.3	(0.6)	1.3	(0.8)	1.3	(0.7)	3.5	(1.3)	38.0	(12.7)
	Newfoundland and Labrador	83.3	(1.7)	1.2	(0.6)	4.6	(1.4)	1.3	(0.7)	1.1	(0.8)	0.8	(0.4)	2.2	(0.8)	5.5	(1.0)	64.1	(9.6)
	Nova Scotia	85.4	(2.4)	1.5	(0.7)	4.5	(1.7)	0.9	(0.5)	1.1	(0.5)	0.5	(0.4)	1.8	(1.1)	4.3	(1.2)	58.5	(10.8)
	Ontario	78.9	(1.9)	2.0	(0.5)	5.7	(0.9)	1.1	(0.5)	2.5	(0.6)	0.8	(0.3)	2.2	(0.6)	6.7	(1.1)	56.2	(6.7)
	Prince Edward Island	90.9	(1.4)	1.1	(0.5)	2.9	(0.9)	0.3	(0.2)	1.2	(0.5)	0.0	c	0.9	(0.5)	2.5	(0.8)	50.3	(12.4)
	Quebec	75.5	(1.8)	7.7	(1.1)	4.4	(0.9)	0.3	(0.2)	6.3	(1.0)	0.7	(0.3)	0.3	(0.2)	4.8	(1.1)	24.7	(5.1)
	Saskatchewan	83.8	(1.5)	2.6	(0.8)	2.8	(0.8)	1.4	(0.7)	1.9	(0.9)	1.0	(0.6)	1.1	(0.4)	5.5	(1.1)	49.6	(7.3)
	Italy																		
	Abruzzo	90.6	(1.8)	1.4	(0.6)	3.0	(1.0)	0.5	(0.4)	1.4	(0.7)	0.8	(0.4)	0.5	(0.4)	1.7	(0.7)	31.0	(12.6)
	Basilicata	94.7	(1.0)	0.9	(0.5)	1.8	(0.6)	0.3	(0.2)	0.8	(0.7)	0.4	(0.3)	0.0	c	0.7	(0.4)	26.1	(14.8)
	Bolzano	86.8	(1.5)	2.1	(0.6)	2.2	(0.6)	2.3	(0.9)	1.5	0.5	1.6	(0.6)	0.7	(0.3)	2.8	(0.7)	35.6	(7.7)
	Calabria	97.5	(0.6)	0.6	(0.4)	1.0	(0.4)	0.0	c	0.4	(0.4)	0.0	c	0.0	c	0.0	c	0.0	c
	Campania	94.8	(1.6)	1.0	(0.7)	2.4	(1.0)	0.2	(0.2)	0.8	(0.7)	0.0	c	0.0	c	0.6	(0.5)	24.4	(17.2)
	Emilia Romagna	84.1	(2.4)	2.3	(0.8)	4.8	(1.0)	0.6	(0.3)	1.8	(0.7)	0.7	(0.5)	1.0	(0.5)	4.6	(1.2)	48.7	(7.6)
	Friuli Venezia Giulia	80.5	(2.1)	3.3	(1.1)	5.2	(1.2)	1.2	(0.4)	2.6	(0.7)	0.8	(0.4)	1.5	(0.4)	4.9	(0.9)	42.8	(6.5)
	Lazio	91.7	(1.8)	1.2	(0.7)	2.6	(0.9)	0.5	(0.3)	1.5	(0.6)	0.4	(0.3)	0.0	c	1.8	(0.6)	37.6	(9.9)
	Liguria	86.7	(2.5)	2.1	(0.8)	4.0	(1.3)	1.0	(0.5)	1.2	(0.5)	0.4	(0.3)	1.1	(0.7)	3.5	(0.9)	48.7	(9.0)
	Lombardia	82.7	(3.1)	2.5	(0.9)	4.8	(1.4)	1.4	(0.7)	2.7	(1.0)	1.3	(0.5)	0.9	(0.6)	3.7	(1.0)	36.1	(8.3)
	Marche	88.8	(1.9)	1.6	(0.7)	3.3	(0.9)	0.7	(0.3)	1.3	(0.5)	1.0	(0.4)	0.7	(0.4)	2.6	(0.9)	39.4	(9.6)
	Molise	93.9	(1.4)	1.2	(0.9)	2.1	(1.0)	0.3	(0.3)	1.4	(1.0)	0.0	c	0.0	c	1.1	(0.7)	29.3	(16.0)
	Piemonte	85.8	(2.4)	2.3	(0.7)	4.1	(1.3)	1.0	(0.7)	2.0	(0.7)	0.7	(0.3)	0.7	(0.4)	3.4	(1.1)	40.3	(8.8)
	Puglia	91.1	(1.6)	1.1	(0.6)	3.6	(1.2)	0.0	c	1.9	(0.7)	0.0	c	0.7	(0.5)	1.4	(0.6)	30.6	(12.1)
	Sardegna	93.2	(1.4)	1.2	(0.8)	2.5	(0.9)	0.9	(0.6)	0.6	(0.5)	0.6	(0.5)	0.0	c	0.7	(0.3)	21.1	(10.2)
	Sicilia	96.5	(1.0)	0.4	(0.3)	1.3	(0.5)	0.5	(0.5)	0.2	(0.2)	0.0	c	0.4	(0.3)	0.6	(0.4)	47.6	(24.2)
	Toscana	83.9	(2.5)	2.9	(1.0)	4.3	(1.6)	0.8	(0.7)	1.9	(0.8)	1.8	(0.8)	1.1	(0.6)	3.3	(0.9)	33.5	(10.2)
	Trento	76.3	(2.6)	2.3	(1.0)	7.4	(1.8)	1.8	(0.9)	3.7	(1.6)	0.9	(0.5)	2.3	(0.8)	5.4	(1.5)	44.2	(11.0)
	Umbria	89.6	(1.5)	2.7	(0.9)	2.7	(1.1)	0.8	(0.5)	1.1	0.5	0.8	(0.7)	0.4	(0.3)	2.1	(0.8)	32.0	(11.0)
	Valle d'Aosta	88.1	(2.1)	1.3	(1.0)	4.1	(1.5)	1.1	(0.5)	1.3	(1.0)	0.4	(0.4)	0.6	(0.5)	3.1	(1.0)	50.8	(12.3)
	Veneto	78.8	(2.9)	2.1	(0.9)	5.1	(0.9)	2.0	(0.8)	2.4	(0.9)	1.2	(0.6)	1.8	(0.6)	6.5	(1.6)	52.7	(6.7)
	Mexico																		
	Aguascalientes	98.1	(0.7)	0.0	c	0.6	(0.5)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Baja California	98.7	(0.8)	0.0	c	0.9	(0.7)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Baja California Sur	99.6	(0.3)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Campeche	99.1	(0.5)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Chiapas	99.9	(0.2)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Chihuahua	98.8	(0.8)	0.4	(0.3)	0.4	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Coahuila	99.6	(0.5)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Colima	98.3	(0.9)	0.0	c	0.8	(0.6)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Distrito Federal	98.5	(0.8)	0.0	c	0.8	(0.4)	0.0	c	0.3	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c
	Durango	99.3	(0.4)	0.2	(0.2)	0.4	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Guanajuato	99.8	(0.2)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Guerrero	100.0	(0.0)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Hidalgo	99.7	(0.4)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Jalisco	98.9	(0.8)	0.4	(0.4)	0.5	(0.4)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Mexico	99.3	(0.6)	0.0	c	0.5	(0.5)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Morelos	98.0	(1.4)	0.8	(0.6)	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Nayarit	99.7	(0.3)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Nuevo León	98.6	(0.7)	0.6	(0.4)	0.4	(0.4)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Puebla	99.7	(0.4)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Querétaro	98.0	(1.0)	0.6	(0.5)	1.1	(1.0)	0.0	c	0.3	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c
	Quintana Roo	99.2	(0.5)	0.3	(0.3)	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	San Luis Potosí	99.4	(0.5)	0.0	c	0.4	(0.4)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Sinaloa	99.5	(0.4)	0.0	c	0.3	(0.3)	0.0	c	0.2	0.2	0.0	c	0.0	c	0.0	c	0.0	c
	Tabasco	99.9	(0.1)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Tamaulipas	99.7	(0.3)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Tlaxcala	99.6	(0.3)	0.0	c	0.2	(0.2)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Veracruz	99.4	(0.6)	0.0	c	0.2	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Yucatán	99.6	(0.4)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Zacatecas	99.7	(0.4)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c

• PISA adjudicated region.
Note: See Table I.2.30 for national data.
StatLink http://dx.doi.org/10.1787/888932935762



[Part 4/4]

Table B2.I.32 Top performers in mathematics, reading and science, by gender and region

		Girls who are:														Percentage of girls who are top performers in mathematics and are also top performers in reading and science	
		not top performers in any of the three domains		top performers only in mathematics		top performers only in reading		top performers only in science		top performers in mathematics and reading but not in science		top performers in mathematics and science but not in reading		top performers in reading and science but not in mathematics		top performers in all three domains			
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Portugal**																		
	Alentejo	90.6	(2.9)	2.7	(1.0)	c	c	0.0	c	1.7	(1.0)	0.7	(0.7)	0.0	c	1.4	(0.8)	22.1	(11.1)
	Spain																		
	Andalusia•	93.3	(1.2)	1.0	(0.4)	2.1	(0.8)	0.4	(0.3)	0.6	(0.5)	0.5	(0.4)	0.6	(0.4)	1.5	(0.6)	41.8	(13.0)
	Aragon•	87.6	(2.0)	1.8	(0.9)	2.3	(0.7)	0.8	(0.4)	1.7	(0.8)	1.3	(0.6)	1.0	(0.7)	3.5	(1.0)	42.5	(9.8)
	Asturias•	83.3	(1.7)	1.8	(0.7)	4.1	(0.8)	1.1	(0.4)	2.0	(0.7)	1.6	(0.7)	1.2	(0.4)	5.0	(1.0)	48.3	(7.9)
	Balearic Islands•	91.2	(1.4)	2.5	(0.7)	3.1	(1.1)	0.5	(0.3)	1.2	(0.5)	0.4	(0.3)	0.3	(0.3)	0.8	(0.5)	15.7	(9.8)
	Basque Country•	89.2	(0.8)	3.4	(0.5)	2.1	(0.4)	0.3	(0.2)	1.8	(0.4)	0.8	(0.2)	0.3	(0.2)	2.2	(0.4)	26.5	(3.7)
	Cantabria•	88.6	(1.3)	2.9	(0.8)	1.7	(0.9)	1.0	(0.5)	1.6	(0.6)	1.2	(0.5)	0.4	(0.4)	2.7	(0.7)	32.6	(7.8)
	Castile and Leon•	89.0	(2.0)	2.4	(0.9)	2.4	(1.1)	0.9	(0.5)	1.6	(0.7)	1.2	(0.5)	0.5	(0.4)	2.0	(0.7)	27.2	(9.0)
	Catalonia•	89.9	(2.0)	1.7	(0.8)	5.0	(1.4)	0.0	c	1.4	(0.6)	0.0	c	0.0	c	1.5	(0.5)	30.6	(9.8)
	Extremadura•	93.2	(1.2)	1.2	(0.4)	1.6	(0.5)	1.1	(0.6)	0.8	(0.5)	0.0	c	0.3	(0.2)	1.6	(0.5)	41.3	(11.2)
	Galicia•	86.6	(1.6)	1.9	(0.6)	4.0	(1.0)	1.2	(0.5)	1.2	(0.5)	1.1	(0.6)	1.2	(0.6)	2.9	(0.7)	40.8	(7.3)
	La Rioja•	85.9	(1.4)	4.0	(1.1)	2.1	(0.6)	1.1	(0.6)	3.0	(0.7)	0.7	(0.5)	0.5	(0.4)	2.8	(0.7)	26.7	(5.8)
	Madrid•	85.0	(1.6)	2.5	(1.0)	4.6	(0.9)	1.1	(0.5)	2.1	0.8	1.0	(0.5)	0.0	c	3.0	(0.7)	35.3	(6.5)
	Murcia•	94.3	(1.3)	1.2	(0.6)	1.6	(0.9)	0.6	(0.4)	0.4	(0.3)	0.4	(0.3)	0.0	c	1.4	(0.6)	43.5	(16.3)
	Navarre•	82.2	(2.2)	4.8	(1.4)	2.9	(0.8)	0.5	(0.3)	2.8	(1.1)	1.1	(0.5)	0.7	(0.4)	4.9	(1.3)	35.8	(6.4)
	United Kingdom																		
	England	84.3	(1.4)	1.8	(0.3)	2.2	(0.4)	1.4	(0.5)	1.4	(0.4)	1.0	(0.4)	1.4	(0.6)	6.5	(0.9)	60.6	(4.7)
	Northern Ireland	85.0	(1.6)	1.5	(0.4)	2.2	(0.6)	1.9	(0.5)	0.9	(0.4)	1.2	(0.7)	1.4	(0.4)	5.8	(0.9)	61.4	(7.2)
	Scotland•	86.1	(1.3)	2.0	(0.6)	2.4	(0.7)	1.0	(0.4)	1.6	(0.4)	0.9	(0.3)	1.0	(0.3)	4.9	(0.8)	51.9	(7.0)
	Wales	92.3	(0.8)	0.7	(0.3)	1.8	(0.5)	0.7	(0.3)	0.6	(0.2)	0.5	(0.2)	0.8	(0.3)	2.5	(0.5)	58.6	(6.9)
	United States																		
	Connecticut•	78.4	(2.3)	2.6	(0.7)	5.0	(1.2)	0.9	(0.4)	3.4	(0.9)	1.2	(0.6)	1.4	(0.8)	7.1	(1.4)	49.7	(5.9)
	Florida•	91.5	(1.7)	1.1	(0.5)	2.5	(0.6)	0.7	(0.6)	0.9	(0.5)	0.6	(0.3)	0.6	(0.3)	2.1	(0.7)	44.4	(9.6)
	Massachusetts•	76.2	(2.7)	2.2	(0.7)	4.5	(1.1)	0.7	(0.4)	3.5	(1.1)	1.2	(0.6)	1.6	(0.5)	10.1	(1.7)	59.7	(5.3)
Partners	**Argentina**																		
	Ciudad Autónoma de Buenos Aires•	95.9	(0.9)	0.3	(0.3)	2.3	(0.9)	0.9	(0.6)	0.0	c	0.0	c	0.4	(0.3)	0.0	c	0.0	c
	Brazil																		
	Acre	99.9	(0.1)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Alagoas	100.0	(0.0)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Amapá	99.9	(0.3)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Amazonas	99.7	(0.3)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Bahia	99.2	(0.9)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Ceará	99.1	(0.5)	0.3	(0.3)	0.5	(0.4)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Espírito Santo	96.8	(1.8)	0.0	c	1.0	(0.7)	0.0	c	0.5	(0.4)	0.0	c	0.0	c	0.7	(0.6)	42.0	(23.6)
	Federal District	98.6	(1.6)	0.0	c	0.8	(1.0)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Goiás	99.5	(0.6)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Maranhão	99.9	(0.3)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Mato Grosso	99.0	(0.9)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Mato Grosso do Sul	99.2	(0.6)	0.0	c	0.5	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Minas Gerais	99.2	(0.8)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Pará	100.0	(0.0)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Paraíba	99.7	(0.5)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Paraná	97.7	(2.3)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Pernambuco	99.8	(0.2)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Piauí	98.6	(1.2)	0.0	c	0.5	(0.6)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Rio de Janeiro	99.7	(0.4)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Rio Grande do Norte	98.3	(0.8)	0.0	c	0.6	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Rio Grande do Sul	99.5	(0.5)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Rondônia	100.0	(0.0)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Roraima	98.7	(0.8)	0.0	c	0.8	(0.7)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Santa Catarina	99.0	(0.9)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	São Paulo	98.6	(0.6)	0.4	(0.3)	0.6	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Sergipe	99.9	(0.3)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Tocantins	99.6	(0.3)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Colombia																		
	Bogotá	99.8	(0.3)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Cali	99.8	(0.2)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Manizales	99.7	(0.3)	0.0	c	0.3	(0.3)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Medellín	97.6	(1.2)	0.0	c	1.0	(0.7)	0.0	c	0.3	(0.2)	0.0	c	0.0	c	0.3	(0.4)	30.2	(23.7)
	Russian Federation																		
	Perm Territory region•	90.2	(1.8)	2.5	(0.7)	3.0	(1.0)	0.4	(0.3)	2.2	(1.1)	0.4	(0.3)	0.0	c	1.3	(0.6)	20.3	(6.0)
	United Arab Emirates																		
	Abu Dhabi•	95.5	(0.9)	0.6	(0.3)	0.9	(0.5)	0.8	(0.3)	0.2	(0.2)	0.7	(0.4)	0.4	(0.2)	0.8	(0.4)	35.2	(13.6)
	Ajman	98.6	(1.2)	0.0	c	0.8	(0.7)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Dubai•	91.1	(0.9)	1.3	(0.4)	2.5	(0.7)	0.5	(0.4)	0.8	(0.3)	0.5	(0.3)	1.0	(0.3)	2.4	(0.4)	47.8	(8.2)
	Fujairah	99.2	(0.7)	0.4	(0.5)	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Ras al-Khaimah	98.3	(1.2)	0.3	(0.3)	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Sharjah	97.1	(1.3)	0.9	(0.6)	0.5	(0.5)	0.4	(0.6)	0.4	(0.4)	0.0	c	0.0	c	0.4	(0.3)	21.7	(18.0)
	Umm al-Quwain	98.5	(1.3)	0.0	c	c	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c

• PISA adjudicated region.

Note: See Table I.2.30 for national data.

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ANNEX B3

RESULTS FOR THE COMPUTER-BASED AND COMBINED SCALES FOR MATHEMATICS AND READING

PISA 2012 supplemented the paper-based assessment with an optional computer-based assessment in mathematics and reading in which 32 of the 65 countries and economies participated. In addition, PISA 2012 included an optional computer-based assessment of problem solving (Volume V, forthcoming) in which 44 of the countries and economies participated.

Fourty-one specially designed computer-based items were developed for the assessment. Future PISA surveys will feature more sophisticated computer-based items as developers and item writers become more fully immersed in the computer-based assessment and as delivery of the computer-based assessment becomes more sophisticated.

There were two reasons for including a computer-based mathematics assessment in PISA 2012. First, computer-based items can be more interactive, authentic and engaging than paper-based items. They can be presented in new formats (e.g. drag-and-drop), include real-world data (such as a large, sortable dataset), and use colour, graphics and movement to aid comprehension. Students may be presented with a moving stimulus or representations of three-dimensional objects that can be rotated, or have more flexible access to relevant information. New item formats can expand response types beyond verbal and written, giving a more rounded picture of mathematical literacy (Stacey and Wiliam, 2013).

Second, computers have become essential tools for representing, visualising, exploring, and experimenting with all kinds of mathematical objects, phenomena and processes, not to mention for realising all types of computations – at home, at school, and at work. In the workplace, mathematical literacy and the use of computer technology are inextricably linked (Hoyles et al., 2002).

The design of the computer-based assessment ensured that mathematical reasoning and processes take precedence over mastery of using the computer as a tool. Each computer-based item involves three aspects:

- the mathematical demand (as for paper-based items);
- the general knowledge and skills related to information and communication technologies (ICT) that are required (e.g. using a keyboard and mouse, and knowing common conventions, such as arrows to move forward). These are intentionally kept to a minimum; and
- competencies related to the interaction of mathematics and ICT, such as making a pie chart from data using a simple "wizard", or planning and implementing a sorting strategy to locate and collect desired data in a spreadsheet.

Similarly, in response to the increasing presence of digital texts in personal, social and economic life, and the digital world's demand for reading proficiency digital reading was included in the PISA 2009 assessment, an acknowledgement of the fact that any definition of reading in the 21st century needs to encompass both printed and digital texts (OECD, 2011). An assessment of digital reading was also included in PISA 2012, based on the PISA 2009 framework (OECD, 2009).

The results of the computer-based assessments are reported separately, but are also reported together with the paper-based assessment results in a combined scale, for both mathematics and reading, as shown at the end of this annex.

In general, there is a high degree of consistency in student performance on items delivered on paper and by computer. However, there are important exceptions.

In the field of mathematics, one participant (Shanghai-China) saw a large difference, of around 50 score points, in favour of the paper-based format. Three other countries and economies showed substantial differences in the same direction – Poland (28-point difference), Chinese Taipei (22-point difference) and Israel (20-point difference). Conversely, there are also countries for which computer delivery of the assessment appears to have been advantageous. The largest difference, of about 30 score points, was seen in Brazil. Colombia also saw a difference of about 20 points in the same direction. The United States, the Slovak Republic and Italy also saw marked, albeit smaller, differences in favour of the computer delivery of the assessment. Across OECD countries, the performance advantage of the computer-based assessment is slightly higher for boys than for girls.

Further analyses are needed to explore the extent to which these differences are driven by the different nature of the tasks, by the differences in the mode of delivery, or by student familiarity with computers.

The situation is similar for reading. There are also exceptions to the overall high degree of consistency in student performance on items delivered on paper and by computer. Shanghai-China, Hungary, the United Arab Emirates, Israel and Spain show a significant advantage in favour of the paper-based assessment. Conversely, the advantage for the computer-based assessment is significant in Singapore, Brazil, Korea and Sweden.

As in PISA 2009, in all participating countries and economies, the gender gap in performance is narrower in digital reading than in print reading. Across the participating OECD countries, girls outperform boys in digital reading by an average of 26 score points, compared to an average of 37 score points in print reading.



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[Part 1/1]

Table B3.I.1 **Percentage of students at each proficiency level on the computer-based mathematics scale**

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	5.0	(0.4)	11.6	(0.5)	22.1	(0.7)	26.8	(0.6)	20.9	(0.6)	10.2	(0.4)	3.4	(0.3)
	Austria	5.1	(0.7)	12.3	(0.9)	20.4	(0.9)	26.2	(1.0)	23.2	(1.0)	10.4	(0.9)	2.4	(0.4)
	Belgium	6.8	(0.5)	11.0	(0.6)	18.9	(0.6)	24.5	(0.8)	21.9	(0.6)	12.4	(0.6)	4.5	(0.4)
	Canada	4.1	(0.3)	8.6	(0.4)	18.8	(0.6)	26.9	(0.6)	24.3	(0.8)	12.8	(0.7)	4.5	(0.5)
	Chile	18.2	(1.4)	26.9	(1.2)	28.0	(1.0)	18.3	(1.1)	7.1	(0.6)	1.4	(0.2)	0.2	(0.1)
	Denmark	6.0	(0.6)	13.0	(0.8)	23.4	(1.0)	27.5	(1.2)	20.8	(0.9)	7.7	(0.6)	1.6	(0.3)
	Estonia	2.9	(0.4)	9.3	(0.5)	22.1	(0.8)	29.1	(1.0)	23.3	(1.0)	10.6	(0.7)	2.8	(0.4)
	France	5.6	(0.8)	10.8	(0.7)	20.1	(0.9)	27.1	(0.9)	23.3	(0.9)	10.5	(0.8)	2.5	(0.4)
	Germany	6.5	(0.7)	11.4	(0.8)	19.7	(0.9)	25.3	(1.0)	21.7	(0.8)	11.5	(0.8)	4.0	(0.5)
	Hungary	11.3	(1.2)	17.4	(1.0)	26.0	(1.2)	24.4	(1.1)	14.4	(1.0)	5.5	(0.7)	1.0	(0.3)
	Ireland	5.3	(0.7)	12.5	(0.8)	25.2	(0.9)	30.3	(1.1)	19.5	(1.0)	6.1	(0.5)	0.9	(0.2)
	Israel	20.7	(1.6)	18.0	(1.1)	21.9	(0.9)	20.1	(0.9)	13.0	(1.0)	5.3	(0.8)	1.1	(0.3)
	Italy	4.8	(0.8)	12.8	(1.1)	24.1	(1.3)	28.8	(1.2)	20.3	(1.1)	7.5	(0.9)	1.8	(0.4)
	Japan	2.4	(0.4)	6.6	(0.6)	16.3	(0.8)	26.5	(1.2)	26.9	(1.1)	14.8	(0.9)	6.6	(0.9)
	Korea	1.8	(0.3)	5.4	(0.6)	14.3	(1.0)	23.9	(1.0)	26.9	(1.3)	18.7	(1.2)	9.0	(1.2)
	Norway	5.5	(0.6)	13.2	(0.8)	24.4	(0.9)	27.0	(1.0)	19.7	(0.8)	8.3	(0.6)	2.0	(0.3)
	Poland	6.6	(0.8)	14.3	(0.9)	25.7	(1.0)	27.2	(0.9)	18.0	(1.0)	6.8	(0.7)	1.5	(0.3)
	Portugal	6.4	(0.6)	14.9	(0.9)	25.2	(0.9)	27.2	(1.0)	18.4	(1.0)	6.5	(0.6)	1.5	(0.2)
	Slovak Republic	6.1	(0.8)	11.8	(0.9)	23.0	(1.1)	29.1	(1.3)	20.9	(1.1)	7.6	(0.8)	1.5	(0.4)
	Slovenia	7.1	(0.4)	15.8	(0.7)	25.3	(0.8)	25.3	(1.0)	17.9	(0.8)	7.4	(0.5)	1.3	(0.3)
	Spain	8.5	(0.9)	16.4	(0.9)	27.1	(1.0)	27.7	(1.0)	15.9	(0.9)	4.0	(0.4)	0.4	(0.1)
	Sweden	6.2	(0.5)	14.7	(0.8)	25.2	(0.8)	28.0	(0.8)	17.5	(0.8)	6.8	(0.6)	1.6	(0.3)
	United States	5.9	(0.8)	12.4	(1.0)	24.7	(1.1)	26.9	(0.9)	19.3	(1.1)	8.2	(0.8)	2.5	(0.5)
	OECD total	5.7	(0.3)	11.7	(0.4)	22.1	(0.4)	26.4	(0.4)	20.9	(0.4)	9.8	(0.3)	3.3	(0.2)
	OECD average	6.9	(0.2)	13.1	(0.2)	22.7	(0.2)	26.3	(0.2)	19.8	(0.2)	8.7	(0.1)	2.6	(0.1)
Partners	Brazil	22.6	(1.9)	28.4	(1.2)	27.3	(1.7)	13.9	(1.0)	6.0	(1.1)	1.6	(0.5)	0.2	(0.1)
	Colombia	28.9	(1.6)	35.5	(1.2)	23.8	(1.0)	9.2	(0.8)	2.2	(0.4)	0.3	(0.1)	0.1	(0.1)
	Hong Kong-China	2.6	(0.5)	5.2	(0.8)	12.1	(0.8)	24.5	(1.0)	30.3	(1.1)	18.7	(1.0)	6.7	(0.7)
	Macao-China	1.7	(0.2)	5.9	(0.4)	15.3	(0.5)	26.4	(0.7)	28.5	(0.8)	16.6	(0.6)	5.6	(0.4)
	Russian Federation	5.2	(0.5)	13.8	(0.8)	27.3	(0.9)	29.3	(1.1)	17.7	(0.9)	5.7	(0.5)	1.1	(0.2)
	Shanghai-China	1.8	(0.3)	5.1	(0.6)	13.2	(0.8)	20.8	(0.9)	25.8	(1.0)	21.0	(1.0)	12.3	(0.9)
	Singapore	2.0	(0.3)	5.7	(0.4)	12.4	(0.5)	19.7	(0.6)	24.7	(1.0)	21.2	(0.9)	14.4	(0.6)
	Chinese Taipei	2.8	(0.4)	7.5	(0.6)	16.2	(0.9)	25.0	(0.9)	26.4	(1.0)	16.1	(0.9)	6.0	(0.6)
	United Arab Emirates	18.2	(0.9)	25.5	(0.8)	28.5	(0.8)	18.3	(0.7)	7.3	(0.5)	2.0	(0.3)	0.2	(0.1)

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[Part 1/2]

Table B3.I.2 **Percentage of students at each proficiency level on the computer-based mathematics scale, by gender**

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	4.8	(0.4)	11.4	(0.8)	21.3	(1.0)	25.9	(0.9)	21.3	(0.7)	11.0	(0.6)	4.3	(0.5)
	Austria	4.9	(1.0)	11.4	(1.4)	18.0	(1.3)	24.1	(1.4)	24.5	(1.5)	13.3	(1.3)	3.9	(0.6)
	Belgium	6.4	(0.7)	10.6	(0.8)	18.0	(0.8)	22.5	(1.1)	22.1	(0.9)	14.2	(0.8)	6.1	(0.5)
	Canada	3.7	(0.4)	7.8	(0.5)	17.4	(0.8)	25.7	(0.9)	24.4	(0.8)	14.7	(0.8)	6.3	(0.6)
	Chile	15.6	(1.4)	24.8	(1.5)	28.0	(1.3)	20.6	(1.6)	8.9	(0.9)	1.9	(0.3)	0.3	(0.1)
	Denmark	5.1	(0.6)	11.9	(1.1)	21.3	(1.6)	26.6	(1.5)	23.4	(1.2)	9.4	(0.7)	2.3	(0.4)
	Estonia	2.7	(0.6)	9.6	(0.8)	20.8	(1.0)	27.8	(1.2)	23.1	(1.3)	12.0	(0.8)	4.0	(0.6)
	France	5.7	(0.9)	9.9	(0.9)	17.9	(1.2)	26.1	(1.4)	23.6	(1.2)	13.0	(1.2)	3.8	(0.6)
	Germany	6.1	(0.8)	11.2	(0.9)	19.5	(1.2)	24.6	(1.3)	20.9	(1.0)	12.4	(0.9)	5.3	(0.7)
	Hungary	11.6	(1.6)	16.4	(1.2)	23.7	(1.6)	23.5	(1.4)	15.8	(1.2)	7.4	(0.9)	1.6	(0.5)
	Ireland	4.7	(1.0)	11.0	(1.1)	23.3	(1.2)	30.0	(1.5)	21.2	(1.3)	8.3	(0.7)	1.4	(0.3)
	Israel	22.4	(2.5)	17.4	(1.5)	18.7	(1.3)	18.4	(1.4)	14.6	(1.6)	7.0	(1.3)	1.5	(0.4)
	Italy	4.1	(0.9)	11.9	(1.1)	21.2	(1.5)	28.8	(1.3)	22.5	(1.4)	9.2	(1.2)	2.3	(0.5)
	Japan	2.6	(0.6)	6.4	(0.9)	15.1	(1.2)	24.0	(1.4)	26.5	(1.4)	16.8	(1.1)	8.6	(1.2)
	Korea	1.8	(0.4)	4.8	(0.7)	12.7	(1.2)	22.2	(1.4)	27.2	(1.8)	19.9	(1.7)	11.3	(1.8)
	Norway	5.5	(0.7)	13.3	(1.0)	23.5	(1.3)	26.6	(1.2)	20.0	(1.2)	8.9	(0.8)	2.2	(0.4)
	Poland	7.0	(0.9)	13.4	(1.1)	23.7	(1.3)	26.4	(1.2)	18.6	(1.2)	8.7	(1.0)	2.2	(0.5)
	Portugal	5.7	(0.7)	13.4	(1.1)	22.5	(1.2)	27.2	(1.5)	20.3	(1.3)	8.4	(0.8)	2.5	(0.4)
	Slovak Republic	5.5	(0.9)	11.7	(1.1)	22.7	(1.2)	27.5	(1.5)	20.8	(1.3)	9.6	(1.0)	2.2	(0.6)
	Slovenia	7.6	(0.4)	15.5	(1.0)	24.5	(1.1)	24.7	(1.3)	17.9	(1.0)	8.3	(0.7)	1.5	(0.4)
	Spain	7.8	(1.1)	15.5	(0.9)	25.6	(1.2)	27.7	(1.4)	17.3	(1.3)	5.3	(0.7)	0.7	(0.2)
	Sweden	5.8	(0.7)	14.0	(1.0)	23.5	(1.1)	27.5	(1.2)	18.3	(1.1)	8.5	(0.8)	2.3	(0.5)
	United States	7.2	(1.1)	12.4	(1.2)	23.3	(1.3)	25.3	(1.1)	20.1	(1.2)	8.8	(0.9)	3.0	(0.7)
	OECD total	6.0	(0.4)	11.2	(0.5)	20.6	(0.6)	25.2	(0.5)	21.5	(0.5)	11.1	(0.4)	4.3	(0.3)
	OECD average	6.7	(0.2)	12.4	(0.2)	21.1	(0.3)	25.4	(0.3)	20.6	(0.3)	10.3	(0.2)	3.5	(0.1)
Partners	Brazil	19.2	(1.9)	26.5	(1.4)	28.2	(1.7)	15.6	(1.2)	7.9	(1.5)	2.2	(0.6)	0.4	(0.2)
	Colombia	27.1	(1.7)	33.9	(1.5)	24.7	(1.3)	10.6	(1.1)	3.1	(0.7)	0.5	(0.2)	0.2	(0.1)
	Hong Kong-China	2.6	(0.5)	5.2	(0.9)	11.2	(1.0)	21.4	(1.1)	29.5	(1.4)	20.9	(1.3)	9.2	(1.0)
	Macao-China	1.8	(0.3)	5.9	(0.5)	13.9	(0.7)	24.3	(0.8)	28.1	(1.1)	18.7	(1.0)	7.3	(0.7)
	Russian Federation	4.6	(0.5)	12.6	(1.0)	25.8	(1.1)	29.1	(1.1)	19.5	(1.4)	7.0	(0.8)	1.4	(0.3)
	Shanghai-China	2.0	(0.4)	4.9	(0.6)	11.0	(0.9)	19.4	(1.2)	25.3	(1.2)	21.5	(1.2)	16.0	(1.3)
	Singapore	2.6	(0.4)	6.3	(0.5)	12.3	(0.7)	18.8	(0.8)	23.4	(1.3)	21.0	(0.9)	15.6	(0.8)
	Chinese Taipei	3.3	(0.6)	7.6	(0.9)	14.2	(1.2)	22.1	(1.4)	25.9	(1.2)	18.6	(1.4)	8.3	(1.3)
	United Arab Emirates	22.6	(1.6)	24.9	(1.1)	25.4	(1.3)	16.7	(1.1)	7.6	(0.7)	2.5	(0.4)	0.3	(0.1)

[Part 2/2]

Table B3.I.2 **Percentage of students at each proficiency level on the computer-based mathematics scale, by gender**

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	5.3	(0.4)	11.8	(0.5)	23.0	(0.7)	27.7	(0.8)	20.4	(0.8)	9.4	(0.6)	2.5	(0.3)
	Austria	5.3	(1.0)	13.1	(1.2)	22.8	(1.4)	28.3	(1.3)	21.9	(1.3)	7.5	(0.9)	1.0	(0.3)
	Belgium	7.1	(0.7)	11.4	(0.7)	19.8	(0.8)	26.4	(1.0)	21.6	(1.0)	10.6	(0.8)	3.0	(0.4)
	Canada	4.5	(0.5)	9.4	(0.6)	20.2	(0.8)	28.1	(1.1)	24.1	(1.1)	10.9	(0.8)	2.8	(0.4)
	Chile	20.7	(1.9)	28.8	(1.5)	28.1	(1.4)	16.0	(1.0)	5.3	(0.6)	0.9	(0.2)	0.1	(0.0)
	Denmark	6.9	(0.8)	14.2	(1.1)	25.6	(1.1)	28.4	(1.3)	18.0	(1.0)	5.9	(0.7)	0.9	(0.2)
	Estonia	3.0	(0.5)	8.9	(0.7)	23.3	(1.2)	30.5	(1.4)	23.4	(1.1)	9.3	(0.9)	1.7	(0.4)
	France	5.4	(0.9)	11.7	(0.8)	22.2	(1.4)	28.1	(1.3)	23.1	(1.2)	8.2	(0.9)	1.4	(0.4)
	Germany	6.9	(0.7)	11.6	(0.9)	20.0	(1.1)	26.0	(1.3)	22.5	(1.1)	10.5	(0.8)	2.5	(0.5)
	Hungary	11.0	(1.4)	18.3	(1.4)	28.1	(1.5)	25.2	(1.5)	13.0	(1.2)	3.8	(0.7)	0.5	(0.2)
	Ireland	6.0	(0.6)	14.1	(1.1)	27.2	(1.4)	30.7	(1.6)	17.8	(1.2)	3.8	(0.5)	0.4	(0.2)
	Israel	19.0	(1.5)	18.6	(1.5)	24.9	(1.5)	21.8	(1.2)	11.4	(1.0)	3.6	(0.5)	0.7	(0.2)
	Italy	5.5	(1.1)	13.8	(1.5)	27.4	(1.6)	28.8	(1.8)	17.7	(1.4)	5.5	(1.0)	1.3	(0.4)
	Japan	2.1	(0.5)	6.8	(0.7)	17.6	(1.1)	29.2	(1.4)	27.3	(1.1)	12.6	(1.0)	4.4	(0.8)
	Korea	1.8	(0.4)	6.1	(0.9)	16.1	(1.4)	25.9	(1.3)	26.5	(1.7)	17.4	(1.5)	6.3	(1.1)
	Norway	5.5	(0.8)	13.0	(1.0)	25.3	(1.6)	27.5	(1.4)	19.3	(1.1)	7.6	(0.9)	1.8	(0.4)
	Poland	6.2	(0.9)	15.2	(1.2)	27.6	(1.1)	28.0	(1.2)	17.3	(1.3)	4.9	(0.7)	0.8	(0.3)
	Portugal	7.1	(0.7)	16.3	(1.2)	27.9	(1.2)	27.2	(1.5)	16.5	(1.2)	4.6	(0.7)	0.4	(0.2)
	Slovak Republic	6.8	(1.0)	11.9	(1.2)	23.4	(1.6)	30.9	(2.1)	21.0	(1.6)	5.3	(0.8)	0.7	(0.3)
	Slovenia	6.6	(0.7)	16.2	(0.9)	26.1	(1.3)	25.8	(1.2)	17.8	(1.1)	6.4	(0.7)	1.1	(0.4)
	Spain	9.1	(1.0)	17.3	(1.0)	28.5	(1.2)	27.7	(1.2)	14.5	(1.2)	2.8	(0.5)	0.2	(0.1)
	Sweden	6.5	(0.7)	15.4	(0.9)	26.9	(1.1)	28.4	(1.3)	16.7	(1.1)	5.1	(0.7)	0.9	(0.3)
	United States	4.6	(0.8)	12.4	(1.2)	26.2	(1.4)	28.6	(1.2)	18.6	(1.2)	7.7	(0.9)	2.0	(0.5)
	OECD total	5.4	(0.3)	12.1	(0.5)	23.7	(0.6)	27.7	(0.5)	20.3	(0.5)	8.5	(0.4)	2.3	(0.2)
	OECD average	7.1	(0.2)	13.8	(0.2)	24.3	(0.3)	27.2	(0.3)	18.9	(0.2)	7.1	(0.2)	1.6	(0.1)
Partners	Brazil	25.8	(2.2)	30.2	(1.5)	26.4	(2.1)	12.2	(1.2)	4.2	(0.8)	1.2	(0.5)	0.1	(0.1)
	Colombia	30.5	(1.9)	36.9	(1.7)	23.0	(1.5)	7.9	(0.9)	1.5	(0.4)	0.2	(0.1)	0.0	(0.0)
	Hong Kong-China	2.5	(0.6)	5.3	(0.9)	13.2	(1.1)	28.1	(1.6)	31.2	(1.5)	16.1	(1.4)	3.8	(0.5)
	Macao-China	1.5	(0.3)	5.9	(0.5)	16.8	(0.7)	28.6	(1.0)	29.0	(1.1)	14.4	(0.9)	3.8	(0.4)
	Russian Federation	5.8	(0.7)	14.9	(1.0)	28.8	(1.2)	29.5	(1.7)	15.8	(1.0)	4.5	(0.5)	0.7	(0.2)
	Shanghai-China	1.7	(0.4)	5.3	(0.6)	15.2	(1.2)	22.2	(1.2)	26.4	(1.3)	20.4	(1.3)	8.8	(0.8)
	Singapore	1.4	(0.3)	5.1	(0.5)	12.5	(0.7)	20.6	(0.9)	26.1	(1.3)	21.3	(1.5)	13.0	(0.8)
	Chinese Taipei	2.3	(0.4)	7.3	(0.8)	18.2	(1.1)	27.9	(1.2)	26.9	(1.3)	13.7	(1.3)	3.8	(0.7)
	United Arab Emirates	14.1	(1.0)	26.0	(1.0)	31.5	(1.2)	19.7	(1.0)	7.0	(0.7)	1.5	(0.3)	0.1	(0.1)

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[Part 1/1]

Table B3.I.3 Mean score, variation and gender differences in student performance on the computer-based mathematics scale

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	Australia	508	(1.6)	91	(1.2)	512	(2.2)	503	(2.1)	**9**	(2.8)	357	(3.3)	391	(2.9)	447	(2.1)	570	(2.0)	623	(2.7)	654	(3.3)
	Austria	507	(3.5)	89	(2.2)	518	(4.7)	497	(3.7)	**21**	(4.9)	357	(6.2)	388	(6.1)	447	(5.0)	571	(3.7)	619	(4.8)	646	(5.1)
	Belgium	512	(2.5)	99	(1.6)	519	(2.9)	505	(2.9)	**14**	(3.1)	342	(5.0)	382	(4.1)	447	(3.8)	582	(2.8)	637	(3.4)	666	(3.3)
	Canada	523	(2.2)	92	(1.5)	532	(2.5)	514	(2.3)	**17**	(1.9)	369	(4.3)	406	(3.3)	465	(2.4)	585	(2.5)	635	(3.1)	666	(3.9)
	Chile	432	(3.3)	81	(1.6)	442	(3.9)	423	(3.7)	**19**	(3.9)	301	(5.3)	330	(4.5)	376	(4.1)	488	(4.0)	538	(4.3)	567	(3.6)
	Denmark	496	(2.7)	86	(1.4)	506	(3.2)	486	(2.8)	**20**	(2.5)	349	(5.4)	383	(4.5)	439	(3.7)	557	(2.9)	604	(3.3)	633	(4.1)
	Estonia	516	(2.2)	82	(1.4)	521	(2.6)	512	(2.5)	**9**	(2.5)	380	(4.7)	411	(3.4)	462	(3.1)	573	(2.5)	621	(3.2)	650	(3.8)
	France	508	(3.3)	92	(4.1)	516	(3.7)	501	(3.5)	**15**	(3.0)	353	(8.3)	390	(5.8)	450	(3.7)	572	(3.3)	620	(4.0)	647	(4.4)
	Germany	509	(3.3)	95	(2.0)	514	(3.7)	504	(3.5)	**10**	(2.7)	345	(5.6)	382	(6.1)	446	(4.5)	577	(4.0)	629	(4.0)	660	(5.4)
	Hungary	470	(3.9)	93	(2.6)	476	(4.5)	464	(4.1)	**12**	(3.8)	313	(7.3)	350	(7.3)	410	(4.8)	534	(4.5)	587	(6.0)	619	(6.1)
	Ireland	493	(2.9)	81	(2.0)	502	(3.9)	484	(3.0)	**19**	(3.7)	355	(6.2)	388	(4.6)	442	(3.8)	548	(2.8)	594	(3.0)	619	(3.2)
	Israel	447	(5.6)	111	(3.5)	448	(9.2)	445	(4.3)	3	(8.9)	252	(10.4)	299	(9.2)	375	(6.7)	525	(5.7)	586	(6.9)	617	(7.0)
	Italy	499	(4.2)	83	(2.6)	507	(4.6)	489	(4.9)	**18**	(5.0)	360	(6.9)	391	(6.3)	443	(5.2)	556	(5.1)	604	(5.8)	631	(6.5)
	Japan	539	(3.3)	88	(2.4)	546	(4.4)	531	(3.0)	**15**	(3.8)	391	(6.0)	426	(5.0)	482	(4.1)	597	(3.7)	649	(4.7)	682	(6.1)
	Korea	553	(4.5)	90	(2.3)	561	(6.0)	543	(5.2)	**18**	(6.7)	403	(5.3)	437	(5.4)	494	(5.0)	615	(5.3)	665	(5.9)	695	(8.2)
	Norway	498	(2.8)	87	(1.6)	499	(3.1)	496	(3.1)	3	(2.8)	354	(5.4)	386	(4.2)	439	(4.0)	557	(3.4)	608	(3.3)	637	(4.3)
	Poland	489	(4.0)	86	(2.0)	495	(4.4)	484	(4.2)	**11**	(3.2)	345	(5.9)	380	(5.5)	432	(4.2)	548	(4.1)	599	(5.1)	628	(5.3)
	Portugal	489	(3.1)	85	(1.6)	499	(3.5)	479	(3.1)	**20**	(2.3)	347	(4.9)	378	(4.7)	431	(4.3)	549	(3.3)	598	(3.7)	626	(4.6)
	Slovak Republic	497	(3.5)	86	(2.4)	503	(4.0)	491	(4.0)	**11**	(3.9)	348	(7.5)	384	(6.5)	443	(4.7)	557	(3.9)	603	(4.0)	630	(5.0)
	Slovenia	487	(1.2)	88	(1.0)	488	(1.9)	486	(1.8)	3	(3.0)	341	(3.1)	375	(2.4)	426	(2.3)	549	(1.7)	601	(2.8)	629	(2.9)
	Spain	475	(3.2)	82	(1.5)	481	(3.4)	469	(3.4)	**12**	(2.5)	335	(6.3)	367	(5.2)	421	(4.2)	533	(3.1)	577	(3.4)	603	(3.6)
	Sweden	490	(2.9)	86	(1.6)	497	(3.4)	483	(3.0)	**13**	(2.8)	349	(4.2)	380	(4.1)	432	(3.6)	548	(3.3)	600	(3.7)	629	(5.1)
	United States	498	(4.1)	89	(2.2)	498	(4.4)	498	(4.2)	0	(3.0)	350	(7.7)	386	(5.5)	440	(4.5)	558	(4.3)	611	(5.9)	643	(6.3)
	OECD total	505	(0.2)	92	(0.1)	510	(0.3)	500	(0.6)	**10**	(0.8)	351	(1.2)	387	(0.8)	445	(1.4)	568	(0.4)	622	(0.6)	653	(1.0)
	OECD average	497	(0.7)	89	(0.4)	503	(0.8)	491	(0.6)	**13**	(0.7)	348	(1.0)	382	(0.9)	439	(0.8)	559	(0.7)	609	(0.8)	638	(1.0)
Partners	Brazil	421	(4.7)	84	(3.1)	432	(5.0)	410	(4.7)	**22**	(2.4)	291	(6.2)	319	(4.7)	364	(4.9)	473	(5.4)	530	(9.0)	567	(10.9)
	Colombia	397	(3.2)	73	(1.8)	403	(3.5)	391	(3.6)	**12**	(3.3)	280	(5.8)	307	(4.4)	350	(3.5)	443	(3.8)	490	(4.5)	521	(5.9)
	Hong Kong-China	550	(3.4)	87	(2.3)	558	(4.4)	540	(3.5)	**17**	(4.3)	394	(9.1)	435	(6.3)	499	(4.8)	608	(3.2)	654	(3.8)	680	(3.8)
	Macao-China	543	(1.1)	83	(0.8)	549	(1.3)	536	(1.7)	**13**	(2.0)	401	(3.5)	433	(2.7)	489	(2.0)	600	(1.5)	647	(2.3)	674	(2.4)
	Russian Federation	489	(2.6)	80	(1.5)	496	(3.0)	482	(2.9)	**14**	(2.8)	356	(4.3)	387	(3.8)	436	(3.0)	544	(2.9)	590	(3.8)	619	(4.1)
	Shanghai-China	562	(3.4)	94	(2.1)	572	(4.1)	553	(3.3)	**18**	(2.9)	404	(5.9)	439	(5.3)	500	(5.1)	628	(3.5)	679	(3.5)	708	(4.7)
	Singapore	566	(1.3)	98	(1.0)	566	(1.8)	566	(1.6)	1	(2.3)	399	(3.7)	434	(2.9)	500	(2.6)	635	(2.0)	689	(2.9)	717	(2.5)
	Chinese Taipei	537	(2.8)	89	(1.9)	545	(4.6)	530	(4.1)	**15**	(6.7)	386	(6.1)	419	(4.6)	478	(3.9)	600	(3.1)	649	(3.8)	676	(4.2)
	United Arab Emirates	434	(2.2)	84	(1.5)	428	(3.6)	440	(2.6)	**-13**	(4.4)	297	(3.8)	327	(3.2)	378	(2.8)	490	(2.7)	542	(3.4)	575	(4.2)

Note: Values that are statistically significant are indicated in bold (see Annex A3).

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Table B3.I.4 Percentage of students at each proficiency level on the combined mathematics scale

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	4.9	(0.3)	12.6	(0.5)	22.7	(0.6)	26.2	(0.6)	19.8	(0.6)	10.3	(0.4)	3.4	(0.3)
OECD	Austria	4.7	(0.6)	12.7	(1.0)	21.7	(0.8)	25.6	(1.0)	22.6	(0.9)	10.4	(0.8)	2.3	(0.3)
OECD	Belgium	5.9	(0.5)	11.9	(0.7)	19.2	(0.7)	24.1	(0.8)	21.6	(0.7)	12.6	(0.5)	4.6	(0.3)
OECD	Canada	3.0	(0.3)	9.1	(0.4)	20.5	(0.6)	27.8	(0.6)	23.9	(0.7)	12.0	(0.6)	3.7	(0.3)
OECD	Chile	18.5	(1.3)	30.4	(1.1)	27.5	(1.1)	16.4	(0.9)	6.0	(0.6)	1.1	(0.2)	0.1	(0.0)
OECD	Denmark	4.4	(0.5)	13.0	(0.7)	24.4	(0.8)	29.3	(1.4)	20.1	(1.0)	7.5	(0.5)	1.3	(0.2)
OECD	Estonia	1.9	(0.3)	8.7	(0.6)	22.3	(1.0)	30.4	(1.0)	23.6	(0.9)	10.5	(0.7)	2.6	(0.3)
OECD	France	6.5	(0.7)	12.4	(0.7)	21.7	(1.0)	25.8	(1.0)	21.1	(0.9)	10.0	(0.6)	2.4	(0.4)
OECD	Germany	5.4	(0.5)	11.5	(0.8)	20.6	(0.8)	24.8	(0.9)	22.1	(0.8)	12.0	(0.8)	3.7	(0.4)
OECD	Hungary	9.8	(0.9)	18.2	(1.1)	26.6	(1.2)	23.6	(1.1)	14.6	(0.9)	6.0	(0.7)	1.2	(0.4)
OECD	Ireland	4.5	(0.5)	11.8	(0.7)	25.6	(0.8)	30.1	(1.0)	20.2	(0.9)	6.8	(0.5)	1.1	(0.2)
OECD	Israel	17.7	(1.4)	18.2	(1.0)	22.3	(0.9)	20.7	(1.0)	14.1	(1.0)	5.9	(0.7)	1.2	(0.3)
OECD	Italy	5.5	(0.8)	13.7	(1.0)	25.1	(1.3)	28.1	(1.3)	19.3	(1.1)	7.0	(0.8)	1.4	(0.3)
OECD	Japan	2.3	(0.4)	6.8	(0.6)	16.8	(0.9)	26.3	(1.0)	26.0	(1.0)	15.4	(0.9)	6.3	(0.8)
OECD	Korea	1.8	(0.3)	5.7	(0.6)	14.5	(0.9)	23.5	(1.0)	25.4	(1.0)	19.3	(0.9)	9.8	(1.2)
OECD	Norway	5.6	(0.5)	14.1	(0.7)	25.2	(0.9)	27.2	(1.1)	19.0	(1.1)	7.6	(0.6)	1.5	(0.3)
OECD	Poland	4.2	(0.5)	12.4	(0.8)	24.5	(1.0)	27.3	(0.9)	19.9	(0.9)	8.9	(0.8)	2.6	(0.5)
OECD	Portugal	6.6	(0.7)	16.0	(1.0)	24.5	(0.8)	26.4	(0.9)	17.9	(1.1)	7.3	(0.6)	1.3	(0.2)
OECD	Slovak Republic	7.9	(0.9)	14.2	(1.0)	24.3	(1.4)	25.4	(1.2)	18.9	(1.1)	7.5	(0.6)	1.9	(0.5)
OECD	Slovenia	5.4	(0.4)	15.6	(0.6)	24.7	(0.9)	25.1	(0.8)	18.1	(1.0)	9.0	(0.6)	1.9	(0.3)
OECD	Spain	6.6	(0.6)	16.5	(1.0)	27.4	(0.9)	28.5	(0.9)	16.3	(0.8)	4.3	(0.4)	0.4	(0.1)
OECD	Sweden	6.5	(0.5)	16.9	(0.8)	25.8	(1.0)	26.4	(0.8)	17.1	(0.8)	6.1	(0.4)	1.2	(0.2)
OECD	United States	6.0	(0.7)	15.2	(1.0)	26.5	(1.0)	25.9	(1.0)	17.4	(1.0)	7.1	(0.7)	2.0	(0.3)
OECD	OECD total	5.5	(0.3)	13.1	(0.4)	23.1	(0.4)	25.8	(0.4)	19.8	(0.4)	9.6	(0.3)	3.1	(0.2)
OECD	OECD average	6.3	(0.1)	13.8	(0.2)	23.2	(0.2)	25.9	(0.2)	19.3	(0.2)	8.9	(0.1)	2.5	(0.1)
Partners	Brazil	26.3	(1.8)	32.8	(1.3)	24.0	(1.3)	11.7	(1.0)	4.1	(0.7)	0.9	(0.3)	0.1	(0.1)
Partners	Colombia	34.9	(1.6)	35.9	(1.1)	20.7	(1.0)	6.8	(0.6)	1.5	(0.3)	0.2	(0.1)	0.0	(0.0)
Partners	Hong Kong-China	2.2	(0.3)	5.1	(0.7)	11.9	(0.7)	22.7	(1.0)	29.4	(1.1)	20.5	(1.1)	8.2	(0.8)
Partners	Macao-China	2.1	(0.2)	6.5	(0.4)	15.8	(0.5)	26.0	(0.6)	27.1	(0.7)	16.7	(0.6)	5.8	(0.3)
Partners	Russian Federation	5.3	(0.6)	15.0	(0.9)	28.4	(0.9)	28.3	(0.9)	16.6	(0.9)	5.4	(0.6)	0.9	(0.2)
Partners	Shanghai-China	1.0	(0.2)	3.5	(0.5)	9.7	(0.7)	17.1	(0.8)	24.3	(0.9)	24.6	(1.0)	19.8	(1.0)
Partners	Singapore	1.9	(0.2)	5.7	(0.4)	12.3	(0.7)	19.0	(0.6)	23.5	(0.8)	21.5	(0.7)	16.2	(0.5)
Partners	Chinese Taipei	3.1	(0.4)	8.0	(0.6)	14.7	(0.6)	20.4	(0.8)	23.9	(0.9)	19.2	(0.9)	10.7	(0.8)
Partners	United Arab Emirates	18.2	(0.8)	27.4	(0.8)	26.9	(0.7)	17.5	(0.7)	7.6	(0.5)	2.0	(0.3)	0.3	(0.1)

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Table B3.I.5 **Percentage of students at each proficiency level on the combined mathematics scale, by gender**

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	4.7	(0.4)	12.1	(0.6)	22.0	(0.9)	25.4	(0.7)	20.2	(0.7)	11.2	(0.5)	4.4	(0.6)
OECD	Austria	4.2	(0.8)	11.4	(1.2)	19.6	(1.3)	24.2	(1.3)	23.8	(1.2)	13.1	(1.1)	3.6	(0.6)
OECD	Belgium	5.7	(0.7)	11.8	(0.9)	17.6	(1.0)	22.9	(1.0)	21.7	(0.9)	14.2	(0.9)	6.0	(0.5)
OECD	Canada	2.7	(0.3)	8.4	(0.5)	19.3	(0.7)	26.5	(0.8)	24.2	(0.8)	13.8	(0.8)	5.1	(0.6)
OECD	Chile	15.0	(1.3)	27.9	(1.3)	28.3	(1.2)	19.2	(1.2)	7.9	(0.9)	1.6	(0.3)	0.2	(0.1)
OECD	Denmark	3.8	(0.5)	11.5	(0.9)	22.6	(1.2)	29.0	(1.7)	22.5	(1.3)	8.7	(0.7)	1.9	(0.3)
OECD	Estonia	1.7	(0.4)	9.1	(0.8)	21.2	(1.3)	29.1	(1.4)	23.5	(1.1)	11.9	(0.8)	3.5	(0.5)
OECD	France	6.7	(0.8)	11.5	(1.0)	20.8	(1.3)	24.0	(1.3)	21.3	(1.1)	12.3	(0.9)	3.4	(0.6)
OECD	Germany	5.2	(0.6)	10.7	(0.9)	19.9	(1.2)	24.2	(1.0)	21.7	(1.0)	13.5	(0.9)	4.8	(0.6)
OECD	Hungary	9.9	(1.1)	17.1	(1.4)	25.4	(1.5)	22.4	(1.4)	15.7	(1.1)	7.6	(0.9)	1.8	(0.6)
OECD	Ireland	4.1	(0.8)	10.3	(1.0)	22.8	(1.1)	30.5	(1.5)	22.1	(1.2)	8.4	(0.9)	1.8	(0.3)
OECD	Israel	20.0	(2.1)	16.8	(1.5)	19.0	(1.3)	18.5	(1.5)	15.6	(1.6)	8.2	(1.3)	1.8	(0.5)
OECD	Italy	5.2	(0.9)	13.0	(1.2)	23.2	(1.7)	27.2	(1.7)	20.9	(1.4)	8.7	(1.0)	1.8	(0.5)
OECD	Japan	2.6	(0.5)	6.6	(0.8)	15.2	(1.0)	23.6	(1.1)	26.0	(1.3)	17.6	(1.2)	8.4	(1.2)
OECD	Korea	1.8	(0.4)	5.5	(0.7)	12.9	(1.0)	21.7	(1.4)	25.1	(1.5)	20.4	(1.2)	12.6	(1.8)
OECD	Norway	5.8	(0.6)	14.1	(0.9)	24.3	(1.2)	26.3	(1.3)	20.1	(1.6)	7.7	(0.8)	1.8	(0.3)
OECD	Poland	4.7	(0.7)	12.1	(0.9)	23.2	(1.2)	26.4	(1.1)	19.8	(1.3)	10.3	(1.0)	3.6	(0.8)
OECD	Portugal	6.8	(0.8)	14.1	(1.3)	22.0	(1.3)	26.6	(1.2)	19.7	(1.3)	8.7	(0.7)	2.1	(0.4)
OECD	Slovak Republic	7.2	(0.9)	14.5	(1.3)	24.2	(1.6)	23.4	(1.5)	18.7	(1.3)	9.4	(1.0)	2.6	(0.6)
OECD	Slovenia	5.6	(0.5)	15.5	(0.9)	24.1	(1.1)	24.9	(1.4)	17.7	(1.6)	9.9	(1.0)	2.2	(0.5)
OECD	Spain	6.1	(0.8)	15.5	(1.1)	26.3	(1.4)	27.5	(1.2)	18.2	(1.1)	5.8	(0.6)	0.6	(0.2)
OECD	Sweden	7.0	(0.8)	16.7	(1.2)	24.6	(1.2)	25.5	(1.2)	17.5	(1.1)	7.3	(0.6)	1.6	(0.4)
OECD	United States	6.9	(0.9)	15.6	(1.2)	24.5	(1.1)	24.3	(1.1)	18.8	(1.2)	7.6	(0.7)	2.3	(0.5)
OECD	OECD total	5.8	(0.4)	12.7	(0.5)	21.6	(0.5)	24.4	(0.4)	20.6	(0.5)	10.9	(0.3)	4.1	(0.3)
OECD	OECD average	6.2	(0.2)	13.1	(0.2)	21.9	(0.3)	24.9	(0.3)	20.1	(0.3)	10.3	(0.2)	3.4	(0.1)
Partners	Brazil	21.9	(2.0)	31.8	(1.5)	25.3	(1.5)	14.0	(1.4)	5.5	(0.9)	1.3	(0.4)	0.2	(0.2)
Partners	Colombia	30.7	(1.9)	34.5	(2.1)	23.3	(1.5)	8.7	(1.0)	2.4	(0.6)	0.3	(0.1)	0.0	(0.0)
Partners	Hong Kong-China	2.2	(0.4)	5.2	(0.8)	11.5	(1.1)	19.5	(1.1)	27.9	(1.4)	22.6	(1.3)	11.1	(1.2)
Partners	Macao-China	2.3	(0.4)	6.9	(0.6)	14.5	(0.7)	24.3	(0.8)	26.5	(1.0)	18.2	(1.2)	7.1	(0.6)
Partners	Russian Federation	5.2	(0.6)	14.5	(1.1)	27.5	(1.4)	28.3	(1.2)	17.3	(1.1)	6.2	(0.7)	1.0	(0.3)
Partners	Shanghai-China	1.0	(0.2)	3.7	(0.6)	9.0	(0.8)	15.8	(1.0)	23.1	(1.0)	24.6	(1.2)	22.9	(1.5)
Partners	Singapore	2.5	(0.4)	6.3	(0.5)	12.5	(0.8)	17.9	(0.8)	22.0	(1.0)	21.3	(0.8)	17.5	(0.8)
Partners	Chinese Taipei	3.7	(0.7)	8.7	(0.8)	13.2	(0.8)	17.4	(1.1)	23.2	(1.2)	20.6	(1.0)	13.1	(1.6)
Partners	United Arab Emirates	22.2	(1.5)	26.6	(1.2)	24.0	(1.2)	15.9	(1.0)	8.3	(0.9)	2.6	(0.4)	0.4	(0.1)

[Part 2/2]

Table B3.I.5 **Percentage of students at each proficiency level on the combined mathematics scale, by gender**

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	5.2	(0.4)	13.2	(0.6)	23.5	(0.8)	27.0	(0.9)	19.4	(0.8)	9.3	(0.7)	2.4	(0.4)
OECD	Austria	5.2	(0.9)	14.0	(1.4)	23.7	(1.3)	27.1	(1.3)	21.4	(1.2)	7.6	(1.1)	1.0	(0.3)
OECD	Belgium	6.0	(0.7)	12.0	(0.7)	20.9	(0.9)	25.3	(1.1)	21.6	(1.0)	11.0	(0.7)	3.2	(0.3)
OECD	Canada	3.2	(0.4)	9.8	(0.5)	21.7	(0.8)	29.1	(0.9)	23.6	(0.8)	10.2	(0.6)	2.4	(0.3)
OECD	Chile	21.9	(1.7)	32.7	(1.4)	26.7	(1.6)	13.8	(1.0)	4.2	(0.5)	0.7	(0.1)	0.0	(0.0)
OECD	Denmark	5.0	(0.6)	14.5	(0.9)	26.2	(1.3)	29.6	(1.6)	17.7	(1.2)	6.2	(0.7)	0.8	(0.2)
OECD	Estonia	2.0	(0.4)	8.3	(0.8)	23.3	(1.1)	31.7	(1.3)	23.8	(1.2)	9.1	(0.9)	1.8	(0.4)
OECD	France	6.4	(0.9)	13.2	(0.8)	22.6	(1.3)	27.6	(1.3)	20.9	(1.2)	7.9	(0.7)	1.5	(0.3)
OECD	Germany	5.6	(0.6)	12.4	(1.0)	21.2	(1.1)	25.4	(1.2)	22.5	(1.2)	10.4	(0.9)	2.5	(0.5)
OECD	Hungary	9.6	(1.1)	19.1	(1.4)	27.7	(1.5)	24.8	(1.4)	13.5	(1.1)	4.6	(0.7)	0.7	(0.2)
OECD	Ireland	4.9	(0.6)	13.2	(0.9)	28.4	(1.1)	29.6	(1.3)	18.3	(1.2)	5.1	(0.6)	0.5	(0.2)
OECD	Israel	15.4	(1.3)	19.6	(1.1)	25.4	(1.1)	22.8	(1.1)	12.5	(1.1)	3.6	(0.5)	0.6	(0.2)
OECD	Italy	5.9	(1.1)	14.5	(1.4)	27.3	(1.5)	29.1	(1.6)	17.4	(1.4)	4.9	(0.8)	0.9	(0.3)
OECD	Japan	2.0	(0.4)	7.1	(0.8)	18.6	(1.2)	29.3	(1.5)	26.0	(1.1)	13.0	(1.0)	3.9	(0.7)
OECD	Korea	1.8	(0.4)	5.9	(0.8)	16.3	(1.4)	25.7	(1.2)	25.7	(1.4)	18.1	(1.3)	6.5	(1.0)
OECD	Norway	5.3	(0.6)	14.1	(1.0)	26.1	(1.2)	28.1	(1.6)	17.7	(1.0)	7.5	(0.9)	1.2	(0.3)
OECD	Poland	3.7	(0.6)	12.8	(1.1)	25.8	(1.3)	28.2	(1.2)	20.0	(1.3)	7.7	(1.0)	1.7	(0.4)
OECD	Portugal	6.5	(0.7)	17.8	(1.2)	26.9	(1.1)	26.3	(1.2)	16.2	(1.3)	5.9	(0.6)	0.4	(0.2)
OECD	Slovak Republic	8.8	(1.1)	13.8	(1.2)	24.3	(1.7)	27.6	(1.6)	19.1	(1.5)	5.4	(0.7)	1.0	(0.4)
OECD	Slovenia	5.2	(0.7)	15.8	(0.9)	25.4	(1.2)	25.3	(1.2)	18.6	(1.2)	8.1	(0.8)	1.6	(0.5)
OECD	Spain	7.1	(0.8)	17.5	(1.3)	28.5	(1.1)	29.6	(1.1)	14.4	(1.1)	2.8	(0.4)	0.1	(0.1)
OECD	Sweden	6.1	(0.7)	17.1	(1.1)	27.1	(1.4)	27.4	(1.0)	16.8	(1.1)	4.8	(0.6)	0.8	(0.2)
OECD	United States	5.1	(0.9)	14.9	(1.3)	28.5	(1.3)	27.5	(1.3)	15.8	(1.2)	6.5	(0.8)	1.7	(0.4)
OECD	OECD total	5.3	(0.3)	13.4	(0.5)	24.8	(0.5)	27.2	(0.5)	18.9	(0.5)	8.2	(0.3)	2.1	(0.2)
OECD	OECD average	6.4	(0.2)	14.5	(0.2)	24.6	(0.3)	26.9	(0.3)	18.6	(0.2)	7.4	(0.2)	1.6	(0.1)
Partners	Brazil	30.4	(2.1)	33.7	(1.7)	22.9	(1.6)	9.6	(1.2)	2.8	(0.7)	0.6	(0.2)	0.0	(0.0)
Partners	Colombia	38.7	(2.0)	37.1	(1.5)	18.3	(1.4)	5.1	(0.8)	0.8	(0.2)	0.1	(0.1)	0.0	(0.0)
Partners	Hong Kong-China	2.2	(0.5)	5.0	(0.9)	12.3	(1.0)	26.5	(1.6)	31.1	(1.4)	18.1	(1.5)	4.9	(0.8)
Partners	Macao-China	1.9	(0.2)	6.0	(0.5)	17.1	(0.8)	27.8	(0.9)	27.7	(1.1)	15.0	(0.9)	4.5	(0.5)
Partners	Russian Federation	5.5	(0.8)	15.4	(1.2)	29.3	(1.1)	28.4	(1.2)	16.0	(1.0)	4.7	(0.6)	0.8	(0.2)
Partners	Shanghai-China	0.9	(0.2)	3.3	(0.5)	10.4	(0.9)	18.3	(1.1)	25.6	(1.3)	24.6	(1.1)	16.9	(1.1)
Partners	Singapore	1.2	(0.3)	5.0	(0.5)	12.0	(0.9)	20.1	(0.9)	25.2	(1.0)	21.7	(1.1)	14.8	(0.6)
Partners	Chinese Taipei	2.6	(0.4)	7.4	(0.7)	16.0	(1.0)	23.2	(1.2)	24.5	(1.2)	17.8	(1.3)	8.4	(1.4)
Partners	United Arab Emirates	14.4	(1.0)	28.1	(1.0)	29.7	(1.1)	19.1	(1.0)	7.0	(0.7)	1.5	(0.3)	0.2	(0.1)

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Table B3.I.6 Mean score, variation and gender differences in student performance on the combined mathematics scale

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	**Australia**	506	(1.5)	91	(1.2)	511	(2.2)	500	(1.9)	**11**	(2.9)	358	(2.7)	390	(2.3)	443	(1.7)	568	(2.1)	624	(2.7)	654	(3.1)
	Austria	506	(2.8)	88	(1.8)	517	(4.0)	496	(3.2)	**21**	(4.7)	360	(5.1)	390	(3.8)	444	(3.7)	570	(3.4)	618	(3.5)	646	(4.3)
	Belgium	513	(2.2)	96	(1.4)	520	(2.7)	507	(2.6)	**13**	(3.1)	350	(4.3)	385	(3.3)	448	(3.2)	582	(2.6)	637	(2.9)	666	(2.7)
	Canada	520	(1.9)	85	(0.9)	527	(2.2)	514	(2.0)	**14**	(1.9)	378	(2.9)	410	(2.6)	462	(2.2)	580	(2.1)	629	(2.3)	657	(3.2)
	Chile	427	(2.9)	77	(1.4)	439	(3.6)	417	(3.1)	**22**	(3.6)	309	(3.6)	332	(3.3)	373	(3.1)	479	(3.7)	530	(4.0)	559	(4.0)
	Denmark	498	(2.3)	81	(1.2)	507	(2.8)	490	(2.3)	**17**	(2.3)	363	(4.4)	393	(3.2)	443	(3.2)	554	(2.7)	602	(3.2)	629	(3.7)
	Estonia	518	(1.9)	78	(1.1)	522	(2.3)	515	(2.1)	**7**	(2.4)	390	(3.7)	418	(2.8)	465	(2.7)	572	(2.3)	620	(3.1)	649	(4.0)
	France	502	(2.5)	91	(1.8)	508	(3.2)	496	(2.7)	**12**	(3.0)	346	(5.8)	379	(4.6)	440	(3.0)	566	(2.9)	617	(3.4)	645	(4.5)
	Germany	511	(2.9)	93	(1.6)	517	(3.2)	506	(3.2)	**12**	(2.6)	354	(5.4)	388	(4.6)	448	(3.6)	578	(3.3)	630	(4.0)	659	(4.1)
	Hungary	473	(3.3)	90	(2.3)	479	(3.8)	468	(3.7)	**10**	(3.5)	328	(5.1)	359	(4.4)	412	(4.4)	535	(4.4)	592	(6.3)	624	(7.7)
	Ireland	497	(2.3)	79	(1.4)	506	(3.3)	489	(2.3)	**17**	(3.4)	362	(4.7)	395	(4.2)	445	(2.9)	552	(2.2)	597	(2.3)	624	(2.4)
	Israel	457	(5.0)	104	(2.4)	460	(8.3)	453	(3.6)	7	(8.0)	281	(7.1)	320	(6.7)	385	(5.4)	532	(5.7)	590	(6.3)	623	(5.5)
	Italy	493	(3.7)	82	(2.2)	500	(4.4)	486	(4.2)	**14**	(4.7)	354	(6.3)	386	(5.3)	437	(4.1)	552	(4.4)	600	(4.7)	626	(5.7)
	Japan	538	(3.3)	87	(2.3)	545	(4.4)	529	(3.1)	**16**	(3.9)	391	(6.9)	424	(4.8)	480	(4.1)	598	(3.9)	648	(4.4)	678	(5.6)
	Korea	553	(4.4)	91	(2.1)	561	(5.7)	544	(4.9)	**18**	(6.2)	401	(5.6)	434	(5.0)	491	(4.8)	618	(4.4)	668	(5.7)	696	(6.8)
	Norway	493	(2.4)	85	(1.2)	495	(2.6)	492	(3.0)	3	(2.8)	354	(4.0)	384	(4.0)	435	(3.1)	552	(3.3)	603	(3.1)	631	(3.6)
	Poland	503	(3.6)	85	(1.7)	507	(4.1)	500	(3.7)	**7**	(3.2)	364	(4.2)	395	(3.6)	445	(3.5)	562	(4.7)	614	(5.5)	644	(6.9)
	Portugal	488	(3.2)	86	(1.3)	496	(3.6)	480	(3.2)	**16**	(2.2)	347	(4.7)	376	(3.8)	427	(4.6)	549	(3.5)	600	(3.7)	627	(4.2)
	Slovak Republic	489	(3.3)	90	(2.2)	494	(3.9)	484	(3.8)	**10**	(4.1)	337	(5.8)	371	(6.1)	429	(4.3)	553	(3.6)	604	(4.3)	635	(5.1)
	Slovenia	494	(1.2)	87	(1.0)	495	(1.9)	493	(1.9)	3	(3.0)	355	(2.8)	382	(2.8)	431	(2.0)	557	(2.1)	610	(2.1)	639	(4.1)
	Spain	479	(2.4)	79	(1.1)	485	(2.8)	473	(2.6)	**13**	(2.4)	347	(4.2)	375	(3.4)	425	(3.0)	535	(2.7)	580	(2.7)	605	(2.8)
	Sweden	484	(2.2)	85	(1.3)	487	(2.9)	481	(2.4)	5	(2.8)	348	(3.7)	375	(2.9)	425	(2.7)	543	(2.9)	593	(3.2)	622	(3.6)
	United States	490	(3.7)	86	(1.6)	491	(3.9)	488	(3.9)	2	(2.7)	350	(5.0)	380	(4.6)	430	(3.9)	549	(4.5)	602	(5.1)	635	(5.2)
	OECD total	502	(0.4)	90	(0.4)	507	(0.5)	497	(0.3)	**10**	(0.5)	354	(1.6)	385	(0.8)	440	(0.9)	565	(0.7)	619	(0.7)	651	(1.9)
	OECD average	497	(0.6)	87	(0.3)	503	(0.7)	491	(0.6)	**12**	(0.6)	353	(0.9)	384	(0.8)	438	(0.7)	558	(0.7)	609	(0.7)	638	(0.8)
Partners	**Brazil**	409	(3.9)	77	(2.5)	420	(4.3)	398	(3.9)	**22**	(2.3)	292	(4.5)	315	(3.4)	355	(4.0)	457	(5.0)	512	(8.1)	545	(9.0)
	Colombia	387	(2.7)	68	(1.6)	397	(3.2)	378	(3.1)	**19**	(3.1)	281	(4.3)	304	(3.4)	341	(2.7)	429	(3.3)	475	(4.4)	505	(6.8)
	Hong Kong-China	555	(3.0)	87	(1.9)	563	(4.2)	547	(3.5)	**16**	(4.9)	398	(7.4)	438	(6.2)	502	(4.3)	615	(3.1)	661	(3.2)	687	(3.9)
	Macao-China	541	(0.9)	85	(0.7)	544	(1.3)	537	(1.3)	**8**	(1.8)	394	(3.7)	428	(2.6)	484	(1.5)	601	(1.4)	648	(2.1)	675	(2.2)
	Russian Federation	486	(2.5)	79	(1.3)	489	(3.1)	483	(2.8)	**6**	(2.8)	355	(3.9)	385	(3.6)	432	(3.0)	539	(3.2)	588	(3.6)	616	(3.5)
	Shanghai-China	587	(3.1)	93	(2.0)	594	(3.8)	582	(3.1)	**12**	(2.9)	426	(7.0)	462	(5.1)	524	(4.6)	654	(2.9)	703	(3.2)	731	(4.6)
	Singapore	570	(1.3)	100	(0.9)	569	(1.8)	570	(1.6)	-1	(2.4)	400	(3.8)	436	(2.6)	501	(2.7)	641	(1.7)	695	(2.7)	723	(2.5)
	Chinese Taipei	549	(2.8)	99	(1.8)	554	(4.8)	543	(4.7)	10	(7.7)	379	(5.5)	414	(4.4)	479	(4.2)	620	(2.8)	673	(3.9)	702	(4.3)
	United Arab Emirates	434	(2.1)	82	(1.2)	430	(3.5)	438	(2.5)	**-9**	(4.2)	306	(3.3)	331	(2.5)	376	(2.5)	489	(2.9)	544	(3.4)	577	(3.5)

Note: Values that are statistically significant are indicated in bold (see Annex A3).

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Table B3.I.7 **Percentage of students at each proficiency level on the digital reading scale**

		All students									
		Below Level 2 (less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Above Level 4 (above 625.61 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	12.5	(0.5)	19.8	(0.5)	29.4	(0.6)	24.9	(0.7)	13.4	(0.7)
	Austria	20.2	(1.4)	26.3	(1.2)	30.0	(1.3)	18.4	(1.0)	5.1	(0.7)
	Belgium	17.2	(0.9)	20.2	(0.7)	29.3	(0.9)	24.4	(0.8)	9.0	(0.6)
	Canada	8.5	(0.5)	17.3	(0.6)	31.3	(0.7)	29.4	(0.8)	13.6	(0.7)
	Chile	29.3	(1.7)	32.9	(1.2)	27.1	(1.2)	9.6	(0.8)	1.1	(0.2)
	Denmark	14.2	(1.0)	26.7	(0.9)	34.2	(1.0)	20.3	(1.3)	4.5	(0.6)
	Estonia	11.4	(0.9)	19.8	(0.9)	30.0	(1.0)	25.7	(1.1)	13.1	(0.9)
	France	13.8	(1.2)	19.6	(0.9)	30.6	(1.3)	26.3	(1.0)	9.7	(1.0)
	Germany	19.1	(1.5)	21.7	(1.0)	29.9	(1.3)	21.9	(1.2)	7.4	(0.8)
	Hungary	32.5	(1.4)	24.6	(1.2)	24.8	(1.1)	14.1	(1.0)	4.0	(0.6)
	Ireland	9.4	(0.9)	19.8	(0.9)	34.9	(0.8)	26.8	(1.0)	9.0	(0.7)
	Israel	31.0	(1.8)	22.3	(1.2)	23.5	(1.2)	16.9	(1.3)	6.2	(0.9)
	Italy	15.7	(1.4)	20.9	(1.3)	31.4	(1.3)	23.8	(1.3)	8.2	(0.9)
	Japan	4.9	(0.8)	14.4	(1.0)	32.3	(1.2)	34.1	(1.2)	14.2	(1.1)
	Korea	3.9	(0.5)	11.7	(0.8)	30.8	(1.3)	35.3	(1.2)	18.3	(1.6)
	Norway	16.6	(1.1)	22.0	(0.8)	29.9	(1.0)	22.8	(0.9)	8.6	(0.7)
	Poland	22.4	(1.5)	26.3	(1.0)	29.4	(1.1)	17.4	(1.3)	4.5	(0.7)
	Portugal	19.2	(1.6)	25.7	(1.1)	31.3	(1.4)	19.7	(1.3)	4.1	(0.6)
	Slovak Republic	22.6	(1.5)	25.9	(1.1)	31.1	(1.4)	16.9	(1.0)	3.5	(0.6)
	Slovenia	25.1	(0.7)	26.1	(1.0)	26.9	(1.2)	17.6	(0.8)	4.3	(0.5)
	Spain	26.2	(1.5)	27.1	(1.1)	27.9	(1.1)	15.2	(0.9)	3.7	(0.4)
	Sweden	16.7	(1.1)	23.2	(0.9)	30.2	(1.0)	21.8	(0.9)	8.1	(0.7)
	United States	12.6	(1.4)	22.3	(1.2)	31.5	(1.0)	24.6	(1.3)	9.0	(0.9)
	OECD total	13.8	(0.6)	20.9	(0.5)	30.8	(0.4)	25.0	(0.5)	9.5	(0.4)
	OECD average	17.6	(0.3)	22.5	(0.2)	29.9	(0.2)	22.1	(0.2)	7.9	(0.2)
Partners	Brazil	37.2	(2.2)	30.4	(1.3)	22.8	(1.4)	8.3	(1.0)	1.4	(0.4)
	Colombia	54.9	(1.8)	27.5	(1.1)	13.4	(0.9)	3.7	(0.5)	0.5	(0.2)
	Hong Kong-China	7.6	(0.8)	13.8	(0.8)	26.5	(1.1)	31.0	(1.2)	21.1	(1.3)
	Macao-China	7.0	(0.5)	22.8	(0.7)	39.8	(0.7)	25.3	(0.8)	5.1	(0.5)
	Russian Federation	24.6	(1.6)	31.2	(1.2)	28.5	(1.0)	13.0	(1.0)	2.6	(0.4)
	Shanghai-China	7.9	(1.1)	18.1	(1.1)	32.6	(1.4)	28.9	(1.4)	12.5	(1.2)
	Singapore	4.3	(0.3)	12.5	(0.5)	26.0	(0.7)	30.3	(0.7)	26.8	(0.7)
	Chinese Taipei	11.1	(0.9)	19.3	(0.8)	31.8	(1.0)	27.6	(1.1)	10.3	(0.9)
	United Arab Emirates	50.5	(1.4)	24.2	(0.8)	15.7	(0.8)	7.3	(0.5)	2.3	(0.3)

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[Part 1/2]

Table B3.I.8 **Percentage of students at each proficiency level on the digital reading scale, by gender**

		Boys									
		Below Level 2 (less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Above Level 4 (above 625.61 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	16.3	(0.7)	21.8	(0.7)	29.4	(0.9)	22.0	(0.9)	10.4	(0.8)
	Austria	25.1	(2.1)	27.8	(1.6)	27.1	(1.4)	16.2	(1.5)	3.8	(0.6)
	Belgium	21.0	(1.2)	21.2	(1.1)	28.6	(1.2)	21.7	(1.0)	7.5	(0.7)
	Canada	10.7	(0.7)	19.3	(0.7)	31.3	(1.0)	27.2	(1.1)	11.4	(0.8)
	Chile	31.6	(2.1)	32.6	(1.5)	25.3	(1.4)	9.4	(1.1)	1.2	(0.3)
	Denmark	17.5	(1.2)	29.4	(1.2)	31.6	(1.3)	18.0	(1.5)	3.4	(0.6)
	Estonia	15.9	(1.4)	22.7	(1.4)	30.0	(1.2)	21.9	(1.4)	9.6	(1.1)
	France	16.3	(1.3)	22.3	(1.5)	30.1	(1.3)	23.4	(1.5)	8.0	(1.1)
	Germany	23.1	(1.9)	23.8	(1.2)	29.1	(1.5)	18.2	(1.2)	5.7	(0.8)
	Hungary	38.8	(1.8)	24.0	(1.5)	21.8	(1.2)	11.9	(1.1)	3.4	(0.7)
	Ireland	12.2	(1.3)	22.6	(1.3)	34.8	(1.3)	23.4	(1.3)	7.0	(0.8)
	Israel	35.9	(2.8)	20.9	(1.6)	22.0	(1.7)	16.1	(1.9)	5.1	(1.0)
	Italy	19.4	(1.9)	21.8	(1.7)	29.4	(1.6)	21.3	(1.4)	8.1	(1.1)
	Japan	6.6	(1.1)	16.0	(1.2)	32.4	(1.5)	31.9	(1.5)	13.1	(1.4)
	Korea	5.3	(0.7)	12.1	(1.1)	30.4	(1.6)	33.8	(1.5)	18.5	(2.1)
	Norway	22.4	(1.4)	25.2	(1.0)	28.8	(1.5)	18.4	(1.2)	5.2	(0.6)
	Poland	28.7	(1.8)	26.6	(1.5)	27.3	(1.3)	13.9	(1.3)	3.4	(0.7)
	Portugal	22.8	(2.0)	25.7	(1.4)	29.1	(1.5)	18.5	(1.4)	3.9	(0.7)
	Slovak Republic	26.5	(1.7)	27.2	(1.4)	28.2	(1.8)	14.8	(1.0)	3.4	(0.6)
	Slovenia	31.9	(0.9)	26.7	(1.5)	24.3	(1.5)	14.1	(0.8)	2.9	(0.4)
	Spain	31.1	(1.9)	27.7	(1.3)	25.1	(1.6)	13.0	(1.0)	3.2	(0.4)
	Sweden	22.1	(1.5)	25.1	(1.4)	27.8	(1.2)	18.4	(1.1)	6.6	(0.7)
	United States	17.0	(1.9)	23.8	(1.6)	30.2	(1.3)	21.4	(1.3)	7.6	(0.9)
	OECD total	17.3	(0.7)	22.2	(0.6)	29.7	(0.5)	22.4	(0.5)	8.4	(0.4)
	OECD average	21.7	(0.3)	23.8	(0.3)	28.4	(0.3)	19.5	(0.3)	6.6	(0.2)
Partners	Brazil	41.6	(2.6)	29.4	(2.0)	20.7	(1.8)	7.2	(1.1)	1.1	(0.5)
	Colombia	56.1	(2.0)	26.4	(1.4)	12.9	(1.1)	3.9	(0.8)	0.7	(0.4)
	Hong Kong-China	9.3	(1.1)	15.5	(1.1)	26.5	(1.3)	29.2	(1.5)	19.5	(1.6)
	Macao-China	9.4	(0.7)	25.5	(1.1)	38.1	(1.1)	22.5	(0.9)	4.5	(0.5)
	Russian Federation	28.3	(1.9)	31.7	(1.5)	26.7	(1.3)	11.0	(1.2)	2.3	(0.6)
	Shanghai-China	9.5	(1.4)	18.7	(1.3)	33.0	(1.6)	27.2	(1.7)	11.7	(1.2)
	Singapore	6.2	(0.5)	13.6	(0.8)	26.9	(1.0)	28.5	(1.0)	24.8	(0.9)
	Chinese Taipei	14.4	(1.3)	19.9	(1.2)	30.1	(1.5)	25.9	(1.4)	9.7	(1.2)
	United Arab Emirates	60.2	(2.0)	20.0	(1.2)	11.7	(1.0)	6.0	(0.7)	2.2	(0.4)

[Part 2/2]

Table B3.I.8 **Percentage of students at each proficiency level on the digital reading scale, by gender**

		Girls									
		Below Level 2 (less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Above Level 4 (above 625.61 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	8.4	(0.5)	17.7	(0.6)	29.4	(0.8)	27.9	(0.9)	16.6	(0.9)
	Austria	15.4	(1.5)	24.8	(1.7)	32.8	(1.8)	20.5	(1.4)	6.4	(1.2)
	Belgium	13.4	(1.1)	19.1	(0.8)	30.0	(1.1)	27.1	(1.1)	10.4	(0.9)
	Canada	6.2	(0.6)	15.2	(0.6)	31.3	(1.0)	31.6	(0.9)	15.8	(0.9)
	Chile	27.2	(2.1)	33.3	(1.6)	28.7	(1.6)	9.8	(0.9)	1.1	(0.2)
	Denmark	10.9	(0.9)	24.0	(1.2)	36.9	(1.3)	22.6	(1.5)	5.6	(0.8)
	Estonia	7.0	(0.8)	16.9	(0.9)	30.0	(1.4)	29.4	(1.3)	16.6	(1.3)
	France	11.4	(1.3)	17.1	(1.1)	31.2	(2.0)	29.1	(1.5)	11.3	(1.1)
	Germany	15.0	(1.5)	19.5	(1.2)	30.6	(1.6)	25.7	(1.5)	9.1	(1.0)
	Hungary	26.6	(1.6)	25.2	(1.6)	27.6	(1.5)	16.0	(1.3)	4.6	(0.7)
	Ireland	6.5	(0.9)	17.0	(1.2)	35.1	(1.3)	30.3	(1.3)	11.1	(1.0)
	Israel	26.3	(1.5)	23.6	(1.3)	25.0	(1.6)	17.7	(1.2)	7.3	(1.0)
	Italy	11.3	(1.6)	19.7	(1.5)	33.8	(1.8)	26.7	(1.8)	8.4	(1.0)
	Japan	3.1	(0.6)	12.7	(1.2)	32.2	(1.7)	36.6	(1.6)	15.5	(1.5)
	Korea	2.4	(0.5)	11.3	(1.3)	31.3	(1.9)	37.0	(1.7)	18.0	(1.8)
	Norway	10.6	(1.0)	18.7	(1.1)	31.0	(1.2)	27.5	(1.5)	12.2	(1.1)
	Poland	16.4	(1.6)	26.0	(1.2)	31.4	(1.4)	20.8	(1.6)	5.5	(0.9)
	Portugal	15.5	(1.6)	25.7	(1.3)	33.6	(1.8)	20.9	(1.6)	4.4	(0.7)
	Slovak Republic	18.3	(1.9)	24.6	(1.4)	34.4	(1.7)	19.2	(1.5)	3.5	(0.7)
	Slovenia	17.8	(1.0)	25.5	(1.1)	29.7	(1.3)	21.3	(1.3)	5.7	(0.9)
	Spain	21.2	(1.5)	26.4	(1.5)	30.7	(1.4)	17.5	(1.2)	4.2	(0.6)
	Sweden	11.2	(1.1)	21.3	(1.1)	32.5	(1.2)	25.3	(1.2)	9.6	(1.0)
	United States	8.0	(1.2)	20.7	(1.5)	32.9	(1.3)	27.9	(1.7)	10.5	(1.2)
	OECD total	10.1	(0.5)	19.5	(0.6)	31.9	(0.5)	27.8	(0.8)	10.8	(0.5)
	OECD average	13.5	(0.3)	21.1	(0.3)	31.4	(0.3)	24.7	(0.3)	9.3	(0.2)
Partners	Brazil	33.1	(2.2)	31.4	(1.6)	24.7	(1.6)	9.3	(1.2)	1.6	(0.5)
	Colombia	53.8	(2.2)	28.6	(1.4)	13.9	(1.1)	3.4	(0.6)	0.3	(0.1)
	Hong Kong-China	5.5	(0.7)	11.9	(1.1)	26.5	(1.6)	33.1	(1.4)	22.9	(1.7)
	Macao-China	4.4	(0.4)	20.0	(0.9)	41.5	(1.0)	28.3	(1.4)	5.8	(0.8)
	Russian Federation	20.9	(1.7)	30.7	(1.4)	30.3	(1.3)	15.0	(1.1)	3.0	(0.5)
	Shanghai-China	6.4	(1.0)	17.5	(1.3)	32.3	(1.6)	30.6	(1.7)	13.2	(1.4)
	Singapore	2.5	(0.4)	11.4	(0.6)	25.1	(1.0)	32.2	(1.1)	28.8	(0.9)
	Chinese Taipei	7.9	(0.9)	18.7	(1.2)	33.4	(1.3)	29.2	(1.3)	10.9	(1.3)
	United Arab Emirates	41.2	(1.8)	28.3	(1.1)	19.5	(1.1)	8.5	(0.7)	2.5	(0.3)

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Table B3.I.9 **Mean score, variation and gender differences in student performance on the digital reading scale**

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	Australia	521	(1.7)	97	(1.1)	506	(2.5)	536	(2.0)	**-31**	(2.9)	354	(3.1)	394	(2.6)	458	(2.2)	588	(2.2)	642	(3.0)	672	(3.0)
	Austria	480	(3.9)	104	(4.3)	467	(5.3)	493	(4.6)	**-27**	(6.1)	314	(11.3)	361	(6.8)	424	(4.7)	549	(4.2)	600	(4.5)	626	(4.9)
	Belgium	502	(2.6)	100	(1.8)	490	(3.4)	515	(3.3)	**-25**	(4.0)	323	(5.9)	367	(4.5)	441	(4.3)	574	(2.5)	621	(3.0)	648	(3.1)
	Canada	532	(2.3)	89	(1.2)	522	(2.5)	543	(2.5)	**-21**	(1.8)	379	(4.1)	418	(3.3)	478	(2.8)	592	(2.5)	639	(2.3)	667	(3.1)
	Chile	452	(3.6)	82	(1.8)	447	(4.4)	457	(4.1)	**-9**	(4.4)	312	(5.8)	346	(5.6)	397	(4.2)	509	(4.2)	556	(3.8)	581	(3.7)
	Denmark	495	(2.9)	83	(1.5)	483	(3.3)	506	(2.9)	**-23**	(2.4)	352	(5.4)	386	(5.1)	442	(3.6)	553	(3.3)	597	(3.2)	622	(4.5)
	Estonia	523	(2.8)	93	(1.9)	504	(3.2)	541	(3.0)	**-37**	(2.8)	365	(5.9)	400	(5.6)	462	(3.9)	589	(3.5)	640	(4.0)	667	(4.0)
	France	511	(3.6)	98	(4.2)	499	(4.0)	522	(4.0)	**-22**	(3.6)	334	(13.1)	384	(8.1)	455	(4.5)	579	(3.6)	624	(4.1)	650	(5.5)
	Germany	494	(4.0)	99	(3.4)	479	(4.3)	509	(4.1)	**-30**	(3.0)	318	(8.5)	358	(7.8)	431	(6.1)	564	(3.9)	613	(4.4)	639	(4.4)
	Hungary	450	(4.4)	112	(3.9)	433	(5.2)	466	(4.7)	**-33**	(4.9)	247	(13.2)	297	(10.6)	378	(5.5)	531	(4.8)	586	(5.6)	617	(5.7)
	Ireland	520	(3.0)	82	(1.8)	508	(4.0)	533	(3.3)	**-25**	(4.3)	375	(6.6)	412	(5.5)	469	(3.7)	578	(3.4)	622	(3.1)	647	(3.7)
	Israel	461	(5.1)	117	(3.2)	447	(7.1)	474	(4.7)	**-27**	(6.4)	257	(9.0)	304	(7.9)	384	(6.7)	547	(5.6)	604	(6.5)	633	(5.7)
	Italy	504	(4.3)	95	(2.8)	494	(5.4)	516	(5.0)	**-21**	(6.0)	334	(10.3)	375	(8.3)	446	(6.1)	571	(4.2)	618	(4.0)	644	(4.4)
	Japan	545	(3.3)	78	(2.1)	537	(4.2)	553	(3.3)	**-16**	(3.8)	409	(7.8)	444	(5.5)	496	(3.9)	599	(3.0)	640	(4.1)	663	(4.2)
	Korea	555	(3.6)	81	(2.0)	552	(4.8)	559	(3.9)	-7	(5.1)	420	(5.9)	456	(4.4)	508	(3.6)	609	(4.4)	652	(5.0)	677	(5.9)
	Norway	500	(3.5)	100	(2.6)	477	(3.9)	523	(3.6)	**-46**	(3.1)	321	(10.2)	370	(6.9)	440	(4.4)	569	(3.2)	619	(3.8)	647	(4.9)
	Poland	477	(4.5)	96	(2.5)	459	(4.7)	493	(4.7)	**-34**	(3.4)	305	(8.8)	349	(7.3)	416	(5.0)	545	(4.3)	593	(5.0)	622	(5.5)
	Portugal	486	(4.4)	89	(2.3)	477	(4.9)	495	(4.2)	**-17**	(3.0)	330	(7.7)	367	(6.3)	427	(5.8)	550	(4.5)	595	(4.2)	619	(5.0)
	Slovak Republic	474	(3.5)	95	(2.8)	465	(3.8)	484	(4.5)	**-19**	(4.3)	301	(8.0)	344	(9.1)	417	(5.8)	541	(3.2)	587	(4.1)	613	(5.8)
	Slovenia	471	(1.3)	99	(1.1)	452	(1.3)	492	(2.2)	**-39**	(2.7)	297	(3.7)	340	(3.3)	407	(2.4)	543	(2.3)	593	(3.4)	621	(4.7)
	Spain	466	(3.9)	98	(2.4)	453	(4.7)	480	(3.6)	**-27**	(3.1)	294	(9.2)	336	(7.3)	404	(5.0)	535	(3.7)	586	(3.8)	615	(3.9)
	Sweden	498	(3.4)	96	(1.7)	482	(4.3)	515	(3.2)	**-33**	(3.3)	329	(7.8)	373	(5.2)	438	(4.1)	566	(3.3)	616	(3.7)	644	(4.2)
	United States	511	(4.5)	89	(2.2)	497	(4.8)	526	(4.5)	**-28**	(2.6)	358	(8.8)	394	(8.3)	454	(5.8)	573	(4.2)	621	(4.5)	649	(5.1)
	OECD total	510	(0.2)	94	(0.9)	499	(0.4)	522	(0.4)	**-23**	(0.7)	344	(1.7)	386	(3.2)	452	(1.4)	576	(0.5)	624	(1.6)	651	(2.0)
	OECD average	497	(0.6)	94	(0.4)	484	(0.7)	510	(0.7)	**-26**	(0.6)	332	(1.3)	373	(1.2)	438	(0.8)	563	(0.7)	611	(0.8)	638	(0.9)
Partners	Brazil	436	(4.9)	92	(2.7)	426	(5.6)	445	(4.7)	**-19**	(3.2)	280	(9.3)	316	(7.1)	375	(6.2)	501	(5.6)	552	(5.4)	581	(6.1)
	Colombia	396	(4.0)	92	(2.9)	393	(4.7)	398	(4.4)	-4	(4.3)	247	(6.8)	280	(5.7)	336	(4.8)	457	(4.3)	512	(5.0)	546	(6.0)
	Hong Kong-China	550	(3.6)	94	(2.4)	541	(4.4)	560	(4.2)	**-19**	(5.0)	381	(7.8)	427	(6.0)	493	(5.0)	615	(4.1)	663	(4.1)	690	(4.2)
	Macao-China	515	(0.9)	70	(0.8)	506	(1.4)	525	(1.1)	**-18**	(1.7)	395	(2.9)	424	(2.5)	469	(1.5)	564	(1.6)	604	(2.0)	627	(3.5)
	Russian Federation	466	(3.9)	86	(1.6)	457	(4.2)	474	(4.1)	**-18**	(3.0)	321	(6.3)	354	(5.7)	409	(4.8)	525	(4.0)	576	(4.2)	604	(4.4)
	Shanghai-China	531	(3.7)	84	(2.4)	526	(4.3)	536	(3.7)	**-10**	(2.8)	385	(7.8)	420	(7.1)	477	(4.8)	590	(3.8)	635	(4.7)	662	(4.9)
	Singapore	567	(1.2)	90	(0.9)	558	(1.8)	576	(1.6)	**-18**	(2.2)	415	(3.4)	449	(2.6)	508	(1.8)	631	(2.2)	681	(2.0)	711	(3.1)
	Chinese Taipei	519	(3.0)	89	(1.9)	511	(4.2)	528	(3.8)	**-17**	(5.3)	361	(7.3)	401	(5.3)	464	(3.5)	582	(3.2)	627	(4.1)	651	(4.4)
	United Arab Emirates	407	(3.3)	110	(2.0)	381	(5.2)	431	(3.9)	**-50**	(6.5)	226	(5.6)	265	(4.8)	331	(4.1)	481	(4.3)	550	(4.8)	591	(5.4)

Note: Values that are statistically significant are indicated in bold (see Annex A3).

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[Part 1/1]

Table B3.I.10 **Percentage of students at each proficiency level on the combined reading scale**

		All students															
		Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to 698.32 score points)		Level 6 (above 698.32 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	0.6	(0.1)	2.7	(0.2)	9.2	(0.4)	21.1	(0.5)	30.5	(0.6)	24.3	(0.5)	10.0	(0.5)	1.7	(0.2)
	Austria	1.9	(0.5)	3.9	(0.5)	13.8	(0.9)	25.3	(1.1)	31.2	(1.1)	19.5	(1.0)	4.2	(0.6)	0.2	(0.1)
	Belgium	1.2	(0.2)	4.1	(0.4)	10.6	(0.7)	20.8	(0.6)	29.0	(0.8)	25.5	(0.7)	8.3	(0.5)	0.6	(0.1)
	Canada	0.3	(0.1)	1.4	(0.2)	6.5	(0.4)	18.6	(0.6)	33.1	(0.6)	29.0	(0.7)	9.9	(0.5)	1.3	(0.2)
	Chile	0.7	(0.2)	6.6	(0.7)	22.4	(1.2)	36.6	(1.2)	26.0	(1.2)	7.2	(0.7)	0.5	(0.1)	0.0	c
	Denmark	0.4	(0.1)	2.5	(0.3)	10.7	(0.7)	26.7	(0.9)	35.5	(1.1)	20.0	(0.9)	4.0	(0.5)	0.1	(0.1)
	Estonia	0.2	(0.1)	1.2	(0.2)	7.9	(0.6)	21.7	(0.9)	33.4	(0.9)	26.0	(0.9)	8.5	(0.6)	1.0	(0.2)
	France	1.5	(0.3)	4.0	(0.5)	10.2	(0.7)	19.7	(0.9)	29.0	(1.2)	25.3	(0.9)	9.2	(0.7)	1.0	(0.3)
	Germany	0.7	(0.2)	3.7	(0.5)	11.7	(0.9)	22.3	(0.9)	30.5	(1.1)	24.3	(1.1)	6.4	(0.6)	0.4	(0.1)
	Hungary	2.3	(0.5)	7.9	(0.9)	16.1	(1.2)	24.7	(1.5)	28.1	(1.1)	17.2	(0.9)	3.6	(0.6)	0.2	(0.1)
	Ireland	0.2	(0.1)	1.3	(0.3)	7.1	(0.6)	19.9	(0.9)	35.6	(1.1)	26.9	(1.1)	8.2	(0.7)	0.7	(0.2)
	Israel	3.6	(0.5)	7.6	(0.8)	15.5	(1.1)	22.0	(1.0)	25.9	(1.1)	19.1	(1.2)	5.8	(0.6)	0.5	(0.1)
	Italy	1.1	(0.3)	3.9	(0.7)	11.7	(0.9)	23.1	(1.2)	32.0	(1.3)	22.7	(1.2)	5.2	(0.7)	0.3	(0.1)
	Japan	0.2	(0.1)	1.3	(0.3)	5.0	(0.6)	15.6	(0.9)	30.4	(1.0)	32.7	(1.2)	13.1	(1.0)	1.7	(0.3)
	Korea	0.2	(0.1)	1.0	(0.2)	3.5	(0.5)	13.5	(1.0)	32.7	(1.3)	35.0	(1.1)	12.9	(1.2)	1.2	(0.3)
	Norway	1.4	(0.3)	3.6	(0.4)	10.6	(0.7)	22.1	(0.7)	31.5	(1.0)	22.8	(1.0)	7.1	(0.7)	0.9	(0.2)
	Poland	0.7	(0.2)	3.4	(0.5)	10.6	(0.9)	24.9	(1.2)	33.0	(1.0)	21.5	(1.1)	5.3	(0.7)	0.5	(0.2)
	Portugal	0.8	(0.2)	4.3	(0.5)	13.0	(1.0)	26.2	(1.0)	32.2	(1.3)	19.8	(1.1)	3.5	(0.4)	0.1	(0.1)
	Slovak Republic	2.5	(0.6)	7.3	(0.8)	15.3	(0.9)	25.6	(1.0)	30.1	(1.5)	16.1	(1.0)	3.0	(0.5)	0.1	(0.1)
	Slovenia	1.3	(0.1)	5.6	(0.4)	15.6	(0.6)	27.4	(0.9)	28.5	(1.1)	18.0	(0.6)	3.5	(0.4)	0.2	(0.1)
	Spain	1.2	(0.2)	5.1	(0.5)	15.1	(0.7)	28.3	(0.9)	31.2	(0.9)	16.2	(0.8)	2.9	(0.4)	0.1	(0.1)
	Sweden	1.4	(0.3)	4.8	(0.5)	12.4	(0.8)	24.4	(0.9)	30.0	(0.8)	20.3	(0.9)	6.1	(0.5)	0.6	(0.2)
	United States	0.4	(0.2)	2.8	(0.5)	10.1	(1.0)	24.6	(1.3)	32.0	(1.1)	22.5	(1.2)	6.8	(0.6)	0.8	(0.2)
	OECD total	0.7	(0.1)	3.1	(0.2)	9.9	(0.4)	22.3	(0.5)	31.2	(0.4)	24.3	(0.5)	7.7	(0.3)	0.8	(0.1)
	OECD average	1.1	(0.1)	3.9	(0.1)	11.5	(0.2)	23.3	(0.2)	30.9	(0.2)	22.3	(0.2)	6.4	(0.1)	0.6	(0.0)
Partners	Brazil	2.9	(0.6)	11.5	(1.1)	27.4	(1.4)	32.4	(1.6)	19.8	(1.3)	5.5	(0.8)	0.5	(0.2)	0.0	(0.0)
	Colombia	4.7	(0.7)	16.6	(1.0)	32.7	(1.2)	29.7	(1.1)	13.1	(0.9)	2.9	(0.4)	0.2	(0.1)	0.0	c
	Hong Kong-China	0.2	(0.1)	1.3	(0.2)	4.9	(0.6)	13.5	(0.8)	28.8	(1.1)	34.5	(1.1)	15.2	(0.9)	1.7	(0.3)
	Macao-China	0.1	(0.0)	1.1	(0.2)	6.8	(0.5)	23.0	(0.8)	39.2	(0.7)	25.2	(0.6)	4.4	(0.4)	0.1	(0.1)
	Russian Federation	0.5	(0.1)	4.6	(0.5)	17.0	(1.0)	32.2	(1.2)	29.8	(1.0)	13.5	(1.0)	2.4	(0.3)	0.1	(0.1)
	Shanghai-China	0.1	(0.0)	0.5	(0.1)	3.8	(0.6)	13.9	(1.0)	30.4	(1.1)	34.7	(1.3)	14.9	(1.0)	1.7	(0.5)
	Singapore	0.1	(0.1)	1.0	(0.2)	4.9	(0.4)	14.8	(0.6)	26.6	(0.8)	29.7	(0.7)	17.8	(0.6)	5.1	(0.4)
	Chinese Taipei	0.4	(0.1)	2.3	(0.4)	7.7	(0.6)	18.9	(0.9)	32.0	(1.1)	28.8	(1.1)	9.0	(0.7)	0.8	(0.2)
	United Arab Emirates	4.8	(0.4)	13.8	(0.7)	24.5	(0.8)	28.0	(0.7)	19.2	(0.8)	8.0	(0.6)	1.6	(0.2)	0.1	(0.1)

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[Part 1/2]

Table B3.I.11 **Percentage of students at each proficiency level on the combined reading scale, by gender**

		Boys															
		Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to 698.32 score points)		Level 6 (above 698.32 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	0.9	(0.2)	3.9	(0.3)	12.0	(0.6)	23.3	(0.7)	30.0	(0.8)	21.0	(0.7)	7.7	(0.6)	1.3	(0.3)
OECD	Austria	2.0	(0.6)	5.6	(0.9)	17.9	(1.4)	26.4	(1.5)	28.9	(1.2)	15.9	(1.3)	3.0	(0.6)	0.2	(0.1)
OECD	Belgium	1.9	(0.4)	5.5	(0.6)	12.5	(1.0)	22.1	(0.9)	28.6	(1.1)	22.3	(0.9)	6.8	(0.6)	0.4	(0.1)
OECD	Canada	0.4	(0.1)	2.2	(0.3)	8.7	(0.5)	21.6	(0.9)	33.1	(0.9)	25.4	(0.8)	7.7	(0.5)	0.9	(0.2)
OECD	Chile	1.1	(0.3)	8.7	(1.1)	24.7	(1.5)	35.1	(1.6)	23.6	(1.5)	6.4	(0.8)	0.4	(0.1)	0.0	c
OECD	Denmark	0.7	(0.2)	3.6	(0.5)	13.1	(0.9)	30.0	(1.3)	33.0	(1.5)	16.8	(1.1)	2.7	(0.4)	0.1	(0.1)
OECD	Estonia	0.3	(0.1)	2.2	(0.4)	11.6	(1.0)	26.3	(1.3)	32.8	(1.3)	20.9	(1.4)	5.6	(0.7)	0.5	(0.1)
OECD	France	2.5	(0.6)	5.1	(0.7)	12.2	(0.9)	22.5	(1.3)	27.7	(1.3)	22.3	(1.3)	6.8	(0.9)	0.8	(0.4)
OECD	Germany	1.1	(0.4)	5.2	(0.8)	14.9	(1.1)	24.8	(1.2)	30.4	(1.2)	19.6	(1.1)	3.9	(0.5)	0.2	(0.1)
OECD	Hungary	3.4	(0.7)	10.6	(1.3)	19.3	(1.9)	25.6	(2.0)	24.3	(1.3)	14.1	(1.1)	2.6	(0.6)	0.1	(0.1)
OECD	Ireland	0.3	(0.2)	2.0	(0.4)	9.4	(1.0)	22.8	(1.2)	35.5	(1.3)	23.4	(1.2)	6.1	(0.8)	0.4	(0.2)
OECD	Israel	5.6	(0.8)	10.7	(1.5)	17.7	(1.6)	20.0	(1.4)	23.1	(1.6)	17.4	(1.8)	5.1	(0.9)	0.4	(0.2)
OECD	Italy	1.6	(0.5)	5.8	(0.9)	14.9	(1.3)	24.6	(1.5)	29.7	(1.7)	19.0	(1.2)	4.3	(0.7)	0.2	(0.1)
OECD	Japan	0.3	(0.2)	2.0	(0.6)	6.6	(0.8)	17.4	(1.2)	29.8	(1.3)	30.6	(1.4)	11.8	(1.3)	1.5	(0.4)
OECD	Korea	0.4	(0.1)	1.5	(0.3)	4.8	(0.7)	15.4	(1.3)	32.0	(1.6)	32.8	(1.6)	12.0	(1.5)	1.3	(0.4)
OECD	Norway	2.2	(0.5)	5.2	(0.6)	14.3	(1.0)	25.1	(1.0)	30.6	(1.3)	18.1	(1.1)	4.3	(0.6)	0.3	(0.1)
OECD	Poland	1.3	(0.4)	5.3	(0.8)	14.6	(1.1)	27.6	(1.5)	29.9	(1.3)	17.4	(1.3)	3.7	(0.7)	0.3	(0.2)
OECD	Portugal	1.4	(0.4)	6.2	(0.9)	15.5	(1.2)	27.4	(1.2)	30.0	(1.4)	16.8	(1.2)	2.7	(0.5)	0.1	(0.1)
OECD	Slovak Republic	2.8	(0.7)	8.8	(1.0)	19.0	(1.1)	27.3	(1.3)	26.3	(1.7)	13.0	(1.0)	2.6	(0.6)	0.1	c
OECD	Slovenia	2.2	(0.2)	8.6	(0.6)	20.0	(0.8)	29.2	(1.3)	24.7	(1.6)	13.3	(1.0)	2.0	(0.4)	0.0	c
OECD	Spain	1.9	(0.3)	7.1	(0.8)	17.9	(0.9)	29.7	(1.3)	27.5	(1.4)	13.3	(0.9)	2.5	(0.4)	0.1	(0.1)
OECD	Sweden	2.4	(0.4)	7.1	(0.8)	16.4	(1.3)	25.9	(1.4)	27.5	(1.2)	15.9	(1.1)	4.3	(0.6)	0.4	(0.2)
OECD	United States	0.8	(0.3)	4.2	(0.8)	13.5	(1.4)	26.3	(1.5)	29.3	(1.2)	20.1	(1.3)	5.4	(0.7)	0.4	(0.2)
OECD	OECD total	1.1	(0.1)	4.4	(0.3)	12.6	(0.6)	24.0	(0.5)	29.4	(0.5)	21.6	(0.5)	6.3	(0.3)	0.6	(0.1)
OECD	OECD average	1.6	(0.1)	5.5	(0.2)	14.4	(0.2)	25.1	(0.3)	29.0	(0.3)	19.0	(0.2)	5.0	(0.1)	0.4	(0.0)
Partners	Brazil	4.3	(0.9)	13.6	(1.3)	30.0	(1.8)	30.4	(1.9)	16.4	(1.4)	4.9	(0.9)	0.4	(0.2)	0.0	c
Partners	Colombia	5.9	(1.0)	18.9	(1.1)	32.5	(1.5)	27.1	(1.4)	12.1	(1.1)	3.1	(0.6)	0.3	(0.2)	0.0	c
Partners	Hong Kong-China	0.3	(0.1)	1.8	(0.3)	5.9	(0.8)	16.2	(1.1)	28.8	(1.3)	32.4	(1.3)	13.2	(1.1)	1.4	(0.4)
Partners	Macao-China	0.2	(0.1)	1.8	(0.3)	9.7	(0.6)	26.4	(0.9)	37.5	(0.9)	21.0	(0.8)	3.3	(0.4)	0.1	c
Partners	Russian Federation	0.8	(0.3)	6.4	(0.7)	20.5	(1.3)	33.5	(1.7)	26.8	(1.3)	10.2	(1.0)	1.7	(0.4)	0.1	c
Partners	Shanghai-China	0.1	(0.1)	0.7	(0.2)	4.8	(0.7)	16.2	(1.3)	31.2	(1.5)	32.3	(1.7)	13.2	(1.1)	1.4	(0.5)
Partners	Singapore	0.2	(0.1)	1.7	(0.4)	6.7	(0.6)	16.4	(0.9)	26.9	(1.0)	28.3	(0.9)	15.5	(0.8)	4.2	(0.5)
Partners	Chinese Taipei	0.7	(0.2)	3.4	(0.7)	10.6	(0.9)	19.7	(1.3)	30.9	(1.5)	26.8	(1.4)	7.3	(0.9)	0.6	(0.2)
Partners	United Arab Emirates	8.6	(0.9)	20.4	(1.2)	26.5	(1.2)	23.2	(1.2)	14.0	(1.0)	6.0	(0.7)	1.3	(0.3)	0.1	(0.1)

[Part 2/2]

Table B3.I.11 **Percentage of students at each proficiency level on the combined reading scale, by gender**

		Girls															
		Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to 698.32 score points)		Level 6 (above 698.32 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	0.3	(0.1)	1.4	(0.2)	6.2	(0.5)	18.7	(0.7)	31.1	(1.0)	27.8	(1.0)	12.5	(0.9)	2.1	(0.3)
OECD	Austria	1.7	(0.5)	2.1	(0.6)	9.6	(1.0)	24.2	(1.4)	33.6	(1.6)	23.1	(1.4)	5.5	(0.8)	0.2	(0.1)
OECD	Belgium	0.5	(0.1)	2.7	(0.5)	8.6	(0.8)	19.4	(0.8)	29.5	(1.0)	28.7	(1.0)	9.8	(0.7)	0.8	(0.2)
OECD	Canada	0.1	(0.0)	0.7	(0.2)	4.3	(0.4)	15.6	(0.7)	33.0	(1.0)	32.5	(1.0)	12.0	(0.7)	1.7	(0.3)
OECD	Chile	0.4	(0.3)	4.7	(0.7)	20.2	(1.4)	38.0	(1.5)	28.2	(1.5)	8.0	(0.8)	0.5	(0.1)	0.0	c
OECD	Denmark	0.1	(0.1)	1.3	(0.3)	8.4	(0.7)	23.5	(1.1)	38.0	(1.2)	23.3	(1.1)	5.3	(0.8)	0.1	(0.1)
OECD	Estonia	0.1	(0.1)	0.3	(0.2)	4.4	(0.6)	17.1	(1.1)	34.0	(1.4)	31.0	(1.2)	11.5	(0.9)	1.6	(0.4)
OECD	France	0.4	(0.2)	2.9	(0.6)	8.4	(0.9)	17.1	(1.0)	30.3	(1.7)	28.2	(1.3)	11.5	(0.9)	1.3	(0.4)
OECD	Germany	0.3	(0.2)	2.2	(0.4)	8.4	(0.9)	19.7	(1.2)	30.7	(1.5)	29.2	(1.4)	8.9	(0.9)	0.5	(0.2)
OECD	Hungary	1.2	(0.4)	5.3	(0.9)	13.1	(1.1)	23.8	(1.6)	31.6	(1.4)	20.2	(1.1)	4.5	(0.7)	0.2	(0.1)
OECD	Ireland	0.1	(0.1)	0.7	(0.3)	4.7	(0.6)	16.9	(1.3)	35.8	(1.6)	30.6	(1.5)	10.4	(0.9)	0.9	(0.3)
OECD	Israel	1.7	(0.5)	4.7	(0.6)	13.3	(1.0)	23.9	(1.1)	28.7	(1.2)	20.6	(1.2)	6.4	(0.7)	0.7	(0.2)
OECD	Italy	0.4	(0.3)	1.8	(0.6)	8.1	(1.0)	21.3	(1.6)	34.6	(1.8)	26.9	(1.7)	6.3	(1.0)	0.4	(0.2)
OECD	Japan	0.0	c	0.6	(0.3)	3.2	(0.5)	13.6	(1.1)	31.0	(1.4)	34.9	(1.4)	14.7	(1.2)	2.0	(0.4)
OECD	Korea	0.0	c	0.5	(0.2)	2.1	(0.5)	11.4	(1.3)	33.5	(1.8)	37.5	(1.6)	13.8	(1.5)	1.1	(0.4)
OECD	Norway	0.5	(0.2)	1.9	(0.4)	6.7	(0.7)	19.0	(1.0)	32.6	(1.3)	27.9	(1.3)	10.1	(1.1)	1.4	(0.4)
OECD	Poland	0.1	(0.1)	1.6	(0.4)	6.8	(0.9)	22.4	(1.5)	36.0	(1.3)	25.5	(1.5)	6.8	(0.9)	0.7	(0.3)
OECD	Portugal	0.2	(0.1)	2.3	(0.5)	10.4	(1.1)	25.1	(1.3)	34.5	(1.5)	23.0	(1.4)	4.4	(0.5)	0.1	(0.1)
OECD	Slovak Republic	2.2	(0.6)	5.6	(1.0)	11.3	(1.2)	23.7	(1.5)	34.2	(1.9)	19.5	(1.5)	3.4	(0.7)	0.1	(0.1)
OECD	Slovenia	0.3	(0.1)	2.4	(0.4)	10.9	(0.8)	25.5	(1.1)	32.5	(1.1)	22.9	(1.0)	5.1	(0.8)	0.3	(0.2)
OECD	Spain	0.4	(0.2)	3.0	(0.5)	12.2	(0.8)	26.8	(1.2)	34.9	(1.6)	19.1	(1.2)	3.3	(0.5)	0.2	(0.1)
OECD	Sweden	0.4	(0.2)	2.4	(0.4)	8.3	(0.7)	22.9	(1.1)	32.5	(1.2)	24.8	(1.1)	7.8	(0.7)	0.8	(0.2)
OECD	United States	0.0	(0.0)	1.4	(0.4)	6.7	(1.0)	22.9	(1.5)	34.7	(1.4)	24.9	(1.5)	8.2	(0.9)	1.1	(0.3)
OECD	OECD total	0.2	(0.0)	1.7	(0.2)	7.1	(0.4)	20.5	(0.6)	33.1	(0.5)	27.1	(0.6)	9.2	(0.4)	1.0	(0.1)
OECD	OECD average	0.5	(0.1)	2.3	(0.1)	8.5	(0.2)	21.4	(0.3)	32.8	(0.3)	25.7	(0.3)	8.0	(0.2)	0.8	(0.1)
Partners	Brazil	1.6	(0.5)	9.5	(1.2)	25.0	(1.8)	34.2	(2.0)	22.9	(1.6)	6.1	(0.9)	0.7	(0.2)	0.0	(0.0)
Partners	Colombia	3.6	(0.6)	14.6	(1.3)	32.9	(1.5)	32.0	(1.4)	14.0	(1.1)	2.7	(0.4)	0.2	(0.1)	0.0	c
Partners	Hong Kong-China	0.1	c	0.6	(0.2)	3.7	(0.5)	10.5	(1.0)	28.7	(1.6)	36.9	(1.4)	17.5	(1.4)	2.0	(0.5)
Partners	Macao-China	0.0	c	0.4	(0.2)	3.8	(0.6)	19.5	(1.1)	41.0	(1.0)	29.6	(1.0)	5.6	(0.7)	0.2	(0.1)
Partners	Russian Federation	0.2	(0.1)	2.7	(0.4)	13.5	(1.3)	30.8	(1.3)	32.7	(1.4)	16.7	(1.5)	3.2	(0.5)	0.1	(0.1)
Partners	Shanghai-China	0.0	c	0.3	(0.2)	2.8	(0.5)	11.7	(1.0)	29.6	(1.4)	37.0	(1.5)	16.6	(1.2)	2.0	(0.7)
Partners	Singapore	0.0	c	0.3	(0.1)	3.1	(0.4)	13.1	(0.7)	26.2	(1.1)	31.1	(1.1)	20.2	(0.9)	6.1	(0.6)
Partners	Chinese Taipei	0.2	(0.1)	1.3	(0.3)	4.9	(0.5)	18.1	(1.1)	33.1	(1.4)	30.7	(1.6)	10.7	(1.4)	1.0	(0.3)
Partners	United Arab Emirates	1.2	(0.3)	7.5	(0.8)	22.7	(1.0)	32.7	(1.0)	24.2	(1.1)	9.9	(0.8)	1.8	(0.3)	0.1	(0.1)

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Table B3.I.12 Mean score, variation and gender differences in student performance on the combined reading scale

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	Australia	516	(1.5)	93	(1.0)	500	(2.2)	533	(1.8)	**-33**	(2.8)	355	(3.0)	394	(2.5)	456	(1.9)	581	(2.0)	633	(2.4)	662	(2.7)
	Austria	485	(3.0)	92	(2.4)	469	(4.3)	501	(3.7)	**-32**	(5.3)	325	(9.5)	366	(5.7)	427	(4.2)	550	(3.0)	597	(3.4)	622	(3.9)
	Belgium	506	(2.2)	96	(1.4)	491	(2.9)	520	(2.8)	**-29**	(3.6)	332	(4.5)	375	(4.4)	444	(3.7)	576	(2.1)	621	(2.4)	646	(2.6)
	Canada	528	(1.8)	84	(0.9)	514	(2.1)	542	(1.9)	**-28**	(1.9)	381	(3.1)	418	(2.5)	475	(2.1)	586	(1.9)	630	(2.1)	657	(2.9)
	Chile	447	(3.0)	75	(1.6)	439	(3.8)	454	(3.2)	**-16**	(3.7)	319	(5.5)	348	(4.5)	396	(3.7)	500	(3.6)	543	(3.2)	568	(3.4)
	Denmark	495	(2.5)	79	(1.4)	482	(3.0)	509	(2.4)	**-27**	(2.4)	358	(5.6)	391	(4.4)	444	(3.2)	551	(2.3)	594	(2.9)	619	(3.8)
	Estonia	520	(2.2)	82	(1.3)	499	(2.5)	539	(2.4)	**-40**	(2.5)	380	(5.3)	410	(3.5)	464	(3.1)	578	(2.4)	623	(3.1)	649	(3.7)
	France	508	(2.8)	99	(2.5)	491	(3.6)	524	(3.1)	**-33**	(3.7)	330	(8.2)	374	(5.9)	445	(4.4)	579	(3.0)	627	(3.8)	652	(4.9)
	Germany	501	(3.1)	90	(2.1)	483	(3.3)	519	(3.3)	**-37**	(2.5)	341	(6.7)	377	(6.3)	440	(4.7)	567	(3.0)	612	(3.2)	635	(4.1)
	Hungary	469	(3.5)	98	(2.4)	451	(4.2)	487	(3.7)	**-36**	(4.0)	296	(8.1)	334	(6.7)	403	(5.5)	542	(3.7)	589	(4.2)	616	(5.2)
	Ireland	522	(2.4)	80	(1.6)	508	(3.2)	535	(2.8)	**-27**	(3.8)	383	(5.3)	416	(4.8)	471	(3.5)	577	(2.5)	622	(2.7)	645	(3.0)
	Israel	473	(4.8)	109	(2.7)	455	(7.4)	491	(3.9)	**-36**	(6.9)	281	(8.1)	326	(7.8)	401	(7.2)	554	(4.8)	606	(4.5)	634	(5.0)
	Italy	496	(3.8)	90	(2.5)	480	(4.8)	514	(4.5)	**-33**	(5.3)	335	(9.6)	374	(7.5)	438	(5.3)	561	(3.6)	606	(3.3)	629	(4.5)
	Japan	541	(3.3)	83	(2.0)	532	(4.2)	552	(3.2)	**-20**	(3.7)	393	(8.2)	432	(5.8)	489	(4.4)	600	(3.2)	643	(3.6)	667	(4.2)
	Korea	545	(3.5)	77	(1.8)	538	(4.6)	554	(3.9)	**-15**	(4.9)	410	(8.2)	448	(5.7)	499	(4.0)	599	(3.7)	639	(4.2)	660	(5.1)
	Norway	502	(2.8)	95	(1.7)	479	(3.1)	525	(3.2)	**-46**	(3.0)	335	(6.5)	377	(5.4)	444	(3.8)	568	(2.6)	617	(3.1)	644	(3.4)
	Poland	498	(3.5)	87	(1.7)	478	(3.9)	516	(3.6)	**-38**	(3.0)	344	(5.8)	383	(5.5)	442	(4.2)	558	(3.5)	604	(4.9)	631	(5.4)
	Portugal	487	(3.8)	86	(1.8)	473	(4.3)	501	(3.7)	**-28**	(2.7)	335	(6.6)	370	(5.9)	431	(5.1)	549	(3.4)	592	(3.6)	616	(3.8)
	Slovak Republic	469	(3.7)	96	(2.9)	455	(4.0)	484	(4.6)	**-29**	(4.2)	292	(9.0)	336	(7.6)	407	(5.6)	537	(3.4)	585	(4.9)	610	(4.8)
	Slovenia	476	(1.1)	91	(0.9)	453	(1.3)	501	(1.9)	**-48**	(2.5)	318	(2.4)	355	(2.4)	416	(2.0)	543	(2.2)	592	(2.3)	617	(2.8)
	Spain	476	(2.7)	87	(1.6)	461	(3.4)	491	(2.5)	**-29**	(2.6)	324	(5.1)	360	(4.9)	419	(3.4)	538	(2.6)	585	(3.2)	610	(3.0)
	Sweden	491	(2.9)	95	(1.5)	470	(3.8)	512	(2.7)	**-42**	(3.3)	322	(6.4)	364	(4.8)	430	(3.9)	558	(2.9)	608	(3.3)	637	(2.9)
	United States	504	(3.9)	87	(1.7)	490	(4.2)	519	(4.0)	**-30**	(2.5)	356	(7.2)	391	(6.2)	446	(4.5)	565	(3.7)	614	(3.8)	641	(4.7)
	OECD total	508	(0.2)	90	(0.6)	494	(0.4)	522	(0.3)	**-28**	(0.5)	349	(1.0)	388	(1.3)	449	(0.7)	572	(0.6)	619	(0.6)	646	(1.2)
	OECD average	498	(0.5)	89	(0.3)	482	(0.6)	514	(0.6)	**-32**	(0.5)	341	(1.2)	379	(1.0)	440	(0.7)	562	(0.5)	608	(0.7)	633	(0.8)
Partners	Brazil	424	(4.3)	84	(2.2)	412	(4.9)	435	(4.0)	**-23**	(2.8)	283	(7.0)	315	(6.5)	367	(5.1)	482	(5.1)	532	(5.2)	560	(6.1)
	Colombia	400	(3.4)	82	(1.9)	394	(4.0)	405	(3.7)	**-11**	(3.7)	265	(5.6)	294	(4.8)	344	(4.1)	455	(3.8)	504	(4.2)	536	(5.0)
	Hong Kong-China	547	(2.8)	84	(1.9)	537	(3.8)	559	(3.4)	**-22**	(4.6)	394	(6.8)	435	(6.1)	496	(4.0)	606	(2.9)	647	(3.3)	670	(3.2)
	Macao-China	512	(0.8)	72	(0.7)	499	(1.2)	526	(1.0)	**-27**	(1.4)	387	(3.3)	417	(2.6)	466	(1.2)	562	(1.6)	602	(1.7)	623	(2.3)
	Russian Federation	470	(3.1)	81	(1.3)	456	(3.4)	485	(3.3)	**-29**	(2.8)	334	(4.5)	365	(4.5)	416	(3.9)	527	(3.9)	576	(3.9)	602	(4.1)
	Shanghai-China	550	(3.1)	78	(1.9)	542	(3.6)	559	(3.0)	**-17**	(2.5)	414	(6.9)	446	(5.1)	500	(4.1)	606	(3.1)	647	(3.4)	669	(3.9)
	Singapore	555	(1.3)	92	(1.0)	542	(1.8)	567	(1.6)	**-25**	(2.3)	398	(3.4)	433	(2.3)	494	(1.8)	619	(1.9)	670	(2.6)	699	(2.6)
	Chinese Taipei	521	(2.9)	87	(1.8)	509	(4.1)	533	(3.9)	**-25**	(5.8)	365	(6.1)	405	(4.5)	468	(3.8)	583	(3.0)	625	(3.2)	649	(4.6)
	United Arab Emirates	424	(2.7)	97	(1.4)	397	(4.2)	450	(3.2)	**-53**	(5.2)	264	(4.0)	297	(3.5)	356	(3.4)	491	(3.3)	551	(3.7)	584	(3.6)

Note: Values that are statistically significant are indicated in bold (see Annex A3).

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Table B3.I.13 Percentage of students at each proficiency level on the computer-based mathematics scale, by region

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	5.7	(0.9)	9.4	(1.4)	20.9	(2.6)	26.6	(2.7)	22.2	(2.2)	11.8	(1.5)	3.5	(0.7)
	New South Wales	5.7	(0.7)	12.1	(1.1)	21.9	(1.1)	25.6	(1.0)	20.0	(1.1)	10.6	(0.8)	4.2	(0.8)
	Northern Territory	14.5	(2.2)	14.2	(3.5)	21.3	(3.6)	26.9	(4.3)	16.3	(3.1)	5.5	(2.1)	1.3	(1.0)
	Queensland	4.7	(0.6)	11.8	(0.8)	22.7	(1.3)	27.5	(1.2)	20.4	(1.0)	10.1	(0.9)	2.8	(0.5)
	South Australia	6.1	(1.2)	11.9	(1.0)	23.4	(1.3)	28.2	(1.5)	20.0	(1.5)	8.5	(1.1)	2.1	(0.5)
	Tasmania	10.2	(1.1)	16.3	(1.4)	24.6	(1.7)	24.1	(1.6)	16.0	(1.5)	6.5	(1.2)	2.3	(0.6)
	Victoria	3.3	(0.6)	10.9	(1.0)	22.4	(1.7)	28.2	(1.4)	22.2	(1.2)	9.9	(1.0)	3.1	(0.8)
	Western Australia	5.1	(1.1)	10.8	(1.3)	19.7	(1.4)	25.2	(1.6)	22.8	(1.4)	12.3	(1.0)	4.0	(0.8)
	Belgium														
	Flemish community•	5.5	(0.7)	9.6	(0.9)	16.2	(0.9)	21.7	(0.9)	24.0	(0.9)	16.3	(0.9)	6.8	(0.6)
	French community	8.6	(0.9)	12.8	(0.8)	22.5	(0.9)	28.0	(1.3)	19.1	(1.0)	7.4	(0.8)	1.6	(0.4)
	German-speaking community	3.7	(0.8)	10.3	(1.5)	21.2	(1.8)	30.4	(1.9)	21.2	(1.8)	10.4	(1.1)	2.8	(0.6)
	Canada														
	Alberta	5.7	(1.1)	9.2	(0.9)	20.1	(1.5)	25.5	(1.4)	22.5	(1.4)	12.2	(1.4)	4.8	(0.9)
	British Columbia	2.6	(0.6)	7.9	(1.0)	18.7	(1.5)	26.5	(1.4)	24.5	(1.4)	13.3	(1.6)	6.4	(1.1)
	Manitoba	7.0	(1.1)	13.3	(1.3)	23.8	(1.6)	27.0	(1.4)	19.2	(1.3)	7.8	(0.7)	1.9	(0.5)
	New Brunswick	6.1	(0.8)	10.5	(1.0)	23.7	(1.3)	30.9	(1.5)	20.4	(1.6)	7.4	(1.2)	0.9	(0.3)
	Newfoundland and Labrador	4.0	(0.9)	8.6	(1.2)	22.0	(1.7)	29.4	(1.9)	24.9	(1.6)	9.1	(1.3)	2.0	(0.5)
	Nova Scotia	5.1	(1.0)	11.3	(1.7)	22.0	(1.3)	29.1	(1.6)	20.9	(2.1)	10.0	(1.0)	1.6	(0.6)
	Ontario	3.2	(0.7)	7.6	(0.9)	17.8	(1.3)	27.3	(1.5)	25.1	(1.7)	13.8	(1.2)	5.2	(1.0)
	Prince Edward Island	8.4	(0.9)	13.7	(1.2)	23.4	(1.5)	26.4	(1.5)	18.3	(1.3)	7.1	(1.0)	2.7	(0.5)
	Quebec	4.6	(0.6)	8.5	(0.8)	17.2	(1.0)	26.2	(1.3)	25.7	(1.3)	13.8	(1.1)	4.0	(0.6)
	Saskatchewan	5.8	(0.8)	12.0	(1.1)	23.0	(1.5)	28.0	(1.3)	20.8	(1.6)	8.7	(1.0)	1.8	(0.5)
	Italy														
	Abruzzo	2.8	(2.0)	13.0	(8.2)	28.1	(7.6)	34.2	(7.8)	18.1	(8.7)	3.5	(1.8)	0.4	c
	Basilicata	4.4	(3.5)	16.3	(4.5)	28.6	(4.7)	30.8	(6.0)	16.5	(3.6)	3.0	(1.6)	0.3	c
	Bolzano	0.0	c	6.5	(2.0)	17.4	(5.3)	33.4	(4.1)	30.7	(6.3)	11.4	(3.5)	0.6	(0.7)
	Calabria	7.6	(4.0)	16.6	(6.6)	33.4	(5.2)	31.6	(8.0)	8.2	(3.0)	2.5	(2.3)	0.0	c
	Campania	10.9	(4.7)	21.5	(3.8)	27.8	(3.6)	26.4	(4.1)	10.1	(2.6)	2.9	(1.1)	0.4	(0.3)
	Emilia Romagna	4.6	(2.0)	11.5	(3.1)	25.8	(4.1)	29.3	(5.4)	18.2	(3.5)	7.4	(3.4)	3.2	(2.6)
	Friuli Venezia Giulia	4.2	(2.3)	8.5	(3.7)	19.8	(11.0)	28.6	(6.0)	29.8	(12.5)	7.8	(6.1)	1.2	(1.1)
	Lazio	3.8	(2.2)	14.2	(3.5)	22.2	(4.8)	29.1	(3.1)	22.6	(3.2)	6.5	(2.0)	1.6	(0.7)
	Liguria	1.7	(1.3)	6.3	(3.5)	16.3	(6.5)	26.4	(8.2)	19.0	(4.2)	15.7	(8.6)	14.6	(9.8)
	Lombardia	1.2	(0.7)	5.1	(1.5)	19.5	(4.0)	32.1	(2.8)	27.0	(2.9)	12.4	(3.0)	2.5	(1.4)
	Marche	2.1	(2.0)	9.3	(4.8)	22.0	(6.8)	31.9	(5.6)	26.3	(7.4)	6.8	(4.3)	1.5	(1.3)
	Molise	3.4	(2.4)	16.4	(9.3)	25.3	(4.7)	40.1	(9.7)	12.2	(4.4)	1.2	c	1.4	(0.9)
	Piemonte	5.1	(3.0)	11.9	(2.5)	22.1	(4.6)	26.4	(4.2)	24.3	(3.5)	8.0	(3.5)	2.2	(1.6)
	Puglia	7.6	(3.5)	16.0	(3.8)	26.5	(3.7)	24.8	(4.1)	20.9	(4.5)	3.8	(1.1)	0.5	c
	Sardegna	8.6	(6.3)	17.5	(6.3)	40.5	(6.0)	27.8	(6.3)	5.2	(3.0)	0.4	c	0.0	c
	Sicilia	3.1	(1.5)	13.1	(3.9)	28.7	(4.4)	34.1	(3.8)	17.2	(3.9)	3.3	(1.6)	0.5	(0.4)
	Toscana	4.9	(3.4)	14.8	(5.0)	21.9	(5.5)	26.0	(3.6)	22.6	(5.6)	9.1	(3.4)	0.8	c
	Trento	1.3	(1.2)	6.3	(2.9)	12.3	(2.1)	23.2	(3.3)	33.4	(5.3)	19.4	(4.7)	4.1	(2.9)
	Umbria	4.5	(2.6)	11.2	(3.4)	26.9	(7.0)	34.3	(6.1)	20.0	(5.1)	2.3	(1.5)	0.8	(0.8)
	Valle d'Aosta	1.4	(1.7)	9.7	(5.6)	25.4	(5.5)	37.3	(6.0)	21.9	(7.4)	3.3	(2.3)	0.9	(1.0)
	Veneto	4.3	(1.3)	13.0	(4.3)	20.1	(3.3)	23.0	(4.5)	21.7	(3.5)	14.2	(5.5)	3.7	(1.9)
	Portugal														
	Alentejo	8.6	(2.3)	13.7	(2.8)	22.9	(2.4)	31.2	(3.0)	17.2	(2.3)	4.9	(1.5)	1.5	(1.1)
	Spain														
	Andalusia•	11.8	(2.5)	20.6	(2.6)	31.1	(2.4)	23.7	(2.6)	9.9	(2.1)	2.3	(0.8)	0.5	(0.3)
	Aragon•	12.5	(5.4)	15.9	(5.8)	17.7	(4.6)	24.3	(4.2)	19.3	(5.8)	9.1	(4.9)	1.2	(1.7)
	Asturias•	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Balearic Islands•	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Basque Country•	6.0	(0.7)	12.8	(0.9)	24.8	(0.9)	30.1	(0.9)	20.0	(1.0)	5.6	(0.5)	0.6	(0.1)
	Cantabria•	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Castile and Leon•	0.0	c	8.2	(2.2)	20.6	(3.5)	36.6	(5.0)	25.3	(4.4)	7.5	(3.1)	1.7	c
	Catalonia•	6.4	(1.9)	13.9	(1.6)	27.6	(1.9)	30.8	(2.1)	16.6	(2.1)	4.4	(1.1)	0.3	(0.2)
	Extremadura•	11.1	(4.5)	15.6	(2.7)	19.2	(4.6)	29.2	(5.2)	19.5	(5.8)	5.4	(2.2)	0.1	c
	Galicia•	10.4	(8.0)	14.8	(4.7)	23.1	(3.8)	29.7	(4.8)	20.0	(5.7)	1.9	(1.5)	0.1	c
	La Rioja•	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Madrid•	4.2	(1.4)	13.1	(2.3)	25.8	(3.2)	31.4	(2.9)	20.4	(2.7)	4.9	(1.4)	0.3	c
	Murcia•	14.5	(4.2)	23.8	(3.9)	26.8	(5.3)	24.1	(4.8)	9.5	(3.2)	1.3	(1.1)	0.0	c
	Navarre•	c	c	c	c	c	c	c	c	c	c	c	c	c	c

• PISA adjudicated region.

Note: See Table B3.I.1 for national data.

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[Part 2/2]

Table B3.I.13 Percentage of students at each proficiency level on the computer-based mathematics scale, by region

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	**Brazil**														
	Acre	8.4	(4.5)	37.0	(8.0)	40.3	(7.1)	13.2	(7.1)	1.0	(1.4)	0.1	c	0.0	c
	Alagoas	37.1	(16.6)	30.0	(9.4)	20.2	(10.6)	8.6	(2.9)	3.4	(2.2)	0.7	(0.8)	0.0	c
	Amapá	22.5	(9.0)	37.9	(10.5)	28.5	(5.7)	9.4	(5.3)	1.7	(2.6)	0.0	c	0.0	c
	Amazonas	25.6	(8.4)	51.4	(13.7)	17.7	(7.3)	3.1	(3.1)	1.7	(2.8)	0.6	(1.0)	0.0	c
	Bahia	50.1	(6.8)	22.2	(5.4)	14.9	(5.6)	8.7	(2.7)	2.8	(2.1)	1.3	(1.6)	0.0	c
	Ceará	34.1	(10.3)	26.2	(5.5)	16.8	(5.0)	12.5	(6.0)	7.8	(4.9)	2.2	(1.7)	0.4	c
	Espírito Santo	10.3	(3.7)	30.1	(6.3)	34.5	(7.6)	15.7	(3.9)	5.8	(2.9)	2.8	(2.6)	0.7	(0.6)
	Federal District	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Goiás	34.5	(10.4)	31.8	(4.9)	21.1	(6.1)	9.7	(3.6)	2.6	(1.7)	0.3	c	0.0	c
	Maranhão	60.3	(10.9)	23.7	(8.9)	9.6	(5.5)	3.7	(2.9)	2.4	(2.2)	0.3	c	0.0	c
	Mato Grosso	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Mato Grosso do Sul	7.6	(3.5)	30.5	(7.4)	29.7	(4.3)	16.4	(4.7)	13.6	(4.3)	2.0	(1.7)	0.2	c
	Minas Gerais	17.5	(5.9)	25.9	(5.2)	30.0	(5.2)	15.1	(3.3)	7.8	(5.7)	3.2	(2.5)	0.5	(0.5)
	Pará	37.8	(10.0)	30.4	(9.0)	19.0	(5.7)	10.8	(7.0)	1.7	(1.9)	0.3	c	0.0	c
	Paraíba	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Paraná	21.2	(3.4)	36.4	(3.5)	23.8	(3.5)	10.7	(2.3)	5.9	(2.6)	1.7	(1.5)	0.2	c
	Pernambuco	12.7	(4.7)	35.0	(5.7)	35.4	(6.2)	11.2	(2.5)	5.2	(3.7)	0.6	c	0.0	c
	Piauí	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Rio de Janeiro	18.3	(6.3)	23.7	(3.9)	30.1	(10.0)	18.2	(4.9)	8.8	(3.8)	0.9	(1.2)	0.1	c
	Rio Grande do Norte	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Rio Grande do Sul	7.7	(2.3)	28.7	(6.1)	37.0	(5.3)	21.5	(3.8)	4.7	(1.4)	0.4	c	0.0	c
	Rondônia	22.1	(4.7)	38.3	(6.7)	27.7	(5.7)	9.9	(4.8)	2.0	(1.5)	0.0	c	0.0	c
	Roraima	17.6	(13.8)	41.3	(6.7)	25.6	(12.2)	12.6	(5.3)	2.8	(2.1)	0.2	c	0.0	c
	Santa Catarina	19.3	(15.6)	21.2	(6.9)	31.6	(9.7)	21.5	(4.4)	5.5	(2.5)	0.8	(0.9)	0.0	c
	São Paulo	18.2	(3.2)	27.9	(1.8)	29.7	(2.7)	15.1	(1.9)	6.4	(1.5)	2.2	(1.0)	0.4	(0.3)
	Sergipe	11.1	(6.0)	37.3	(8.5)	36.4	(8.7)	12.2	(4.4)	2.5	(1.1)	0.4	c	0.0	c
	Tocantins	18.2	(5.4)	37.0	(7.2)	33.1	(7.8)	9.0	(3.6)	2.7	(2.4)	0.0	c	0.0	c
	Colombia														
	Bogota	23.1	(2.2)	32.8	(1.8)	28.5	(1.8)	13.0	(1.6)	2.0	(0.6)	0.5	(0.4)	0.1	(0.1)
	Cali	30.8	(4.3)	31.7	(3.0)	23.8	(3.0)	10.2	(2.3)	3.1	(1.3)	0.4	(0.4)	0.0	c
	Manizales	21.2	(1.9)	36.8	(2.0)	28.7	(2.1)	10.9	(1.5)	2.2	(1.0)	0.2	(0.2)	0.0	c
	Medellin	25.6	(3.2)	30.1	(2.0)	25.7	(2.2)	12.5	(2.0)	4.5	(1.3)	1.4	(0.7)	0.3	(0.2)
	United Arab Emirates														
	Abu Dhabi•	23.2	(1.8)	26.6	(1.3)	25.9	(1.2)	16.1	(1.2)	6.2	(0.8)	1.7	(0.6)	0.3	(0.2)
	Ajman	32.7	(4.3)	33.8	(2.7)	24.5	(3.0)	8.2	(1.8)	0.8	(0.6)	0.0	c	0.0	c
	Dubai•	12.7	(0.5)	19.8	(0.7)	26.5	(0.9)	23.1	(0.8)	13.0	(0.8)	4.4	(0.4)	0.5	(0.2)
	Fujairah	18.8	(2.3)	26.3	(3.1)	31.5	(2.3)	18.7	(2.5)	4.6	(1.5)	0.1	c	0.0	c
	Ras Al Khaimah	20.4	(3.6)	31.3	(2.7)	31.1	(2.3)	13.9	(1.7)	2.9	(1.0)	0.3	(0.3)	0.0	c
	Sharjah	10.5	(2.3)	26.5	(2.5)	36.5	(2.9)	20.2	(2.3)	5.5	(1.6)	0.7	(0.4)	0.0	c
	Umm Al Quwain	33.8	(3.1)	32.1	(3.4)	25.1	(3.2)	7.9	(1.9)	1.1	(0.6)	0.0	c	0.0	c

• PISA adjudicated region.

Note: See Table B3.I.1 for national data.

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[Part 1/4]

Table B3.I.14 Percentage of students at each proficiency level on the computer-based mathematics scale, by gender and region

	Boys													
	Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD														
Australia														
Australian Capital Territory	6.9	(1.3)	9.9	(1.7)	19.8	(3.7)	25.5	(4.2)	21.6	(3.3)	13.2	(2.2)	3.0	(0.8)
New South Wales	6.2	(0.9)	12.8	(2.0)	21.4	(1.8)	24.2	(1.4)	19.4	(1.5)	11.1	(1.1)	4.9	(1.2)
Northern Territory	12.8	(3.0)	13.8	(4.5)	21.3	(3.7)	26.0	(6.4)	17.7	(4.8)	6.2	(2.9)	2.3	(2.0)
Queensland	4.3	(0.8)	11.7	(1.1)	22.5	(1.5)	25.4	(1.4)	21.5	(1.5)	11.3	(1.3)	3.3	(0.7)
South Australia	6.2	(1.2)	10.9	(1.3)	21.5	(1.7)	28.1	(2.4)	21.3	(2.4)	9.5	(1.5)	2.6	(0.7)
Tasmania	9.7	(1.5)	15.6	(1.8)	24.7	(2.3)	23.8	(2.3)	16.4	(2.0)	7.4	(1.5)	2.4	(0.9)
Victoria	2.7	(0.7)	10.0	(1.3)	21.3	(2.3)	28.5	(2.2)	22.5	(1.5)	10.6	(1.4)	4.4	(1.5)
Western Australia	3.9	(1.2)	10.0	(1.7)	18.0	(1.7)	24.9	(1.9)	24.3	(1.8)	13.4	(1.4)	5.5	(1.7)
Belgium														
Flemish community•	5.2	(0.8)	9.1	(1.1)	16.1	(1.1)	20.0	(1.3)	23.0	(1.4)	17.8	(1.1)	8.8	(0.7)
French community	8.1	(1.1)	12.5	(1.0)	20.6	(1.4)	25.7	(1.7)	20.8	(1.4)	9.6	(1.2)	2.6	(0.7)
German-speaking community	3.5	(1.2)	9.5	(1.9)	18.7	(2.2)	30.0	(2.7)	23.5	(2.6)	11.1	(1.6)	3.8	(1.1)
Canada														
Alberta	4.7	(1.1)	8.9	(1.2)	20.2	(2.3)	25.2	(1.9)	22.0	(1.7)	12.8	(1.7)	6.2	(1.3)
British Columbia	2.2	(0.7)	6.5	(1.4)	16.7	(2.1)	24.6	(1.9)	25.5	(1.9)	15.3	(1.9)	9.2	(1.9)
Manitoba	6.5	(1.3)	12.3	(1.8)	21.7	(2.0)	26.0	(2.1)	21.0	(1.8)	9.6	(1.2)	2.9	(0.8)
New Brunswick	6.8	(1.2)	10.2	(1.5)	22.4	(1.8)	31.0	(2.4)	19.4	(2.4)	9.1	(1.7)	1.1	(0.4)
Newfoundland and Labrador	5.0	(1.4)	8.9	(2.5)	19.5	(2.7)	28.9	(3.5)	25.1	(2.2)	10.3	(1.8)	2.3	(0.7)
Nova Scotia	4.6	(1.2)	10.6	(2.2)	20.1	(2.5)	27.9	(2.4)	23.2	(2.2)	11.6	(1.8)	2.0	(0.9)
Ontario	2.6	(0.8)	6.5	(0.9)	16.2	(1.5)	25.7	(1.8)	24.9	(1.9)	16.5	(1.5)	7.6	(1.5)
Prince Edward Island	10.0	(1.3)	13.4	(1.7)	24.1	(1.8)	26.7	(2.0)	18.1	(1.6)	5.2	(1.1)	2.5	(0.6)
Quebec	4.2	(0.7)	8.3	(1.0)	15.9	(1.2)	25.0	(1.4)	26.3	(1.6)	15.4	(1.3)	4.9	(0.9)
Saskatchewan	6.6	(1.0)	10.4	(1.4)	21.9	(1.6)	28.0	(2.2)	20.7	(2.2)	10.0	(1.6)	2.3	(0.6)
Italy														
Abruzzo	2.0	(2.0)	8.4	(5.4)	21.5	(9.4)	34.3	(9.2)	27.3	(10.0)	5.7	(2.7)	0.8	c
Basilicata	6.4	(6.3)	15.0	(5.9)	26.1	(5.6)	31.4	(10.1)	17.2	(5.5)	3.2	(1.8)	0.6	c
Bolzano	0.0	c	4.5	(3.4)	12.3	(4.9)	29.0	(4.1)	33.2	(4.5)	19.6	(5.9)	1.4	(1.6)
Calabria	5.7	(4.9)	15.1	(6.0)	29.4	(8.5)	31.7	(6.4)	13.6	(5.5)	4.5	(5.0)	0.0	c
Campania	11.8	(5.6)	21.2	(3.6)	24.4	(4.3)	25.7	(3.9)	11.8	(2.8)	4.8	(1.8)	0.4	c
Emilia Romagna	3.6	(2.1)	10.7	(4.2)	20.1	(6.0)	31.9	(7.1)	19.8	(2.9)	9.5	(4.4)	4.3	(3.3)
Friuli Venezia Giulia	6.6	(4.8)	10.2	(5.4)	11.6	(7.4)	26.6	(5.6)	37.2	(13.2)	6.6	(5.3)	1.3	(1.5)
Lazio	4.8	(3.1)	15.5	(5.6)	19.0	(5.1)	28.6	(4.1)	24.0	(4.5)	6.6	(2.0)	1.5	(0.6)
Liguria	2.2	(1.6)	6.4	(3.8)	14.7	(5.3)	26.2	(9.0)	20.5	(4.8)	15.1	(8.6)	14.9	(10.2)
Lombardia	1.2	(1.1)	5.4	(1.9)	16.1	(3.8)	31.1	(3.6)	29.0	(3.3)	13.8	(3.8)	3.3	(1.7)
Marche	0.0	c	8.8	(4.0)	20.2	(7.2)	35.2	(7.2)	26.5	(6.4)	5.9	(4.4)	3.4	(2.0)
Molise	4.9	(4.1)	25.6	(11.1)	23.5	(5.6)	30.9	(10.3)	12.1	(4.8)	0.3	c	2.8	(2.6)
Piemonte	1.9	(1.1)	10.1	(3.2)	19.9	(6.4)	29.3	(5.4)	25.2	(4.9)	10.4	(5.4)	3.2	(2.0)
Puglia	5.3	(2.0)	14.0	(6.5)	28.4	(4.6)	23.0	(6.7)	24.2	(6.8)	4.3	(2.0)	0.7	c
Sardegna	5.5	(6.6)	22.3	(6.5)	38.5	(5.1)	27.0	(6.3)	6.2	(3.2)	0.6	c	0.0	c
Sicilia	2.8	(1.9)	11.1	(3.8)	26.8	(5.9)	36.4	(4.4)	19.0	(3.6)	3.6	(1.8)	0.3	c
Toscana	1.7	(1.3)	9.1	(3.2)	17.0	(6.5)	26.5	(5.3)	30.3	(6.7)	13.9	(4.8)	1.4	c
Trento	1.2	(1.2)	7.6	(3.9)	11.3	(3.2)	22.8	(3.1)	32.0	(6.5)	20.2	(5.8)	4.9	(3.8)
Umbria	6.0	(4.3)	10.6	(3.2)	29.0	(9.4)	32.4	(5.3)	16.8	(6.6)	3.6	(2.6)	1.5	(1.8)
Valle d'Aosta	1.1	(1.4)	7.7	(4.4)	20.9	(7.4)	35.3	(7.6)	28.6	(9.4)	4.8	(3.2)	1.6	(1.7)
Veneto	3.8	(1.2)	10.8	(3.3)	17.0	(5.2)	19.9	(3.6)	23.4	(3.1)	20.9	(6.8)	4.3	(2.2)
Portugal														
Alentejo	7.7	(2.3)	11.9	(3.0)	19.3	(4.0)	32.1	(4.3)	19.0	(3.0)	8.0	(2.6)	2.0	(1.7)
Spain														
Andalusia•	11.6	(3.4)	19.0	(3.0)	28.6	(2.6)	25.9	(2.8)	11.1	(2.7)	3.1	(1.1)	0.7	(0.4)
Aragon•	8.6	(4.4)	17.3	(5.8)	17.0	(5.2)	24.4	(4.5)	21.5	(6.4)	9.4	(3.9)	1.8	(2.6)
Asturias•	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Balearic Islands•	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Basque Country•	5.9	(1.0)	11.9	(1.2)	22.7	(1.3)	29.3	(1.2)	22.2	(1.2)	7.0	(0.7)	0.9	(0.3)
Cantabria•	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Castile and Leon•	0.0	c	11.3	(2.9)	18.3	(4.8)	32.9	(8.1)	25.5	(5.4)	10.1	(4.1)	2.0	c
Catalonia•	6.0	(2.3)	13.6	(2.2)	24.1	(2.5)	29.7	(2.6)	19.6	(2.9)	6.3	(1.5)	0.6	(0.3)
Extremadura•	9.1	(3.7)	18.0	(3.6)	21.0	(5.0)	26.7	(4.7)	18.7	(7.9)	6.4	(2.5)	0.1	c
Galicia•	12.4	(8.7)	16.3	(4.9)	23.3	(6.0)	29.0	(6.6)	15.5	(5.4)	3.2	(2.5)	0.2	c
La Rioja•	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Madrid•	3.9	(1.6)	11.9	(3.4)	23.8	(4.1)	32.3	(4.4)	21.3	(3.2)	6.3	(2.2)	0.5	c
Murcia•	9.8	(4.2)	21.7	(4.7)	25.8	(6.6)	26.8	(4.5)	13.4	(3.7)	2.5	(2.0)	0.0	c
Navarre•	c	c	c	c	c	c	c	c	c	c	c	c	c	c

• PISA adjudicated region.
Note: See Table B3.I.2 for national data.
StatLink http://dx.doi.org/10.1787/888932935781



[Part 2/4]

Table B3.I.14 Percentage of students at each proficiency level on the computer-based mathematics scale, by gender and region

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	**Brazil**														
	Acre	7.9	(3.5)	33.4	(6.7)	40.7	(9.7)	15.7	(11.7)	2.1	(3.2)	0.2	c	0.0	c
	Alagoas	36.9	(19.3)	33.3	(14.2)	19.2	(13.2)	7.3	(4.3)	2.6	(2.0)	0.6	c	0.0	c
	Amapá	9.0	(9.8)	37.0	(14.7)	39.6	(10.3)	12.3	(5.5)	2.1	(3.2)	0.0	c	0.0	c
	Amazonas	30.0	(10.4)	43.6	(15.4)	19.8	(8.5)	3.7	(4.2)	1.9	(3.0)	0.9	c	0.0	c
	Bahia	41.8	(10.3)	23.1	(7.5)	17.1	(7.6)	11.7	(3.7)	5.0	(3.9)	1.4	c	0.0	c
	Ceará	29.1	(8.1)	26.5	(7.5)	15.8	(5.4)	14.2	(6.2)	9.5	(5.2)	4.2	(3.0)	0.7	c
	Espírito Santo	10.4	(6.1)	30.0	(8.6)	32.4	(8.1)	16.1	(5.0)	7.6	(3.2)	2.5	(2.1)	0.9	(1.0)
	Federal District	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Goiás	29.5	(9.5)	29.9	(7.0)	24.1	(8.4)	12.0	(3.6)	3.9	(2.0)	0.5	c	0.0	c
	Maranhão	59.9	(10.8)	21.6	(9.6)	7.3	(6.0)	5.9	(4.4)	4.8	(4.6)	0.6	c	0.0	c
	Mato Grosso	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Mato Grosso do Sul	6.7	(4.0)	22.8	(11.5)	33.7	(6.1)	17.8	(8.6)	15.6	(5.3)	2.9	(2.8)	0.4	c
	Minas Gerais	14.9	(6.7)	24.0	(6.5)	29.9	(6.5)	15.9	(4.1)	10.5	(7.8)	3.6	(2.5)	1.1	(1.1)
	Pará	36.2	(14.8)	32.2	(11.5)	21.3	(11.9)	7.2	(5.6)	3.2	c	0.0	c	0.0	c
	Paraíba	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Paraná	15.9	(3.4)	37.8	(5.2)	25.2	(5.4)	11.6	(3.3)	7.4	(3.3)	2.1	(1.8)	0.0	c
	Pernambuco	11.2	(5.7)	31.2	(6.0)	34.1	(6.5)	11.7	(5.6)	10.6	(8.3)	1.3	c	0.0	c
	Piauí	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Rio de Janeiro	15.1	(5.7)	21.2	(5.6)	30.9	(8.6)	19.9	(7.4)	11.6	(5.5)	1.2	c	0.0	c
	Rio Grande do Norte	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Rio Grande do Sul	4.8	(3.0)	20.7	(7.0)	38.7	(7.6)	27.6	(7.1)	7.3	(2.8)	0.9	c	0.0	c
	Rondônia	11.7	(7.1)	30.2	(5.6)	33.5	(7.3)	20.1	(9.6)	4.3	(3.4)	0.1	c	0.0	c
	Roraima	9.6	(9.6)	35.9	(10.2)	32.4	(13.2)	20.0	(9.5)	2.2	c	0.0	c	0.0	c
	Santa Catarina	19.7	(16.6)	18.4	(5.4)	29.9	(10.9)	25.3	(5.7)	5.9	(2.5)	0.8	(0.8)	0.0	c
	São Paulo	15.3	(3.3)	26.2	(2.2)	31.1	(3.2)	16.4	(2.4)	7.7	(1.9)	2.9	(1.3)	0.6	(0.4)
	Sergipe	7.3	(7.3)	31.9	(8.4)	39.0	(7.0)	15.7	(8.5)	5.1	(1.6)	0.9	c	0.0	c
	Tocantins	19.9	(12.1)	28.4	(15.5)	33.2	(16.1)	14.2	(9.4)	4.3	(5.2)	0.0	c	0.0	c
	Colombia														
	Bogota	17.9	(2.6)	31.0	(2.8)	30.4	(2.2)	16.6	(2.4)	2.8	(1.0)	1.1	(0.9)	0.3	(0.3)
	Cali	28.2	(4.2)	30.6	(3.2)	24.1	(3.2)	11.5	(2.5)	4.7	(2.2)	0.9	(1.0)	0.1	c
	Manizales	18.7	(2.0)	34.7	(3.0)	29.2	(2.7)	13.9	(2.3)	3.2	(2.0)	0.3	c	0.0	c
	Medellin	22.3	(3.5)	29.8	(2.4)	27.2	(2.9)	14.8	(2.5)	4.2	(1.3)	1.4	(0.9)	0.3	(0.4)
	United Arab Emirates														
	Abu Dhabi•	27.6	(2.9)	26.2	(1.6)	23.2	(1.8)	14.4	(1.5)	6.5	(1.1)	1.7	(0.7)	0.3	(0.2)
	Ajman	46.1	(4.7)	34.0	(4.3)	17.5	(3.7)	2.4	(1.1)	0.0	c	0.0	c	0.0	c
	Dubai•	14.8	(0.8)	18.9	(1.1)	24.5	(1.1)	22.1	(1.3)	13.0	(1.2)	5.9	(0.7)	0.7	(0.2)
	Fujairah	26.0	(3.0)	27.5	(3.1)	27.8	(2.7)	14.2	(2.2)	4.3	(1.3)	0.2	c	0.0	c
	Ras Al Khaimah	28.3	(7.3)	31.3	(4.3)	27.4	(4.0)	11.0	(2.2)	2.0	(0.9)	0.1	(0.1)	0.0	c
	Sharjah	13.1	(4.8)	26.4	(4.3)	32.7	(5.1)	20.2	(4.6)	6.6	(2.9)	0.9	(0.8)	0.1	c
	Umm Al Quwain	43.7	(3.7)	25.5	(3.9)	22.9	(4.5)	7.1	(2.6)	0.8	c	0.0	c	0.0	c

• PISA adjudicated region.
Note: See Table B3.I.2 for national data.
StatLink http://dx.doi.org/10.1787/888932935781



[Part 3/4]

Table B3.I.14 Percentage of students at each proficiency level on the computer-based mathematics scale, by gender and region

	Girls													
	Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD														
Australia														
Australian Capital Territory	4.5	(1.1)	8.8	(1.8)	22.0	(3.3)	27.6	(3.6)	22.9	(2.8)	10.3	(2.0)	3.9	(1.0)
New South Wales	5.0	(0.8)	11.3	(1.1)	22.3	(1.4)	27.0	(1.5)	20.7	(1.6)	10.1	(1.2)	3.5	(0.9)
Northern Territory	16.2	(2.6)	14.6	(4.7)	21.4	(5.4)	27.7	(6.4)	14.8	(4.0)	4.8	(3.4)	0.4	c
Queensland	5.1	(0.9)	11.9	(1.3)	22.9	(1.7)	29.7	(1.8)	19.2	(1.5)	9.0	(1.4)	2.2	(0.5)
South Australia	5.9	(1.4)	12.8	(1.7)	25.2	(2.0)	28.2	(2.1)	18.7	(1.7)	7.5	(1.4)	1.6	(0.7)
Tasmania	10.7	(1.6)	16.9	(2.1)	24.5	(2.2)	24.4	(2.3)	15.7	(2.0)	5.6	(1.9)	2.2	(0.8)
Victoria	4.1	(0.8)	11.9	(1.2)	23.7	(1.8)	27.9	(2.0)	21.8	(1.8)	9.0	(1.1)	1.6	(0.5)
Western Australia	6.5	(1.4)	11.7	(1.8)	21.6	(2.2)	25.6	(2.5)	21.1	(2.4)	11.0	(1.5)	2.4	(0.8)
Belgium														
Flemish community•	5.8	(1.0)	10.1	(1.1)	16.3	(1.2)	23.4	(1.2)	24.9	(1.3)	14.8	(1.2)	4.7	(0.7)
French community	9.0	(1.0)	13.1	(1.0)	24.5	(1.2)	30.3	(1.7)	17.3	(1.4)	5.1	(0.9)	0.7	(0.3)
German-speaking community	4.0	(1.1)	11.2	(1.8)	23.9	(2.6)	30.9	(2.5)	18.6	(2.1)	9.7	(1.5)	1.7	(0.6)
Canada														
Alberta	6.8	(1.6)	9.6	(1.6)	19.9	(1.5)	25.8	(2.0)	23.1	(2.6)	11.6	(1.7)	3.3	(0.8)
British Columbia	3.0	(0.8)	9.2	(1.3)	20.7	(1.8)	28.4	(1.9)	23.6	(1.9)	11.4	(1.7)	3.7	(0.9)
Manitoba	7.6	(1.4)	14.3	(2.0)	26.0	(2.4)	28.1	(2.4)	17.2	(1.6)	5.9	(0.9)	0.9	(0.3)
New Brunswick	5.4	(1.0)	10.8	(1.4)	25.0	(2.0)	30.8	(2.3)	21.4	(1.8)	5.8	(1.6)	0.8	(0.7)
Newfoundland and Labrador	3.0	(0.8)	8.4	(1.7)	24.5	(2.6)	29.9	(2.2)	24.7	(2.0)	7.8	(1.4)	1.7	(0.6)
Nova Scotia	5.6	(1.7)	12.1	(2.6)	24.0	(3.0)	30.2	(2.4)	18.6	(2.9)	8.3	(1.7)	1.2	(0.6)
Ontario	3.7	(0.8)	8.7	(1.2)	19.4	(1.7)	28.8	(2.2)	25.4	(2.0)	11.1	(1.5)	2.8	(0.9)
Prince Edward Island	6.6	(1.1)	14.1	(1.6)	22.7	(2.0)	26.1	(2.1)	18.4	(2.0)	9.1	(1.5)	3.0	(0.6)
Quebec	5.1	(0.7)	8.6	(1.0)	18.5	(1.4)	27.3	(1.8)	25.2	(1.6)	12.3	(1.3)	3.0	(0.6)
Saskatchewan	4.9	(1.4)	13.7	(2.5)	24.1	(2.2)	28.0	(1.7)	20.9	(2.3)	7.3	(1.3)	1.2	(0.6)
Italy														
Abruzzo	3.4	(3.2)	16.3	(11.6)	32.9	(8.1)	34.2	(11.6)	11.4	(9.7)	1.8	(1.8)	0.0	c
Basilicata	1.9	(1.4)	18.0	(7.4)	31.7	(9.5)	30.0	(7.4)	15.7	(4.8)	2.7	c	0.0	c
Bolzano	0.0	c	7.8	(2.0)	20.9	(7.0)	36.5	(5.5)	29.0	(9.3)	5.6	(4.0)	0.1	c
Calabria	9.2	(4.0)	17.9	(8.2)	36.8	(5.3)	31.5	(12.4)	3.7	(2.3)	0.9	(0.7)	0.0	c
Campania	10.1	(4.3)	21.9	(4.8)	31.1	(3.8)	27.2	(5.4)	8.4	(3.1)	1.0	(1.0)	0.3	c
Emilia Romagna	5.8	(4.1)	12.4	(4.6)	32.5	(6.1)	26.2	(6.5)	16.3	(5.9)	4.8	(2.9)	2.0	(2.1)
Friuli Venezia Giulia	2.3	(2.4)	7.0	(4.5)	26.6	(14.5)	30.3	(9.0)	23.7	(13.7)	8.8	(8.8)	1.2	(1.2)
Lazio	2.2	(1.4)	12.2	(3.0)	27.2	(7.5)	29.7	(5.3)	20.4	(3.2)	6.5	(2.7)	1.7	(1.2)
Liguria	0.0	c	6.1	(4.2)	19.3	(9.9)	26.6	(8.8)	16.4	(6.2)	16.7	(9.1)	14.9	(9.7)
Lombardia	1.2	(0.5)	4.8	(1.6)	23.1	(6.2)	33.2	(4.0)	24.9	(4.5)	11.0	(3.9)	1.7	(1.3)
Marche	4.1	(5.1)	10.7	(9.4)	26.4	(9.3)	23.7	(6.3)	25.9	(12.1)	9.2	(4.8)	0.0	c
Molise	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Piemonte	8.2	(5.5)	13.7	(4.1)	24.3	(4.8)	23.5	(5.4)	23.5	(4.1)	5.7	(2.7)	1.1	(1.3)
Puglia	10.3	(6.2)	18.5	(5.3)	24.1	(4.8)	26.9	(5.4)	16.8	(4.6)	3.1	(1.0)	0.3	c
Sardegna	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Sicilia	3.6	(2.3)	16.6	(6.0)	32.2	(5.4)	29.9	(5.2)	14.1	(5.2)	2.9	(1.9)	0.7	(0.8)
Toscana	7.8	(6.1)	19.9	(6.7)	26.2	(5.9)	25.5	(5.4)	15.7	(5.5)	4.8	(2.9)	0.1	c
Trento	1.6	(1.3)	4.4	(2.3)	13.9	(2.9)	23.7	(8.8)	35.7	(6.3)	18.1	(6.2)	2.8	(2.7)
Umbria	2.6	(1.7)	11.9	(5.7)	24.3	(9.5)	36.6	(11.6)	23.9	(8.0)	0.7	c	0.0	c
Valle d'Aosta	1.9	(2.2)	12.7	(7.4)	32.1	(5.7)	40.3	(8.3)	11.9	(3.9)	1.2	(1.2)	0.0	c
Veneto	4.9	(2.3)	15.4	(7.4)	23.6	(4.4)	26.4	(6.3)	19.8	(5.6)	6.9	(3.9)	3.0	(1.9)
Portugal														
Alentejo	9.6	(2.7)	15.5	(3.4)	26.6	(2.8)	30.2	(3.2)	15.4	(3.1)	1.8	(0.8)	0.9	(0.6)
Spain														
Andalusia•	12.0	(2.5)	22.4	(3.1)	33.9	(3.1)	21.4	(2.9)	8.5	(2.1)	1.5	(0.7)	0.2	c
Aragon•	15.8	(6.8)	14.7	(8.1)	18.3	(6.6)	24.3	(6.6)	17.4	(7.5)	8.8	(7.1)	0.7	c
Asturias•	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Balearic Islands•	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Basque Country•	6.2	(0.8)	13.6	(1.2)	26.9	(1.2)	31.0	(1.2)	17.9	(1.4)	4.2	(0.6)	0.3	(0.2)
Cantabria•	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Castile and Leon•	0.0	c	5.4	(2.1)	22.7	(4.6)	40.0	(5.1)	25.2	(6.2)	5.2	(2.7)	1.5	c
Catalonia•	6.8	(1.9)	14.2	(2.3)	31.3	(2.3)	32.0	(2.8)	13.3	(2.1)	2.4	(1.1)	0.0	c
Extremadura•	12.9	(6.0)	13.6	(5.6)	17.6	(5.8)	31.4	(6.7)	20.2	(5.3)	4.4	(3.1)	0.0	c
Galicia•	8.9	(7.9)	13.7	(5.8)	23.0	(3.9)	30.2	(6.1)	23.4	(7.5)	0.9	c	0.0	c
La Rioja•	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Madrid•	4.5	(1.7)	14.3	(2.4)	27.8	(3.3)	30.5	(3.0)	19.4	(3.5)	3.5	(1.4)	0.0	c
Murcia•	19.9	(4.7)	26.1	(5.4)	27.9	(7.2)	21.0	(7.9)	3.1	c	2.0	c	0.0	c
Navarre•	c	c	c	c	c	c	c	c	c	c	c	c	c	c

• PISA adjudicated region.
Note: See Table B3.I.2 for national data.
StatLink http://dx.doi.org/10.1787/888932935781



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Table B3.I.14 Percentage of students at each proficiency level on the computer-based mathematics scale, by gender and region

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	**Brazil**														
	Acre	8.7	(7.0)	39.5	(12.0)	40.0	(10.4)	11.6	(6.3)	0.2	(0.3)	0.0	c	0.0	c
	Alagoas	37.3	(17.6)	26.9	(12.7)	21.1	(9.5)	9.9	(3.0)	4.1	(3.2)	0.7	(0.8)	0.0	c
	Amapá	34.0	(9.5)	38.6	(10.5)	19.0	(8.8)	7.0	(6.2)	1.4	(2.1)	0.0	c	0.0	c
	Amazonas	19.7	(8.2)	61.7	(12.2)	14.8	(8.4)	2.2	(3.2)	1.5	(2.7)	0.1	c	0.0	c
	Bahia	57.0	(7.5)	21.4	(5.9)	13.1	(5.6)	6.2	(3.1)	2.3	c	0.0	c	0.0	c
	Ceará	39.8	(13.2)	25.8	(6.9)	17.9	(7.1)	10.6	(6.8)	5.9	(4.7)	0.0	c	0.0	c
	Espírito Santo	10.3	(6.0)	30.2	(9.3)	36.6	(8.9)	15.3	(3.9)	4.0	(4.2)	3.2	(3.4)	0.4	c
	Federal District	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Goiás	38.9	(12.2)	33.5	(6.6)	18.4	(8.2)	7.6	(4.7)	1.4	(1.6)	0.1	c	0.0	c
	Maranhão	60.7	(12.5)	25.5	(10.7)	11.5	(6.5)	1.9	(2.4)	0.4	c	0.0	c	0.0	c
	Mato Grosso	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Mato Grosso do Sul	8.4	(4.6)	37.6	(6.3)	26.0	(8.4)	15.2	(7.7)	11.7	(5.0)	1.2	c	0.0	c
	Minas Gerais	19.8	(6.1)	27.6	(5.5)	30.0	(5.2)	14.3	(3.9)	5.4	(4.2)	2.9	(2.9)	0.0	c
	Pará	39.0	(10.4)	29.1	(9.0)	17.4	(4.6)	13.4	(8.8)	1.1	c	0.0	c	0.0	c
	Paraíba	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Paraná	26.6	(4.7)	35.0	(3.9)	22.4	(3.9)	9.9	(3.8)	4.5	(2.8)	1.3	(1.5)	0.4	c
	Pernambuco	14.0	(6.2)	38.5	(8.2)	36.6	(9.1)	10.7	(4.8)	0.2	c	0.0	c	0.0	c
	Piauí	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Rio de Janeiro	21.2	(7.5)	26.0	(3.9)	29.3	(12.8)	16.6	(6.7)	6.1	(3.4)	0.8	c	0.0	c
	Rio Grande do Norte	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Rio Grande do Sul	10.2	(2.8)	35.4	(6.3)	35.6	(5.5)	16.4	(4.1)	2.5	(1.6)	0.0	c	0.0	c
	Rondônia	30.1	(5.0)	44.7	(8.2)	23.2	(6.7)	1.9	(2.8)	0.1	c	0.0	c	0.0	c
	Roraima	24.1	(17.6)	45.8	(7.3)	20.0	(14.3)	6.5	(3.9)	3.6	(2.7)	0.0	c	0.0	c
	Santa Catarina	18.9	(14.9)	24.2	(12.0)	33.4	(12.4)	17.5	(5.2)	5.0	(3.9)	0.9	(1.0)	0.1	c
	São Paulo	21.1	(3.9)	29.7	(2.5)	28.3	(3.3)	14.0	(2.1)	5.2	(1.6)	1.5	(0.9)	0.2	c
	Sergipe	13.7	(8.5)	40.9	(11.2)	34.7	(12.4)	9.9	(6.0)	0.8	c	0.0	c	0.0	c
	Tocantins	16.7	(6.7)	44.8	(9.6)	32.9	(10.9)	4.2	(4.6)	1.3	(2.3)	0.0	c	0.0	c
	Colombia														
	Bogota	27.8	(2.8)	34.4	(2.4)	26.8	(2.5)	9.8	(1.8)	1.3	(0.6)	0.0	c	0.0	c
	Cali	32.7	(4.8)	32.6	(3.6)	23.6	(3.6)	9.2	(2.6)	1.8	(0.8)	0.0	c	0.0	c
	Manizales	23.5	(2.7)	38.7	(2.6)	28.3	(2.9)	8.1	(2.0)	1.3	(0.8)	0.1	c	0.0	c
	Medellin	28.8	(3.8)	30.4	(2.8)	24.2	(2.8)	10.3	(2.1)	4.8	(1.8)	1.3	(0.9)	0.2	(0.3)
	United Arab Emirates														
	Abu Dhabi•	18.8	(2.2)	27.1	(2.1)	28.4	(1.8)	17.7	(1.9)	5.9	(0.8)	1.8	(0.6)	0.2	(0.2)
	Ajman	20.2	(6.5)	33.7	(4.1)	30.9	(4.0)	13.6	(2.8)	1.6	(1.1)	0.0	c	0.0	c
	Dubai•	10.6	(0.6)	20.7	(1.0)	28.5	(1.7)	24.2	(1.1)	12.9	(1.1)	2.8	(0.5)	0.3	(0.2)
	Fujairah	11.3	(3.1)	25.0	(4.4)	35.4	(4.0)	23.3	(3.7)	4.9	(2.7)	0.1	c	0.0	c
	Ras Al Khaimah	12.9	(3.1)	31.4	(3.6)	34.7	(2.8)	16.8	(3.1)	3.8	(1.7)	0.5	(0.5)	0.0	c
	Sharjah	8.4	(2.0)	26.6	(2.8)	39.6	(3.8)	20.2	(3.0)	4.7	(2.3)	0.5	(0.5)	0.0	c
	Umm Al Quwain	24.2	(4.3)	38.5	(5.3)	27.2	(4.2)	8.7	(2.6)	1.4	(1.1)	0.0	c	0.0	c

• PISA adjudicated region.
Note: See Table B3.I.2 for national data.
StatLink http://dx.doi.org/10.1787/888932935781



[Part 1/2]

Table B3.I.15 Mean score, variation and gender differences in student performance on the computer-based mathematics scale, by region

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	**Australia**																						
	Australian Capital Territory	512	(3.2)	92	(2.6)	510	(5.0)	515	(4.2)	-5	(6.8)	350	(9.2)	394	(6.8)	455	(5.0)	577	(6.3)	628	(6.1)	658	(6.9)
	New South Wales	508	(3.6)	95	(2.4)	507	(5.2)	508	(4.3)	0	(6.3)	351	(7.8)	387	(4.5)	445	(4.1)	572	(4.4)	630	(6.2)	663	(7.1)
	Northern Territory	470	(8.3)	103	(3.9)	477	(8.0)	463	(13.0)	15	(13.8)	276	(14.1)	330	(13.2)	405	(11.0)	539	(12.6)	591	(14.0)	622	(22.5)
	Queensland	506	(3.3)	87	(1.9)	511	(3.8)	502	(4.0)	**9**	(4.0)	360	(5.3)	392	(5.5)	449	(4.1)	566	(4.7)	619	(4.8)	650	(6.0)
	South Australia	498	(4.4)	89	(3.5)	504	(4.9)	493	(4.9)	**10**	(4.2)	346	(13.2)	385	(7.2)	442	(4.7)	557	(4.7)	609	(5.1)	638	(7.6)
	Tasmania	479	(3.4)	95	(2.6)	482	(4.6)	476	(4.9)	6	(6.5)	318	(6.1)	357	(6.7)	416	(4.6)	545	(4.5)	601	(7.5)	638	(10.5)
	Victoria	512	(4.0)	86	(3.0)	519	(5.5)	504	(3.6)	**15**	(5.2)	373	(5.3)	403	(4.6)	454	(4.0)	570	(4.6)	620	(6.0)	650	(8.8)
	Western Australia	515	(4.6)	94	(3.7)	525	(6.4)	504	(5.9)	**21**	(8.4)	356	(13.2)	393	(7.6)	453	(6.3)	580	(5.4)	631	(5.4)	661	(7.6)
	Belgium																						
	Flemish community•	529	(3.6)	101	(2.2)	535	(4.2)	522	(4.5)	**13**	(5.1)	353	(6.9)	393	(5.0)	461	(5.8)	602	(4.1)	654	(3.9)	680	(3.8)
	French community	490	(3.7)	92	(2.6)	498	(4.2)	482	(3.9)	**16**	(3.5)	329	(8.3)	369	(7.2)	433	(4.4)	554	(4.6)	603	(5.5)	632	(6.7)
	German-speaking community	512	(2.5)	84	(2.3)	519	(3.8)	504	(3.8)	**15**	(5.9)	369	(8.2)	402	(5.0)	458	(5.0)	569	(4.3)	620	(5.8)	647	(6.2)
	Canada																						
	Alberta	516	(5.2)	97	(4.5)	522	(4.9)	510	(6.3)	**12**	(4.2)	350	(14.9)	393	(10.1)	455	(5.1)	582	(6.0)	637	(6.7)	669	(8.4)
	British Columbia	532	(4.7)	90	(3.2)	545	(6.1)	519	(5.0)	**26**	(6.0)	385	(8.4)	418	(5.7)	471	(4.8)	591	(6.1)	645	(8.8)	681	(11.1)
	Manitoba	493	(3.2)	89	(2.7)	502	(4.1)	484	(4.3)	**18**	(5.4)	344	(8.6)	374	(7.4)	436	(6.1)	555	(3.4)	606	(4.3)	633	(6.3)
	New Brunswick	496	(2.8)	85	(2.6)	498	(4.5)	494	(3.5)	4	(5.8)	347	(9.0)	389	(7.3)	447	(3.9)	553	(4.0)	599	(6.5)	627	(5.2)
	Newfoundland and Labrador	511	(3.2)	83	(1.8)	512	(5.0)	510	(3.2)	2	(5.4)	369	(14.6)	408	(9.7)	457	(4.8)	568	(4.0)	612	(5.8)	639	(6.6)
	Nova Scotia	503	(5.9)	88	(3.0)	510	(4.0)	495	(9.3)	15	(8.1)	354	(16.1)	392	(9.3)	449	(8.6)	562	(5.6)	614	(5.8)	642	(5.1)
	Ontario	530	(5.5)	90	(3.1)	542	(6.1)	519	(5.5)	**23**	(3.8)	382	(8.2)	416	(7.3)	473	(5.6)	590	(5.1)	642	(7.0)	671	(8.5)
	Prince Edward Island	491	(3.0)	95	(2.1)	484	(4.0)	497	(3.6)	**-13**	(4.7)	326	(7.0)	369	(6.7)	429	(3.9)	553	(2.8)	606	(5.5)	642	(6.1)
	Quebec	523	(3.8)	93	(2.0)	529	(4.5)	517	(4.2)	**12**	(4.1)	361	(7.9)	403	(5.8)	467	(4.5)	587	(4.5)	634	(5.4)	662	(5.2)
	Saskatchewan	499	(3.3)	92	(2.0)	502	(3.9)	496	(3.9)	6	(4.4)	352	(5.6)	387	(5.3)	443	(4.2)	561	(4.6)	610	(5.7)	638	(5.9)
	Italy																						
	Abruzzo	491	(23.4)	68	(4.9)	513	(20.0)	476	(30.0)	37	(24.5)	374	(21.8)	400	(34.2)	443	(30.4)	540	(22.6)	581	(16.2)	601	(12.9)
	Basilicata	481	(11.7)	71	(6.8)	482	(23.0)	479	(10.3)	3	(28.6)	362	(27.4)	386	(21.9)	430	(16.0)	533	(10.2)	573	(8.7)	599	(15.5)
	Bolzano	529	(12.2)	66	(3.6)	547	(13.0)	516	(13.4)	**31**	(9.3)	411	(11.9)	438	(13.4)	484	(16.4)	577	(13.4)	614	(11.3)	632	(12.0)
	Calabria	463	(16.7)	75	(8.6)	476	(19.9)	452	(15.2)	**24**	(10.0)	334	(43.2)	377	(28.8)	421	(21.8)	508	(11.4)	546	(22.8)	581	(27.6)
	Campania	459	(13.6)	81	(5.8)	463	(15.9)	454	(12.0)	9	(8.4)	319	(25.2)	354	(24.3)	405	(16.3)	511	(9.8)	562	(17.2)	596	(11.5)
	Emilia Romagna	501	(14.8)	84	(9.4)	514	(17.6)	486	(19.6)	28	(22.1)	361	(15.2)	393	(19.4)	445	(13.8)	557	(19.9)	612	(33.1)	645	(34.7)
	Friuli Venezia Giulia	512	(28.6)	81	(10.1)	514	(33.3)	511	(35.2)	3	(37.2)	372	(34.5)	404	(26.4)	467	(32.5)	570	(28.9)	604	(29.0)	629	(33.1)
	Lazio	500	(8.6)	80	(4.2)	499	(11.2)	500	(10.6)	-1	(13.9)	369	(18.7)	397	(12.2)	442	(10.2)	557	(11.1)	600	(11.6)	621	(8.7)
	Liguria	552	(36.8)	96	(11.3)	552	(35.7)	552	(40.5)	1	(15.2)	397	(29.4)	431	(27.2)	484	(27.0)	624	(69.9)	685	(41.8)	716	(39.4)
	Lombardia	530	(10.9)	72	(4.0)	536	(10.8)	524	(13.3)	13	(10.7)	412	(12.3)	439	(9.8)	480	(10.1)	581	(12.9)	623	(13.1)	648	(21.3)
	Marche	513	(20.9)	73	(6.3)	516	(18.5)	504	(32.3)	11	(19.4)	379	(26.6)	411	(31.5)	467	(22.8)	568	(25.3)	598	(26.8)	630	(35.0)
	Molise	482	(19.6)	69	(4.8)	470	(25.2)	c	c	c	c	364	(17.2)	383	(25.5)	436	(31.2)	526	(11.8)	557	(10.2)	585	(28.5)
	Piemonte	504	(11.6)	87	(9.0)	520	(12.7)	488	(18.6)	31	(24.4)	357	(29.8)	382	(17.4)	449	(17.9)	566	(14.7)	608	(18.1)	636	(23.5)
	Puglia	480	(10.7)	81	(7.3)	487	(14.3)	471	(16.1)	16	(23.7)	340	(32.8)	374	(20.4)	424	(17.2)	544	(11.8)	580	(8.6)	601	(8.4)
	Sardegna	453	(17.5)	66	(6.6)	455	(15.2)	c	c	c	c	324	(41.7)	366	(34.2)	418	(35.6)	499	(19.3)	529	(11.7)	549	(19.6)
	Sicilia	491	(10.5)	68	(4.6)	496	(9.0)	481	(13.8)	15	(9.2)	372	(22.6)	402	(16.0)	445	(13.6)	537	(11.3)	573	(15.3)	600	(15.8)
	Toscana	498	(17.9)	86	(9.4)	527	(17.7)	472	(21.4)	**55**	(26.7)	358	(26.8)	385	(19.8)	438	(24.4)	564	(20.5)	607	(14.2)	629	(16.5)
	Trento	548	(12.0)	79	(8.7)	550	(14.9)	547	(12.6)	3	(14.5)	406	(19.3)	440	(26.7)	496	(16.6)	604	(11.6)	645	(15.7)	664	(19.9)
	Umbria	490	(11.7)	71	(6.6)	487	(13.9)	494	(15.2)	-7	(17.8)	362	(23.4)	392	(20.2)	445	(15.0)	542	(10.1)	573	(11.3)	595	(12.5)
	Valle d'Aosta	502	(19.3)	67	(5.1)	515	(20.4)	483	(15.4)	**32**	(7.5)	394	(22.6)	415	(22.5)	461	(26.8)	547	(15.3)	580	(17.6)	604	(20.8)
	Veneto	515	(15.7)	92	(7.4)	530	(16.9)	498	(20.1)	32	(22.7)	363	(8.7)	392	(11.9)	445	(21.0)	584	(24.3)	635	(22.8)	658	(14.7)
	Portugal																						
	Alentejo	485	(11.0)	87	(5.2)	497	(12.7)	472	(10.2)	**26**	(6.7)	327	(16.8)	367	(14.4)	430	(15.4)	541	(10.0)	587	(11.1)	620	(23.6)
	Spain																						
	Andalusia•	455	(8.3)	79	(2.8)	462	(10.3)	448	(7.1)	**13**	(6.5)	323	(10.4)	351	(9.6)	402	(10.0)	508	(8.6)	555	(10.5)	586	(11.5)
	Aragon•	483	(28.4)	98	(3.5)	492	(23.2)	476	(34.0)	16	(14.3)	319	(19.8)	349	(17.9)	405	(40.5)	559	(33.2)	609	(34.0)	628	(26.0)
	Asturias•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Balearic Islands•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Basque Country•	490	(3.1)	82	(2.1)	496	(3.6)	484	(3.5)	**11**	(3.4)	348	(6.8)	383	(4.2)	439	(3.9)	547	(3.0)	590	(3.0)	614	(3.2)
	Cantabria•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Castile and Leon•	513	(5.9)	67	(4.9)	514	(7.6)	512	(5.3)	2	(5.6)	388	(11.3)	420	(17.1)	475	(10.2)	559	(13.9)	598	(13.6)	622	(14.5)
	Catalonia•	483	(6.8)	77	(4.2)	491	(7.6)	474	(6.9)	**16**	(5.5)	347	(15.2)	382	(13.3)	435	(8.3)	536	(6.9)	579	(8.2)	605	(8.1)
	Extremadura•	479	(13.4)	89	(3.9)	480	(12.6)	478	(15.7)	2	(10.0)	321	(24.9)	352	(30.3)	416	(13.3)	544	(17.4)	591	(17.4)	608	(6.0)
	Galicia•	474	(25.1)	85	(11.2)	467	(24.7)	479	(26.2)	-13	(9.1)	317	(42.6)	355	(46.8)	418	(44.3)	538	(16.0)	570	(12.3)	587	(16.8)
	La Rioja•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Madrid•	493	(7.1)	74	(3.2)	499	(8.3)	486	(7.4)	**13**	(6.7)	364	(10.4)	391	(12.5)	443	(9.0)	546	(7.3)	584	(8.2)	607	(8.8)
	Murcia•	447	(10.7)	80	(4.6)	465	(9.9)	426	(13.0)	**39**	(12.5)	317	(23.1)	342	(15.0)	387	(14.3)	508	(11.0)	547	(10.5)	569	(6.5)
	Navarre•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

See Table B3.I.3 for national data.

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[Part 2/2]

Table B3.I.15 Mean score, variation and gender differences in student performance on the computer-based mathematics scale, by region

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
Partners	**Brazil**																						
	Acre	428	(5.5)	54	(3.5)	435	(7.4)	423	(8.4)	12	(11.8)	336	(14.7)	364	(18.3)	392	(8.2)	466	(9.2)	492	(16.4)	519	(19.4)
	Alagoas	391	(23.1)	78	(10.6)	389	(23.2)	393	(25.1)	-4	(15.0)	273	(42.5)	301	(29.8)	335	(27.0)	442	(30.3)	495	(20.9)	535	(35.0)
	Amapá	407	(14.1)	58	(7.9)	428	(11.3)	390	(16.7)	**38**	(10.4)	324	(9.8)	341	(13.0)	362	(13.5)	443	(27.8)	489	(25.1)	508	(37.6)
	Amazonas	394	(13.4)	53	(14.5)	395	(16.8)	392	(11.7)	3	(13.0)	320	(22.6)	339	(20.6)	361	(10.8)	417	(19.4)	454	(39.1)	481	(75.9)
	Bahia	372	(10.9)	91	(12.7)	389	(18.0)	357	(10.0)	**33**	(15.7)	244	(38.4)	269	(18.7)	305	(9.2)	436	(26.4)	494	(23.8)	529	(47.2)
	Ceará	408	(27.6)	96	(12.1)	423	(25.1)	391	(29.0)	**32**	(8.7)	266	(20.2)	296	(16.5)	339	(18.5)	474	(48.5)	545	(45.1)	589	(36.6)
	Espírito Santo	443	(11.6)	74	(10.4)	446	(9.2)	440	(17.6)	7	(14.8)	333	(17.0)	358	(13.7)	392	(14.7)	482	(18.5)	545	(45.6)	582	(46.9)
	Federal District	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Goiás	393	(16.7)	76	(9.6)	404	(15.5)	383	(18.8)	21	(11.4)	281	(41.9)	307	(21.6)	339	(19.0)	442	(14.9)	494	(29.5)	530	(18.9)
	Maranhão	340	(25.0)	89	(17.2)	349	(30.5)	333	(21.4)	16	(13.4)	193	(53.6)	231	(51.1)	285	(28.4)	389	(34.4)	448	(43.6)	510	(61.2)
	Mato Grosso	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Mato Grosso do Sul	455	(6.8)	76	(2.1)	466	(10.2)	445	(8.8)	21	(13.3)	352	(11.0)	365	(11.2)	397	(8.0)	511	(13.6)	574	(18.5)	590	(9.7)
	Minas Gerais	437	(21.5)	86	(12.9)	450	(24.2)	426	(19.5)	**24**	(7.9)	307	(18.7)	335	(16.6)	379	(19.0)	488	(31.5)	556	(51.8)	591	(43.8)
	Pará	386	(21.5)	77	(13.5)	388	(25.9)	385	(22.1)	3	(17.9)	267	(39.1)	294	(30.5)	335	(19.7)	435	(34.4)	493	(33.7)	519	(33.2)
	Paraíba	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Paraná	418	(10.2)	76	(9.7)	427	(10.1)	410	(12.5)	17	(8.8)	314	(8.6)	331	(6.9)	364	(5.9)	461	(16.5)	526	(35.2)	566	(31.3)
	Pernambuco	426	(13.7)	68	(6.6)	438	(17.0)	415	(13.5)	**23**	(10.6)	315	(28.6)	345	(22.0)	386	(9.0)	465	(14.8)	509	(23.9)	546	(40.2)
	Piauí	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Rio de Janeiro	434	(12.6)	79	(10.1)	445	(12.3)	423	(13.9)	**22**	(5.7)	304	(16.4)	333	(18.3)	377	(20.2)	488	(14.7)	543	(20.9)	567	(19.5)
	Rio Grande do Norte	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Rio Grande do Sul	444	(6.5)	61	(3.5)	461	(9.2)	431	(6.8)	**30**	(8.2)	345	(12.9)	363	(12.6)	402	(8.1)	486	(9.1)	523	(10.5)	546	(11.0)
	Rondônia	407	(6.9)	61	(4.3)	434	(10.1)	386	(9.6)	**48**	(15.9)	310	(18.4)	329	(23.6)	366	(11.8)	446	(11.5)	491	(14.3)	521	(22.6)
	Roraima	414	(21.2)	62	(4.6)	432	(14.1)	399	(25.4)	**33**	(15.8)	319	(42.7)	343	(27.4)	370	(27.1)	454	(25.6)	504	(20.8)	530	(23.2)
	Santa Catarina	419	(38.5)	106	(33.5)	426	(39.1)	412	(38.3)	14	(11.8)	182	(84.8)	218	(185.0)	380	(57.2)	488	(15.0)	528	(14.2)	553	(25.2)
	São Paulo	431	(7.2)	81	(4.7)	440	(7.5)	421	(7.8)	**19**	(4.7)	305	(11.2)	331	(9.1)	376	(9.0)	480	(8.0)	536	(16.1)	578	(16.4)
	Sergipe	426	(9.1)	58	(4.1)	440	(9.7)	416	(12.3)	24	(12.2)	337	(18.1)	356	(12.2)	385	(18.6)	458	(11.7)	504	(15.7)	529	(19.4)
	Tocantins	413	(11.1)	64	(4.5)	423	(31.9)	404	(12.1)	19	(42.2)	311	(13.4)	333	(13.6)	374	(16.9)	454	(16.5)	495	(30.1)	531	(24.9)
	Colombia																						
	Bogota	410	(4.7)	72	(3.1)	424	(6.8)	398	(4.6)	**25**	(6.7)	293	(6.9)	320	(6.1)	363	(5.4)	458	(5.0)	500	(6.0)	525	(7.7)
	Cali	396	(9.8)	80	(5.8)	405	(10.3)	389	(10.2)	**16**	(6.2)	262	(18.5)	295	(14.9)	344	(10.4)	448	(10.6)	498	(14.6)	531	(18.3)
	Manizales	410	(4.2)	66	(3.5)	418	(7.0)	402	(3.5)	**16**	(7.0)	306	(4.5)	327	(5.2)	367	(4.7)	453	(5.9)	496	(9.1)	521	(11.9)
	Medellin	412	(8.0)	82	(4.5)	419	(8.3)	406	(9.8)	14	(8.7)	282	(11.3)	313	(8.0)	357	(7.3)	464	(9.6)	520	(14.1)	555	(16.5)
	United Arab Emirates																						
	Abu Dhabi•	423	(4.6)	87	(3.2)	415	(6.6)	431	(5.5)	**-16**	(8.1)	286	(6.6)	314	(5.6)	363	(5.2)	480	(5.8)	535	(7.6)	569	(10.3)
	Ajman	389	(7.8)	71	(3.2)	363	(7.0)	412	(11.8)	**-49**	(14.0)	268	(17.5)	300	(12.6)	341	(8.9)	437	(7.7)	478	(8.8)	507	(10.3)
	Dubai•	460	(1.1)	90	(1.0)	460	(1.8)	461	(1.4)	-1	(2.4)	309	(3.4)	344	(2.9)	401	(2.0)	522	(2.4)	576	(2.8)	607	(3.5)
	Fujairah	426	(6.8)	75	(2.7)	411	(5.4)	441	(9.3)	**-30**	(9.7)	295	(8.6)	324	(8.6)	375	(8.6)	480	(8.3)	520	(10.0)	543	(10.8)
	Ras Al Khaimah	415	(6.7)	73	(6.2)	398	(12.9)	431	(7.4)	**-33**	(14.9)	291	(18.7)	321	(14.0)	371	(9.8)	463	(6.3)	505	(8.8)	531	(8.5)
	Sharjah	442	(6.1)	66	(3.1)	441	(13.4)	443	(6.0)	-3	(15.7)	330	(9.8)	356	(11.2)	398	(6.9)	486	(7.2)	527	(11.5)	552	(10.0)
	Umm Al Quwain	389	(3.5)	70	(2.7)	375	(4.8)	403	(4.6)	**-28**	(6.3)	275	(9.2)	301	(8.2)	340	(6.4)	437	(6.3)	478	(8.2)	503	(10.0)

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

See Table B3.I.3 for national data.

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[Part 1/2]

Table B3.I.16 Percentage of students at each proficiency level on the combined mathematics scale, by region

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	5.2	(1.0)	9.5	(1.6)	20.4	(1.8)	27.0	(1.9)	21.0	(1.9)	13.0	(1.6)	3.8	(0.8)
	New South Wales	5.4	(0.5)	12.6	(0.8)	22.3	(1.2)	24.9	(1.0)	19.0	(1.1)	11.1	(0.8)	4.7	(0.8)
	Northern Territory	15.3	(1.9)	16.4	(3.2)	23.5	(3.9)	25.3	(3.3)	13.1	(3.0)	5.2	(2.0)	1.2	(0.8)
	Queensland	4.3	(0.6)	13.2	(1.0)	22.9	(1.1)	26.9	(1.4)	19.8	(1.0)	10.1	(1.0)	2.7	(0.5)
	South Australia	6.1	(0.8)	14.3	(1.1)	24.1	(1.6)	27.0	(1.6)	18.8	(1.5)	8.0	(1.1)	1.7	(0.4)
	Tasmania	9.6	(1.0)	16.2	(1.4)	26.7	(1.7)	24.1	(1.5)	14.8	(1.5)	6.8	(1.1)	1.9	(0.5)
	Victoria	4.1	(0.7)	12.0	(1.0)	23.3	(1.2)	28.0	(1.2)	20.5	(1.1)	9.3	(0.9)	2.8	(0.8)
	Western Australia	4.1	(0.8)	11.6	(1.0)	20.9	(1.4)	24.2	(1.7)	22.8	(1.3)	12.3	(1.1)	4.0	(0.8)
	Belgium														
	Flemish community•	4.8	(0.6)	9.7	(0.9)	17.1	(0.9)	21.9	(1.1)	22.9	(1.0)	16.5	(0.8)	7.1	(0.6)
	French community	7.3	(0.9)	14.8	(1.0)	22.0	(1.1)	27.0	(1.1)	20.0	(1.0)	7.5	(0.7)	1.5	(0.4)
	German-speaking community	3.1	(0.6)	9.0	(1.2)	21.7	(1.5)	32.6	(2.2)	23.2	(1.5)	8.7	(1.1)	1.6	(0.5)
	Canada														
	Alberta	4.1	(0.9)	10.3	(1.0)	20.7	(1.3)	25.7	(1.6)	23.1	(1.5)	12.1	(1.6)	3.9	(0.7)
	British Columbia	2.1	(0.6)	8.2	(0.9)	20.0	(1.2)	27.9	(1.3)	24.3	(1.4)	12.9	(1.2)	4.6	(0.8)
	Manitoba	5.3	(1.0)	14.0	(1.8)	25.7	(1.8)	27.5	(1.4)	18.6	(1.2)	7.3	(0.7)	1.7	(0.4)
	New Brunswick	4.8	(0.7)	11.0	(1.0)	23.9	(1.5)	31.8	(1.9)	20.4	(1.6)	7.0	(1.1)	1.1	(0.3)
	Newfoundland and Labrador	4.0	(0.9)	11.6	(1.4)	25.6	(1.7)	28.9	(1.8)	20.4	(1.6)	8.5	(0.9)	1.1	(0.4)
	Nova Scotia	3.8	(0.6)	11.8	(1.8)	25.4	(2.3)	29.2	(1.7)	20.9	(2.6)	7.6	(1.3)	1.4	(0.4)
	Ontario	2.4	(0.5)	8.4	(0.8)	20.9	(1.3)	28.8	(1.3)	23.7	(1.5)	11.8	(1.1)	4.0	(0.7)
	Prince Edward Island	4.3	(0.7)	14.8	(1.2)	28.5	(1.4)	31.5	(1.6)	17.2	(1.2)	3.5	(0.6)	0.4	(0.2)
	Quebec	3.1	(0.4)	8.0	(0.7)	17.1	(1.1)	26.2	(1.1)	26.8	(1.1)	14.7	(0.9)	4.1	(0.6)
	Saskatchewan	3.7	(0.5)	12.4	(1.0)	23.7	(1.2)	28.4	(1.7)	21.2	(1.4)	9.2	(1.1)	1.4	(0.5)
	Italy														
	Abruzzo	3.2	(2.6)	16.8	(9.3)	25.8	(9.7)	30.2	(8.2)	18.5	(9.3)	5.2	(4.8)	0.3	c
	Basilicata	6.7	(4.0)	21.2	(5.0)	27.5	(4.2)	30.3	(5.6)	13.3	(3.1)	1.1	c	0.0	c
	Bolzano	0.9	(0.7)	5.6	(3.2)	20.0	(5.2)	37.9	(5.6)	29.3	(4.7)	5.9	(3.2)	0.3	c
	Calabria	10.4	(4.5)	20.8	(4.9)	37.0	(5.7)	23.9	(4.7)	7.0	(1.4)	0.9	(0.9)	0.0	c
	Campania	10.8	(4.4)	21.9	(3.7)	31.4	(4.3)	22.5	(3.3)	10.2	(3.0)	3.1	(1.1)	0.1	c
	Emilia Romagna	4.1	(2.0)	10.6	(2.1)	26.2	(4.9)	28.6	(5.7)	18.3	(2.8)	8.7	(3.6)	3.5	(2.5)
	Friuli Venezia Giulia	2.3	(1.9)	9.1	(4.1)	20.3	(9.1)	31.3	(6.4)	28.8	(12.6)	6.7	(4.8)	1.5	(1.5)
	Lazio	5.3	(1.9)	13.3	(2.7)	24.8	(5.8)	29.5	(4.5)	21.8	(2.8)	4.7	(1.3)	0.6	(0.4)
	Liguria	2.9	(2.1)	13.0	(7.2)	20.8	(8.4)	22.6	(8.6)	13.4	(4.5)	16.2	(10.9)	11.0	(7.7)
	Lombardia	1.4	(0.8)	5.2	(1.3)	20.5	(3.4)	34.7	(3.4)	27.6	(3.2)	9.9	(2.7)	0.9	(0.7)
	Marche	3.4	(2.6)	10.5	(5.2)	22.9	(6.9)	27.0	(8.1)	26.5	(7.1)	8.2	(5.8)	1.6	(1.5)
	Molise	6.0	(3.9)	17.1	(9.4)	22.7	(5.1)	37.5	(9.6)	13.8	(5.1)	2.6	(2.2)	0.3	c
	Piemonte	4.8	(1.7)	13.9	(3.7)	21.3	(3.5)	29.5	(4.1)	22.0	(2.2)	7.3	(2.7)	1.1	(0.4)
	Puglia	10.6	(4.8)	17.3	(4.9)	26.6	(4.8)	21.1	(3.0)	18.7	(4.0)	5.0	(2.8)	0.8	(0.3)
	Sardegna	11.5	(6.9)	23.9	(9.5)	29.4	(6.9)	26.4	(10.7)	8.3	(7.5)	0.5	c	0.0	c
	Sicilia	6.1	(3.1)	17.4	(4.7)	32.8	(3.3)	28.7	(4.4)	12.8	(3.4)	1.8	(1.2)	0.4	(0.4)
	Toscana	5.4	(2.5)	14.5	(4.1)	23.4	(5.7)	26.6	(3.5)	18.2	(3.2)	10.6	(3.7)	1.4	(0.9)
	Trento	1.0	(1.0)	5.1	(2.8)	13.9	(3.5)	22.3	(3.5)	33.0	(4.2)	20.9	(3.7)	3.9	(2.6)
	Umbria	5.3	(2.9)	11.6	(5.0)	18.0	(3.9)	38.5	(8.5)	21.2	(5.4)	4.8	(2.2)	0.7	c
	Valle d'Aosta	2.1	(2.1)	12.2	(6.5)	24.9	(5.8)	38.4	(6.5)	19.3	(7.3)	2.5	(1.5)	0.6	(0.8)
	Veneto	3.3	(1.7)	11.9	(2.8)	20.2	(3.5)	25.4	(5.0)	21.9	(2.7)	13.5	(4.1)	3.7	(2.3)
	Portugal														
	Alentejo	7.4	(2.0)	14.0	(3.1)	24.5	(2.8)	30.4	(3.4)	16.0	(2.0)	6.4	(1.5)	1.3	(0.9)
	Spain														
	Andalusia•	8.6	(1.7)	20.3	(2.5)	31.6	(2.4)	25.1	(2.5)	11.2	(1.8)	2.9	(0.7)	0.3	(0.2)
	Aragon•	7.6	(2.7)	13.0	(6.3)	28.9	(6.1)	23.6	(5.6)	18.4	(4.5)	7.9	(4.2)	0.6	(0.9)
	Asturias•	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Balearic Islands•	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Basque Country•	4.5	(0.6)	11.0	(0.8)	24.5	(0.9)	31.5	(0.8)	21.4	(1.0)	6.2	(0.5)	0.8	(0.2)
	Cantabria•	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Castile and Leon•	3.5	(1.4)	10.0	(1.9)	21.9	(4.0)	32.1	(4.5)	24.9	(2.6)	7.3	(2.7)	0.4	c
	Catalonia•	4.3	(1.0)	15.0	(1.7)	26.4	(1.7)	31.4	(1.9)	17.3	(1.8)	5.2	(1.0)	0.3	(0.2)
	Extremadura•	8.4	(4.6)	15.8	(6.0)	25.2	(5.0)	30.2	(6.4)	16.1	(4.1)	4.3	(1.6)	0.1	c
	Galicia•	8.2	(4.6)	15.2	(4.9)	22.9	(3.2)	31.3	(3.7)	19.7	(4.8)	2.3	(1.5)	0.4	c
	La Rioja•	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Madrid•	4.5	(1.8)	13.1	(2.2)	23.7	(2.8)	30.8	(2.2)	22.2	(2.9)	5.3	(1.5)	0.5	c
	Murcia•	10.7	(3.0)	23.5	(3.5)	26.9	(4.4)	24.4	(5.3)	13.8	(3.2)	0.7	c	0.0	c
	Navarre•	c	c	c	c	c	c	c	c	c	c	c	c	c	c

• PISA adjudicated region.
Note: See Table B3.I.4 for national data.
StatLink http://dx.doi.org/10.1787/888932935781



[Part 2/2]

Table B3.I.16 **Percentage of students at each proficiency level on the combined mathematics scale, by region**

		All students													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	**Brazil**														
	Acre	13.6	(4.7)	43.2	(7.4)	35.6	(6.8)	7.0	(3.8)	0.5	(1.1)	0.1	c	0.0	c
	Alagoas	52.2	(14.8)	26.9	(11.2)	12.9	(5.0)	5.5	(1.1)	2.4	(1.8)	0.1	c	0.0	c
	Amapá	24.3	(5.1)	44.5	(6.3)	24.2	(4.4)	6.4	(4.9)	0.6	(0.9)	0.0	c	0.0	c
	Amazonas	56.6	(10.2)	33.0	(6.2)	5.8	(4.1)	2.6	(3.3)	1.5	(2.7)	0.5	(0.8)	0.0	c
	Bahia	50.6	(8.6)	24.3	(7.3)	13.7	(4.8)	7.8	(2.6)	2.6	(2.2)	0.9	(1.1)	0.0	c
	Ceará	38.1	(10.5)	27.5	(5.1)	15.1	(4.7)	10.1	(5.2)	6.3	(3.9)	2.7	(2.0)	0.2	c
	Espírito Santo	12.3	(3.0)	28.8	(7.0)	34.3	(6.4)	17.0	(5.0)	5.1	(3.1)	2.1	(2.0)	0.4	c
	Federal District	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Goiás	32.0	(8.6)	38.3	(7.1)	18.5	(3.8)	8.0	(2.3)	2.8	(1.5)	0.4	c	0.0	c
	Maranhão	61.2	(10.8)	25.8	(9.6)	7.2	(4.4)	4.4	(2.8)	1.1	(1.4)	0.3	c	0.0	c
	Mato Grosso	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Mato Grosso do Sul	12.1	(3.4)	31.3	(9.3)	29.9	(7.5)	15.8	(3.7)	9.8	(4.2)	1.0	(1.1)	0.0	c
	Minas Gerais	17.5	(4.6)	32.0	(5.7)	29.8	(3.9)	15.1	(4.6)	4.8	(3.5)	0.5	(0.5)	0.3	c
	Pará	50.6	(9.5)	23.8	(5.6)	18.6	(5.5)	6.4	(4.2)	0.6	c	0.0	c	0.0	c
	Paraíba	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Paraná	24.9	(5.3)	38.2	(4.8)	20.7	(3.4)	9.5	(1.5)	4.8	(3.1)	1.7	(1.7)	0.1	c
	Pernambuco	22.6	(7.1)	43.0	(4.2)	24.3	(5.2)	8.5	(2.7)	1.5	(1.2)	0.0	c	0.0	c
	Piauí	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Rio de Janeiro	23.0	(7.5)	31.2	(6.8)	26.8	(6.5)	14.4	(3.6)	3.9	(3.4)	0.7	(1.0)	0.0	c
	Rio Grande do Norte	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Rio Grande do Sul	11.4	(3.7)	32.6	(5.1)	35.0	(4.8)	18.0	(4.9)	2.9	(1.5)	0.2	c	0.0	c
	Rondônia	27.6	(5.2)	44.5	(6.0)	19.7	(4.9)	6.6	(2.3)	1.6	(1.6)	0.0	c	0.0	c
	Roraima	23.1	(4.1)	43.0	(4.9)	22.1	(5.5)	10.3	(2.7)	1.4	(1.0)	0.1	c	0.0	c
	Santa Catarina	19.8	(13.8)	28.9	(6.8)	30.4	(8.3)	16.9	(5.1)	3.5	(1.8)	0.4	(0.4)	0.0	c
	São Paulo	21.8	(2.9)	33.2	(2.5)	26.2	(2.3)	12.3	(1.9)	5.0	(1.3)	1.4	(0.7)	0.1	(0.1)
	Sergipe	17.6	(3.8)	46.9	(5.4)	22.5	(4.3)	9.8	(3.7)	2.6	(1.1)	0.6	(0.5)	0.0	c
	Tocantins	30.5	(11.8)	40.1	(7.0)	19.6	(5.4)	6.9	(4.9)	2.8	(1.7)	0.0	c	0.0	c
	Colombia														
	Bogota	24.7	(1.8)	37.6	(1.5)	27.9	(1.5)	8.1	(1.2)	1.3	(0.5)	0.3	(0.3)	0.0	c
	Cali	33.6	(3.8)	36.1	(2.5)	20.9	(2.5)	8.2	(1.8)	1.2	(0.5)	0.0	c	0.0	c
	Manizales	22.3	(2.2)	39.0	(2.1)	26.2	(1.6)	10.1	(1.4)	2.2	(1.0)	0.2	(0.2)	0.0	c
	Medellin	29.9	(3.2)	32.9	(2.1)	22.2	(2.3)	9.9	(1.7)	3.5	(1.2)	1.2	(0.7)	0.3	(0.2)
	United Arab Emirates														
	Abu Dhabi•	22.7	(1.5)	29.2	(1.3)	25.1	(1.2)	15.3	(1.1)	5.9	(0.8)	1.7	(0.5)	0.2	(0.2)
	Ajman	30.6	(4.9)	33.0	(3.5)	26.0	(3.1)	8.8	(1.8)	1.5	(0.9)	0.0	c	0.0	c
	Dubai•	12.2	(0.5)	20.7	(0.6)	26.2	(1.0)	22.5	(0.8)	13.3	(0.8)	4.4	(0.4)	0.8	(0.2)
	Fujairah	22.3	(3.4)	27.5	(2.4)	30.6	(2.7)	15.1	(2.3)	4.3	(1.4)	0.2	(0.3)	0.0	c
	Ras Al Khaimah	20.6	(3.5)	33.9	(2.7)	28.6	(2.8)	14.0	(2.1)	2.5	(0.9)	0.4	(0.3)	0.0	c
	Sharjah	12.2	(2.4)	28.8	(2.7)	30.9	(2.4)	19.5	(2.6)	7.7	(2.0)	0.9	(0.6)	0.1	c
	Umm Al Quwain	30.8	(2.5)	36.4	(3.4)	22.6	(3.0)	8.3	(2.0)	1.5	(0.9)	0.3	c	0.0	c

• PISA adjudicated region.
Note: See Table B3.I.4 for national data.
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[Part 1/4]

Table B3.I.17 **Percentage of students at each proficiency level on the combined mathematics scale, by gender and region**

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**														
	Australian Capital Territory	6.6	(1.4)	9.1	(2.2)	20.1	(2.9)	26.9	(2.8)	19.1	(3.6)	14.4	(2.9)	3.9	(1.2)
	New South Wales	5.8	(0.7)	12.7	(1.1)	22.2	(1.6)	23.7	(1.4)	18.0	(1.8)	11.8	(1.4)	5.8	(1.3)
	Northern Territory	14.4	(2.5)	15.9	(3.3)	22.0	(4.7)	24.6	(4.5)	15.3	(3.7)	5.9	(2.5)	1.8	(1.4)
	Queensland	3.9	(0.8)	13.0	(1.3)	22.4	(1.7)	25.6	(1.5)	20.7	(1.5)	11.0	(1.5)	3.2	(0.6)
	South Australia	6.2	(1.1)	12.9	(1.8)	23.0	(2.1)	26.5	(2.2)	20.2	(2.5)	9.2	(1.8)	2.0	(0.7)
	Tasmania	9.3	(1.4)	15.0	(1.9)	26.8	(2.4)	23.7	(2.3)	15.8	(2.0)	7.4	(1.5)	2.0	(0.7)
	Victoria	3.4	(0.8)	10.9	(1.2)	22.0	(1.5)	27.9	(1.7)	21.1	(1.4)	10.3	(1.3)	4.3	(1.3)
	Western Australia	2.8	(0.9)	10.6	(1.4)	19.0	(1.7)	23.7	(1.9)	24.9	(2.1)	13.8	(1.4)	5.3	(1.6)
	Belgium														
	Flemish community•	4.7	(0.8)	9.4	(1.2)	16.1	(1.1)	21.1	(1.4)	22.0	(1.5)	17.7	(1.2)	9.0	(0.8)
	French community	7.1	(1.0)	15.0	(1.3)	19.5	(1.5)	25.2	(1.5)	21.3	(1.3)	9.7	(1.0)	2.2	(0.6)
	German-speaking community	3.5	(0.9)	9.5	(1.8)	18.9	(2.2)	31.8	(3.2)	23.7	(2.3)	10.4	(2.2)	2.3	(0.8)
	Canada														
	Alberta	3.7	(1.0)	8.9	(1.3)	20.7	(2.0)	25.8	(1.9)	22.7	(1.7)	12.8	(1.6)	5.2	(1.0)
	British Columbia	1.4	(0.7)	7.3	(1.2)	18.7	(1.7)	25.7	(2.3)	25.4	(2.2)	15.0	(1.8)	6.5	(1.3)
	Manitoba	5.0	(1.3)	13.6	(2.4)	24.3	(2.2)	26.4	(2.1)	19.5	(1.7)	8.8	(1.2)	2.4	(0.6)
	New Brunswick	5.3	(1.1)	11.5	(1.8)	21.3	(1.9)	32.3	(2.1)	20.2	(2.1)	8.2	(1.6)	1.2	(0.5)
	Newfoundland and Labrador	5.2	(1.2)	11.1	(1.6)	23.8	(2.0)	28.9	(2.5)	20.3	(2.0)	9.3	(1.6)	1.3	(0.7)
	Nova Scotia	3.5	(1.2)	10.7	(2.0)	24.4	(2.3)	27.8	(2.6)	22.9	(2.9)	9.3	(2.3)	1.5	(0.6)
	Ontario	2.1	(0.6)	7.8	(1.1)	19.1	(1.5)	27.3	(1.7)	23.9	(2.1)	14.0	(1.6)	5.8	(1.2)
	Prince Edward Island	5.5	(1.1)	15.2	(1.7)	26.7	(2.0)	32.4	(2.2)	16.4	(1.8)	3.4	(0.9)	0.4	(0.3)
	Quebec	2.8	(0.6)	7.5	(1.2)	16.4	(1.3)	24.8	(1.5)	27.0	(1.6)	16.4	(1.2)	5.1	(0.8)
	Saskatchewan	4.4	(0.8)	11.2	(1.3)	22.9	(1.9)	27.1	(2.1)	22.1	(1.8)	10.7	(1.5)	1.6	(0.7)
	Italy														
	Abruzzo	0.0	c	12.7	(7.4)	21.5	(6.2)	29.5	(9.5)	26.4	(10.1)	7.2	(7.0)	2.7	c
	Basilicata	8.3	(7.0)	18.3	(7.1)	26.5	(6.0)	28.3	(8.4)	16.7	(3.7)	2.0	c	0.0	c
	Bolzano	0.0	c	4.2	(1.8)	13.2	(5.2)	34.4	(5.6)	38.7	(6.8)	8.4	(4.3)	1.2	c
	Calabria	8.9	(5.5)	24.6	(6.3)	29.0	(5.9)	25.2	(4.9)	10.3	(4.5)	2.1	(2.1)	0.0	c
	Campania	10.7	(5.1)	21.9	(4.5)	28.5	(4.5)	21.6	(4.4)	12.7	(3.8)	4.4	(1.6)	0.2	c
	Emilia Romagna	3.8	(3.4)	9.2	(4.1)	17.8	(5.0)	31.3	(7.4)	22.1	(5.2)	11.3	(4.4)	4.5	(3.2)
	Friuli Venezia Giulia	4.1	(4.4)	9.7	(5.9)	17.7	(9.9)	25.9	(5.7)	32.4	(10.3)	8.6	(5.6)	1.7	(2.0)
	Lazio	6.3	(3.2)	12.3	(2.9)	24.7	(7.9)	29.6	(7.0)	21.6	(3.3)	5.1	(1.7)	0.5	(0.3)
	Liguria	3.6	(2.6)	10.9	(6.1)	19.7	(7.8)	26.3	(10.0)	11.0	(3.5)	17.0	(12.4)	11.5	(8.4)
	Lombardia	2.0	(1.7)	6.3	(1.9)	18.6	(4.7)	31.3	(5.1)	28.5	(4.1)	12.0	(2.9)	1.3	(1.0)
	Marche	0.0	c	9.7	(5.4)	21.2	(6.7)	31.6	(10.7)	26.2	(6.3)	7.2	(5.5)	4.0	(2.3)
	Molise	9.4	(6.8)	24.2	(12.4)	22.9	(7.2)	25.3	(8.2)	14.3	(6.3)	3.9	c	0.0	c
	Piemonte	3.8	(1.7)	8.8	(3.2)	21.4	(4.1)	32.4	(4.4)	22.2	(2.8)	9.2	(4.7)	2.2	(0.9)
	Puglia	7.1	(2.7)	17.5	(7.1)	27.8	(5.0)	18.7	(5.7)	20.8	(6.2)	7.7	(3.9)	0.4	c
	Sardegna	10.7	(7.7)	30.7	(10.9)	26.7	(9.7)	24.5	(10.3)	4.5	c	3.0	c	0.0	c
	Sicilia	5.6	(2.9)	16.0	(4.4)	34.1	(3.9)	28.1	(4.5)	14.0	(4.0)	2.0	(1.5)	0.2	c
	Toscana	2.9	(2.7)	9.4	(3.0)	22.2	(6.6)	25.1	(4.2)	22.8	(3.7)	15.2	(4.5)	2.3	(1.9)
	Trento	0.0	c	7.0	(3.9)	13.2	(4.5)	22.6	(3.7)	30.5	(5.2)	21.1	(6.4)	5.5	(3.7)
	Umbria	6.7	(4.5)	10.9	(6.2)	19.1	(6.0)	35.2	(9.5)	20.6	(6.9)	6.3	(5.2)	1.2	c
	Valle d'Aosta	2.2	(2.5)	12.2	(7.9)	19.5	(8.2)	36.4	(7.1)	24.5	(9.5)	4.1	(2.4)	1.0	(1.3)
	Veneto	3.9	(1.8)	10.3	(3.2)	16.7	(4.9)	21.6	(3.6)	24.0	(5.0)	18.7	(4.5)	4.9	(2.4)
	Portugal														
	Alentejo	6.3	(1.9)	12.7	(3.2)	21.7	(3.9)	30.9	(4.5)	16.9	(3.0)	9.5	(2.4)	1.9	(1.5)
	Spain														
	Andalusia•	8.5	(2.4)	18.8	(2.7)	29.0	(2.8)	25.7	(3.2)	13.3	(2.5)	4.3	(1.1)	0.4	(0.3)
	Aragon•	3.4	(2.0)	14.8	(7.1)	33.7	(10.2)	19.0	(6.5)	19.7	(6.6)	8.1	(5.7)	1.3	(2.0)
	Asturias•	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Balearic Islands•	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Basque Country•	4.2	(0.8)	10.6	(0.8)	22.3	(1.1)	30.9	(1.2)	23.3	(1.2)	7.7	(0.8)	1.1	(0.3)
	Cantabria•	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Castile and Leon•	4.4	(2.9)	12.2	(3.4)	19.1	(3.1)	27.3	(5.4)	25.7	(5.5)	10.5	(4.1)	0.8	c
	Catalonia•	3.9	(1.2)	14.1	(2.1)	23.4	(2.3)	29.8	(2.0)	20.2	(2.3)	8.0	(1.6)	0.5	(0.3)
	Extremadura•	7.9	(3.6)	12.7	(8.0)	32.3	(7.2)	26.3	(5.9)	15.2	(5.5)	5.5	(2.6)	0.1	c
	Galicia•	10.3	(4.8)	16.9	(5.5)	24.7	(6.9)	28.0	(6.4)	16.3	(4.9)	2.8	(2.6)	1.0	c
	La Rioja•	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Madrid•	3.8	(1.7)	12.2	(2.8)	22.5	(3.5)	29.6	(3.0)	25.1	(3.8)	5.9	(1.9)	0.9	c
	Murcia•	8.0	(3.3)	22.1	(3.8)	27.0	(8.3)	25.5	(7.6)	16.2	(4.7)	1.3	c	0.0	c
	Navarre•	c	c	c	c	c	c	c	c	c	c	c	c	c	c

• PISA adjudicated region.

Note: See Table B3.I.5 for national data.

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[Part 2/4]

Table B3.I.17 Percentage of students at each proficiency level on the combined mathematics scale, by gender and region

		Boys													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	**Brazil**														
	Acre	9.9	(4.6)	39.8	(12.5)	38.0	(13.3)	11.1	(7.2)	1.2	c	0.0	c	0.0	c
	Alagoas	53.9	(17.5)	28.1	(12.1)	11.7	(7.4)	3.5	(2.6)	2.7	(1.8)	0.1	c	0.0	c
	Amapá	11.9	(6.8)	48.4	(12.1)	30.3	(9.6)	8.5	(5.3)	0.9	(1.5)	0.0	c	0.0	c
	Amazonas	60.5	(10.1)	26.5	(5.6)	7.6	(5.4)	3.0	(3.7)	1.6	(2.9)	0.8	(1.4)	0.0	c
	Bahia	42.2	(12.7)	24.6	(8.7)	17.1	(7.5)	10.6	(4.6)	4.0	(3.2)	1.4	(1.7)	0.0	c
	Ceará	31.1	(8.1)	29.3	(7.7)	14.4	(5.1)	12.2	(5.5)	8.6	(4.5)	3.9	(2.6)	0.5	c
	Espírito Santo	13.5	(5.1)	28.5	(8.9)	29.7	(7.0)	20.3	(7.0)	5.4	(2.8)	2.0	(1.7)	0.5	c
	Federal District	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Goiás	24.6	(7.7)	39.1	(9.7)	19.8	(6.5)	11.4	(2.5)	4.5	(2.4)	0.6	c	0.0	c
	Maranhão	57.4	(11.7)	26.4	(12.9)	5.8	(5.1)	7.7	(4.2)	2.1	(3.0)	0.6	c	0.0	c
	Mato Grosso	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Mato Grosso do Sul	7.5	(4.2)	29.3	(11.5)	29.7	(9.3)	19.6	(7.2)	12.2	(4.7)	1.8	(2.2)	0.0	c
	Minas Gerais	15.3	(5.6)	29.5	(6.6)	30.1	(5.6)	17.7	(5.5)	5.8	(3.7)	0.9	(1.0)	0.7	c
	Pará	49.6	(17.0)	27.7	(10.9)	16.6	(7.4)	5.0	(4.3)	1.0	c	0.0	c	0.0	c
	Paraíba	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Paraná	19.5	(6.3)	40.0	(5.6)	22.7	(4.5)	9.1	(2.7)	6.9	(3.8)	1.9	(1.9)	0.0	c
	Pernambuco	18.7	(6.1)	40.4	(8.0)	25.6	(8.4)	12.0	(5.3)	3.2	(2.6)	0.0	c	0.0	c
	Piauí	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Rio de Janeiro	17.0	(5.9)	31.9	(7.7)	26.5	(6.7)	17.8	(7.6)	6.2	(5.4)	0.6	c	0.0	c
	Rio Grande do Norte	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Rio Grande do Sul	7.2	(3.3)	27.5	(6.3)	36.6	(5.7)	23.4	(7.6)	5.0	(2.7)	0.4	c	0.0	c
	Rondônia	18.4	(8.4)	32.8	(11.0)	31.1	(7.5)	14.1	(4.8)	3.7	(3.7)	0.0	c	0.0	c
	Roraima	15.5	(10.4)	38.8	(9.4)	32.4	(11.0)	12.1	(5.7)	1.0	(1.0)	0.2	c	0.0	c
	Santa Catarina	20.2	(13.4)	25.5	(5.8)	29.9	(11.5)	19.6	(6.9)	4.3	(2.7)	0.5	c	0.0	c
	São Paulo	18.2	(3.2)	31.4	(2.8)	28.6	(3.0)	13.6	(2.7)	6.1	(1.8)	1.9	(1.0)	0.3	(0.2)
	Sergipe	11.8	(5.9)	45.7	(7.9)	21.1	(9.9)	14.6	(8.5)	5.2	(1.9)	1.5	(1.3)	0.0	c
	Tocantins	30.5	(20.8)	29.5	(8.0)	23.9	(14.0)	11.8	(11.2)	4.3	(3.9)	0.0	c	0.0	c
	Colombia														
	Bogota	18.1	(2.2)	34.7	(2.4)	33.5	(2.4)	10.8	(2.0)	2.2	(1.1)	0.7	(0.7)	0.0	c
	Cali	29.3	(3.8)	36.8	(3.4)	21.0	(2.9)	10.5	(2.6)	2.3	(1.2)	0.0	c	0.0	c
	Manizales	18.1	(2.3)	35.1	(3.0)	29.1	(2.8)	13.6	(2.3)	3.7	(2.0)	0.4	(0.5)	0.0	c
	Medellin	24.2	(3.5)	33.5	(2.8)	25.3	(2.8)	11.6	(2.3)	3.5	(1.4)	1.5	(1.1)	0.3	(0.3)
	United Arab Emirates														
	Abu Dhabi•	27.8	(2.2)	28.6	(1.6)	21.9	(1.7)	13.5	(1.3)	6.4	(1.1)	1.7	(0.7)	0.2	(0.2)
	Ajman	41.6	(7.3)	32.3	(5.9)	21.4	(3.6)	4.5	(1.3)	0.2	c	0.0	c	0.0	c
	Dubai•	13.6	(0.7)	19.8	(1.2)	24.2	(1.3)	21.4	(1.1)	14.0	(1.1)	5.9	(0.8)	1.1	(0.4)
	Fujairah	30.9	(4.2)	29.1	(2.8)	24.7	(3.6)	10.8	(1.9)	4.3	(1.3)	0.2	c	0.0	c
	Ras Al Khaimah	27.5	(6.4)	34.2	(4.9)	25.5	(4.1)	10.6	(2.5)	2.0	(0.8)	0.2	(0.2)	0.0	c
	Sharjah	12.8	(5.0)	28.0	(4.3)	29.2	(5.1)	19.2	(4.0)	9.4	(3.9)	1.4	(1.2)	0.1	c
	Umm Al Quwain	42.6	(3.2)	31.7	(4.7)	17.8	(4.7)	6.0	(2.3)	1.7	(1.3)	0.2	c	0.0	c

• PISA adjudicated region.
Note: See Table B3.I.5 for national data.
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[Part 3/4]

Table B3.I.17 Percentage of students at each proficiency level on the combined mathematics scale, by gender and region

	Girls													
	Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD														
Australia														
Australian Capital Territory	3.7	(1.1)	10.0	(2.0)	20.7	(2.1)	27.2	(3.6)	23.0	(3.6)	11.7	(2.2)	3.7	(1.0)
New South Wales	5.0	(0.7)	12.5	(1.1)	22.4	(1.7)	26.2	(1.5)	19.9	(1.5)	10.4	(1.1)	3.5	(0.9)
Northern Territory	16.2	(2.7)	16.8	(4.9)	25.0	(5.6)	26.0	(5.6)	10.9	(3.9)	4.4	(3.3)	0.6	c
Queensland	4.8	(0.8)	13.3	(1.3)	23.3	(1.3)	28.3	(2.0)	18.9	(1.5)	9.1	(1.5)	2.3	(0.6)
South Australia	6.0	(1.1)	15.7	(1.5)	25.1	(2.4)	27.6	(2.2)	17.4	(1.9)	6.8	(1.3)	1.4	(0.6)
Tasmania	9.8	(1.5)	17.5	(1.8)	26.5	(2.3)	24.5	(2.2)	13.8	(1.9)	6.2	(1.7)	1.7	(0.7)
Victoria	4.8	(0.9)	13.2	(1.2)	24.8	(1.7)	28.0	(1.7)	19.8	(1.5)	8.3	(1.1)	1.2	(0.5)
Western Australia	5.5	(1.1)	12.6	(1.5)	23.0	(2.7)	24.8	(2.4)	20.6	(2.2)	10.8	(1.7)	2.6	(0.8)
Belgium														
Flemish community•	5.0	(0.9)	10.0	(1.1)	18.1	(1.2)	22.7	(1.4)	23.7	(1.5)	15.4	(1.1)	5.1	(0.6)
French community	7.4	(1.0)	14.7	(1.2)	24.5	(1.3)	28.7	(1.6)	18.6	(1.3)	5.3	(0.8)	0.8	(0.3)
German-speaking community	2.7	(1.2)	8.6	(2.0)	24.7	(2.6)	33.6	(2.6)	22.7	(2.6)	6.8	(1.3)	1.0	(0.5)
Canada														
Alberta	4.4	(1.1)	11.9	(1.5)	20.7	(1.7)	25.6	(2.2)	23.5	(2.7)	11.3	(2.1)	2.5	(0.8)
British Columbia	2.7	(0.8)	9.2	(1.1)	21.2	(1.9)	30.0	(2.0)	23.3	(2.4)	10.8	(2.0)	2.8	(0.9)
Manitoba	5.6	(1.4)	14.3	(2.0)	27.2	(2.2)	28.6	(2.0)	17.6	(1.6)	5.7	(0.9)	1.0	(0.5)
New Brunswick	4.3	(0.8)	10.6	(1.3)	26.6	(2.1)	31.2	(2.6)	20.6	(2.2)	5.7	(1.7)	1.0	(0.7)
Newfoundland and Labrador	2.8	(0.9)	12.0	(2.0)	27.4	(3.3)	29.0	(3.0)	20.4	(2.6)	7.6	(1.2)	0.8	(0.4)
Nova Scotia	4.2	(1.1)	13.0	(3.1)	26.4	(3.3)	30.6	(2.1)	18.9	(3.2)	5.7	(1.2)	1.2	(0.6)
Ontario	2.7	(0.6)	9.0	(1.0)	22.6	(1.8)	30.3	(1.6)	23.6	(1.6)	9.6	(1.0)	2.2	(0.7)
Prince Edward Island	3.0	(0.8)	14.3	(1.4)	30.3	(2.2)	30.6	(2.5)	17.9	(1.7)	3.6	(0.8)	0.4	(0.3)
Quebec	3.4	(0.6)	8.5	(1.0)	17.9	(1.5)	27.5	(1.9)	26.6	(1.5)	13.0	(1.2)	3.2	(0.7)
Saskatchewan	3.0	(0.6)	13.7	(1.7)	24.6	(1.9)	29.7	(2.4)	20.3	(2.3)	7.7	(1.6)	1.1	(0.6)
Italy														
Abruzzo	3.6	(3.3)	19.7	(13.8)	28.9	(15.2)	30.7	(14.8)	12.7	(11.4)	3.7	(5.0)	0.6	c
Basilicata	4.6	(3.3)	25.0	(8.3)	28.7	(7.1)	32.8	(9.4)	8.9	(6.2)	0.0	c	0.0	c
Bolzano	0.0	c	6.6	(4.4)	24.8	(7.5)	40.4	(7.0)	22.7	(4.6)	4.1	(3.3)	1.4	c
Calabria	11.7	(5.2)	17.6	(4.3)	43.7	(8.4)	22.8	(5.7)	4.2	(2.9)	0.0	c	0.0	c
Campania	10.9	(4.0)	21.8	(4.4)	34.3	(5.7)	23.4	(4.0)	7.8	(3.2)	1.9	(0.9)	0.0	c
Emilia Romagna	4.5	(2.3)	12.4	(2.7)	36.1	(5.6)	25.3	(5.5)	13.8	(2.7)	5.6	(3.7)	2.3	(2.1)
Friuli Venezia Giulia	0.8	(0.8)	8.6	(5.6)	22.5	(11.6)	35.8	(8.4)	25.9	(17.0)	5.1	(5.5)	1.3	c
Lazio	3.8	(1.9)	14.8	(3.9)	24.9	(6.7)	29.3	(5.5)	22.2	(3.5)	4.2	(1.9)	0.7	(0.6)
Liguria	1.7	(1.6)	16.9	(10.6)	22.9	(10.6)	15.8	(9.0)	17.8	(9.3)	14.8	(9.3)	10.2	(7.7)
Lombardia	0.7	(0.4)	3.9	(1.3)	22.5	(3.8)	38.2	(3.7)	26.6	(4.4)	7.6	(3.2)	0.4	c
Marche	7.6	(7.6)	12.3	(9.6)	27.1	(10.9)	15.3	(5.6)	27.1	(15.1)	10.5	(7.9)	0.0	c
Molise	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Piemonte	5.8	(3.2)	19.0	(6.1)	21.3	(5.2)	26.6	(5.9)	21.9	(4.1)	5.3	(2.1)	0.1	c
Puglia	14.9	(8.7)	17.0	(5.9)	25.2	(6.7)	24.0	(3.8)	16.0	(3.7)	1.7	(1.6)	1.2	(0.5)
Sardegna	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Sicilia	6.9	(4.1)	19.7	(6.8)	30.6	(5.3)	29.9	(6.7)	10.8	(4.0)	1.4	(1.2)	0.7	(0.8)
Toscana	7.6	(4.3)	19.1	(7.4)	24.4	(7.0)	27.8	(5.9)	14.0	(4.6)	6.5	(3.4)	0.5	c
Trento	1.6	(1.3)	2.0	(1.3)	15.1	(3.2)	21.8	(5.1)	36.8	(5.6)	20.6	(5.3)	2.2	(2.6)
Umbria	3.7	(2.3)	12.5	(5.3)	16.6	(4.8)	42.5	(11.8)	21.8	(8.5)	2.9	(2.7)	0.0	c
Valle d'Aosta	2.0	(2.2)	12.1	(7.1)	33.1	(5.9)	41.2	(7.2)	11.4	(4.7)	0.2	c	0.0	c
Veneto	2.6	(2.2)	13.8	(4.9)	24.1	(5.9)	29.7	(8.0)	19.6	(3.6)	7.8	(3.5)	2.5	(2.3)
Portugal														
Alentejo	8.6	(2.4)	15.2	(3.7)	27.3	(3.3)	29.8	(4.3)	15.0	(2.3)	3.2	(1.3)	0.8	(0.7)
Spain														
Andalusia•	8.7	(1.6)	21.9	(3.0)	34.4	(2.7)	24.5	(2.7)	8.9	(1.8)	1.4	(0.8)	0.3	c
Aragon•	11.3	(5.2)	11.4	(6.0)	24.7	(6.6)	27.6	(6.8)	17.4	(6.9)	7.7	(4.6)	0.0	c
Asturias•	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Balearic Islands•	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Basque Country•	4.9	(0.7)	11.5	(1.2)	26.8	(1.5)	32.2	(1.2)	19.5	(1.3)	4.7	(0.6)	0.5	(0.2)
Cantabria•	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Castile and Leon•	2.6	(1.3)	7.9	(3.9)	24.5	(6.1)	36.6	(6.0)	24.1	(5.2)	4.4	(2.6)	0.0	c
Catalonia•	4.7	(1.1)	16.0	(2.4)	29.7	(2.2)	33.2	(2.7)	14.1	(1.9)	2.2	(0.9)	0.1	c
Extremadura•	8.8	(6.2)	18.5	(7.3)	18.9	(4.1)	33.7	(7.9)	16.9	(6.8)	3.2	(2.4)	0.0	c
Galicia•	6.5	(5.1)	13.8	(5.4)	21.6	(4.0)	33.8	(5.0)	22.3	(7.6)	2.0	(1.3)	0.0	c
La Rioja•	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Madrid•	5.2	(2.3)	14.0	(2.7)	24.9	(3.6)	32.0	(3.2)	19.2	(3.1)	4.7	(1.9)	0.1	c
Murcia•	13.8	(4.7)	25.0	(6.2)	26.8	(8.2)	23.2	(7.8)	11.2	(4.7)	0.0	c	0.0	c
Navarre•	c	c	c	c	c	c	c	c	c	c	c	c	c	c

• PISA adjudicated region.

Note: See Table B3.I.5 for national data.

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[Part 4/4]

Table B3.I.17 Percentage of students at each proficiency level on the combined mathematics scale, by gender and region

		Girls													
		Below Level 1 (below 357.77 score points)		Level 1 (from 357.77 to less than 420.07 score points)		Level 2 (from 420.07 to less than 482.38 score points)		Level 3 (from 482.38 to less than 544.68 score points)		Level 4 (from 544.68 to less than 606.99 score points)		Level 5 (from 606.99 to less than 669.30 score points)		Level 6 (above 669.30 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	**Brazil**														
	Acre	16.1	(7.3)	45.5	(8.4)	34.0	(5.7)	4.3	(5.4)	0.2	(0.2)	0.0	c	0.0	c
	Alagoas	50.6	(13.7)	25.7	(12.5)	14.0	(4.3)	7.3	(3.5)	2.2	(2.3)	0.1	c	0.0	c
	Amapá	34.8	(5.9)	41.2	(8.2)	19.1	(10.1)	4.5	(5.2)	0.3	c	0.0	c	0.0	c
	Amazonas	51.4	(14.0)	41.7	(13.2)	3.4	(5.2)	2.0	(3.4)	1.5	(2.7)	0.0	c	0.0	c
	Bahia	57.6	(8.0)	24.1	(7.6)	10.8	(4.7)	5.4	(3.3)	1.5	(1.7)	0.5	c	0.0	c
	Ceará	46.1	(14.4)	25.5	(6.1)	15.8	(7.4)	7.7	(5.4)	3.7	(3.2)	1.3	c	0.0	c
	Espírito Santo	11.1	(5.2)	29.0	(8.5)	39.0	(9.1)	13.6	(6.0)	4.7	(4.9)	2.3	(2.5)	0.3	c
	Federal District	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Goiás	38.6	(10.9)	37.7	(7.8)	17.4	(5.3)	4.9	(2.9)	1.2	(1.0)	0.2	c	0.0	c
	Maranhão	64.5	(12.2)	25.3	(10.7)	8.5	(5.7)	1.6	(2.1)	0.1	c	0.0	c	0.0	c
	Mato Grosso	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Mato Grosso do Sul	16.2	(5.4)	33.2	(8.6)	30.1	(7.8)	12.5	(3.9)	7.7	(4.9)	0.4	c	0.0	c
	Minas Gerais	19.5	(5.0)	34.2	(6.4)	29.4	(3.9)	12.8	(4.7)	3.9	(3.6)	0.1	c	0.0	c
	Pará	51.3	(9.8)	20.8	(5.8)	20.1	(7.4)	7.4	(4.9)	0.3	c	0.0	c	0.0	c
	Paraíba	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Paraná	30.4	(5.4)	36.5	(5.4)	18.8	(3.4)	9.8	(2.6)	2.8	(2.8)	1.5	(1.8)	0.2	c
	Pernambuco	26.2	(10.7)	45.3	(8.0)	23.1	(6.3)	5.3	(2.3)	0.0	c	0.0	c	0.0	c
	Piauí	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Rio de Janeiro	28.7	(9.5)	30.6	(8.1)	27.0	(9.8)	11.2	(5.9)	1.8	(2.2)	0.7	(0.8)	0.0	c
	Rio Grande do Norte	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Rio Grande do Sul	14.9	(4.9)	36.9	(5.8)	33.7	(7.8)	13.4	(4.5)	1.1	c	0.0	c	0.0	c
	Rondônia	34.7	(7.7)	53.7	(8.9)	10.8	(5.1)	0.8	(1.2)	0.0	c	0.0	c	0.0	c
	Roraima	29.4	(7.5)	46.4	(8.8)	13.6	(5.2)	8.8	(4.7)	1.8	(1.9)	0.0	c	0.0	c
	Santa Catarina	19.4	(14.8)	32.5	(11.7)	31.0	(9.4)	14.0	(6.9)	2.7	(2.2)	0.4	c	0.0	c
	São Paulo	25.3	(3.8)	35.0	(3.3)	23.8	(2.6)	11.1	(1.8)	4.0	(1.2)	0.8	(0.6)	0.0	c
	Sergipe	21.6	(9.1)	47.7	(8.9)	23.4	(6.5)	6.6	(3.0)	0.8	c	0.0	c	0.0	c
	Tocantins	30.5	(8.5)	49.9	(12.9)	15.7	(8.4)	2.5	(2.6)	1.5	(2.3)	0.0	c	0.0	c
	Colombia														
	Bogota	30.7	(2.4)	40.2	(2.1)	22.9	(1.8)	5.6	(1.2)	0.5	(0.4)	0.0	c	0.0	c
	Cali	36.9	(4.8)	35.5	(3.6)	20.7	(3.2)	6.5	(1.8)	0.3	(0.3)	0.0	c	0.0	c
	Manizales	26.2	(3.2)	42.5	(3.3)	23.5	(2.7)	7.0	(1.4)	0.8	(0.6)	0.0	c	0.0	c
	Medellin	35.5	(3.8)	32.4	(2.8)	19.2	(2.9)	8.3	(2.1)	3.4	(1.4)	1.0	(0.7)	0.3	(0.3)
	United Arab Emirates														
	Abu Dhabi•	17.7	(2.1)	29.8	(1.7)	28.2	(1.7)	17.1	(1.8)	5.5	(1.0)	1.6	(0.6)	0.2	(0.2)
	Ajman	20.3	(6.5)	33.7	(3.7)	30.3	(4.7)	13.0	(3.0)	2.8	(1.7)	0.0	c	0.0	c
	Dubai•	10.7	(0.7)	21.6	(1.2)	28.3	(1.7)	23.6	(1.1)	12.5	(1.2)	2.8	(0.6)	0.5	(0.3)
	Fujairah	13.5	(3.4)	25.9	(3.7)	36.6	(3.8)	19.6	(3.5)	4.2	(2.2)	0.3	c	0.0	c
	Ras Al Khaimah	14.0	(4.0)	33.6	(4.1)	31.6	(3.5)	17.2	(3.2)	3.0	(1.4)	0.6	(0.6)	0.0	c
	Sharjah	11.7	(2.2)	29.4	(3.6)	32.4	(3.0)	19.8	(3.9)	6.3	(2.4)	0.4	(0.5)	0.0	c
	Umm Al Quwain	19.4	(3.5)	40.9	(5.0)	27.3	(3.6)	10.5	(3.0)	1.4	(1.3)	0.4	c	0.0	c

• PISA adjudicated region.
Note: See Table B3.I.5 for national data.
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[Part 1/2]

Table B3.I.18 Mean score, variation and gender differences in student performance on the combined mathematics scale, by region

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	**Australia**																						
	Australian Capital Territory	515	(3.3)	92	(2.6)	514	(5.2)	516	(4.2)	-2	(6.8)	357	(10.5)	395	(7.8)	456	(5.1)	579	(5.0)	634	(6.1)	659	(7.6)
	New South Wales	508	(3.4)	96	(2.4)	510	(5.3)	506	(3.9)	4	(6.4)	354	(4.9)	388	(3.7)	442	(3.4)	575	(5.4)	634	(6.4)	667	(6.8)
	Northern Territory	461	(9.2)	103	(4.6)	468	(8.8)	454	(13.8)	14	(14.0)	270	(15.4)	321	(15.2)	400	(11.3)	529	(13.7)	583	(15.1)	622	(19.5)
	Queensland	505	(2.8)	87	(1.6)	509	(3.5)	501	(3.5)	8	(4.2)	364	(5.3)	393	(5.6)	443	(3.9)	566	(3.7)	619	(4.4)	648	(4.3)
	South Australia	494	(3.4)	86	(1.9)	499	(4.1)	488	(3.9)	**11**	(4.2)	347	(7.8)	382	(6.2)	434	(4.2)	554	(5.2)	606	(6.2)	634	(6.0)
	Tasmania	479	(3.3)	92	(2.4)	482	(4.6)	475	(4.8)	8	(6.7)	326	(8.6)	360	(4.9)	418	(5.2)	540	(4.7)	601	(7.3)	633	(8.4)
	Victoria	506	(3.6)	86	(2.6)	514	(5.0)	497	(3.4)	**17**	(5.0)	366	(5.5)	397	(4.3)	446	(3.3)	564	(4.4)	617	(6.1)	647	(7.1)
	Western Australia	516	(3.5)	91	(2.4)	526	(5.5)	504	(4.8)	**23**	(7.7)	367	(8.3)	397	(5.7)	453	(4.8)	580	(4.5)	631	(5.4)	659	(7.5)
	Belgium																						
	Flemish community•	530	(3.2)	99	(2.0)	536	(4.1)	523	(4.2)	**13**	(5.3)	359	(6.2)	395	(6.3)	462	(4.7)	603	(3.6)	656	(3.4)	682	(3.1)
	French community	492	(2.9)	88	(2.2)	498	(3.4)	485	(3.3)	**13**	(3.4)	342	(7.0)	374	(5.1)	431	(4.6)	555	(3.4)	603	(3.8)	631	(4.9)
	German-speaking community	511	(2.1)	77	(2.0)	514	(3.3)	508	(3.2)	7	(5.0)	374	(7.8)	409	(6.7)	463	(3.7)	565	(3.6)	608	(4.0)	631	(6.8)
	Canada																						
	Alberta	517	(4.5)	90	(2.6)	522	(4.4)	511	(5.4)	**11**	(3.8)	369	(9.4)	401	(5.7)	455	(5.8)	578	(5.5)	632	(5.5)	660	(6.2)
	British Columbia	527	(4.2)	84	(2.3)	537	(5.1)	517	(5.1)	**20**	(5.9)	388	(7.3)	419	(4.7)	469	(5.0)	585	(5.2)	635	(6.3)	666	(7.5)
	Manitoba	493	(2.9)	85	(2.3)	499	(3.7)	487	(4.2)	**12**	(5.4)	357	(6.3)	384	(7.6)	436	(4.3)	551	(2.9)	602	(4.5)	630	(6.9)
	New Brunswick	499	(2.5)	79	(1.9)	501	(4.0)	497	(3.4)	4	(5.4)	360	(7.1)	395	(5.5)	447	(4.4)	552	(4.2)	599	(6.4)	625	(6.5)
	Newfoundland and Labrador	501	(3.3)	80	(1.9)	501	(4.9)	500	(3.4)	1	(5.2)	367	(11.2)	400	(10.0)	445	(4.9)	555	(4.4)	605	(5.1)	631	(7.9)
	Nova Scotia	500	(4.8)	80	(1.9)	506	(3.6)	494	(7.6)	13	(6.8)	367	(8.0)	396	(7.2)	445	(6.6)	556	(5.4)	602	(5.2)	630	(7.1)
	Ontario	522	(4.5)	84	(2.0)	531	(5.1)	514	(4.4)	**17**	(3.6)	383	(5.4)	416	(5.4)	466	(5.6)	580	(5.4)	629	(5.0)	659	(8.1)
	Prince Edward Island	485	(2.3)	73	(1.6)	483	(3.2)	487	(2.8)	-5	(3.9)	364	(5.1)	390	(4.3)	435	(3.6)	536	(2.8)	577	(4.4)	599	(5.1)
	Quebec	530	(3.3)	87	(1.5)	535	(4.1)	524	(3.7)	**11**	(4.0)	379	(6.0)	414	(5.7)	473	(4.8)	590	(3.9)	638	(3.3)	663	(4.5)
	Saskatchewan	502	(2.9)	83	(1.7)	506	(3.6)	499	(3.4)	7	(4.0)	368	(5.8)	397	(5.0)	446	(4.1)	561	(4.1)	609	(5.4)	634	(6.5)
	Italy																						
	Abruzzo	490	(32.4)	73	(4.8)	506	(22.9)	479	(42.6)	27	(30.2)	372	(28.0)	395	(22.5)	432	(42.1)	544	(32.9)	585	(33.9)	611	(33.7)
	Basilicata	467	(9.0)	70	(6.2)	472	(19.7)	460	(9.6)	12	(26.0)	347	(24.1)	373	(20.0)	413	(12.4)	522	(7.5)	556	(7.2)	576	(18.7)
	Bolzano	519	(10.2)	61	(3.7)	536	(10.6)	507	(11.5)	**29**	(9.6)	410	(16.8)	438	(18.9)	479	(12.0)	563	(9.7)	593	(16.1)	613	(15.6)
	Calabria	449	(12.8)	72	(6.1)	456	(18.1)	443	(11.6)	13	(12.8)	324	(29.3)	356	(19.8)	407	(20.6)	493	(9.0)	537	(10.9)	562	(9.9)
	Campania	456	(12.6)	78	(5.4)	461	(15.1)	451	(10.9)	9	(7.8)	329	(16.3)	354	(18.5)	403	(18.2)	506	(12.2)	564	(20.2)	596	(11.8)
	Emilia Romagna	506	(11.3)	86	(9.2)	522	(16.3)	487	(14.1)	35	(19.4)	368	(25.7)	403	(13.4)	450	(7.6)	563	(18.4)	618	(32.0)	656	(30.8)
	Friuli Venezia Giulia	513	(27.1)	76	(8.4)	516	(30.8)	511	(33.3)	5	(34.7)	381	(25.9)	414	(23.2)	463	(33.9)	566	(30.3)	602	(23.4)	622	(28.0)
	Lazio	492	(7.8)	77	(2.4)	491	(10.2)	494	(11.2)	-3	(14.6)	355	(23.7)	389	(10.7)	437	(6.7)	550	(8.7)	588	(9.2)	608	(11.4)
	Liguria	530	(43.8)	103	(14.3)	533	(43.0)	525	(47.4)	8	(18.7)	377	(22.1)	397	(22.9)	452	(33.6)	617	(91.7)	676	(45.7)	708	(37.4)
	Lombardia	522	(8.0)	68	(4.1)	526	(10.0)	519	(8.4)	7	(9.5)	411	(13.5)	435	(10.7)	479	(8.9)	569	(7.6)	609	(11.4)	633	(12.5)
	Marche	509	(22.2)	78	(7.8)	514	(18.5)	497	(37.6)	17	(23.9)	386	(40.5)	404	(22.3)	454	(27.6)	567	(20.8)	607	(31.2)	627	(24.0)
	Molise	480	(20.0)	73	(7.5)	466	(29.0)	c	c	c	c	352	(21.4)	372	(24.7)	432	(47.0)	530	(10.7)	563	(14.6)	589	(17.2)
	Piemonte	499	(7.5)	82	(5.7)	511	(10.7)	487	(14.6)	23	(22.0)	357	(18.0)	389	(10.2)	444	(15.5)	557	(8.2)	603	(12.6)	628	(18.8)
	Puglia	474	(13.1)	87	(8.3)	484	(17.6)	463	(15.5)	21	(24.2)	334	(17.6)	356	(18.5)	413	(17.3)	542	(18.2)	589	(17.2)	611	(15.7)
	Sardegna	450	(23.4)	71	(5.7)	444	(19.0)	c	c	c	c	337	(21.3)	355	(25.5)	393	(28.0)	506	(31.7)	539	(26.2)	556	(19.6)
	Sicilia	471	(13.4)	70	(5.7)	473	(12.2)	468	(17.3)	6	(10.7)	349	(27.5)	381	(17.9)	424	(18.7)	521	(12.4)	560	(11.8)	583	(16.1)
	Toscana	498	(12.2)	86	(8.0)	519	(13.8)	478	(17.8)	41	(25.3)	354	(26.3)	384	(18.1)	438	(17.3)	561	(21.6)	615	(16.0)	630	(11.6)
	Trento	549	(9.7)	76	(7.6)	549	(13.2)	550	(7.8)	-2	(12.1)	414	(25.7)	449	(20.3)	496	(13.2)	607	(5.8)	635	(11.7)	659	(17.4)
	Umbria	497	(12.5)	75	(8.4)	497	(17.0)	497	(9.8)	1	(13.0)	358	(28.4)	393	(29.6)	456	(30.2)	548	(8.2)	586	(11.5)	609	(14.1)
	Valle d'Aosta	496	(20.0)	65	(4.6)	506	(22.9)	480	(14.3)	**26**	(11.5)	381	(29.5)	409	(22.2)	446	(27.8)	541	(15.1)	575	(20.1)	597	(16.9)
	Veneto	517	(12.0)	89	(6.9)	530	(14.8)	502	(16.5)	28	(22.0)	371	(14.4)	402	(8.3)	448	(11.5)	583	(20.5)	634	(21.6)	661	(19.7)
	Portugal																						
	Alentejo	487	(10.0)	85	(4.1)	498	(11.9)	476	(9.1)	**22**	(6.8)	339	(12.9)	373	(14.1)	432	(14.5)	542	(8.9)	593	(12.8)	624	(13.5)
	Spain																						
	Andalusia•	463	(6.8)	77	(2.4)	470	(8.9)	456	(5.4)	**14**	(5.8)	337	(8.3)	364	(8.6)	412	(7.8)	515	(8.3)	562	(9.1)	592	(10.8)
	Aragon•	486	(20.8)	85	(5.9)	491	(20.7)	481	(22.7)	10	(10.6)	336	(21.4)	375	(27.9)	431	(20.0)	550	(26.8)	603	(28.1)	620	(15.4)
	Asturias•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Balearic Islands•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Basque Country•	498	(2.6)	78	(1.5)	504	(3.1)	492	(3.0)	**12**	(3.1)	363	(5.5)	397	(3.8)	448	(3.0)	552	(2.9)	595	(2.5)	618	(3.5)
	Cantabria•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Castile and Leon•	505	(7.8)	75	(4.3)	506	(9.7)	504	(7.4)	1	(7.1)	372	(17.7)	400	(12.2)	458	(11.0)	558	(9.5)	600	(12.3)	621	(14.6)
	Catalonia•	488	(5.2)	75	(2.3)	497	(6.3)	478	(5.4)	**19**	(5.5)	363	(7.9)	387	(7.3)	436	(6.6)	540	(5.3)	585	(7.7)	610	(7.0)
	Extremadura•	477	(2.4)	80	(8.3)	479	(6.7)	476	(5.3)	4	(11.1)	341	(19.4)	367	(23.2)	424	(11.0)	533	(11.7)	582	(13.5)	603	(11.7)
	Galicia•	480	(18.4)	81	(5.3)	472	(16.9)	487	(20.8)	-15	(11.4)	334	(31.2)	367	(28.1)	426	(28.3)	540	(12.3)	576	(12.2)	594	(12.8)
	La Rioja•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Madrid•	495	(7.6)	77	(3.8)	502	(8.7)	488	(8.0)	**14**	(6.8)	361	(14.4)	391	(12.0)	444	(9.1)	551	(7.8)	591	(7.8)	612	(7.2)
	Murcia•	456	(7.2)	77	(3.1)	465	(10.9)	445	(9.4)	21	(13.9)	328	(16.9)	355	(12.9)	395	(12.2)	515	(12.4)	557	(10.8)	578	(11.8)
	Navarre•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

See Table B3.I.6 for national data.

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[Part 2/2]

Table B3.I.18 Mean score, variation and gender differences in student performance on the combined mathematics scale, by region

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
Partners	**Brazil**																						
	Acre	410	(5.9)	53	(3.1)	421	(6.4)	403	(8.6)	18	(10.8)	322	(17.8)	345	(12.9)	376	(7.9)	445	(11.8)	472	(19.0)	496	(16.4)
	Alagoas	364	(18.7)	77	(9.5)	363	(19.9)	365	(20.3)	-2	(15.1)	261	(48.6)	283	(22.2)	309	(18.6)	407	(22.3)	471	(18.4)	513	(30.9)
	Amapá	398	(9.4)	52	(7.1)	412	(8.5)	386	(10.9)	**26**	(7.9)	325	(12.6)	335	(8.5)	360	(8.0)	433	(14.4)	471	(25.7)	495	(33.5)
	Amazonas	361	(15.4)	56	(18.7)	360	(18.6)	362	(13.3)	-1	(12.2)	295	(20.0)	306	(15.8)	327	(8.6)	379	(22.5)	423	(80.9)	459	(94.3)
	Bahia	368	(13.6)	90	(12.8)	386	(19.4)	353	(12.5)	**33**	(11.8)	236	(39.6)	265	(28.1)	308	(17.7)	421	(26.3)	489	(21.7)	525	(39.5)
	Ceará	398	(27.0)	94	(12.5)	415	(24.7)	378	(28.2)	**37**	(10.2)	268	(15.2)	288	(15.4)	331	(16.4)	460	(50.1)	539	(45.8)	584	(48.8)
	Espírito Santo	439	(10.1)	71	(8.5)	441	(7.1)	437	(16.3)	4	(14.2)	328	(11.1)	351	(14.3)	390	(15.6)	482	(16.3)	531	(31.3)	564	(42.4)
	Federal District	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Goiás	392	(11.8)	72	(7.2)	406	(10.4)	380	(14.2)	**26**	(10.7)	287	(30.5)	312	(17.7)	346	(19.1)	433	(10.4)	489	(23.3)	531	(16.5)
	Maranhão	343	(21.1)	77	(15.9)	354	(25.5)	334	(18.2)	20	(10.3)	225	(42.4)	250	(34.1)	296	(24.0)	382	(26.7)	440	(45.4)	498	(67.1)
	Mato Grosso	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Mato Grosso do Sul	441	(10.1)	71	(2.8)	454	(14.5)	429	(8.8)	26	(13.2)	342	(12.3)	355	(7.4)	386	(15.1)	486	(15.0)	551	(18.5)	571	(10.5)
	Minas Gerais	425	(15.5)	73	(8.0)	434	(18.6)	416	(13.4)	**18**	(7.7)	312	(11.0)	333	(11.2)	375	(12.4)	471	(22.8)	522	(29.7)	550	(32.1)
	Pará	368	(16.0)	71	(9.1)	370	(20.7)	366	(16.3)	3	(16.5)	259	(39.3)	283	(20.6)	317	(15.7)	420	(23.8)	466	(23.7)	490	(20.2)
	Paraíba	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Paraná	410	(11.2)	75	(11.2)	418	(11.8)	401	(12.6)	**17**	(8.5)	308	(9.6)	325	(12.0)	358	(9.8)	451	(14.7)	516	(37.4)	560	(37.8)
	Pernambuco	399	(11.2)	61	(5.0)	410	(13.8)	389	(11.5)	**21**	(9.3)	300	(19.2)	325	(16.9)	361	(11.8)	437	(12.5)	484	(21.1)	505	(24.7)
	Piauí	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Rio de Janeiro	416	(10.5)	73	(11.6)	430	(10.0)	404	(12.5)	**25**	(6.1)	302	(15.2)	322	(12.7)	364	(20.4)	467	(15.3)	514	(29.1)	541	(30.3)
	Rio Grande do Norte	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Rio Grande do Sul	431	(9.1)	60	(3.4)	445	(10.6)	418	(9.8)	**27**	(6.9)	336	(12.9)	353	(8.8)	386	(12.3)	473	(12.6)	509	(13.4)	535	(16.1)
	Rondônia	391	(4.7)	61	(4.4)	418	(8.4)	369	(6.5)	**48**	(12.4)	294	(22.3)	315	(26.5)	355	(15.0)	427	(9.9)	471	(17.8)	501	(17.9)
	Roraima	403	(6.3)	59	(2.1)	418	(9.3)	391	(10.4)	27	(16.6)	322	(21.3)	334	(11.5)	361	(7.6)	437	(17.0)	487	(17.3)	515	(15.2)
	Santa Catarina	418	(23.6)	80	(18.4)	422	(24.7)	413	(23.0)	9	(8.3)	261	(50.4)	286	(88.0)	377	(44.4)	473	(17.6)	515	(18.6)	540	(12.4)
	São Paulo	418	(6.3)	76	(4.5)	428	(6.6)	409	(7.0)	**19**	(4.5)	304	(5.6)	325	(7.0)	365	(6.7)	464	(8.0)	521	(14.3)	558	(17.0)
	Sergipe	411	(4.3)	61	(2.5)	426	(9.7)	400	(8.6)	27	(16.0)	325	(12.0)	343	(8.5)	368	(7.3)	447	(13.4)	496	(17.2)	524	(19.1)
	Tocantins	393	(18.2)	64	(3.5)	404	(40.6)	383	(7.5)	21	(44.5)	289	(26.4)	315	(22.5)	349	(23.0)	426	(18.4)	481	(50.6)	522	(34.5)
	Colombia																						
	Bogota	401	(3.6)	64	(2.9)	417	(5.6)	388	(3.3)	**29**	(5.7)	300	(7.1)	321	(3.5)	358	(3.5)	443	(3.8)	481	(6.2)	504	(8.9)
	Cali	388	(6.8)	68	(2.9)	397	(7.1)	381	(7.3)	**16**	(4.6)	280	(7.2)	302	(6.8)	341	(7.5)	433	(9.4)	480	(9.6)	504	(9.4)
	Manizales	407	(3.9)	63	(4.0)	420	(6.8)	396	(2.8)	**24**	(6.7)	312	(5.4)	331	(3.9)	363	(4.5)	446	(6.2)	493	(9.3)	520	(12.0)
	Medellin	403	(7.3)	78	(5.3)	413	(7.8)	393	(9.4)	**20**	(9.0)	289	(7.2)	312	(6.3)	348	(5.8)	450	(10.3)	505	(15.0)	544	(23.5)
	United Arab Emirates																						
	Abu Dhabi•	422	(4.0)	82	(2.6)	414	(5.4)	430	(4.7)	**-16**	(6.5)	297	(5.8)	321	(4.2)	363	(3.8)	477	(5.4)	532	(7.0)	567	(9.0)
	Ajman	396	(7.4)	67	(3.0)	377	(8.3)	414	(11.5)	**-37**	(14.5)	291	(12.6)	310	(10.1)	346	(8.8)	443	(7.9)	483	(7.7)	508	(10.0)
	Dubai•	462	(1.1)	88	(1.0)	464	(1.8)	460	(1.4)	4	(2.4)	319	(2.1)	348	(2.2)	399	(1.7)	524	(2.5)	578	(2.8)	609	(4.2)
	Fujairah	418	(8.1)	73	(2.4)	403	(6.6)	434	(9.3)	**-32**	(8.9)	300	(9.5)	325	(8.0)	365	(9.3)	469	(8.8)	511	(8.0)	539	(14.1)
	Ras Al Khaimah	415	(6.0)	68	(3.5)	402	(8.8)	428	(8.8)	**-26**	(12.0)	305	(10.6)	329	(9.4)	367	(8.3)	462	(7.1)	506	(6.8)	530	(9.4)
	Sharjah	441	(6.9)	71	(3.2)	443	(14.0)	439	(7.5)	5	(17.0)	330	(9.2)	350	(7.1)	392	(6.5)	489	(8.0)	536	(13.1)	563	(8.9)
	Umm Al Quwain	393	(3.5)	68	(3.2)	377	(4.7)	409	(4.5)	**-33**	(6.1)	285	(8.2)	309	(7.6)	347	(6.0)	436	(7.0)	482	(7.8)	511	(12.8)

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

See Table B3.I.6 for national data.

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[Part 1/2]

Table B3.I.19 Percentage of students at each proficiency level on the digital reading scale, by region

		All students									
		Below Level 2 (less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Above Level 4 (above 625.61 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**										
	Australian Capital Territory	11.4	(1.1)	14.0	(1.6)	28.2	(2.0)	31.5	(2.1)	14.8	(1.4)
	New South Wales	11.7	(1.0)	19.3	(1.1)	28.6	(1.2)	24.8	(1.3)	15.6	(1.5)
	Northern Territory	22.5	(2.7)	20.2	(2.7)	25.4	(3.7)	21.5	(4.3)	10.4	(3.6)
	Queensland	13.8	(1.3)	21.2	(1.0)	29.3	(1.3)	24.4	(1.6)	11.3	(1.2)
	South Australia	14.4	(1.6)	21.1	(1.4)	29.3	(1.6)	23.8	(1.5)	11.5	(1.1)
	Tasmania	22.8	(1.8)	25.4	(1.9)	26.2	(1.8)	17.7	(1.6)	8.0	(1.2)
	Victoria	11.1	(1.1)	19.4	(1.1)	31.1	(1.6)	25.6	(1.4)	12.8	(1.3)
	Western Australia	11.2	(1.3)	18.8	(1.5)	29.4	(1.4)	25.8	(1.8)	14.8	(1.6)
	Belgium										
	Flemish community•	14.6	(1.1)	18.4	(1.0)	27.6	(1.1)	27.6	(1.2)	11.8	(1.1)
	French community	20.7	(1.3)	22.5	(1.1)	31.5	(1.3)	20.1	(1.2)	5.3	(0.7)
	German-speaking community	16.2	(1.1)	17.4	(1.4)	28.0	(2.0)	26.9	(1.6)	11.5	(1.3)
	Canada										
	Alberta	8.6	(1.4)	19.0	(1.4)	30.3	(1.5)	27.0	(1.5)	15.2	(1.4)
	British Columbia	5.9	(0.8)	14.6	(1.1)	29.9	(1.4)	32.1	(1.4)	17.5	(1.3)
	Manitoba	12.5	(1.3)	22.1	(1.4)	32.2	(1.6)	24.9	(1.4)	8.3	(1.1)
	New Brunswick	10.7	(1.0)	21.3	(1.2)	33.7	(1.8)	24.9	(2.2)	9.4	(1.3)
	Newfoundland and Labrador	12.6	(1.9)	21.2	(1.9)	30.4	(2.1)	24.2	(1.6)	11.5	(1.3)
	Nova Scotia	8.8	(1.7)	18.5	(2.6)	28.6	(3.1)	30.5	(3.6)	13.6	(2.6)
	Ontario	6.9	(1.1)	16.2	(1.2)	30.6	(1.5)	30.9	(1.6)	15.3	(1.7)
	Prince Edward Island	20.6	(1.2)	23.3	(1.6)	27.8	(1.6)	18.6	(1.2)	9.7	(0.9)
	Quebec	11.0	(1.0)	17.3	(1.1)	33.5	(1.2)	28.6	(1.3)	9.6	(1.0)
	Saskatchewan	10.0	(0.9)	22.6	(1.5)	33.7	(1.4)	23.8	(1.6)	9.9	(1.2)
	Italy										
	Abruzzo	5.0	(3.1)	18.5	(6.2)	44.8	(6.5)	25.8	(5.0)	6.0	(2.8)
	Basilicata	28.9	(11.0)	27.3	(5.7)	29.4	(6.1)	11.9	(3.9)	2.4	(1.6)
	Bolzano	4.7	(1.8)	12.8	(4.6)	25.4	(4.0)	36.9	(4.9)	20.1	(7.3)
	Calabria	20.4	(7.3)	23.3	(6.1)	35.0	(7.1)	18.3	(8.9)	2.9	(2.4)
	Campania	28.4	(8.6)	23.7	(2.6)	31.7	(5.8)	14.9	(3.9)	1.3	(0.8)
	Emilia Romagna	7.5	(1.9)	21.7	(6.8)	35.0	(3.2)	26.9	(5.4)	8.8	(2.6)
	Friuli Venezia Giulia	6.6	(3.8)	12.6	(2.7)	30.5	(4.5)	31.8	(5.1)	18.5	(4.1)
	Lazio	15.5	(5.3)	21.4	(3.6)	31.4	(5.8)	23.2	(3.0)	8.6	(3.1)
	Liguria	13.5	(6.0)	23.4	(9.0)	27.4	(6.8)	17.5	(8.1)	18.3	(12.4)
	Lombardia	6.0	(1.4)	15.5	(2.7)	33.8	(2.7)	33.5	(3.9)	11.2	(2.1)
	Marche	17.4	(7.6)	15.7	(6.6)	36.8	(4.8)	26.1	(8.6)	3.9	(2.5)
	Molise	23.3	(11.3)	17.8	(3.1)	32.0	(9.4)	24.9	(6.8)	2.0	(2.5)
	Piemonte	16.3	(2.9)	17.6	(4.7)	29.3	(5.1)	26.8	(5.8)	10.0	(5.1)
	Puglia	22.4	(1.8)	21.4	(3.2)	27.3	(3.8)	19.1	(3.1)	9.9	(3.9)
	Sardegna	27.5	(8.2)	31.3	(6.6)	28.5	(9.4)	10.5	(4.8)	2.2	(2.4)
	Sicilia	21.4	(4.1)	31.4	(3.5)	30.5	(4.3)	14.3	(1.9)	2.4	(1.2)
	Toscana	12.9	(2.1)	22.1	(3.4)	28.7	(3.2)	27.3	(4.1)	9.0	(3.1)
	Trento	16.3	(8.6)	19.5	(6.0)	30.4	(6.5)	26.7	(5.9)	7.2	(4.4)
	Umbria	13.4	(6.6)	19.3	(6.3)	36.8	(5.9)	25.8	(11.2)	4.7	(1.8)
	Valle d'Aosta	11.5	(5.9)	14.9	(5.7)	36.4	(4.9)	24.5	(7.5)	12.7	(6.3)
	Veneto	14.2	(3.6)	18.2	(4.1)	27.4	(4.4)	26.5	(4.8)	13.8	(4.2)
	Portugal										
	Alentejo	15.5	(3.9)	25.4	(2.2)	35.3	(3.5)	20.3	(3.2)	3.5	(1.2)
	Spain										
	Andalusia•	36.2	(4.6)	29.5	(3.2)	23.9	(3.0)	8.8	(1.5)	1.6	(0.6)
	Aragon•	27.1	(13.6)	24.3	(3.9)	28.3	(10.9)	17.9	(9.2)	2.4	(2.1)
	Asturias•	c	c	c	c	c	c	c	c	c	c
	Balearic Islands•	c	c	c	c	c	c	c	c	c	c
	Basque Country•	18.6	(1.2)	25.5	(0.9)	32.0	(1.0)	19.2	(1.0)	4.8	(0.5)
	Cantabria•	c	c	c	c	c	c	c	c	c	c
	Castile and Leon•	19.1	(4.6)	21.2	(3.4)	32.1	(4.1)	24.0	(3.3)	3.6	(1.6)
	Catalonia•	21.5	(3.1)	25.4	(1.9)	29.5	(1.9)	18.6	(2.0)	5.1	(1.3)
	Extremadura•	43.0	(10.7)	28.8	(6.5)	22.0	(5.0)	5.9	(1.9)	0.2	c
	Galicia•	26.4	(5.6)	22.9	(4.4)	28.5	(3.7)	17.5	(5.6)	4.7	(1.8)
	La Rioja•	c	c	c	c	c	c	c	c	c	c
	Madrid•	18.5	(3.3)	28.6	(2.8)	30.9	(2.8)	17.8	(2.8)	4.2	(1.3)
	Murcia•	35.3	(3.9)	27.5	(3.9)	20.5	(6.5)	13.6	(2.7)	3.1	(2.1)
	Navarre•	c	c	c	c	c	c	c	c	c	c

• PISA adjudicated region.

Note: See Table B3.I.7 for national data.

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[Part 2/2]

Table B3.I.19 **Percentage of students at each proficiency level on the digital reading scale, by region**

		All students									
		Below Level 2 (less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Above Level 4 (above 625.61 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	**Brazil**										
	Acre	21.3	(4.7)	40.2	(8.7)	29.8	(7.6)	8.1	(4.9)	0.7	(1.3)
	Alagoas	76.2	(7.0)	14.0	(7.7)	7.8	(1.6)	2.0	(0.5)	0.1	c
	Amapá	22.6	(7.3)	40.0	(6.4)	29.6	(6.4)	7.7	(3.4)	0.1	c
	Amazonas	82.3	(10.5)	11.4	(5.4)	5.3	(5.8)	1.0	(1.4)	0.0	c
	Bahia	51.6	(8.9)	23.7	(7.5)	16.2	(5.7)	6.6	(4.4)	1.9	(1.9)
	Ceará	52.0	(19.7)	24.0	(8.8)	14.5	(6.9)	8.0	(4.9)	1.5	(1.6)
	Espírito Santo	22.5	(5.8)	34.3	(6.9)	30.8	(6.2)	8.7	(3.3)	3.8	(3.4)
	Federal District	c	c	c	c	c	c	c	c	c	c
	Goiás	34.0	(4.1)	35.2	(4.9)	23.6	(4.2)	6.7	(1.6)	0.5	c
	Maranhão	69.8	(13.6)	18.8	(11.7)	9.2	(5.6)	2.0	(2.4)	0.2	c
	Mato Grosso	c	c	c	c	c	c	c	c	c	c
	Mato Grosso do Sul	25.6	(11.3)	32.5	(7.1)	28.8	(7.0)	12.2	(1.9)	0.9	(1.0)
	Minas Gerais	33.5	(6.7)	33.8	(4.7)	23.3	(4.4)	8.3	(5.0)	1.0	(0.9)
	Pará	54.7	(11.2)	22.8	(6.7)	13.1	(5.1)	7.2	(5.9)	2.2	(2.1)
	Paraíba	c	c	c	c	c	c	c	c	c	c
	Paraná	33.1	(5.9)	31.1	(3.9)	24.1	(3.6)	9.5	(3.1)	2.2	(1.1)
	Pernambuco	38.9	(8.0)	34.8	(5.0)	20.3	(5.8)	5.7	(4.5)	0.3	c
	Piauí	c	c	c	c	c	c	c	c	c	c
	Rio de Janeiro	27.4	(5.5)	29.1	(5.6)	30.2	(4.7)	12.0	(3.2)	1.2	c
	Rio Grande do Norte	c	c	c	c	c	c	c	c	c	c
	Rio Grande do Sul	28.6	(4.6)	35.8	(6.8)	25.0	(6.3)	8.1	(4.3)	2.6	(2.1)
	Rondônia	57.9	(11.2)	30.4	(4.0)	8.4	(8.7)	3.1	(4.6)	0.1	c
	Roraima	42.7	(5.8)	39.7	(8.2)	12.6	(4.1)	4.2	(2.2)	0.7	(0.7)
	Santa Catarina	44.6	(14.6)	29.0	(9.7)	19.9	(9.8)	5.6	(4.0)	0.9	(0.8)
	São Paulo	27.9	(3.0)	32.9	(2.0)	27.5	(2.5)	10.3	(2.0)	1.4	(0.7)
	Sergipe	48.5	(8.8)	30.6	(8.7)	16.5	(3.3)	3.4	(1.2)	1.0	(1.2)
	Tocantins	62.1	(10.5)	29.8	(9.7)	6.9	(3.1)	1.1	(1.3)	0.1	(0.1)
	Colombia										
	Bogota	45.0	(4.2)	35.2	(2.4)	15.4	(2.1)	3.8	(1.1)	0.6	(0.4)
	Cali	46.2	(4.4)	28.1	(2.6)	18.9	(2.9)	6.2	(1.7)	0.5	(0.3)
	Manizales	44.3	(3.1)	33.2	(3.1)	18.3	(2.0)	3.9	(1.0)	0.3	(0.2)
	Medellin	42.4	(3.6)	29.3	(2.0)	19.7	(2.2)	7.3	(1.5)	1.3	(0.5)
	United Arab Emirates										
	Abu Dhabi•	57.7	(2.4)	23.6	(1.4)	13.0	(1.2)	4.5	(0.8)	1.1	(0.5)
	Ajman	68.3	(3.8)	19.8	(2.6)	10.1	(1.9)	1.7	(0.7)	0.1	c
	Dubai•	33.3	(0.8)	24.3	(1.3)	21.7	(0.9)	14.8	(0.8)	5.8	(0.4)
	Fujairah	66.1	(4.1)	23.0	(2.1)	8.8	(2.3)	1.9	(0.9)	0.2	(0.2)
	Ras Al Khaimah	68.8	(3.0)	23.6	(2.3)	6.2	(1.5)	1.2	(0.5)	0.2	(0.2)
	Sharjah	44.4	(4.8)	27.1	(2.3)	19.3	(3.1)	7.4	(1.8)	1.9	(1.0)
	Umm Al Quwain	69.6	(2.0)	19.7	(1.9)	8.6	(1.6)	1.6	(0.6)	0.4	(0.5)

• PISA adjudicated region.
Note: See Table B3.I.7 for national data.
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[Part 1/4]

Table B3.I.20 Percentage of students at each proficiency level on the digital reading scale, by gender and region

		Boys									
		Below Level 2 (less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Above Level 4 (above 625.61 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**										
	Australian Capital Territory	17.0	(2.0)	17.0	(2.3)	28.9	(2.5)	27.2	(2.7)	9.9	(1.9)
	New South Wales	16.2	(1.6)	22.5	(1.6)	28.0	(1.7)	21.0	(1.7)	12.3	(2.0)
	Northern Territory	27.0	(4.4)	22.9	(4.5)	22.8	(4.7)	16.6	(4.0)	10.7	(3.6)
	Queensland	18.9	(1.7)	22.7	(1.4)	28.8	(1.7)	21.2	(1.8)	8.4	(1.3)
	South Australia	17.8	(2.0)	21.6	(1.8)	31.0	(2.3)	21.1	(1.9)	8.5	(1.3)
	Tasmania	27.2	(2.4)	24.4	(3.0)	27.1	(2.7)	15.5	(2.4)	5.8	(1.4)
	Victoria	14.2	(1.3)	21.5	(1.6)	31.8	(2.1)	23.2	(1.8)	9.3	(1.7)
	Western Australia	12.6	(1.6)	19.5	(1.9)	29.3	(2.1)	24.9	(2.5)	13.7	(2.5)
	Belgium										
	Flemish community•	17.3	(1.6)	19.6	(1.6)	28.5	(1.6)	24.7	(1.4)	9.8	(1.1)
	French community	25.8	(1.9)	23.3	(1.6)	28.6	(1.8)	17.7	(1.5)	4.5	(0.9)
	German-speaking community	21.1	(1.7)	20.9	(2.1)	27.2	(2.6)	21.8	(2.4)	9.1	(1.6)
	Canada										
	Alberta	10.9	(1.9)	20.8	(1.7)	30.5	(2.1)	24.4	(2.1)	13.4	(1.7)
	British Columbia	7.2	(1.2)	15.9	(1.5)	29.9	(1.9)	31.6	(2.0)	15.4	(1.5)
	Manitoba	14.9	(1.5)	23.1	(1.9)	32.4	(2.2)	23.4	(1.6)	6.2	(1.2)
	New Brunswick	13.5	(1.4)	24.0	(2.0)	32.6	(2.3)	22.1	(3.2)	7.9	(1.9)
	Newfoundland and Labrador	17.1	(2.6)	23.3	(2.2)	29.9	(2.7)	20.3	(1.9)	9.4	(1.6)
	Nova Scotia	10.7	(2.3)	21.1	(3.3)	27.2	(3.7)	29.6	(5.7)	11.3	(2.2)
	Ontario	8.6	(1.3)	18.5	(1.7)	31.2	(1.8)	28.8	(2.0)	12.9	(1.7)
	Prince Edward Island	25.6	(1.9)	23.3	(2.2)	26.9	(2.1)	17.3	(1.7)	7.0	(1.1)
	Quebec	14.4	(1.5)	19.4	(1.5)	33.0	(1.6)	25.7	(1.7)	7.5	(1.0)
	Saskatchewan	13.1	(1.5)	24.7	(2.1)	32.6	(2.2)	21.1	(2.0)	8.6	(1.2)
	Italy										
	Abruzzo	7.1	(5.5)	18.3	(8.3)	42.9	(8.7)	25.1	(5.0)	6.6	(2.9)
	Basilicata	33.8	(16.7)	21.4	(8.0)	25.1	(6.8)	17.4	(3.8)	2.4	(1.9)
	Bolzano	9.6	(3.3)	8.4	(6.2)	24.3	(5.5)	30.4	(5.8)	27.3	(10.5)
	Calabria	25.0	(9.9)	23.0	(6.0)	28.9	(9.2)	20.9	(8.8)	2.1	(2.3)
	Campania	34.0	(10.1)	22.7	(3.2)	28.1	(6.3)	12.8	(4.9)	2.3	(1.5)
	Emilia Romagna	8.7	(2.4)	20.1	(9.6)	31.9	(4.9)	27.6	(8.3)	11.8	(4.4)
	Friuli Venezia Giulia	9.2	(8.8)	14.2	(4.5)	33.9	(8.6)	26.4	(5.8)	16.3	(4.1)
	Lazio	21.1	(8.3)	23.1	(3.7)	30.7	(6.8)	18.9	(2.9)	6.2	(1.9)
	Liguria	15.2	(6.8)	20.9	(9.0)	30.1	(6.5)	14.4	(6.7)	19.4	(13.4)
	Lombardia	9.7	(2.3)	19.7	(4.4)	32.1	(2.6)	28.6	(4.1)	9.9	(2.6)
	Marche	16.2	(7.0)	16.9	(7.4)	38.1	(4.2)	24.1	(6.3)	4.8	(3.3)
	Molise	36.5	(12.3)	20.8	(3.6)	28.9	(9.5)	13.1	(6.8)	0.8	c
	Piemonte	17.0	(6.8)	17.6	(7.4)	28.4	(5.5)	26.1	(8.2)	10.8	(7.9)
	Puglia	23.2	(7.3)	23.1	(4.9)	25.1	(5.2)	17.7	(5.1)	10.9	(5.8)
	Sardegna	33.0	(9.3)	32.6	(6.8)	25.6	(10.5)	7.4	(5.0)	1.5	c
	Sicilia	26.2	(6.2)	29.7	(3.3)	27.3	(5.6)	14.7	(2.2)	2.1	(1.2)
	Toscana	14.3	(4.0)	24.2	(6.0)	27.6	(5.8)	24.8	(5.9)	9.1	(3.5)
	Trento	19.8	(11.3)	19.4	(4.9)	32.1	(8.6)	23.3	(7.3)	5.3	(3.1)
	Umbria	17.1	(10.2)	16.8	(6.9)	35.5	(6.4)	28.0	(9.0)	2.6	(2.2)
	Valle d'Aosta	14.5	(7.8)	18.5	(8.1)	31.6	(6.3)	22.8	(9.2)	12.7	(4.8)
	Veneto	20.2	(6.8)	19.9	(4.6)	23.9	(4.4)	22.3	(4.9)	13.7	(5.1)
	Portugal										
	Alentejo	18.5	(4.7)	25.6	(2.6)	32.8	(4.6)	20.0	(3.6)	3.0	(1.3)
	Spain										
	Andalusia•	40.5	(5.6)	28.4	(3.6)	20.7	(3.5)	8.8	(1.8)	1.6	(0.7)
	Aragon•	32.6	(16.5)	29.8	(4.2)	20.1	(10.1)	15.5	(9.2)	1.9	(2.7)
	Asturias•	c	c	c	c	c	c	c	c	c	c
	Balearic Islands•	c	c	c	c	c	c	c	c	c	c
	Basque Country•	23.1	(1.6)	26.1	(1.2)	29.7	(1.3)	16.9	(1.1)	4.1	(0.6)
	Cantabria•	c	c	c	c	c	c	c	c	c	c
	Castile and Leon•	26.6	(6.8)	21.4	(4.7)	26.3	(4.6)	21.2	(4.0)	4.5	(1.5)
	Catalonia•	26.4	(3.7)	26.1	(2.4)	27.5	(2.3)	15.1	(2.1)	5.0	(1.6)
	Extremadura•	52.5	(11.3)	24.9	(6.4)	17.1	(6.4)	5.4	(2.6)	0.1	c
	Galicia•	40.6	(8.9)	25.1	(5.2)	21.4	(5.8)	8.9	(5.1)	4.0	(2.5)
	La Rioja•	c	c	c	c	c	c	c	c	c	c
	Madrid•	22.9	(4.5)	29.7	(3.6)	29.3	(3.9)	15.0	(3.1)	3.1	(1.1)
	Murcia•	39.0	(9.8)	29.2	(6.9)	20.6	(11.3)	9.6	(3.0)	1.5	c
	Navarre•	c	c	c	c	c	c	c	c	c	c

• PISA adjudicated region.

Note: See Table B3.I.8 for national data.

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[Part 2/4]

Table B3.I.20 **Percentage of students at each proficiency level on the digital reading scale, by gender and region**

		Boys									
		Below Level 2 (less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Above Level 4 (above 625.61 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	**Brazil**										
	Acre	25.9	(8.4)	46.6	(8.7)	23.5	(11.1)	3.8	(3.8)	0.2	c
	Alagoas	84.1	(6.3)	10.4	(5.8)	4.7	(1.5)	0.8	c	0.0	c
	Amapá	31.8	(7.6)	43.6	(9.3)	23.6	(8.1)	1.0	c	0.0	c
	Amazonas	84.1	(10.7)	11.4	(6.8)	4.2	(5.8)	0.3	c	0.0	c
	Bahia	53.0	(7.8)	22.0	(7.4)	15.0	(6.5)	8.0	(5.6)	2.1	(2.3)
	Ceará	49.1	(19.9)	23.5	(9.2)	16.8	(7.5)	9.0	(5.5)	1.6	c
	Espírito Santo	28.5	(5.8)	39.1	(6.6)	25.8	(6.2)	4.3	(2.2)	2.2	(1.6)
	Federal District	c	c	c	c	c	c	c	c	c	c
	Goiás	32.3	(4.4)	37.5	(7.8)	22.5	(6.8)	7.2	(2.8)	0.6	c
	Maranhão	83.1	(9.1)	6.1	(4.3)	7.8	(4.6)	2.7	(3.8)	0.3	c
	Mato Grosso	c	c	c	c	c	c	c	c	c	c
	Mato Grosso do Sul	23.4	(14.8)	34.7	(13.1)	28.7	(9.0)	12.3	(3.1)	1.0	c
	Minas Gerais	38.8	(8.5)	32.7	(6.9)	19.6	(5.6)	8.2	(5.4)	0.7	c
	Pará	60.8	(16.1)	23.4	(11.0)	10.5	(6.3)	5.3	(5.4)	0.0	c
	Paraíba	c	c	c	c	c	c	c	c	c	c
	Paraná	41.9	(8.0)	28.7	(6.8)	19.2	(4.2)	8.6	(3.2)	1.6	(0.8)
	Pernambuco	50.2	(10.2)	29.9	(10.2)	16.1	(6.2)	3.8	(4.0)	0.0	c
	Piauí	c	c	c	c	c	c	c	c	c	c
	Rio de Janeiro	31.4	(6.2)	29.5	(7.7)	29.1	(6.1)	9.1	(3.8)	0.9	c
	Rio Grande do Norte	c	c	c	c	c	c	c	c	c	c
	Rio Grande do Sul	35.4	(6.1)	30.8	(8.4)	23.9	(7.2)	8.1	(5.5)	1.7	(1.5)
	Rondônia	48.5	(5.8)	36.9	(8.4)	11.2	(7.1)	3.1	(3.8)	0.3	c
	Roraima	44.5	(10.2)	39.1	(10.3)	13.9	(4.3)	2.3	(1.2)	0.3	c
	Santa Catarina	55.5	(14.2)	24.9	(8.2)	16.6	(10.4)	3.0	(3.0)	0.0	c
	São Paulo	32.2	(3.7)	33.1	(3.0)	24.6	(2.7)	8.7	(2.4)	1.4	(1.1)
	Sergipe	55.1	(11.5)	21.8	(11.6)	17.5	(6.8)	3.6	(2.3)	2.0	(2.5)
	Tocantins	64.9	(17.4)	24.8	(11.1)	8.7	(7.0)	1.6	(2.6)	0.0	c
	Colombia										
	Bogota	47.1	(4.8)	33.2	(3.5)	14.8	(2.7)	4.0	(1.5)	1.0	(0.8)
	Cali	52.2	(4.0)	28.9	(3.3)	14.8	(2.7)	4.0	(1.4)	0.2	c
	Manizales	46.3	(3.4)	30.9	(3.4)	18.0	(2.3)	4.5	(1.1)	0.3	(0.3)
	Medellin	45.9	(4.3)	28.5	(3.2)	18.4	(2.6)	6.6	(1.6)	0.6	(0.4)
	United Arab Emirates										
	Abu Dhabi•	68.8	(3.1)	17.3	(1.9)	9.2	(1.3)	3.6	(1.0)	1.0	(0.6)
	Ajman	82.6	(3.0)	13.5	(2.7)	3.6	(1.8)	0.4	c	0.0	c
	Dubai•	40.0	(0.9)	23.4	(1.3)	18.7	(1.1)	12.4	(0.9)	5.4	(0.6)
	Fujairah	80.0	(3.5)	14.4	(3.0)	4.3	(1.4)	1.0	(0.8)	0.3	(0.3)
	Ras Al Khaimah	73.9	(3.3)	21.1	(3.3)	4.2	(1.4)	0.6	(0.4)	0.2	(0.1)
	Sharjah	54.9	(8.5)	24.1	(4.2)	13.4	(4.3)	6.0	(3.0)	1.6	(1.6)
	Umm Al Quwain	91.6	(1.7)	5.9	(1.8)	2.0	(1.0)	0.5	c	0.0	c

• PISA adjudicated region.
Note: See Table B3.I.8 for national data.
StatLink http://dx.doi.org/10.1787/888932935781



[Part 3/4]

Table B3.I.20 Percentage of students at each proficiency level on the digital reading scale, by gender and region

		Girls									
		Below Level 2 (less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Above Level 4 (above 625.61 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**										
	Australian Capital Territory	5.7	(1.3)	11.0	(1.9)	27.5	(3.1)	35.9	(3.6)	19.9	(2.6)
	New South Wales	7.0	(1.1)	16.0	(1.2)	29.3	(1.6)	28.7	(1.5)	19.0	(1.9)
	Northern Territory	18.2	(3.1)	17.7	(3.2)	27.9	(4.8)	26.1	(6.2)	10.1	(5.5)
	Queensland	8.7	(1.3)	19.7	(1.5)	29.7	(1.9)	27.6	(2.2)	14.3	(2.0)
	South Australia	11.0	(1.5)	20.5	(1.7)	27.6	(1.9)	26.4	(2.4)	14.5	(2.0)
	Tasmania	17.9	(2.4)	26.5	(2.5)	25.2	(2.5)	20.0	(2.1)	10.4	(1.7)
	Victoria	7.6	(1.3)	16.9	(1.4)	30.2	(1.9)	28.4	(2.0)	16.8	(1.7)
	Western Australia	9.7	(1.5)	18.0	(1.8)	29.5	(1.8)	26.8	(2.3)	16.1	(2.3)
	Belgium										
	Flemish community•	11.9	(1.7)	17.2	(1.3)	26.7	(1.5)	30.4	(1.7)	13.7	(1.4)
	French community	15.4	(1.5)	21.6	(1.2)	34.3	(1.8)	22.6	(1.5)	6.0	(1.0)
	German-speaking community	11.0	(1.5)	13.6	(1.9)	28.9	(2.6)	32.4	(2.2)	14.1	(1.7)
	Canada										
	Alberta	6.0	(1.1)	16.9	(1.8)	30.0	(2.0)	29.9	(2.1)	17.1	(1.7)
	British Columbia	4.6	(0.9)	13.4	(1.5)	29.9	(2.0)	32.5	(2.0)	19.7	(1.9)
	Manitoba	9.9	(1.9)	21.0	(1.8)	32.1	(1.9)	26.4	(2.0)	10.6	(1.6)
	New Brunswick	7.7	(1.2)	18.6	(1.9)	34.9	(2.8)	27.8	(2.7)	11.0	(2.0)
	Newfoundland and Labrador	8.1	(2.0)	19.2	(2.8)	31.0	(2.6)	28.1	(2.4)	13.6	(1.6)
	Nova Scotia	6.8	(1.5)	15.8	(2.6)	29.9	(3.4)	31.5	(2.5)	15.9	(3.4)
	Ontario	5.2	(1.2)	14.0	(1.2)	30.1	(1.9)	33.0	(1.8)	17.7	(2.0)
	Prince Edward Island	15.4	(1.5)	23.4	(2.0)	28.7	(2.3)	20.0	(1.7)	12.5	(1.4)
	Quebec	7.7	(0.8)	15.3	(1.1)	34.0	(1.5)	31.5	(1.5)	11.6	(1.2)
	Saskatchewan	6.6	(1.1)	20.4	(1.8)	35.0	(2.0)	26.7	(2.1)	11.3	(1.8)
	Italy										
	Abruzzo	3.3	(2.3)	18.5	(5.6)	46.2	(9.1)	26.4	(8.4)	5.6	(4.6)
	Basilicata	22.6	(7.4)	34.9	(10.1)	35.0	(8.2)	7.4	c	0.0	c
	Bolzano	1.3	(1.1)	15.9	(4.7)	26.2	(5.9)	41.5	(4.9)	15.1	(6.2)
	Calabria	16.5	(6.2)	23.6	(8.5)	40.2	(5.9)	16.1	(10.4)	3.6	(2.7)
	Campania	22.8	(7.7)	24.8	(3.6)	35.2	(6.5)	16.9	(4.4)	0.3	c
	Emilia Romagna	6.2	(3.0)	23.7	(6.2)	38.8	(4.8)	26.0	(5.1)	5.2	(1.7)
	Friuli Venezia Giulia	4.5	(1.3)	11.3	(3.3)	27.7	(4.4)	36.3	(8.7)	20.3	(6.1)
	Lazio	6.8	(3.6)	18.6	(7.0)	32.4	(7.6)	30.0	(6.8)	12.3	(5.5)
	Liguria	10.3	(6.0)	27.9	(10.5)	22.4	(9.1)	23.0	(12.7)	16.5	(12.9)
	Lombardia	2.2	(0.9)	11.1	(2.5)	35.6	(4.5)	38.6	(5.3)	12.6	(3.0)
	Marche	20.7	(12.2)	12.6	(10.2)	33.5	(10.8)	31.3	(17.3)	1.8	c
	Molise	c	c	c	c	c	c	c	c	c	c
	Piemonte	15.6	(4.9)	17.6	(4.6)	30.2	(6.4)	27.5	(6.6)	9.1	(4.1)
	Puglia	21.3	(10.2)	19.4	(3.6)	29.9	(6.7)	20.7	(4.1)	8.6	(2.9)
	Sardegna	c	c	c	c	c	c	c	c	c	c
	Sicilia	12.9	(3.4)	34.5	(6.3)	36.1	(4.7)	13.6	(3.9)	2.9	(2.0)
	Toscana	11.6	(4.0)	20.2	(5.2)	29.7	(8.0)	29.6	(7.4)	8.9	(4.6)
	Trento	10.6	(4.2)	19.5	(8.7)	27.6	(4.9)	32.0	(6.5)	10.2	(8.0)
	Umbria	9.1	(5.8)	22.3	(6.8)	38.4	(9.4)	23.0	(16.3)	7.3	(2.9)
	Valle d'Aosta	7.1	(4.3)	9.5	(4.0)	43.6	(8.5)	27.2	(6.6)	12.6	(9.7)
	Veneto	7.7	(3.2)	16.2	(4.9)	31.3	(6.8)	31.0	(7.4)	13.9	(5.0)
	Portugal										
	Alentejo	12.4	(3.6)	25.2	(2.8)	37.9	(3.5)	20.5	(3.4)	4.0	(1.5)
	Spain										
	Andalusia•	31.5	(4.1)	30.7	(3.8)	27.4	(3.3)	8.8	(1.9)	1.6	(0.9)
	Aragon•	22.3	(10.3)	19.5	(6.2)	35.5	(11.4)	19.9	(11.4)	2.8	(2.0)
	Asturias•	c	c	c	c	c	c	c	c	c	c
	Balearic Islands•	c	c	c	c	c	c	c	c	c	c
	Basque Country•	14.0	(1.3)	24.8	(1.6)	34.2	(1.4)	21.4	(1.3)	5.6	(0.7)
	Cantabria•	c	c	c	c	c	c	c	c	c	c
	Castile and Leon•	12.1	(4.6)	20.9	(4.1)	37.5	(7.1)	26.6	(5.2)	2.9	(2.0)
	Catalonia•	16.1	(3.2)	24.7	(2.6)	31.6	(2.4)	22.4	(2.8)	5.1	(1.5)
	Extremadura•	34.7	(11.1)	32.2	(8.9)	26.4	(6.2)	6.4	(2.6)	0.3	c
	Galicia•	15.6	(5.1)	21.2	(5.7)	33.8	(5.0)	24.1	(7.7)	5.3	(2.7)
	La Rioja•	c	c	c	c	c	c	c	c	c	c
	Madrid•	14.1	(2.7)	27.4	(4.2)	32.5	(3.3)	20.6	(3.5)	5.3	(1.9)
	Murcia•	31.0	(5.1)	25.6	(4.3)	20.4	(5.0)	18.0	(4.8)	4.9	(3.0)
	Navarre•	c	c	c	c	c	c	c	c	c	c

• PISA adjudicated region.
Note: See Table B3.I.8 for national data.
StatLink http://dx.doi.org/10.1787/888932935781



[Part 4/4]

Table B3.I.20 **Percentage of students at each proficiency level on the digital reading scale, by gender and region**

		Girls									
		Below Level 2 (less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Above Level 4 (above 625.61 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	**Brazil**										
	Acre	18.1	(3.6)	35.8	(12.0)	34.0	(9.6)	10.9	(7.1)	1.1	c
	Alagoas	68.4	(7.5)	17.4	(9.9)	10.9	(2.9)	3.1	(1.3)	0.1	c
	Amapá	14.7	(8.1)	36.9	(7.3)	34.8	(9.1)	13.5	(5.9)	0.1	c
	Amazonas	79.9	(11.1)	11.5	(5.0)	6.8	(7.3)	1.9	(2.4)	0.0	c
	Bahia	50.4	(11.4)	25.2	(11.0)	17.3	(7.9)	5.4	(3.7)	1.7	(1.9)
	Ceará	55.2	(19.9)	24.5	(9.7)	12.0	(7.5)	6.8	(5.6)	1.5	c
	Espírito Santo	16.3	(7.8)	29.4	(11.1)	35.8	(11.0)	13.2	(5.7)	5.3	(5.4)
	Federal District	c	c	c	c	c	c	c	c	c	c
	Goiás	35.6	(5.8)	33.2	(5.5)	24.6	(7.1)	6.2	(2.0)	0.4	c
	Maranhão	58.3	(21.8)	29.9	(21.5)	10.4	(7.0)	1.4	(1.9)	0.1	c
	Mato Grosso	c	c	c	c	c	c	c	c	c	c
	Mato Grosso do Sul	27.6	(9.9)	30.5	(5.4)	28.9	(9.7)	12.2	(3.2)	0.9	c
	Minas Gerais	28.7	(5.4)	34.8	(4.9)	26.8	(5.0)	8.3	(5.0)	1.4	c
	Pará	50.1	(12.7)	22.3	(7.7)	15.0	(5.8)	8.7	(6.7)	3.9	(3.5)
	Paraíba	c	c	c	c	c	c	c	c	c	c
	Paraná	24.3	(4.9)	33.5	(5.5)	28.9	(4.5)	10.5	(3.8)	2.8	(1.8)
	Pernambuco	28.6	(7.3)	39.3	(7.4)	24.1	(8.1)	7.5	(6.1)	0.5	c
	Piauí	c	c	c	c	c	c	c	c	c	c
	Rio de Janeiro	23.8	(5.9)	28.8	(5.6)	31.2	(5.2)	14.7	(3.6)	1.5	c
	Rio Grande do Norte	c	c	c	c	c	c	c	c	c	c
	Rio Grande do Sul	22.9	(4.8)	40.0	(6.5)	25.8	(5.9)	8.1	(4.3)	3.3	(2.9)
	Rondônia	65.3	(17.2)	25.4	(4.3)	6.3	(11.1)	3.0	(5.7)	0.0	c
	Roraima	41.2	(7.1)	40.3	(8.3)	11.6	(5.6)	5.8	(3.8)	1.1	(1.0)
	Santa Catarina	33.1	(16.8)	33.3	(14.5)	23.4	(10.5)	8.3	(5.9)	1.9	(1.5)
	São Paulo	23.7	(3.3)	32.7	(3.2)	30.4	(3.1)	11.9	(2.1)	1.3	(0.6)
	Sergipe	44.0	(10.5)	36.6	(10.1)	15.9	(4.6)	3.3	(2.3)	0.3	c
	Tocantins	59.6	(7.8)	34.3	(10.3)	5.2	(4.3)	0.7	(0.2)	0.1	(0.1)
	Colombia										
	Bogota	43.2	(4.3)	37.0	(2.8)	16.0	(2.6)	3.6	(1.3)	0.2	(0.2)
	Cali	41.7	(5.4)	27.6	(3.0)	22.1	(3.9)	7.9	(2.3)	0.8	(0.4)
	Manizales	42.4	(3.6)	35.3	(3.9)	18.6	(2.5)	3.4	(1.5)	0.2	(0.2)
	Medellin	39.1	(4.1)	30.1	(2.9)	20.9	(3.1)	7.9	(1.9)	2.0	(0.9)
	United Arab Emirates										
	Abu Dhabi•	46.9	(3.2)	29.7	(1.9)	16.8	(1.9)	5.4	(1.0)	1.1	(0.4)
	Ajman	55.0	(5.0)	25.7	(3.8)	16.2	(2.5)	3.0	(1.1)	0.1	c
	Dubai•	26.3	(1.1)	25.3	(1.8)	24.9	(1.2)	17.2	(1.2)	6.3	(0.7)
	Fujairah	51.7	(5.2)	31.8	(3.1)	13.5	(3.3)	2.9	(1.2)	0.1	c
	Ras Al Khaimah	63.9	(5.0)	25.9	(3.3)	8.1	(2.3)	1.9	(0.9)	0.2	c
	Sharjah	35.8	(5.8)	29.6	(2.6)	24.1	(4.3)	8.5	(2.3)	2.0	(1.2)
	Umm Al Quwain	48.3	(4.0)	33.1	(3.8)	15.0	(3.2)	2.8	(1.3)	0.8	(0.9)

• PISA adjudicated region.
Note: See Table B3.I.8 for national data.
StatLink http://dx.doi.org/10.1787/888932935781



[Part 1/2]

Table B3.I.21 Mean score, variation and gender differences in student performance on the digital reading scale, by region

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	**Australia**																						
	Australian Capital Territory	533	(3.4)	96	(2.7)	510	(5.1)	556	(4.5)	**-47**	(6.8)	348	(9.0)	400	(9.9)	479	(6.2)	601	(4.5)	644	(5.4)	668	(6.8)
	New South Wales	526	(4.0)	98	(2.2)	508	(6.1)	545	(4.2)	**-37**	(6.7)	358	(6.0)	398	(6.3)	462	(5.0)	592	(5.1)	650	(5.8)	681	(7.1)
	Northern Territory	482	(8.9)	130	(6.1)	469	(10.1)	494	(13.0)	-25	(15.3)	220	(27.6)	309	(24.5)	421	(12.3)	573	(9.6)	625	(10.4)	651	(16.8)
	Queensland	513	(4.1)	95	(2.4)	496	(4.7)	531	(4.9)	**-35**	(5.1)	351	(7.9)	388	(6.3)	450	(5.4)	581	(4.9)	632	(5.8)	663	(6.2)
	South Australia	512	(4.5)	99	(3.5)	498	(5.1)	526	(4.8)	**-28**	(4.2)	337	(14.3)	383	(9.7)	451	(6.9)	580	(5.2)	632	(5.6)	665	(5.5)
	Tasmania	480	(4.8)	108	(3.4)	466	(5.8)	495	(6.1)	**-29**	(7.0)	286	(13.5)	337	(12.7)	415	(6.7)	555	(6.1)	614	(5.7)	647	(8.0)
	Victoria	523	(4.0)	92	(2.2)	509	(5.1)	539	(4.2)	**-30**	(4.8)	367	(6.9)	402	(5.4)	465	(5.1)	588	(4.8)	639	(6.5)	669	(6.4)
	Western Australia	526	(4.9)	97	(2.9)	521	(6.7)	532	(5.6)	-11	(7.7)	358	(11.2)	400	(8.5)	465	(6.6)	595	(6.0)	648	(6.8)	677	(6.3)
	Belgium																						
	Flemish community•	515	(3.8)	99	(2.4)	504	(4.9)	527	(5.2)	**-23**	(6.6)	333	(7.6)	380	(6.3)	454	(6.2)	587	(4.0)	632	(4.1)	657	(5.1)
	French community	485	(4.1)	97	(2.7)	471	(5.1)	499	(4.1)	**-28**	(4.3)	310	(10.8)	354	(6.4)	424	(5.1)	554	(4.3)	599	(4.5)	627	(5.5)
	German-speaking community	513	(2.6)	104	(3.1)	492	(4.1)	535	(3.3)	**-43**	(5.5)	328	(9.9)	367	(6.8)	449	(6.1)	586	(4.2)	633	(6.3)	662	(8.4)
	Canada																						
	Alberta	532	(5.3)	91	(4.0)	522	(6.6)	543	(4.4)	**-21**	(4.1)	379	(10.9)	417	(8.5)	473	(6.9)	595	(4.3)	646	(5.2)	674	(6.0)
	British Columbia	548	(3.6)	85	(2.1)	541	(4.3)	555	(4.3)	**-14**	(4.6)	401	(6.3)	435	(7.4)	494	(5.2)	606	(4.6)	653	(5.8)	684	(6.7)
	Manitoba	510	(3.7)	87	(2.1)	501	(3.7)	521	(5.0)	**-20**	(4.4)	353	(9.7)	394	(7.4)	456	(4.7)	571	(3.9)	618	(5.1)	645	(5.8)
	New Brunswick	516	(2.2)	86	(2.2)	504	(3.7)	528	(3.2)	**-24**	(5.3)	362	(8.2)	405	(5.9)	463	(3.5)	573	(4.9)	623	(6.9)	650	(6.2)
	Newfoundland and Labrador	516	(3.5)	94	(2.5)	500	(5.0)	532	(3.9)	**-32**	(5.4)	355	(9.7)	393	(10.0)	456	(6.5)	581	(4.4)	632	(6.0)	662	(7.6)
	Nova Scotia	531	(9.8)	89	(2.6)	522	(11.3)	541	(8.9)	**-18**	(5.7)	378	(13.0)	415	(11.6)	475	(10.4)	595	(10.2)	638	(8.8)	669	(15.2)
	Ontario	540	(5.5)	86	(2.3)	530	(5.9)	550	(5.7)	**-20**	(3.8)	390	(9.4)	428	(7.5)	486	(6.2)	599	(6.2)	645	(5.8)	673	(6.9)
	Prince Edward Island	491	(3.3)	109	(2.4)	476	(4.7)	507	(4.5)	**-32**	(6.5)	302	(9.8)	350	(7.9)	426	(5.0)	564	(4.1)	624	(6.0)	663	(8.3)
	Quebec	519	(3.5)	91	(2.7)	507	(4.1)	532	(3.6)	**-25**	(3.6)	356	(10.6)	401	(6.2)	470	(4.7)	580	(4.0)	624	(4.0)	646	(4.1)
	Saskatchewan	517	(3.2)	83	(1.7)	506	(3.9)	529	(4.1)	**-23**	(4.8)	378	(5.8)	408	(5.4)	461	(4.2)	575	(5.1)	625	(4.7)	651	(6.5)
	Italy																						
	Abruzzo	523	(11.0)	67	(6.1)	518	(16.0)	526	(12.2)	-8	(17.3)	407	(28.3)	436	(24.6)	483	(15.4)	566	(9.4)	600	(12.8)	634	(16.1)
	Basilicata	458	(25.2)	93	(19.3)	452	(36.0)	465	(26.7)	-13	(41.6)	289	(75.5)	343	(61.7)	399	(29.7)	522	(17.9)	571	(19.1)	597	(21.2)
	Bolzano	559	(15.6)	85	(5.9)	563	(26.1)	557	(11.2)	7	(21.7)	415	(29.2)	455	(16.6)	504	(20.5)	614	(18.0)	660	(26.9)	690	(24.7)
	Calabria	480	(25.2)	95	(11.5)	472	(28.4)	486	(24.9)	-14	(18.4)	302	(40.8)	347	(39.8)	426	(33.4)	544	(25.5)	592	(27.7)	611	(21.0)
	Campania	458	(20.7)	98	(8.3)	448	(25.0)	469	(17.6)	-21	(13.9)	266	(39.4)	321	(36.5)	395	(30.9)	532	(14.2)	570	(9.2)	592	(9.2)
	Emilia Romagna	521	(14.2)	80	(4.8)	525	(20.6)	517	(12.3)	8	(19.4)	386	(21.8)	421	(17.3)	470	(16.9)	579	(17.0)	622	(12.8)	645	(11.6)
	Friuli Venezia Giulia	546	(11.3)	91	(12.7)	531	(25.8)	558	(6.8)	-26	(23.5)	385	(43.5)	434	(34.3)	497	(14.9)	608	(12.5)	652	(11.7)	672	(8.6)
	Lazio	506	(11.6)	90	(9.4)	488	(14.5)	533	(19.0)	-45	(23.4)	342	(24.2)	372	(31.4)	447	(18.5)	573	(14.9)	620	(14.0)	647	(18.0)
	Liguria	519	(39.4)	101	(9.1)	516	(41.1)	522	(37.7)	-6	(14.4)	345	(27.0)	388	(27.7)	455	(30.4)	602	(77.7)	656	(41.8)	681	(27.9)
	Lombardia	538	(6.9)	79	(2.4)	523	(9.9)	553	(5.0)	**-31**	(9.3)	397	(12.7)	438	(12.5)	490	(11.9)	593	(8.1)	630	(6.9)	652	(9.2)
	Marche	500	(25.0)	88	(10.9)	502	(23.9)	497	(38.3)	5	(30.8)	329	(26.9)	362	(40.0)	460	(48.6)	560	(15.4)	590	(17.5)	619	(30.4)
	Molise	482	(24.4)	97	(14.1)	444	(27.6)	c	c	c	c	313	(42.6)	354	(28.8)	418	(47.8)	557	(13.4)	587	(19.6)	608	(16.5)
	Piemonte	514	(18.0)	96	(7.5)	512	(32.1)	516	(16.3)	-4	(35.6)	346	(12.9)	383	(12.4)	453	(19.3)	582	(22.9)	625	(19.4)	651	(33.8)
	Puglia	491	(11.7)	106	(8.3)	490	(23.0)	493	(23.5)	-2	(40.0)	319	(27.2)	354	(8.0)	419	(10.4)	564	(18.6)	624	(21.6)	659	(23.8)
	Sardegna	458	(20.7)	87	(5.2)	442	(20.3)	c	c	c	c	287	(28.1)	343	(35.7)	400	(37.4)	515	(22.9)	562	(29.9)	597	(26.7)
	Sicilia	473	(8.0)	81	(5.8)	465	(11.1)	486	(9.2)	-21	(12.7)	334	(21.9)	365	(18.8)	419	(12.3)	532	(8.2)	578	(9.2)	602	(13.2)
	Toscana	512	(10.3)	91	(4.5)	504	(15.2)	520	(17.6)	-16	(24.9)	360	(16.1)	398	(8.9)	446	(12.2)	581	(13.5)	623	(13.1)	647	(15.3)
	Trento	503	(23.1)	99	(20.7)	492	(27.1)	521	(20.4)	-29	(24.3)	319	(77.2)	371	(53.6)	451	(25.1)	573	(15.7)	616	(17.7)	635	(21.1)
	Umbria	502	(20.1)	89	(12.0)	494	(24.2)	512	(22.8)	-17	(25.6)	319	(53.4)	382	(46.0)	456	(33.9)	564	(20.7)	603	(16.2)	625	(18.3)
	Valle d'Aosta	525	(27.0)	87	(5.6)	517	(31.4)	537	(23.2)	-20	(12.5)	359	(26.0)	397	(32.5)	474	(40.7)	589	(37.0)	633	(23.2)	652	(16.3)
	Veneto	516	(13.7)	105	(9.0)	500	(20.1)	534	(18.0)	-34	(28.4)	311	(27.3)	368	(31.0)	451	(17.9)	591	(14.6)	640	(14.5)	668	(17.1)
	Portugal																						
	Alentejo	491	(9.7)	83	(5.1)	485	(10.2)	498	(10.0)	**-13**	(5.9)	342	(14.8)	380	(18.2)	440	(14.3)	550	(9.1)	591	(9.9)	612	(12.3)
	Spain																						
	Andalusia•	438	(10.1)	95	(4.6)	427	(12.4)	449	(8.6)	**-22**	(7.4)	275	(17.7)	312	(15.8)	377	(13.3)	504	(8.6)	556	(8.5)	589	(8.7)
	Aragon•	464	(37.5)	103	(22.4)	443	(46.9)	482	(28.5)	-39	(25.8)	277	(74.2)	320	(58.2)	398	(53.7)	543	(30.6)	587	(31.7)	608	(22.4)
	Asturias•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Balearic Islands•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Basque Country•	487	(3.5)	92	(2.3)	475	(4.1)	499	(3.8)	**-24**	(3.4)	327	(8.3)	368	(5.3)	431	(4.6)	551	(3.5)	597	(3.3)	624	(4.4)
	Cantabria•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Castile and Leon•	489	(9.7)	97	(7.9)	469	(12.9)	507	(11.1)	**-38**	(14.5)	311	(32.4)	354	(23.4)	432	(19.0)	560	(8.4)	597	(10.7)	618	(11.9)
	Catalonia•	479	(8.9)	100	(7.4)	466	(10.5)	494	(8.5)	**-28**	(7.2)	296	(29.5)	345	(22.2)	421	(12.0)	549	(7.1)	598	(8.4)	626	(9.8)
	Extremadura•	415	(30.4)	97	(19.1)	398	(34.6)	430	(28.0)	**-31**	(15.1)	245	(70.0)	277	(71.2)	343	(49.3)	487	(14.6)	535	(11.3)	561	(13.8)
	Galicia•	474	(17.5)	99	(5.8)	438	(23.6)	502	(15.2)	**-63**	(20.8)	308	(23.4)	345	(20.2)	401	(22.7)	545	(18.2)	595	(22.6)	625	(16.2)
	La Rioja•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Madrid•	482	(9.2)	89	(4.4)	470	(11.0)	495	(8.6)	**-25**	(8.0)	328	(16.9)	370	(12.5)	427	(11.9)	544	(9.9)	591	(11.4)	619	(10.5)
	Murcia•	448	(9.0)	100	(5.5)	436	(18.5)	461	(11.0)	-25	(26.4)	286	(17.9)	321	(17.6)	372	(14.0)	525	(6.6)	591	(15.9)	612	(20.8)
	Navarre•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

See Table B3.I.9 for national data.

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[Part 2/2]

Table B3.I.21 Mean score, variation and gender differences in student performance on the digital reading scale, by region

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
Partners	**Brazil**																						
	Acre	459	(11.1)	72	(7.3)	442	(11.6)	472	(13.5)	**-30**	(10.4)	335	(15.9)	375	(16.0)	418	(13.1)	502	(22.3)	546	(34.2)	574	(36.5)
	Alagoas	341	(22.2)	98	(5.7)	320	(24.6)	363	(18.3)	**-43**	(16.7)	199	(27.7)	219	(33.2)	278	(27.7)	406	(38.8)	482	(14.8)	521	(9.0)
	Amapá	460	(12.6)	65	(9.5)	439	(11.2)	478	(16.0)	**-39**	(12.4)	355	(23.2)	375	(20.2)	413	(15.0)	506	(14.0)	542	(19.6)	570	(33.9)
	Amazonas	345	(21.5)	81	(10.1)	325	(23.5)	371	(19.8)	**-45**	(11.9)	170	(94.8)	257	(30.3)	301	(13.3)	388	(29.6)	437	(76.6)	494	(53.6)
	Bahia	401	(27.3)	117	(20.4)	397	(23.8)	405	(31.6)	-8	(15.1)	183	(74.5)	254	(72.0)	330	(41.5)	480	(30.1)	543	(36.2)	584	(48.1)
	Ceará	398	(44.9)	114	(15.3)	400	(48.5)	396	(42.5)	4	(18.8)	214	(58.8)	254	(47.5)	318	(52.0)	477	(47.8)	550	(39.2)	583	(33.0)
	Espírito Santo	466	(15.5)	86	(13.0)	445	(12.7)	488	(21.5)	**-43**	(19.1)	317	(41.4)	361	(27.5)	414	(20.7)	520	(17.2)	566	(32.0)	605	(56.9)
	Federal District	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Goiás	436	(8.1)	84	(4.9)	433	(8.5)	438	(11.7)	-5	(12.3)	284	(18.4)	318	(18.6)	386	(16.1)	490	(8.8)	541	(10.2)	566	(14.9)
	Maranhão	357	(50.7)	101	(29.6)	340	(45.7)	373	(55.7)	**-33**	(14.4)	184	(71.2)	227	(85.2)	303	(87.9)	422	(50.2)	489	(53.3)	520	(48.6)
	Mato Grosso	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Mato Grosso do Sul	460	(15.6)	80	(10.7)	461	(19.2)	460	(12.8)	2	(8.4)	325	(37.4)	357	(41.4)	406	(30.7)	516	(12.8)	565	(7.5)	583	(20.1)
	Minas Gerais	442	(16.6)	83	(8.1)	433	(18.4)	451	(15.3)	**-19**	(6.2)	303	(19.8)	337	(16.5)	387	(16.0)	501	(22.8)	552	(26.1)	578	(29.4)
	Pará	408	(28.8)	99	(16.5)	381	(29.6)	428	(30.2)	-47	(28.7)	268	(21.0)	294	(23.8)	336	(22.9)	469	(54.2)	546	(55.8)	584	(44.4)
	Paraíba	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Paraná	445	(13.8)	92	(10.7)	426	(18.4)	463	(10.9)	**-37**	(15.2)	283	(42.6)	322	(40.7)	391	(16.3)	509	(13.6)	561	(19.5)	593	(20.8)
	Pernambuco	428	(16.3)	82	(9.6)	410	(16.2)	444	(15.6)	**-34**	(6.2)	288	(33.0)	320	(29.6)	373	(24.4)	483	(15.8)	536	(20.6)	555	(18.9)
	Piauí	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Rio de Janeiro	462	(8.9)	82	(6.9)	454	(8.6)	469	(10.6)	**-15**	(7.8)	323	(21.2)	351	(18.7)	401	(16.6)	520	(12.6)	569	(10.9)	591	(13.6)
	Rio Grande do Norte	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Rio Grande do Sul	454	(13.2)	80	(9.0)	444	(14.0)	462	(13.2)	**-18**	(5.7)	327	(9.0)	351	(16.8)	397	(11.7)	508	(21.0)	557	(29.7)	590	(37.2)
	Rondônia	386	(26.9)	84	(11.8)	396	(18.7)	378	(34.8)	18	(22.7)	240	(30.6)	274	(21.0)	332	(22.7)	435	(41.6)	492	(68.3)	527	(56.1)
	Roraima	417	(7.7)	76	(8.0)	409	(13.1)	424	(10.2)	-15	(17.9)	303	(39.3)	323	(19.4)	368	(22.8)	462	(14.0)	511	(21.0)	553	(38.9)
	Santa Catarina	422	(27.7)	85	(8.3)	398	(27.3)	448	(26.9)	**-51**	(9.5)	276	(33.4)	311	(30.4)	364	(32.6)	487	(39.9)	528	(31.8)	562	(36.8)
	São Paulo	455	(7.2)	82	(3.5)	446	(8.0)	465	(7.2)	**-18**	(5.2)	318	(12.6)	349	(11.2)	400	(7.7)	512	(7.4)	559	(9.6)	588	(10.6)
	Sergipe	412	(15.7)	82	(12.9)	408	(23.8)	414	(13.3)	-6	(18.0)	279	(36.8)	306	(43.7)	355	(32.3)	465	(14.7)	518	(14.4)	548	(14.4)
	Tocantins	383	(21.3)	73	(8.4)	375	(39.0)	391	(7.0)	-16	(33.7)	257	(34.7)	290	(47.4)	336	(35.9)	437	(26.4)	468	(12.5)	499	(8.6)
	Colombia																						
	Bogota	415	(8.1)	82	(3.7)	411	(9.5)	418	(7.7)	-6	(5.7)	279	(12.1)	309	(10.2)	361	(8.6)	467	(7.7)	516	(10.8)	548	(12.4)
	Cali	415	(10.5)	95	(5.9)	401	(8.6)	425	(12.6)	**-24**	(7.4)	251	(25.4)	294	(20.5)	356	(10.2)	482	(12.3)	533	(11.5)	564	(10.4)
	Manizales	417	(4.6)	82	(3.4)	414	(6.0)	420	(4.5)	-6	(5.3)	278	(9.7)	310	(9.4)	361	(7.1)	474	(5.2)	524	(6.1)	547	(7.5)
	Medellin	429	(7.7)	89	(3.4)	421	(8.4)	436	(8.7)	**-15**	(7.6)	286	(10.0)	318	(8.1)	366	(8.4)	490	(9.8)	546	(9.5)	578	(9.8)
	United Arab Emirates																						
	Abu Dhabi•	385	(6.3)	107	(3.9)	355	(8.6)	415	(7.2)	**-61**	(10.2)	208	(9.2)	248	(8.3)	312	(7.2)	458	(7.3)	521	(9.6)	560	(11.6)
	Ajman	357	(12.7)	100	(6.6)	322	(13.4)	390	(16.9)	**-68**	(20.5)	186	(22.0)	220	(24.0)	291	(16.7)	430	(11.4)	488	(8.0)	517	(12.0)
	Dubai•	456	(1.2)	111	(1.1)	439	(1.9)	474	(1.6)	**-35**	(2.5)	269	(3.8)	310	(2.9)	379	(2.8)	537	(2.8)	601	(3.1)	632	(3.9)
	Fujairah	362	(8.8)	96	(3.9)	325	(6.7)	401	(9.9)	**-76**	(12.9)	200	(11.0)	234	(7.6)	295	(8.4)	431	(11.6)	485	(14.7)	515	(15.4)
	Ras Al Khaimah	364	(6.7)	87	(5.8)	343	(11.2)	384	(8.6)	**-42**	(13.1)	217	(22.4)	250	(16.3)	307	(9.8)	424	(8.8)	469	(8.1)	499	(10.1)
	Sharjah	422	(11.5)	99	(5.9)	400	(21.4)	439	(12.9)	-39	(26.3)	260	(19.7)	294	(15.9)	351	(12.5)	491	(13.6)	549	(14.8)	585	(17.1)
	Umm Al Quwain	336	(3.9)	117	(4.2)	266	(6.0)	405	(5.3)	**-139**	(8.1)	140	(26.0)	177	(12.5)	247	(9.5)	421	(6.4)	484	(8.4)	510	(10.0)

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

See Table B3.I.9 for national data.

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[Part 1/2]

Table B3.I.22 Percentage of students at each proficiency level on the combined reading scale, by region

		All students															
		Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to 698.32 score points)		Level 6 (above 698.32 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**																
	Australian Capital Territory	1.0	(0.4)	3.8	(0.8)	6.4	(1.0)	14.9	(1.7)	29.4	(2.1)	29.8	(1.8)	13.4	(1.3)	1.3	(0.5)
	New South Wales	0.5	(0.2)	3.0	(0.4)	8.8	(0.6)	20.7	(0.9)	29.3	(1.0)	24.0	(0.9)	11.5	(1.0)	2.2	(0.5)
	Northern Territory	6.7	(1.6)	6.2	(1.2)	12.1	(2.2)	21.2	(3.5)	24.8	(3.0)	22.3	(3.9)	6.1	(2.5)	0.5	(0.5)
	Queensland	0.5	(0.2)	2.7	(0.5)	10.5	(0.8)	22.5	(1.1)	30.3	(1.2)	23.6	(1.3)	8.6	(0.8)	1.5	(0.4)
	South Australia	0.9	(0.3)	3.2	(0.6)	9.5	(1.2)	23.2	(1.3)	31.0	(1.8)	23.4	(1.8)	7.9	(0.9)	0.9	(0.4)
	Tasmania	2.4	(0.5)	5.2	(0.8)	13.3	(1.4)	26.3	(1.7)	28.2	(2.1)	18.2	(1.5)	5.8	(1.0)	0.6	(0.3)
	Victoria	0.4	(0.2)	1.9	(0.3)	8.6	(0.9)	19.9	(1.4)	32.9	(1.5)	25.0	(1.2)	9.7	(0.9)	1.6	(0.4)
	Western Australia	0.5	(0.2)	1.9	(0.4)	8.2	(0.9)	20.5	(1.2)	30.0	(1.4)	26.0	(1.8)	11.2	(1.4)	1.7	(0.4)
	Belgium																
	Flemish community •	0.8	(0.3)	3.4	(0.4)	9.5	(1.0)	18.9	(1.0)	28.3	(1.1)	28.1	(1.1)	10.3	(0.8)	0.8	(0.2)
	French community	1.7	(0.3)	5.1	(0.7)	12.0	(0.8)	23.3	(1.0)	30.0	(1.2)	22.0	(1.2)	5.7	(0.7)	0.4	(0.2)
	German-speaking community	1.1	(0.4)	3.8	(0.9)	10.0	(1.2)	18.9	(1.6)	32.1	(2.2)	27.1	(1.7)	6.7	(1.0)	0.3	(0.2)
	Canada																
	Alberta	0.2	(0.2)	1.5	(0.6)	6.1	(0.9)	20.2	(1.5)	31.6	(1.6)	27.6	(1.5)	11.4	(1.0)	1.4	(0.4)
	British Columbia	0.0	c	0.6	(0.2)	5.4	(0.8)	15.8	(1.2)	31.9	(1.6)	31.7	(1.9)	12.3	(1.2)	2.3	(0.4)
	Manitoba	0.5	(0.3)	2.6	(0.5)	9.2	(1.0)	26.8	(1.5)	31.7	(1.5)	22.9	(1.3)	6.0	(0.9)	0.4	(0.2)
	New Brunswick	0.3	(0.2)	2.2	(0.5)	9.3	(1.0)	23.9	(1.9)	35.5	(2.3)	22.2	(1.6)	6.1	(0.9)	0.5	(0.4)
	Newfoundland and Labrador	0.5	(0.4)	2.0	(0.7)	9.8	(1.6)	22.6	(1.7)	33.7	(1.9)	22.8	(1.4)	7.4	(1.1)	1.1	(0.4)
	Nova Scotia	0.3	(0.2)	1.6	(0.4)	7.2	(0.9)	20.4	(2.6)	35.1	(2.3)	26.5	(2.4)	8.4	(1.2)	0.6	(0.3)
	Ontario	0.1	(0.1)	1.2	(0.3)	5.7	(0.8)	17.1	(1.2)	32.7	(1.5)	30.6	(1.6)	10.9	(1.2)	1.6	(0.4)
	Prince Edward Island	0.6	(0.3)	3.0	(0.5)	12.2	(1.1)	27.1	(1.4)	35.7	(1.8)	17.1	(1.2)	3.8	(0.6)	0.4	(0.3)
	Quebec	0.6	(0.2)	2.0	(0.4)	7.2	(1.0)	18.7	(1.3)	34.3	(1.3)	28.6	(1.3)	7.9	(0.9)	0.6	(0.2)
	Saskatchewan	0.2	(0.1)	1.6	(0.5)	8.6	(1.0)	23.9	(1.9)	35.2	(1.6)	23.0	(1.3)	7.1	(1.0)	0.5	(0.3)
	Italy																
	Abruzzo	0.0	c	0.8	(0.8)	7.1	(3.4)	23.6	(6.2)	43.6	(6.4)	24.1	(7.3)	0.8	c	0.0	c
	Basilicata	1.5	(1.8)	7.1	(5.1)	15.9	(5.0)	32.7	(7.0)	31.3	(5.9)	10.2	(3.8)	1.3	c	0.0	c
	Bolzano	0.0	c	0.8	(0.8)	5.3	(2.0)	17.0	(3.2)	40.8	(3.8)	28.5	(4.6)	7.2	(2.3)	0.4	(0.5)
	Calabria	1.7	(1.2)	4.4	(2.9)	15.4	(7.2)	29.1	(7.7)	31.8	(5.9)	16.9	(10.3)	0.7	c	0.0	c
	Campania	3.6	(2.0)	7.9	(3.8)	16.0	(4.0)	28.7	(3.4)	29.4	(5.6)	13.3	(3.4)	1.2	(0.7)	0.0	c
	Emilia Romagna	0.8	(1.1)	2.0	(1.7)	7.1	(2.0)	23.4	(4.9)	35.2	(3.1)	24.7	(5.3)	6.6	(2.0)	0.2	c
	Friuli Venezia Giulia	1.3	(1.3)	1.0	(1.4)	5.4	(2.5)	13.4	(3.3)	25.6	(5.0)	37.3	(4.7)	15.0	(2.2)	1.0	(1.1)
	Lazio	0.0	c	3.1	(2.1)	13.8	(3.4)	24.5	(2.9)	31.8	(5.0)	20.6	(3.5)	5.8	(3.2)	0.4	c
	Liguria	0.8	(0.7)	4.9	(2.4)	16.4	(7.6)	26.8	(11.0)	16.3	(5.8)	21.1	(11.1)	11.1	(8.0)	2.5	(2.1)
	Lombardia	0.9	(0.8)	0.9	(0.4)	5.5	(1.5)	18.3	(2.1)	35.0	(3.5)	32.2	(3.7)	7.0	(1.8)	0.2	(0.3)
	Marche	0.0	c	3.7	(2.5)	14.6	(6.7)	18.6	(7.0)	36.8	(6.6)	22.6	(9.7)	3.0	(2.2)	0.7	c
	Molise	1.7	(1.5)	5.7	(3.6)	15.4	(7.7)	18.0	(4.7)	33.8	(7.8)	24.4	(8.5)	1.0	c	0.0	c
	Piemonte	0.8	(0.5)	2.4	(1.1)	10.2	(2.3)	21.0	(3.4)	33.7	(3.3)	26.0	(3.6)	5.9	(2.6)	0.1	c
	Puglia	0.6	(0.7)	7.0	(1.9)	16.5	(1.9)	21.3	(4.2)	27.6	(3.9)	19.7	(3.3)	6.7	(2.7)	0.5	(0.4)
	Sardegna	0.0	c	8.4	(4.8)	18.2	(7.8)	31.3	(8.0)	28.2	(10.3)	12.2	(6.9)	1.7	c	0.0	c
	Sicilia	0.0	c	7.3	(3.0)	20.2	(5.0)	30.3	(5.4)	28.6	(5.1)	12.0	(3.0)	1.6	(1.1)	0.1	c
	Toscana	0.7	(0.8)	3.4	(1.2)	9.7	(2.4)	24.0	(3.8)	32.5	(3.9)	24.3	(3.8)	5.1	(1.9)	0.2	c
	Trento	0.0	c	3.0	(3.0)	6.7	(3.8)	18.3	(3.3)	33.1	(6.9)	29.5	(6.6)	8.3	(3.3)	1.2	(0.8)
	Umbria	1.7	(1.3)	3.7	(2.5)	8.3	(4.1)	18.4	(6.3)	39.1	(7.6)	25.9	(8.0)	2.8	(2.3)	0.2	c
	Valle d'Aosta	0.0	c	2.8	(2.5)	10.8	(5.5)	17.9	(7.4)	37.7	(6.4)	27.3	(8.9)	3.4	(2.6)	0.0	c
	Veneto	1.6	(0.6)	3.3	(1.2)	9.3	(2.8)	17.9	(4.0)	30.7	(4.3)	27.3	(3.5)	9.1	(3.4)	0.8	(0.8)
	Portugal																
	Alentejo	0.4	(0.3)	2.8	(0.9)	11.7	(3.0)	26.2	(2.6)	36.2	(3.8)	20.3	(3.1)	2.3	(1.1)	0.1	c
	Spain																
	Andalusia •	1.7	(0.6)	7.2	(1.9)	18.6	(2.0)	32.5	(2.2)	27.2	(2.7)	11.2	(1.8)	1.6	(0.6)	0.1	c
	Aragon •	1.5	(2.7)	7.4	(8.5)	12.6	(3.8)	23.0	(4.2)	35.4	(10.3)	16.9	(5.3)	3.0	(2.0)	0.2	c
	Asturias •	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Balearic Islands •	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Basque Country •	0.9	(0.3)	3.2	(0.4)	10.7	(0.8)	25.8	(1.2)	35.9	(1.1)	20.3	(1.2)	3.2	(0.4)	0.1	(0.1)
	Cantabria •	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Castile and Leon •	1.9	(1.1)	3.9	(1.8)	11.4	(3.0)	22.2	(4.3)	32.8	(4.4)	23.6	(3.7)	4.1	(1.6)	0.1	c
	Catalonia •	0.7	(0.3)	4.0	(1.1)	12.3	(1.5)	26.5	(2.1)	32.1	(2.1)	20.0	(1.8)	4.2	(1.0)	0.2	(0.2)
	Extremadura •	3.3	(1.9)	8.6	(3.8)	23.0	(4.9)	29.1	(9.7)	24.8	(3.4)	10.1	(2.8)	1.2	(1.2)	0.0	c
	Galicia •	1.4	(1.2)	3.0	(1.6)	14.4	(3.5)	23.2	(3.8)	32.4	(3.7)	21.5	(5.3)	3.5	(1.5)	0.6	c
	La Rioja •	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Madrid •	0.4	(0.4)	3.0	(1.1)	11.3	(2.6)	26.4	(2.8)	35.0	(2.5)	19.6	(2.7)	4.2	(1.6)	0.2	(0.2)
	Murcia •	2.1	(1.9)	9.1	(2.0)	22.2	(4.7)	30.9	(4.4)	20.8	(6.5)	13.0	(3.1)	1.8	(2.3)	0.0	c
	Navarre •	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c

• PISA adjudicated region.
Note: See Table B3.I.10 for national data.
StatLink http://dx.doi.org/10.1787/888932935781



[Part 2/2]

Table B3.I.22 **Percentage of students at each proficiency level on the combined reading scale, by region**

		All students															
		Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to 698.32 score points)		Level 6 (above 698.32 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	**Brazil**																
	Acre	0.8	(0.4)	5.1	(2.3)	22.5	(10.6)	41.9	(7.9)	26.1	(9.1)	3.4	(3.3)	0.1	c	0.0	c
	Alagoas	17.2	(7.8)	29.2	(6.2)	32.9	(8.0)	12.3	(4.7)	7.3	(1.9)	1.0	(0.8)	0.0	c	0.0	c
	Amapá	0.2	(0.4)	7.3	(2.5)	24.8	(9.8)	51.1	(11.2)	13.5	(4.8)	3.0	(3.8)	0.1	c	0.0	c
	Amazonas	8.2	(3.7)	41.2	(5.7)	33.9	(5.5)	10.8	(3.7)	4.7	(5.1)	1.1	(1.3)	0.0	c	0.0	c
	Bahia	9.5	(5.5)	18.4	(8.1)	26.3	(5.2)	24.0	(8.2)	13.9	(3.9)	6.5	(3.9)	1.4	(1.4)	0.0	c
	Ceará	8.3	(5.6)	19.6	(8.9)	29.5	(7.5)	21.8	(7.4)	12.7	(7.0)	7.6	(4.8)	0.5	c	0.0	c
	Espírito Santo	1.9	(2.0)	7.1	(4.2)	19.3	(6.5)	36.8	(8.2)	25.0	(5.5)	7.3	(3.2)	2.1	(2.1)	0.4	(0.5)
	Federal District	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Goiás	2.4	(1.1)	8.9	(2.2)	29.5	(3.9)	39.7	(5.0)	15.3	(2.9)	4.1	(1.4)	0.1	c	0.0	c
	Maranhão	10.2	(11.6)	23.7	(12.9)	36.1	(14.3)	18.9	(10.5)	9.3	(5.2)	1.7	(2.1)	0.0	c	0.0	c
	Mato Grosso	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Mato Grosso do Sul	0.0	c	5.1	(4.3)	25.5	(7.9)	33.4	(7.7)	26.9	(6.3)	8.3	(2.5)	0.9	c	0.0	c
	Minas Gerais	1.4	(1.1)	6.9	(2.1)	24.6	(4.7)	37.2	(4.6)	23.1	(5.6)	6.3	(3.9)	0.4	c	0.0	c
	Pará	6.7	(6.9)	23.8	(8.7)	28.6	(8.9)	22.3	(6.0)	14.8	(7.5)	3.6	(2.9)	0.1	c	0.0	c
	Paraíba	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Paraná	3.0	(3.0)	9.0	(4.0)	27.3	(5.1)	32.4	(5.3)	20.2	(4.0)	7.2	(3.0)	1.0	(1.0)	0.0	c
	Pernambuco	2.6	(1.8)	13.5	(4.6)	36.1	(8.3)	33.7	(6.4)	13.2	(4.5)	0.9	(1.3)	0.0	c	0.0	c
	Piauí	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Rio de Janeiro	1.4	(1.3)	8.9	(4.3)	24.1	(5.8)	34.3	(7.9)	25.1	(4.7)	5.9	(2.4)	0.4	c	0.0	c
	Rio Grande do Norte	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Rio Grande do Sul	0.0	c	5.9	(2.7)	24.6	(5.4)	37.4	(4.8)	25.5	(6.4)	6.0	(3.6)	0.5	(0.6)	0.1	c
	Rondônia	4.4	(1.9)	19.5	(4.0)	32.8	(5.3)	35.1	(6.9)	7.6	(5.8)	0.6	(1.0)	0.0	c	0.0	c
	Roraima	1.3	(1.6)	7.5	(4.1)	33.2	(5.2)	38.7	(4.8)	14.9	(6.3)	4.2	(2.1)	0.2	c	0.0	c
	Santa Catarina	3.6	(4.7)	17.2	(12.4)	20.6	(7.0)	32.4	(10.4)	20.4	(9.5)	5.6	(3.5)	0.1	c	0.0	c
	São Paulo	1.0	(0.5)	7.8	(1.4)	26.3	(2.0)	34.8	(2.0)	23.3	(2.3)	6.3	(1.5)	0.5	(0.4)	0.0	c
	Sergipe	0.0	c	18.5	(8.9)	32.8	(6.0)	28.1	(10.0)	15.4	(4.0)	3.6	(1.4)	0.5	(0.6)	1.1	c
	Tocantins	4.1	(4.1)	19.7	(12.1)	38.4	(6.1)	30.3	(10.9)	7.1	(3.1)	0.4	(0.2)	0.0	c	0.0	c
	Colombia																
	Bogota	1.5	(0.5)	10.9	(1.5)	31.0	(2.2)	38.0	(2.5)	16.0	(2.2)	2.6	(0.8)	0.2	(0.2)	0.0	c
	Cali	3.3	(1.1)	13.7	(2.6)	31.7	(2.8)	30.6	(2.3)	16.8	(2.6)	3.7	(1.1)	0.2	(0.2)	0.0	c
	Manizales	1.4	(0.5)	9.3	(1.3)	29.9	(1.9)	37.6	(3.1)	18.3	(2.0)	3.4	(1.1)	0.2	(0.2)	0.0	c
	Medellin	1.6	(0.6)	10.9	(1.6)	31.0	(2.4)	31.8	(2.2)	17.7	(2.2)	6.0	(1.6)	1.1	(0.6)	0.0	c
	United Arab Emirates																
	Abu Dhabi •	6.5	(1.0)	16.3	(1.3)	26.2	(1.2)	27.8	(1.3)	16.7	(1.4)	5.6	(1.0)	0.8	(0.3)	0.1	(0.1)
	Ajman	7.9	(2.7)	21.6	(3.3)	28.8	(2.9)	27.1	(3.3)	13.2	(2.2)	1.3	(0.7)	0.0	c	0.0	c
	Dubai •	2.7	(0.2)	8.4	(0.4)	18.3	(0.8)	26.1	(0.8)	24.2	(0.9)	15.8	(0.8)	4.1	(0.4)	0.3	(0.1)
	Fujairah	7.6	(1.5)	20.5	(2.8)	28.4	(2.5)	28.3	(2.9)	13.5	(2.6)	1.8	(0.9)	0.1	c	0.0	c
	Ras Al Khaimah	6.2	(1.8)	18.2	(2.1)	32.5	(2.7)	31.7	(2.6)	9.6	(1.8)	1.7	(0.7)	0.2	(0.3)	0.0	c
	Sharjah	1.8	(1.0)	10.5	(2.3)	25.2	(3.4)	30.4	(2.5)	23.9	(3.0)	7.4	(1.6)	0.8	(0.5)	0.0	c
	Umm Al Quwain	13.4	(1.9)	26.9	(2.9)	23.0	(2.6)	24.0	(2.7)	10.5	(2.0)	2.0	(0.9)	0.2	c	0.0	c

• PISA adjudicated region.

Note: See Table B3.I.10 for national data.

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[Part 1/4]

Table B3.I.23 Percentage of students at each proficiency level on the combined reading scale, by gender and region

		Boys															
		Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to 698.32 score points)		Level 6 (above 698.32 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**																
	Australian Capital Territory	1.7	(0.7)	6.1	(1.3)	9.2	(1.7)	17.9	(2.7)	30.0	(2.7)	25.2	(2.9)	9.3	(1.9)	0.7	(0.4)
	New South Wales	0.8	(0.4)	4.7	(0.8)	12.2	(1.0)	23.5	(1.4)	28.0	(1.5)	19.9	(1.5)	9.1	(1.3)	1.8	(0.6)
	Northern Territory	7.4	(1.8)	7.6	(2.0)	15.4	(3.3)	22.0	(4.9)	22.5	(4.3)	19.3	(4.0)	4.9	(2.7)	0.8	c
	Queensland	0.8	(0.3)	4.1	(0.8)	13.9	(1.3)	24.2	(1.3)	29.3	(1.5)	20.5	(1.7)	6.5	(1.0)	0.8	(0.3)
	South Australia	1.6	(0.6)	4.1	(1.0)	11.7	(1.8)	24.7	(1.6)	31.9	(2.4)	19.9	(2.2)	5.5	(1.0)	0.6	(0.5)
	Tasmania	3.6	(0.9)	6.4	(1.1)	15.6	(2.0)	27.4	(2.5)	27.1	(2.7)	15.8	(2.0)	3.9	(1.2)	0.3	(0.3)
	Victoria	0.5	(0.3)	2.7	(0.6)	11.2	(1.2)	22.5	(1.5)	33.1	(1.7)	21.6	(1.4)	7.0	(1.2)	1.5	(0.7)
	Western Australia	0.6	(0.3)	2.5	(0.5)	9.2	(1.2)	22.7	(1.8)	29.5	(2.0)	25.0	(2.1)	9.4	(1.8)	1.2	(0.5)
	Belgium																
	Flemish community•	1.2	(0.4)	4.3	(0.6)	11.2	(1.5)	20.7	(1.4)	28.5	(1.4)	24.9	(1.4)	8.7	(0.9)	0.4	(0.2)
	French community	2.7	(0.6)	7.0	(1.1)	14.2	(1.1)	24.0	(1.6)	28.7	(1.7)	18.9	(1.3)	4.3	(0.7)	0.3	(0.2)
	German-speaking community	1.9	(0.7)	6.0	(1.3)	14.7	(2.0)	21.6	(2.5)	28.6	(2.6)	22.2	(1.9)	4.8	(1.2)	0.2	c
	Canada																
	Alberta	0.4	(0.4)	2.3	(0.9)	7.7	(1.4)	22.8	(1.9)	31.8	(2.1)	24.2	(2.5)	9.6	(1.4)	1.1	(0.6)
	British Columbia	0.0	c	1.0	(0.5)	6.7	(0.9)	18.3	(1.9)	32.1	(2.4)	29.5	(2.1)	10.4	(1.3)	2.0	(0.6)
	Manitoba	0.9	(0.6)	3.7	(0.8)	11.6	(1.3)	29.6	(2.0)	30.6	(2.2)	19.0	(1.6)	4.3	(1.0)	0.2	(0.1)
	New Brunswick	0.4	(0.3)	3.4	(0.8)	13.0	(1.8)	27.7	(2.6)	33.3	(3.1)	18.1	(2.7)	4.0	(0.9)	0.2	c
	Newfoundland and Labrador	1.0	(0.8)	3.4	(1.5)	14.1	(2.3)	25.6	(2.2)	32.0	(2.3)	18.6	(2.0)	4.7	(1.2)	0.7	(0.6)
	Nova Scotia	0.4	(0.2)	2.1	(0.7)	10.5	(1.3)	23.5	(3.4)	33.5	(3.1)	23.4	(4.1)	6.2	(1.7)	0.3	(0.3)
	Ontario	0.2	(0.1)	1.8	(0.4)	7.8	(1.1)	20.5	(1.7)	33.1	(1.8)	27.1	(1.9)	8.5	(1.2)	1.0	(0.3)
	Prince Edward Island	1.1	(0.6)	4.8	(0.9)	16.4	(1.7)	28.6	(2.2)	32.9	(2.3)	13.4	(1.4)	2.6	(0.9)	0.2	c
	Quebec	0.7	(0.3)	2.9	(0.6)	9.8	(1.4)	21.4	(1.8)	34.7	(1.6)	24.5	(1.7)	5.6	(0.9)	0.4	(0.2)
	Saskatchewan	0.3	(0.2)	2.4	(0.7)	11.9	(1.5)	26.7	(3.1)	33.1	(2.3)	19.9	(1.7)	5.3	(1.2)	0.3	(0.3)
	Italy																
	Abruzzo	0.0	c	1.8	(1.8)	11.5	(6.7)	26.2	(7.2)	37.7	(9.5)	22.1	(7.8)	0.2	c	0.4	c
	Basilicata	2.6	(3.1)	12.1	(8.0)	17.5	(8.8)	27.4	(10.5)	26.2	(6.2)	12.3	(4.0)	0.0	c	1.8	c
	Bolzano	0.0	c	1.2	(1.5)	7.1	(2.3)	17.7	(5.6)	36.1	(5.0)	28.6	(8.6)	8.4	(4.5)	0.9	c
	Calabria	1.9	(1.7)	4.9	(3.2)	23.7	(10.2)	28.8	(8.2)	25.0	(8.0)	14.5	(7.3)	1.2	c	0.0	c
	Campania	5.0	(2.8)	11.2	(5.0)	20.0	(4.9)	26.6	(4.4)	23.6	(5.6)	12.5	(4.0)	1.0	(0.7)	0.0	c
	Emilia Romagna	1.5	(1.9)	3.3	(3.0)	6.4	(2.7)	23.0	(7.0)	31.8	(5.0)	26.6	(8.5)	6.9	(2.9)	0.4	c
	Friuli Venezia Giulia	2.9	(3.1)	0.0	c	7.7	(5.6)	16.6	(4.7)	31.0	(8.4)	31.3	(7.0)	8.9	(4.1)	1.7	c
	Lazio	0.0	c	4.5	(3.6)	18.9	(5.0)	27.0	(3.3)	31.6	(6.5)	14.8	(3.2)	3.0	(1.9)	0.3	c
	Liguria	1.0	(0.9)	6.3	(3.1)	16.4	(7.9)	27.9	(11.7)	15.9	(5.9)	19.0	(11.4)	11.3	(8.4)	2.2	c
	Lombardia	1.8	(1.6)	1.4	(0.7)	9.3	(2.9)	24.1	(3.7)	33.2	(3.7)	25.2	(3.9)	4.8	(1.4)	0.2	c
	Marche	0.0	c	3.9	(3.1)	14.6	(6.8)	18.7	(6.5)	41.0	(8.3)	18.7	(6.7)	2.0	(1.8)	1.0	c
	Molise	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Piemonte	1.6	(1.0)	3.8	(2.1)	10.7	(4.0)	22.5	(5.1)	33.0	(4.4)	23.2	(5.5)	5.0	(3.0)	0.1	c
	Puglia	1.0	(1.2)	8.6	(3.5)	17.7	(5.4)	20.5	(5.3)	27.7	(6.4)	17.3	(6.5)	7.0	(3.7)	0.2	c
	Sardegna	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Sicilia	0.0	c	11.1	(4.7)	22.9	(6.6)	29.0	(6.7)	26.2	(5.5)	9.5	(2.6)	1.2	(1.0)	0.2	c
	Toscana	1.5	(1.7)	4.8	(2.4)	10.5	(4.3)	28.3	(5.7)	28.7	(4.9)	20.6	(4.6)	5.2	(2.3)	0.3	c
	Trento	0.0	c	3.4	(3.7)	9.6	(5.9)	21.9	(3.4)	33.9	(6.8)	26.3	(7.5)	3.9	(3.2)	1.1	c
	Umbria	3.1	(2.4)	5.3	(4.1)	11.0	(6.4)	15.3	(6.6)	43.0	(11.9)	20.5	(8.1)	1.7	(1.9)	0.0	c
	Valle d'Aosta	0.0	c	3.9	(3.7)	13.8	(7.8)	18.8	(7.1)	35.6	(8.1)	23.9	(10.0)	3.9	(3.1)	0.0	c
	Veneto	2.3	(1.1)	5.0	(2.1)	12.9	(5.0)	19.8	(3.4)	27.2	(6.0)	24.1	(5.2)	8.4	(3.6)	0.2	c
	Portugal																
	Alentejo	0.8	(0.4)	3.9	(1.4)	14.9	(4.1)	27.9	(3.2)	32.3	(4.5)	18.5	(3.4)	1.8	(1.4)	0.0	c
	Spain																
	Andalusia •	2.7	(0.9)	10.3	(2.7)	20.3	(2.6)	31.1	(2.9)	23.5	(3.1)	10.4	(2.0)	1.6	(0.8)	0.0	c
	Aragon•	2.4	(3.8)	9.4	(8.5)	16.3	(5.8)	30.4	(4.8)	25.2	(10.4)	14.4	(7.6)	1.8	(2.5)	0.2	c
	Asturias•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Balearic Islands•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Basque Country•	1.2	(0.5)	4.4	(0.6)	14.0	(1.1)	27.6	(1.4)	33.7	(1.6)	16.7	(1.3)	2.5	(0.5)	0.0	c
	Cantabria•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Castile and Leon•	4.0	(2.2)	7.0	(3.2)	14.8	(4.9)	22.8	(5.4)	27.3	(5.0)	19.1	(4.3)	5.0	(2.7)	0.0	c
	Catalonia•	1.2	(0.6)	5.7	(1.7)	15.2	(2.0)	26.6	(2.6)	30.7	(2.7)	16.4	(2.0)	4.0	(1.5)	0.2	c
	Extremadura•	5.1	(1.5)	10.5	(5.4)	29.9	(9.0)	27.6	(12.1)	19.1	(7.2)	7.2	(2.3)	0.6	c	0.0	c
	Galicia•	2.8	(2.1)	5.1	(3.0)	23.3	(4.7)	26.8	(4.5)	25.1	(3.7)	12.7	(4.8)	3.4	(2.2)	0.8	c
	La Rioja•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Madrid•	0.8	(0.6)	3.7	(2.0)	13.9	(4.2)	30.0	(4.5)	32.1	(4.3)	16.4	(3.4)	3.0	(1.3)	0.0	c
	Murcia•	0.0	c	11.9	(3.3)	24.2	(7.6)	31.9	(6.9)	21.3	(9.2)	7.4	(2.6)	3.2	c	0.0	c
	Navarre•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c

• PISA adjudicated region.

Note: See Table B3.I.11 for national data.

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[Part 2/4]

Table B3.I.23 Percentage of students at each proficiency level on the combined reading scale, by gender and region

		Boys															
		Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to 698.32 score points)		Level 6 (above 698.32 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	**Brazil**																
	Acre	1.2	(0.5)	9.6	(3.3)	25.5	(16.0)	43.7	(11.5)	18.3	(12.9)	1.5	(2.5)	0.2	c	0.0	c
	Alagoas	23.1	(9.3)	30.9	(9.5)	34.0	(12.1)	7.1	(5.9)	4.3	(1.3)	0.5	c	0.0	c	0.0	c
	Amapá	0.0	c	8.5	(4.7)	35.5	(14.8)	50.5	(15.0)	4.8	(6.5)	0.7	c	0.0	c	0.0	c
	Amazonas	13.3	(4.5)	52.7	(8.0)	20.8	(5.2)	8.8	(3.2)	3.8	(5.1)	0.6	c	0.0	c	0.0	c
	Bahia	11.8	(5.9)	19.6	(8.4)	26.5	(9.2)	21.2	(7.6)	12.8	(4.7)	6.7	(5.0)	1.4	(1.7)	0.0	c
	Ceará	11.2	(8.4)	19.6	(9.1)	24.9	(7.8)	20.7	(7.9)	15.5	(8.0)	7.5	(4.1)	0.6	c	0.0	c
	Espírito Santo	0.0	c	10.7	(6.5)	25.0	(8.5)	37.2	(7.2)	19.9	(5.1)	3.8	(2.5)	3.4	c	0.0	c
	Federal District	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Goiás	4.2	(2.8)	8.6	(3.2)	29.6	(6.2)	38.8	(7.0)	14.7	(4.5)	4.2	(2.1)	0.0	c	0.0	c
	Maranhão	15.0	(17.4)	21.7	(8.9)	43.8	(22.6)	8.7	(4.2)	8.4	(4.7)	2.3	(3.1)	0.0	c	0.0	c
	Mato Grosso	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Mato Grosso do Sul	0.0	c	6.5	(6.3)	22.4	(7.2)	35.8	(7.3)	25.9	(8.2)	7.6	(4.5)	1.9	c	0.0	c
	Minas Gerais	2.9	(2.3)	8.8	(3.5)	29.0	(6.0)	35.2	(4.9)	18.0	(5.8)	5.3	(3.8)	0.8	c	0.0	c
	Pará	12.1	(10.0)	32.0	(9.9)	21.6	(6.7)	23.0	(12.9)	11.4	(8.4)	0.0	c	0.0	c	0.0	c
	Paraíba	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Paraná	5.8	(5.5)	11.9	(4.4)	31.2	(4.7)	27.8	(6.4)	16.0	(4.3)	6.9	(3.2)	0.4	c	0.0	c
	Pernambuco	3.3	(2.3)	20.3	(5.6)	40.8	(8.8)	27.7	(9.4)	7.4	(4.6)	0.4	c	0.0	c	0.0	c
	Piauí	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Rio de Janeiro	0.0	c	9.2	(5.3)	29.5	(7.7)	34.2	(9.2)	20.4	(6.4)	5.3	(3.8)	1.4	c	0.0	c
	Rio Grande do Norte	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Rio Grande do Sul	0.0	c	9.2	(4.2)	28.6	(7.2)	33.9	(7.4)	21.7	(7.3)	6.4	(4.2)	0.2	c	0.0	c
	Rondônia	6.9	(2.3)	17.0	(3.6)	25.1	(8.1)	38.3	(10.6)	11.9	(7.9)	0.8	(1.3)	0.0	c	0.0	c
	Roraima	2.8	(3.5)	7.1	(4.7)	33.7	(10.4)	41.7	(8.9)	12.9	(4.7)	1.8	(1.0)	0.0	c	0.0	c
	Santa Catarina	5.6	(6.6)	20.6	(12.8)	25.5	(7.4)	30.3	(10.0)	14.6	(9.2)	3.4	(3.4)	0.0	c	0.0	c
	São Paulo	1.6	(0.8)	9.4	(2.0)	30.7	(2.5)	33.5	(3.1)	18.7	(2.0)	5.7	(1.7)	0.5	(0.5)	0.0	c
	Sergipe	0.0	c	22.6	(18.3)	32.1	(12.0)	19.5	(12.2)	18.5	(8.8)	4.3	(1.7)	1.1	(1.3)	2.0	c
	Tocantins	6.7	(6.8)	28.0	(17.1)	31.4	(7.1)	24.8	(16.2)	9.0	(6.6)	0.2	c	0.0	c	0.0	c
	Colombia																
	Bogota	1.9	(0.7)	13.1	(2.3)	31.1	(3.2)	35.3	(2.7)	15.5	(2.5)	2.9	(1.2)	0.2	(0.3)	0.0	c
	Cali	4.0	(1.5)	16.2	(2.9)	36.0	(3.7)	28.1	(2.6)	13.1	(2.3)	2.5	(1.0)	0.1	c	0.0	c
	Manizales	2.0	(0.9)	11.0	(1.7)	30.6	(2.8)	35.4	(3.6)	17.2	(3.0)	3.6	(1.3)	0.3	(0.3)	0.0	c
	Medellin	1.9	(0.8)	12.7	(2.5)	32.7	(3.3)	31.0	(2.8)	16.0	(2.4)	5.2	(1.6)	0.5	(0.4)	0.0	c
	United Arab Emirates																
	Abu Dhabi •	11.7	(1.8)	24.5	(1.7)	28.0	(1.8)	20.1	(1.6)	11.2	(1.5)	3.8	(1.0)	0.6	(0.4)	0.0	c
	Ajman	14.3	(4.8)	32.0	(4.2)	29.3	(5.0)	18.9	(4.1)	5.2	(2.0)	0.2	c	0.0	c	0.0	c
	Dubai •	4.5	(0.5)	12.1	(0.7)	21.0	(1.0)	25.1	(1.1)	21.1	(1.1)	12.8	(0.8)	3.2	(0.6)	0.2	(0.2)
	Fujairah	13.4	(2.4)	33.2	(2.7)	29.8	(3.2)	15.7	(2.7)	6.9	(1.7)	0.8	(0.7)	0.1	c	0.0	c
	Ras Al Khaimah	11.5	(3.9)	25.1	(2.7)	31.6	(4.2)	25.7	(3.6)	5.4	(1.7)	0.7	(0.5)	0.1	c	0.0	c
	Sharjah	3.2	(2.2)	14.5	(4.8)	28.6	(5.0)	30.2	(5.2)	17.1	(4.7)	5.3	(2.8)	1.1	(1.0)	0.0	c
	Umm Al Quwain	26.2	(3.9)	43.4	(5.2)	19.8	(4.0)	8.4	(2.6)	1.7	(0.9)	0.5	(0.5)	0.0	c	0.0	c

• PISA adjudicated region.

Note: See Table B3.I.11 for national data.

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[Part 3/4]

Table B3.I.23 Percentage of students at each proficiency level on the combined reading scale, by gender and region

		Girls															
		Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to 698.32 score points)		Level 6 (above 698.32 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Australia**																
	Australian Capital Territory	0.4	(0.4)	1.4	(0.6)	3.6	(1.2)	11.9	(1.9)	28.7	(3.0)	34.6	(3.0)	17.6	(2.5)	1.9	(0.9)
	New South Wales	0.1	(0.1)	1.3	(0.4)	5.2	(0.8)	17.9	(1.3)	30.6	(1.7)	28.2	(1.5)	14.0	(1.4)	2.7	(0.7)
	Northern Territory	6.0	(1.8)	4.9	(1.7)	9.0	(2.6)	20.4	(4.2)	27.0	(4.1)	25.2	(5.2)	7.3	(4.0)	0.2	c
	Queensland	0.2	(0.1)	1.2	(0.4)	7.0	(1.1)	20.8	(1.5)	31.3	(1.7)	26.7	(1.9)	10.7	(1.4)	2.2	(0.7)
	South Australia	0.3	(0.2)	2.3	(0.7)	7.3	(1.3)	21.8	(1.9)	30.1	(2.1)	26.9	(2.7)	10.3	(1.6)	1.1	(0.6)
	Tasmania	1.1	(0.6)	3.9	(1.1)	10.8	(1.7)	25.1	(2.4)	29.4	(3.2)	20.8	(2.9)	7.9	(1.8)	0.9	(0.5)
	Victoria	0.3	(0.1)	1.0	(0.5)	5.6	(1.2)	17.0	(2.0)	32.7	(2.2)	29.0	(1.9)	12.7	(1.7)	1.7	(0.5)
	Western Australia	0.5	(0.3)	1.3	(0.6)	7.1	(1.2)	18.2	(1.6)	30.5	(2.3)	27.1	(2.6)	13.1	(2.1)	2.2	(0.7)
	Belgium																
	Flemish community•	0.4	(0.2)	2.4	(0.7)	7.7	(1.1)	17.0	(1.3)	28.0	(1.6)	31.4	(1.6)	11.9	(1.0)	1.2	(0.3)
	French community	0.6	(0.2)	3.1	(0.7)	9.8	(1.1)	22.6	(1.3)	31.3	(1.5)	25.1	(1.7)	7.1	(1.1)	0.4	(0.3)
	German-speaking community	0.2	c	1.4	(0.8)	4.9	(1.2)	16.1	(2.0)	35.8	(3.2)	32.5	(2.9)	8.7	(1.6)	0.4	(0.3)
	Canada																
	Alberta	0.0	c	0.6	(0.5)	4.3	(1.1)	17.3	(2.2)	31.5	(1.9)	31.3	(2.0)	13.4	(1.6)	1.6	(0.6)
	British Columbia	0.0	c	0.1	(0.2)	4.1	(0.8)	13.4	(1.3)	31.7	(2.0)	33.9	(2.4)	14.1	(1.8)	2.6	(0.7)
	Manitoba	0.0	c	1.3	(0.6)	6.6	(1.4)	23.7	(1.9)	32.8	(2.0)	27.1	(1.9)	7.8	(1.2)	0.6	(0.3)
	New Brunswick	0.0	c	1.0	(0.4)	5.6	(0.9)	20.0	(2.2)	37.8	(3.6)	26.4	(2.8)	8.3	(1.6)	0.9	(0.9)
	Newfoundland and Labrador	0.0	c	0.6	(0.3)	5.7	(1.5)	19.6	(2.2)	35.4	(3.1)	27.0	(2.2)	10.1	(1.6)	1.6	(0.6)
	Nova Scotia	0.0	c	1.0	(0.4)	3.8	(1.0)	17.1	(2.8)	36.8	(3.6)	29.7	(2.1)	10.7	(1.5)	0.9	(0.4)
	Ontario	0.0	(0.0)	0.6	(0.4)	3.7	(0.7)	13.9	(1.3)	32.4	(2.2)	34.1	(2.1)	13.1	(1.4)	2.2	(0.6)
	Prince Edward Island	0.0	c	1.1	(0.5)	7.9	(1.3)	25.5	(1.8)	38.6	(2.2)	21.0	(2.1)	5.1	(0.9)	0.8	(0.6)
	Quebec	0.5	(0.2)	1.0	(0.3)	4.8	(0.9)	16.1	(1.4)	33.9	(1.7)	32.6	(1.8)	10.3	(1.4)	0.8	(0.3)
	Saskatchewan	0.0	c	0.6	(0.6)	5.0	(1.0)	20.9	(1.8)	37.6	(2.4)	26.4	(2.2)	8.9	(1.3)	0.6	(0.5)
	Italy																
	Abruzzo	0.0	c	0.0	c	3.9	(2.6)	21.7	(7.9)	48.0	(7.2)	25.5	(9.7)	0.9	c	0.0	c
	Basilicata	0.0	c	0.0	c	13.8	(4.9)	39.6	(12.3)	37.8	(8.5)	7.4	(7.8)	1.4	c	0.0	c
	Bolzano	0.0	c	0.0	c	4.0	(2.7)	16.5	(4.0)	44.1	(5.0)	28.4	(4.7)	6.4	(3.4)	0.6	c
	Calabria	1.5	(1.5)	4.0	(3.5)	8.4	(4.5)	29.3	(10.5)	37.6	(6.7)	18.9	(14.2)	0.3	c	0.0	c
	Campania	2.2	(1.8)	4.6	(3.1)	11.9	(4.1)	30.8	(4.2)	35.2	(6.3)	14.0	(3.7)	1.3	(1.2)	0.0	c
	Emilia Romagna	0.0	c	0.6	(0.8)	7.9	(3.7)	23.8	(5.2)	39.2	(4.0)	22.3	(5.0)	6.1	(1.9)	0.0	c
	Friuli Venezia Giulia	0.0	c	0.4	(0.5)	3.5	(1.7)	10.8	(4.2)	21.1	(6.4)	42.3	(8.5)	20.1	(3.8)	1.8	(2.0)
	Lazio	0.0	c	0.0	c	5.9	(3.0)	20.6	(6.1)	32.2	(7.3)	29.6	(7.0)	10.1	(5.5)	1.6	c
	Liguria	0.0	c	2.2	(2.0)	16.4	(9.0)	24.8	(12.0)	17.0	(8.9)	24.9	(12.7)	10.9	(9.5)	3.8	c
	Lombardia	0.0	c	0.0	c	1.5	(0.7)	12.3	(2.8)	36.9	(5.4)	39.4	(4.7)	9.3	(2.9)	0.6	c
	Marche	0.0	c	3.2	(3.4)	14.6	(9.6)	18.2	(11.2)	26.3	(5.8)	32.4	(17.5)	5.5	(4.6)	0.0	c
	Molise	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Piemonte	0.0	c	1.0	(0.9)	9.6	(4.1)	19.4	(4.2)	34.3	(4.8)	28.8	(5.6)	6.8	(3.8)	0.0	c
	Puglia	0.0	c	5.1	(5.1)	14.9	(5.1)	22.3	(4.3)	27.5	(5.5)	22.6	(4.0)	6.4	(2.4)	1.1	c
	Sardegna	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Sicilia	0.0	c	0.0	c	15.3	(6.8)	32.5	(5.9)	32.9	(7.8)	16.4	(6.0)	2.3	(2.4)	0.6	c
	Toscana	0.0	c	2.2	(1.8)	9.0	(2.8)	20.1	(5.9)	35.9	(6.4)	27.7	(7.0)	5.0	(2.9)	0.1	c
	Trento	0.0	c	2.4	(2.3)	2.2	(2.2)	12.5	(4.3)	31.8	(10.5)	34.5	(8.1)	15.2	(5.0)	1.4	c
	Umbria	0.0	c	1.7	(1.2)	5.0	(3.0)	22.1	(7.9)	34.4	(5.4)	32.4	(9.5)	4.0	(4.1)	0.4	c
	Valle d'Aosta	0.0	c	0.0	c	6.3	(4.6)	16.4	(9.8)	41.0	(5.7)	32.4	(9.6)	2.7	(2.6)	1.2	c
	Veneto	0.7	(0.8)	1.4	(1.4)	5.3	(2.1)	15.9	(6.3)	34.6	(7.6)	30.9	(7.1)	9.8	(4.8)	1.4	(1.5)
	Portugal																
	Alentejo	0.0	c	1.7	(1.0)	8.4	(2.6)	24.6	(3.6)	40.1	(4.6)	22.2	(4.0)	2.8	(1.1)	0.3	c
	Spain																
	Andalusia•	0.5	(0.4)	3.9	(1.4)	16.8	(2.4)	33.9	(3.0)	31.2	(2.9)	12.0	(2.1)	1.6	(0.7)	0.1	c
	Aragon•	0.0	c	5.7	(9.1)	9.3	(4.2)	16.7	(4.9)	44.2	(10.1)	19.0	(7.2)	4.1	(2.4)	1.0	c
	Asturias•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Balearic Islands•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Basque Country•	0.5	(0.2)	2.0	(0.5)	7.4	(0.8)	24.0	(1.5)	38.1	(1.2)	24.0	(1.6)	3.9	(0.6)	0.2	(0.2)
	Cantabria•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Castile and Leon•	0.0	c	1.1	(0.7)	8.2	(3.1)	21.6	(5.1)	38.0	(5.0)	27.8	(5.5)	3.2	(1.6)	0.2	c
	Catalonia•	0.0	c	2.1	(0.8)	9.2	(1.7)	26.3	(2.8)	33.6	(3.0)	24.0	(2.5)	4.4	(1.2)	0.4	(0.3)
	Extremadura•	1.7	(2.7)	6.9	(5.3)	16.9	(6.2)	30.4	(8.5)	29.8	(4.7)	12.6	(5.2)	1.8	c	0.0	c
	Galicia•	0.0	c	1.4	(1.2)	7.5	(3.8)	20.5	(6.4)	38.0	(6.5)	28.3	(6.9)	3.6	(2.0)	0.7	c
	La Rioja•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Madrid•	0.0	c	2.3	(1.0)	8.7	(1.8)	22.7	(2.6)	37.8	(3.7)	22.7	(3.3)	5.4	(2.3)	0.4	(0.4)
	Murcia•	0.0	c	6.0	(3.4)	20.0	(6.0)	29.7	(7.9)	20.4	(6.7)	19.2	(4.4)	4.8	c	0.0	c
	Navarre•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c

• PISA adjudicated region.

Note: See Table B3.I.11 for national data.

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[Part 4/4]

Table B3.I.23 Percentage of students at each proficiency level on the combined reading scale, by gender and region

		Girls															
		Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to 698.32 score points)		Level 6 (above 698.32 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	**Brazil**																
	Acre	0.5	(0.6)	2.1	(2.5)	20.4	(8.6)	40.7	(10.1)	31.4	(9.0)	4.7	(5.4)	0.0	c	0.0	c
	Alagoas	11.5	(8.5)	27.5	(7.3)	31.8	(7.7)	17.4	(6.1)	10.3	(4.1)	1.5	c	0.0	c	0.0	c
	Amapá	0.0	c	6.3	(1.1)	15.6	(9.3)	51.7	(11.7)	20.9	(4.0)	5.1	(7.0)	0.4	c	0.0	c
	Amazonas	0.0	c	25.9	(4.3)	51.5	(10.5)	13.5	(5.7)	6.0	(6.6)	1.7	(2.2)	1.4	c	0.0	c
	Bahia	7.6	(5.7)	17.4	(9.4)	26.2	(5.5)	26.4	(11.4)	14.8	(5.6)	6.3	(3.5)	1.4	(1.6)	0.0	c
	Ceará	5.0	(4.2)	19.7	(10.8)	34.7	(9.6)	23.0	(8.5)	9.5	(6.8)	7.7	(6.3)	0.4	c	0.0	c
	Espírito Santo	0.0	c	3.5	(3.1)	13.4	(7.0)	36.5	(11.3)	30.2	(9.3)	11.0	(5.0)	3.1	(3.3)	2.3	(0.9)
	Federal District	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Goiás	0.8	(0.9)	9.1	(3.8)	29.4	(7.5)	40.6	(6.2)	15.8	(5.6)	4.0	(2.3)	0.2	c	0.0	c
	Maranhão	6.0	(7.0)	25.4	(18.0)	29.5	(9.2)	27.8	(17.2)	10.1	(6.8)	1.2	(1.7)	0.0	c	0.0	c
	Mato Grosso	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Mato Grosso do Sul	0.0	c	3.7	(3.5)	28.4	(9.2)	31.2	(9.5)	27.7	(7.6)	9.0	(3.2)	0.0	c	0.0	c
	Minas Gerais	0.0	c	5.1	(1.7)	20.6	(4.9)	39.1	(7.2)	27.7	(7.8)	7.3	(4.4)	0.2	c	0.0	c
	Pará	2.8	(3.5)	17.7	(8.5)	33.9	(11.0)	21.7	(4.0)	17.4	(7.5)	6.3	(5.0)	0.3	c	0.0	c
	Paraíba	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Paraná	0.0	c	6.0	(3.9)	23.4	(6.6)	36.9	(6.3)	24.3	(4.9)	7.5	(3.2)	1.7	(1.4)	0.2	c
	Pernambuco	2.0	(1.8)	7.3	(4.5)	31.8	(11.0)	39.2	(9.0)	18.4	(6.5)	1.3	(1.9)	0.0	c	0.0	c
	Piauí	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Rio de Janeiro	0.0	c	8.6	(5.3)	19.1	(5.3)	34.4	(8.1)	29.5	(4.5)	6.5	(3.6)	2.0	c	0.0	c
	Rio Grande do Norte	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Rio Grande do Sul	0.0	c	3.2	(2.4)	21.2	(7.0)	40.3	(5.2)	28.6	(8.1)	5.7	(3.8)	1.0	(1.2)	0.0	c
	Rondônia	0.0	c	21.5	(5.9)	38.8	(10.0)	32.5	(7.5)	4.2	(7.0)	3.0	c	0.0	c	0.0	c
	Roraima	0.0	(0.0)	7.8	(5.2)	32.7	(8.7)	36.2	(6.9)	16.7	(9.1)	6.1	(3.7)	0.4	c	0.0	c
	Santa Catarina	0.0	c	13.7	(13.3)	15.5	(9.9)	34.7	(13.1)	26.6	(11.0)	7.8	(5.2)	1.8	c	0.0	c
	São Paulo	0.5	(0.4)	6.2	(1.6)	22.1	(2.6)	36.0	(2.4)	27.8	(3.1)	6.9	(2.0)	0.6	(0.4)	0.0	c
	Sergipe	0.0	c	15.6	(7.4)	33.3	(9.9)	33.9	(10.7)	13.4	(4.2)	3.1	(1.6)	0.7	c	0.0	c
	Tocantins	1.7	(2.5)	12.2	(10.2)	44.7	(12.1)	35.3	(9.1)	5.4	(4.5)	0.7	(0.3)	0.0	c	0.0	c
	Colombia																
	Bogota	1.1	(0.5)	8.8	(1.6)	30.8	(2.6)	40.4	(3.1)	16.4	(2.2)	2.4	(0.7)	0.1	c	0.0	c
	Cali	2.7	(1.1)	11.8	(2.7)	28.4	(3.0)	32.5	(3.2)	19.7	(3.3)	4.6	(1.6)	0.3	(0.3)	0.0	c
	Manizales	0.9	(0.5)	7.8	(1.9)	29.3	(2.6)	39.6	(4.3)	19.3	(2.4)	3.1	(1.7)	0.1	c	0.0	c
	Medellin	1.2	(0.6)	9.0	(1.4)	29.3	(3.1)	32.6	(2.8)	19.3	(2.9)	6.8	(2.3)	1.7	(0.8)	0.0	c
	United Arab Emirates																
	Abu Dhabi •	1.5	(0.7)	8.3	(1.5)	24.4	(1.5)	35.3	(1.9)	22.1	(2.1)	7.3	(1.2)	0.9	(0.4)	0.1	(0.1)
	Ajman	2.0	(1.9)	11.9	(5.5)	28.4	(3.7)	34.7	(4.8)	20.6	(3.1)	2.4	(1.1)	0.1	c	0.0	c
	Dubai •	0.9	(0.2)	4.6	(0.5)	15.5	(0.9)	27.2	(1.3)	27.5	(1.3)	19.0	(1.5)	5.0	(0.8)	0.4	(0.2)
	Fujairah	1.5	(0.8)	7.4	(2.1)	26.9	(3.4)	41.2	(3.2)	20.2	(3.2)	2.7	(1.3)	0.0	c	0.0	c
	Ras Al Khaimah	1.1	(0.9)	11.6	(3.2)	33.3	(3.5)	37.4	(4.1)	13.5	(3.3)	2.6	(1.4)	0.4	c	0.0	c
	Sharjah	0.6	(0.7)	7.2	(2.2)	22.4	(4.3)	30.6	(2.7)	29.4	(4.2)	9.2	(2.2)	0.5	c	0.0	c
	Umm Al Quwain	1.0	(0.8)	10.8	(2.6)	26.0	(3.7)	39.2	(4.1)	19.0	(3.9)	3.5	(1.8)	0.5	c	0.0	c

• PISA adjudicated region.

Note: See Table B3.I.11 for national data.

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[Part 1/2]

Table B3.I.24 Mean score, variation and gender differences in student performance on the combined reading scale, by region

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD	**Australia**																						
	Australian Capital Territory	529	(3.3)	96	(2.8)	505	(5.2)	553	(4.3)	**-48**	(6.9)	337	(13.0)	397	(11.1)	475	(7.9)	597	(4.3)	642	(5.7)	665	(6.6)
	New South Wales	519	(3.4)	96	(2.0)	500	(5.5)	539	(3.7)	**-39**	(6.4)	351	(6.1)	392	(5.5)	456	(3.9)	586	(4.4)	642	(5.9)	671	(6.1)
	Northern Territory	474	(8.3)	122	(5.8)	459	(9.6)	488	(11.9)	**-29**	(14.2)	231	(29.0)	304	(18.6)	407	(12.7)	563	(6.7)	610	(16.0)	635	(16.3)
	Queensland	511	(3.3)	91	(2.0)	494	(3.9)	528	(4.0)	**-34**	(4.7)	355	(7.2)	391	(5.2)	449	(4.3)	575	(3.7)	626	(6.2)	657	(6.1)
	South Australia	506	(3.9)	92	(2.3)	491	(4.3)	521	(4.2)	**-31**	(3.9)	344	(9.4)	387	(6.6)	448	(5.4)	571	(5.5)	620	(5.3)	649	(5.4)
	Tasmania	482	(4.1)	99	(2.9)	467	(5.1)	499	(5.4)	**-32**	(6.7)	305	(14.2)	353	(7.8)	422	(6.2)	551	(5.4)	607	(6.3)	636	(8.0)
	Victoria	520	(3.4)	88	(1.8)	506	(4.8)	536	(3.4)	**-30**	(4.7)	368	(5.1)	402	(5.5)	464	(4.0)	580	(4.4)	631	(5.1)	660	(6.3)
	Western Australia	523	(3.6)	92	(2.1)	514	(5.6)	532	(4.6)	**-18**	(7.4)	366	(8.8)	405	(5.6)	463	(5.1)	587	(5.0)	636	(6.1)	664	(5.7)
	Belgium																						
	Flemish community•	516	(3.2)	95	(2.0)	503	(4.4)	530	(4.3)	**-26**	(5.9)	344	(7.4)	386	(5.7)	456	(5.4)	587	(3.2)	630	(3.0)	653	(3.9)
	French community	491	(3.4)	95	(2.1)	475	(4.1)	507	(3.7)	**-31**	(3.8)	316	(7.6)	362	(6.8)	430	(4.4)	560	(3.6)	606	(4.0)	632	(4.4)
	German-speaking community	506	(2.2)	92	(2.7)	483	(3.6)	531	(2.9)	**-47**	(4.9)	335	(9.0)	380	(7.6)	450	(5.2)	572	(4.4)	614	(5.8)	637	(5.6)
	Canada																						
	Alberta	529	(4.1)	86	(2.4)	517	(5.0)	542	(3.8)	**-25**	(3.6)	384	(8.7)	420	(6.1)	472	(5.4)	591	(4.3)	637	(3.3)	663	(3.7)
	British Columbia	542	(3.3)	81	(2.2)	532	(4.1)	552	(4.2)	**-20**	(5.1)	398	(8.8)	434	(6.7)	490	(4.5)	598	(3.0)	642	(5.6)	671	(5.7)
	Manitoba	503	(3.2)	84	(2.2)	488	(3.6)	519	(4.6)	**-31**	(5.0)	359	(8.2)	396	(6.2)	448	(4.0)	564	(3.8)	608	(5.1)	635	(5.9)
	New Brunswick	506	(2.2)	81	(2.2)	488	(3.7)	524	(3.1)	**-36**	(5.3)	363	(5.3)	398	(5.1)	455	(3.9)	561	(3.5)	609	(5.7)	635	(5.7)
	Newfoundland and Labrador	510	(3.4)	87	(2.1)	488	(4.9)	531	(3.6)	**-42**	(5.1)	363	(7.9)	395	(9.0)	453	(7.4)	570	(4.0)	618	(5.2)	646	(6.2)
	Nova Scotia	520	(5.1)	81	(2.6)	506	(7.0)	535	(4.1)	**-29**	(5.6)	377	(9.4)	413	(7.7)	470	(8.2)	576	(5.5)	621	(4.4)	642	(5.3)
	Ontario	534	(4.3)	82	(1.6)	520	(5.0)	548	(4.4)	**-28**	(3.6)	389	(8.3)	426	(6.1)	482	(4.4)	589	(4.3)	635	(5.4)	662	(5.7)
	Prince Edward Island	490	(2.3)	82	(1.8)	472	(3.4)	509	(3.2)	**-37**	(4.7)	350	(5.8)	383	(5.0)	439	(3.7)	545	(3.0)	592	(4.2)	619	(5.9)
	Quebec	520	(3.1)	85	(2.2)	504	(3.7)	535	(3.3)	**-30**	(3.5)	370	(8.0)	408	(5.7)	470	(4.4)	578	(3.6)	620	(3.8)	644	(4.4)
	Saskatchewan	511	(2.6)	80	(1.7)	496	(3.7)	527	(3.3)	**-30**	(4.5)	377	(5.4)	406	(5.1)	457	(3.0)	568	(4.0)	613	(4.9)	640	(5.6)
	Italy																						
	Abruzzo	507	(12.4)	65	(5.9)	495	(16.9)	516	(11.1)	-21	(12.5)	392	(19.3)	417	(22.1)	465	(21.8)	554	(13.8)	586	(7.4)	604	(7.0)
	Basilicata	457	(16.7)	83	(13.4)	447	(26.5)	470	(14.3)	-23	(30.9)	309	(55.4)	342	(48.1)	409	(30.1)	519	(11.9)	557	(11.7)	584	(24.4)
	Bolzano	528	(5.2)	70	(5.4)	526	(13.9)	529	(8.3)	-3	(19.4)	400	(17.7)	437	(12.9)	486	(12.5)	574	(10.0)	612	(12.3)	640	(14.0)
	Calabria	471	(23.1)	84	(10.0)	457	(21.9)	483	(25.3)	-26	(17.0)	325	(40.1)	355	(30.5)	419	(26.5)	530	(29.6)	575	(25.0)	595	(24.1)
	Campania	456	(18.8)	93	(8.4)	439	(23.0)	473	(14.9)	**-33**	(11.5)	275	(35.8)	322	(33.4)	399	(32.8)	526	(13.2)	567	(10.4)	588	(12.6)
	Emilia Romagna	511	(11.4)	82	(6.5)	510	(17.1)	512	(11.4)	-2	(19.1)	370	(28.4)	408	(18.7)	461	(13.6)	568	(13.1)	610	(11.5)	637	(13.6)
	Friuli Venezia Giulia	544	(12.1)	89	(13.1)	516	(23.0)	566	(12.0)	**-50**	(23.2)	373	(46.6)	425	(32.0)	493	(17.4)	608	(11.2)	641	(7.0)	660	(14.7)
	Lazio	497	(10.0)	85	(7.5)	476	(11.3)	529	(17.9)	**-53**	(21.1)	353	(30.4)	380	(16.0)	436	(11.3)	558	(17.4)	607	(13.3)	631	(16.4)
	Liguria	497	(45.6)	108	(12.2)	491	(46.3)	509	(46.7)	-18	(17.6)	328	(24.1)	363	(21.5)	414	(31.9)	597	(84.5)	643	(42.1)	669	(36.2)
	Lombardia	525	(6.1)	78	(5.9)	503	(8.7)	547	(6.0)	**-44**	(8.6)	388	(11.4)	427	(14.5)	479	(7.0)	579	(7.7)	616	(6.5)	634	(7.7)
	Marche	493	(26.6)	85	(9.7)	488	(23.2)	505	(39.8)	-17	(29.1)	339	(28.1)	368	(33.8)	439	(46.2)	554	(24.7)	592	(24.8)	610	(25.1)
	Molise	482	(27.7)	92	(12.5)	440	(29.9)	c	c	c	c	314	(37.9)	346	(31.9)	416	(56.4)	553	(17.8)	584	(11.2)	593	(11.3)
	Piemonte	506	(9.7)	85	(4.5)	495	(19.2)	517	(12.2)	-22	(25.4)	349	(19.7)	389	(17.0)	454	(12.1)	569	(10.1)	609	(8.8)	631	(14.2)
	Puglia	485	(8.6)	99	(6.1)	478	(19.4)	494	(17.6)	-16	(31.7)	318	(17.0)	349	(15.0)	410	(7.6)	560	(17.2)	612	(16.8)	637	(13.2)
	Sardegna	458	(25.6)	83	(6.3)	435	(23.0)	c	c	c	c	303	(25.2)	344	(33.2)	405	(31.5)	512	(33.7)	573	(37.4)	590	(25.1)
	Sicilia	460	(12.5)	82	(6.5)	446	(14.4)	485	(17.6)	**-38**	(16.3)	323	(18.2)	347	(19.8)	401	(17.9)	523	(13.2)	565	(13.6)	591	(16.3)
	Toscana	501	(7.1)	87	(7.4)	489	(15.5)	511	(15.1)	-22	(26.5)	346	(29.0)	387	(19.7)	444	(11.2)	564	(11.8)	607	(11.1)	628	(15.1)
	Trento	520	(19.0)	86	(14.6)	503	(20.9)	547	(14.4)	**-44**	(16.6)	351	(81.7)	407	(37.4)	470	(20.5)	582	(20.2)	623	(14.1)	639	(23.0)
	Umbria	502	(21.2)	86	(13.6)	487	(28.4)	520	(18.9)	-33	(24.2)	330	(60.0)	381	(42.0)	458	(35.8)	560	(19.1)	594	(20.2)	612	(17.5)
	Valle d'Aosta	507	(25.7)	79	(8.1)	498	(29.3)	520	(23.3)	**-22**	(8.0)	354	(30.3)	390	(36.9)	458	(41.3)	564	(20.8)	598	(20.4)	616	(21.3)
	Veneto	513	(11.0)	96	(8.1)	495	(16.9)	534	(15.9)	-39	(25.9)	336	(21.3)	380	(23.7)	456	(18.1)	581	(14.0)	625	(14.7)	651	(18.5)
	Portugal																						
	Alentejo	491	(8.7)	78	(4.2)	479	(9.9)	503	(8.3)	**-24**	(6.0)	353	(13.0)	385	(15.2)	443	(13.4)	547	(8.5)	587	(7.3)	604	(9.5)
	Spain																						
	Andalusia•	456	(7.9)	87	(3.6)	444	(10.0)	469	(6.2)	**-25**	(6.1)	305	(14.3)	341	(14.2)	401	(9.6)	516	(8.0)	565	(8.1)	594	(7.1)
	Aragon•	477	(32.8)	94	(22.5)	456	(40.2)	496	(23.7)	**-40**	(19.1)	299	(72.7)	340	(74.6)	424	(54.8)	544	(22.4)	587	(22.5)	614	(22.9)
	Asturias•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Balearic Islands•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Basque Country•	493	(2.9)	82	(1.8)	479	(3.5)	506	(3.1)	**-27**	(3.0)	346	(6.4)	384	(4.4)	443	(3.8)	550	(3.1)	590	(3.1)	614	(3.7)
	Cantabria•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Castile and Leon•	492	(9.8)	92	(7.9)	472	(12.6)	511	(10.6)	**-39**	(13.0)	327	(28.3)	371	(17.6)	435	(18.2)	559	(8.6)	596	(12.8)	618	(15.2)
	Catalonia•	490	(5.7)	86	(3.3)	478	(6.9)	504	(5.7)	**-26**	(5.8)	337	(12.3)	376	(10.3)	435	(7.7)	552	(5.6)	596	(6.2)	621	(7.6)
	Extremadura•	444	(7.4)	90	(10.4)	424	(12.2)	462	(7.1)	**-39**	(12.9)	305	(27.8)	326	(27.3)	381	(20.2)	511	(8.2)	561	(15.7)	587	(11.7)
	Galicia•	491	(11.9)	89	(7.0)	458	(16.5)	517	(11.8)	**-59**	(18.5)	337	(24.9)	373	(12.3)	435	(15.1)	554	(14.6)	600	(15.5)	621	(9.9)
	La Rioja•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Madrid•	494	(8.9)	82	(4.2)	481	(10.7)	507	(8.3)	**-26**	(7.7)	353	(14.8)	385	(12.2)	443	(12.0)	551	(9.3)	593	(10.0)	622	(14.4)
	Murcia•	448	(8.7)	91	(5.2)	431	(13.2)	467	(10.2)	-36	(19.6)	298	(28.4)	328	(14.9)	384	(13.2)	511	(11.0)	579	(21.0)	603	(21.3)
	Navarre•	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

See Table B3.I.12 for national data.

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[Part 2/2]

Table B3.I.24 Mean score, variation and gender differences in student performance on the combined reading scale, by region

		All students				Gender differences						Percentiles											
		Mean score		Standard deviation		Boys		Girls		Difference (B - G)		5th		10th		25th		75th		90th		95th	
		Mean	S.E.	S.D.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
Partners	**Brazil**																						
	Acre	443	(19.7)	66	(4.8)	424	(21.3)	456	(20.9)	**-32**	(10.9)	330	(10.1)	361	(18.8)	403	(23.4)	491	(27.7)	530	(35.3)	549	(27.6)
	Alagoas	345	(14.4)	86	(5.9)	323	(17.2)	366	(11.0)	**-43**	(15.1)	219	(23.1)	240	(30.4)	286	(24.5)	395	(18.5)	470	(13.7)	504	(9.9)
	Amapá	428	(10.9)	61	(10.9)	408	(11.2)	445	(14.6)	**-36**	(13.5)	321	(30.7)	350	(26.8)	394	(13.6)	462	(20.3)	517	(41.4)	538	(32.1)
	Amazonas	347	(16.6)	73	(11.0)	326	(17.9)	375	(16.1)	**-49**	(10.2)	213	(64.8)	272	(15.4)	303	(9.9)	382	(32.1)	441	(61.4)	492	(63.2)
	Bahia	397	(22.9)	106	(15.6)	388	(23.1)	405	(23.4)	-17	(11.5)	234	(33.0)	269	(39.3)	327	(35.0)	466	(24.0)	539	(28.9)	575	(39.1)
	Ceará	395	(33.0)	101	(13.3)	394	(35.9)	396	(32.1)	-2	(16.7)	230	(47.9)	273	(36.3)	327	(33.1)	463	(48.6)	537	(45.2)	574	(28.5)
	Espírito Santo	448	(16.4)	83	(12.4)	427	(13.6)	470	(21.9)	**-44**	(17.8)	302	(52.5)	343	(30.8)	396	(18.6)	499	(16.5)	550	(28.8)	584	(54.0)
	Federal District	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Goiás	422	(6.7)	74	(3.2)	419	(6.0)	425	(10.0)	-7	(9.6)	291	(24.3)	328	(14.0)	378	(10.4)	466	(5.6)	517	(13.1)	546	(16.2)
	Maranhão	366	(36.9)	87	(19.7)	350	(34.5)	380	(40.0)	**-30**	(14.0)	220	(58.9)	258	(58.5)	312	(52.7)	421	(41.2)	486	(37.5)	506	(34.9)
	Mato Grosso	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Mato Grosso do Sul	447	(16.5)	76	(9.7)	445	(19.9)	450	(14.3)	-5	(9.0)	325	(42.8)	352	(29.1)	398	(25.7)	500	(11.7)	545	(12.2)	574	(19.6)
	Minas Gerais	439	(14.3)	76	(5.5)	426	(17.4)	451	(11.6)	**-25**	(7.5)	315	(19.5)	344	(12.7)	390	(15.3)	493	(20.9)	539	(21.6)	562	(24.0)
	Pará	389	(26.7)	90	(14.7)	361	(32.3)	410	(23.5)	-49	(31.4)	257	(28.4)	277	(29.8)	320	(37.9)	450	(44.7)	517	(33.6)	541	(33.5)
	Paraíba	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Paraná	432	(14.3)	87	(10.9)	413	(18.7)	450	(11.2)	**-36**	(14.4)	285	(43.9)	322	(38.2)	375	(15.9)	491	(14.7)	546	(20.1)	576	(24.5)
	Pernambuco	403	(11.6)	70	(8.6)	385	(10.7)	419	(13.2)	**-34**	(8.8)	289	(24.8)	312	(22.5)	355	(16.3)	449	(15.7)	498	(17.9)	517	(24.8)
	Piauí	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Rio de Janeiro	438	(10.0)	79	(8.7)	427	(8.9)	448	(11.8)	**-21**	(7.2)	301	(30.3)	335	(24.5)	379	(18.8)	495	(15.4)	541	(5.9)	559	(14.0)
	Rio Grande do Norte	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
	Rio Grande do Sul	446	(12.0)	71	(6.9)	433	(12.0)	456	(12.0)	**-23**	(4.2)	327	(13.9)	352	(13.3)	396	(11.5)	498	(16.2)	539	(20.8)	565	(27.9)
	Rondônia	389	(12.7)	71	(4.6)	395	(10.1)	384	(17.9)	11	(16.5)	265	(38.8)	292	(16.3)	338	(15.1)	438	(16.2)	473	(28.5)	503	(40.8)
	Roraima	422	(8.8)	72	(5.2)	415	(7.8)	429	(15.1)	-14	(16.5)	311	(16.0)	340	(10.7)	372	(13.6)	469	(17.9)	518	(21.4)	549	(25.6)
	Santa Catarina	419	(31.1)	87	(14.0)	399	(30.3)	440	(31.7)	**-42**	(8.1)	262	(35.6)	295	(44.8)	354	(55.4)	483	(33.8)	530	(29.0)	554	(28.6)
	São Paulo	438	(5.5)	77	(2.9)	427	(6.0)	450	(6.0)	**-23**	(5.2)	314	(8.6)	340	(7.4)	385	(5.4)	492	(7.9)	537	(10.2)	565	(10.2)
	Sergipe	409	(13.8)	81	(9.3)	404	(25.6)	413	(11.4)	-9	(24.5)	292	(21.6)	307	(25.0)	347	(24.9)	467	(16.7)	522	(11.2)	546	(12.5)
	Tocantins	386	(22.7)	69	(7.0)	376	(40.4)	395	(8.5)	-18	(33.7)	265	(30.8)	290	(39.8)	339	(38.3)	435	(23.4)	469	(15.7)	500	(29.6)
	Colombia																						
	Bogota	419	(5.4)	71	(2.1)	415	(6.6)	422	(5.3)	-8	(4.8)	300	(9.8)	325	(7.2)	371	(6.5)	466	(5.3)	507	(6.5)	534	(8.6)
	Cali	412	(7.8)	81	(3.0)	398	(7.0)	422	(8.8)	**-24**	(5.2)	279	(11.3)	309	(10.3)	357	(8.2)	468	(8.8)	516	(9.6)	544	(9.6)
	Manizales	424	(4.0)	72	(3.4)	420	(5.6)	428	(3.8)	-8	(5.4)	305	(8.3)	332	(6.2)	376	(6.6)	472	(5.5)	518	(7.0)	541	(10.3)
	Medellin	426	(6.6)	82	(3.6)	417	(7.1)	434	(7.6)	**-17**	(6.8)	299	(7.8)	325	(8.1)	369	(5.8)	480	(10.1)	536	(12.4)	568	(13.6)
	United Arab Emirates																						
	Abu Dhabi•	408	(5.3)	96	(2.9)	376	(6.7)	439	(5.9)	**-63**	(8.0)	249	(8.0)	282	(5.9)	342	(5.7)	475	(5.8)	531	(7.5)	564	(8.7)
	Ajman	386	(10.2)	86	(4.7)	348	(11.8)	421	(13.4)	**-73**	(17.6)	242	(16.2)	273	(13.0)	324	(12.1)	449	(10.5)	499	(10.3)	522	(7.4)
	Dubai•	462	(1.2)	101	(1.0)	442	(1.7)	483	(1.5)	**-42**	(2.3)	289	(2.9)	328	(2.2)	393	(2.3)	536	(2.9)	591	(3.9)	622	(3.0)
	Fujairah	389	(9.9)	87	(3.3)	350	(6.1)	429	(8.4)	**-79**	(8.9)	245	(10.8)	273	(9.0)	325	(11.8)	453	(10.6)	499	(10.1)	525	(11.3)
	Ras Al Khaimah	389	(5.9)	79	(4.4)	363	(9.3)	414	(8.4)	**-51**	(11.2)	255	(13.5)	284	(10.9)	336	(8.1)	444	(5.7)	486	(7.8)	511	(7.7)
	Sharjah	437	(8.5)	85	(4.4)	418	(16.9)	452	(10.2)	-34	(20.6)	297	(14.1)	325	(12.4)	377	(9.9)	498	(8.7)	545	(8.8)	572	(10.6)
	Umm Al Quwain	368	(3.8)	95	(3.3)	309	(5.1)	426	(5.0)	**-117**	(6.7)	219	(11.8)	250	(12.5)	296	(8.7)	439	(7.0)	491	(9.2)	524	(14.0)

• PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

See Table B3.I.12 for national data.

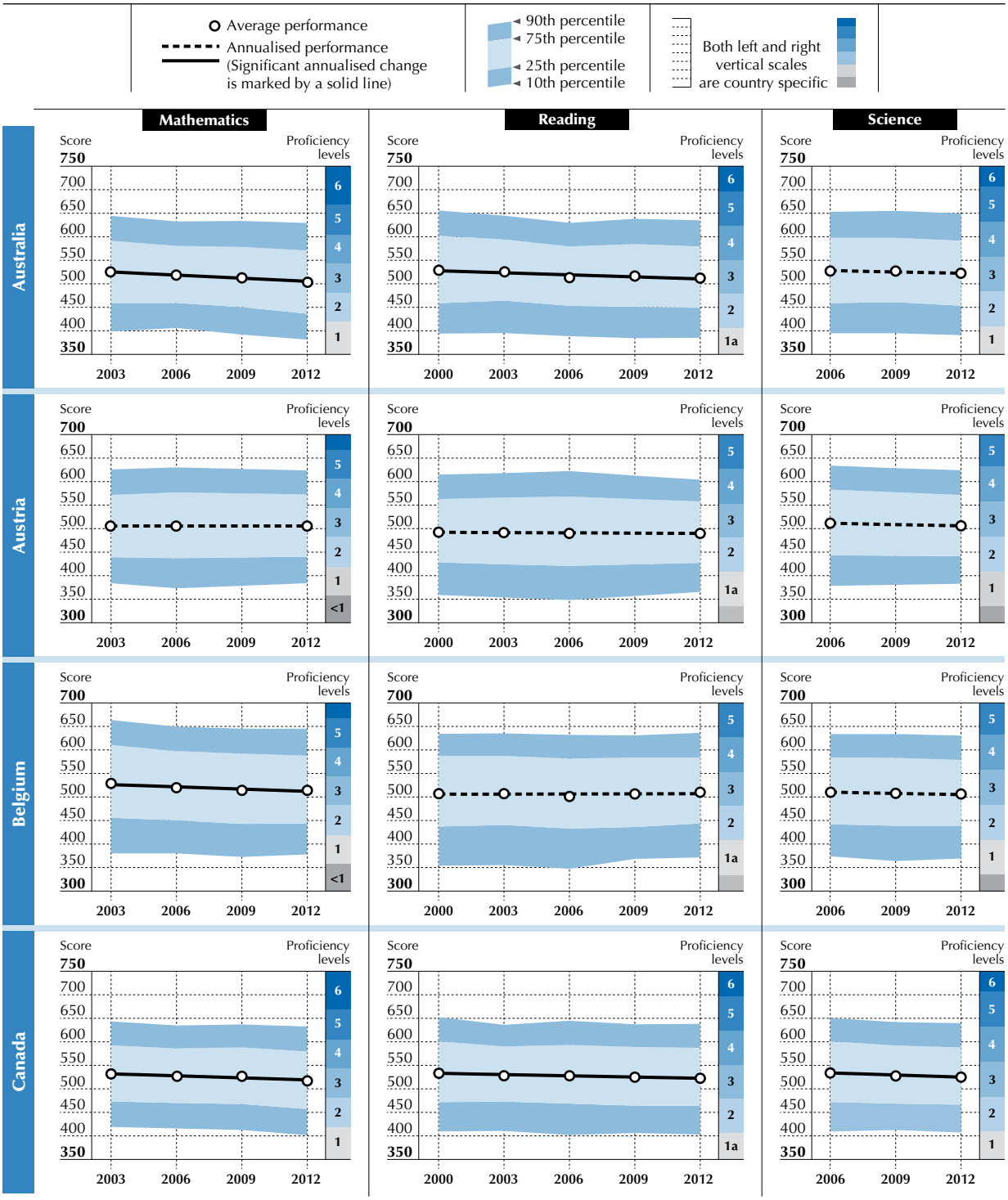
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ANNEX B4
TRENDS IN MATHEMATICS, READING AND SCIENCE PERFORMANCE

■ Figure B4.1 [Part 1/9] ■

Trends in mathematics, reading and science performance: OECD countries

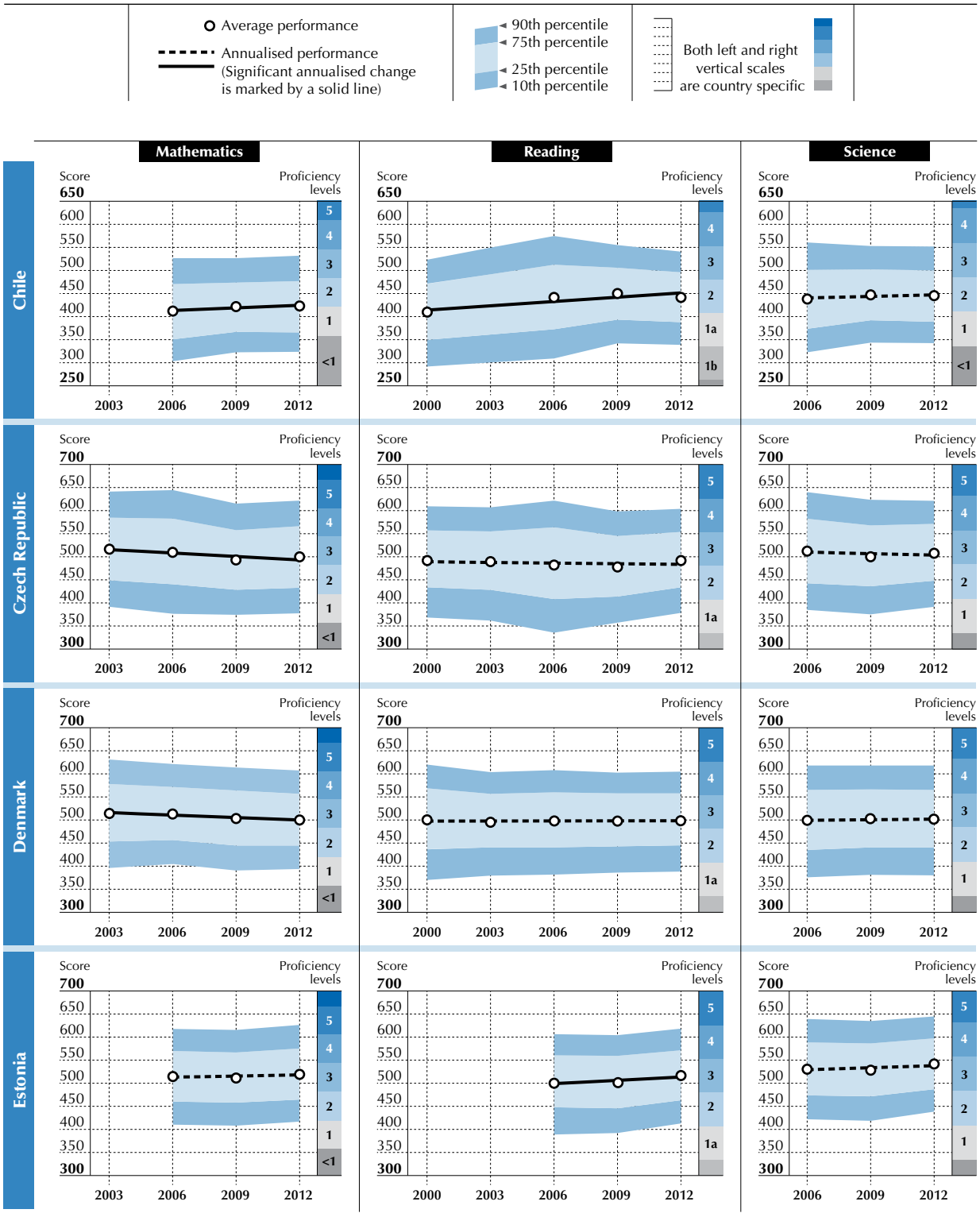


Notes: The slope of the annualised performance is the annualised change, or the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. The line marks the values predicted by the regression model. For more details on the calculation of the annualised change, see Annex A5.
Years in the figure represent PISA assessments.
Source: OECD, PISA 2012 Database, Tables I.2.3b, I.2.3d, I.4.3b, I.4.3d, I.5.3b and I.5.3d.
StatLink http://dx.doi.org/10.1787/888932935648



■ Figure B4.1 [Part 2/9] ■

Trends in mathematics, reading and science performance: OECD countries



Notes: The slope of the annualised performance is the annualised change, or the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. The line marks the values predicted by the regression model. For more details on the calculation of the annualised change, see Annex A5.
Years in the figure represent PISA assessments.

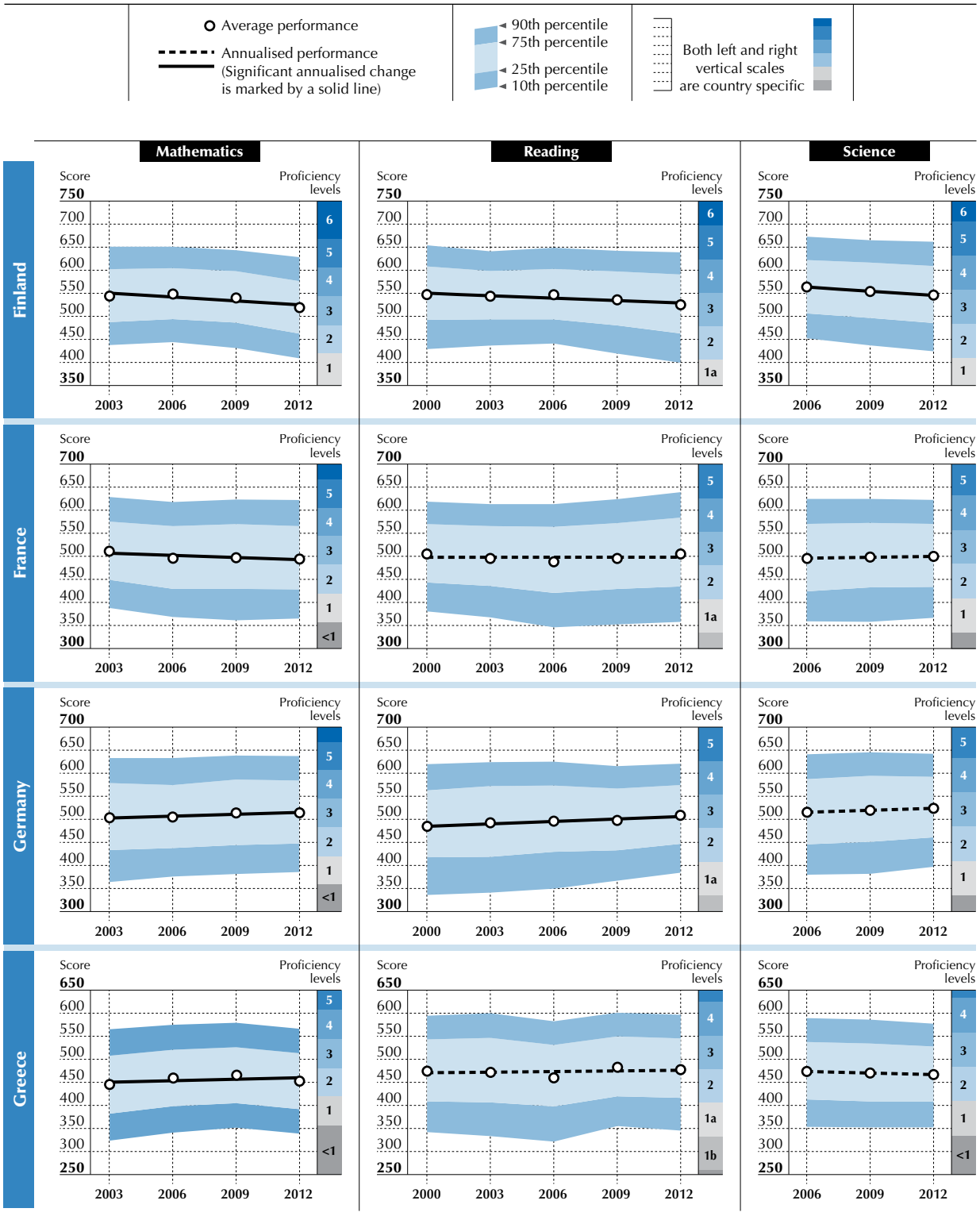
Source: OECD, PISA 2012 Database, Tables I.2.3b, I.2.3d, I.4.3b, I.4.3d, I.5.3b and I.5.3d.

StatLink http://dx.doi.org/10.1787/888932935648



■ Figure B4.1 [Part 3/9] ■

Trends in mathematics, reading and science performance: OECD countries

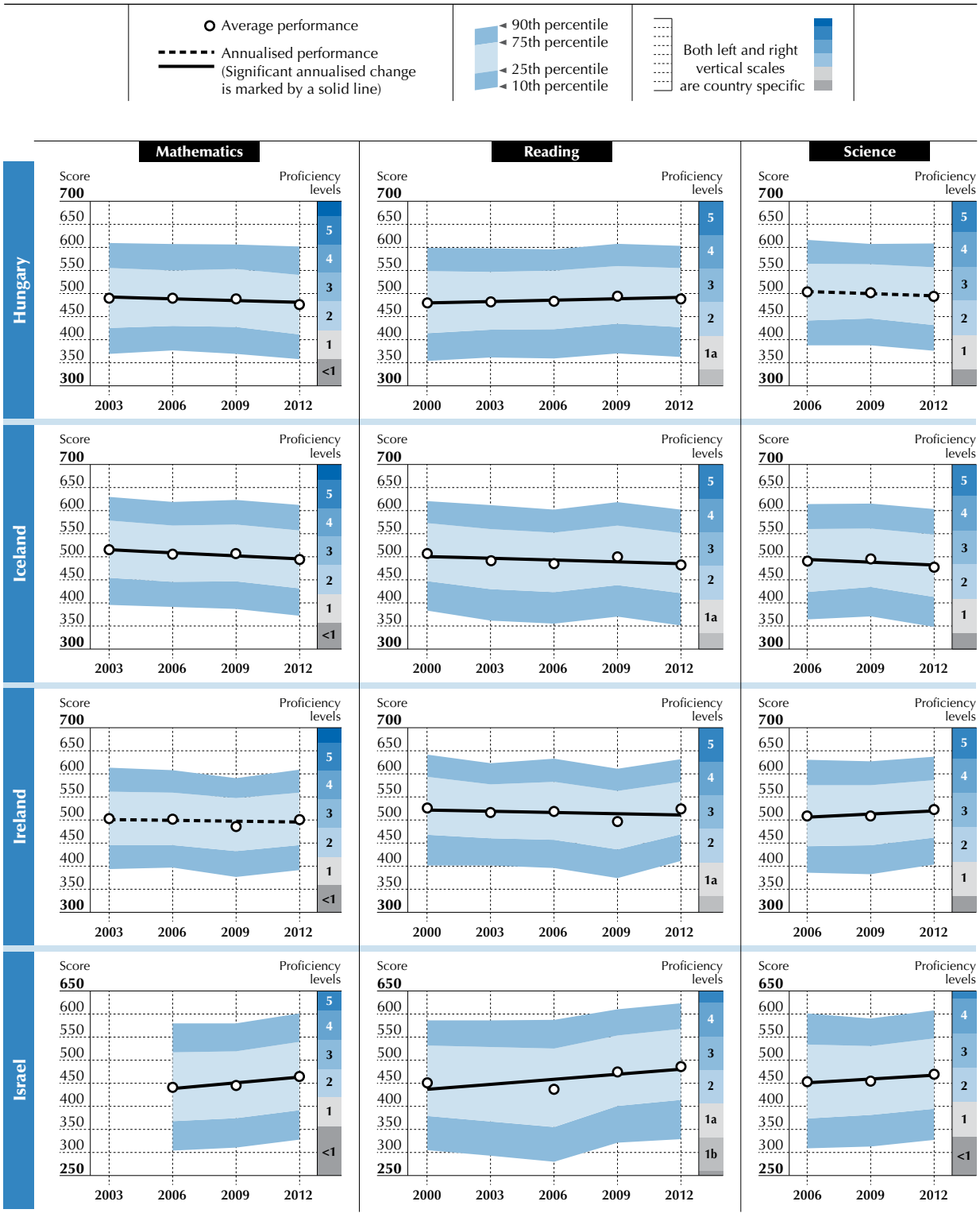


Notes: The slope of the annualised performance is the annualised change, or the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. The line marks the values predicted by the regression model. For more details on the calculation of the annualised change, see Annex A5.
Years in the figure represent PISA assessments.
Source: OECD, PISA 2012 Database, Tables I.2.3b, I.2.3d, I.4.3b, I.4.3d, I.5.3b and I.5.3d.
StatLink http://dx.doi.org/10.1787/888932935648



■ Figure B4.1 [Part 4/9] ■

Trends in mathematics, reading and science performance: OECD countries



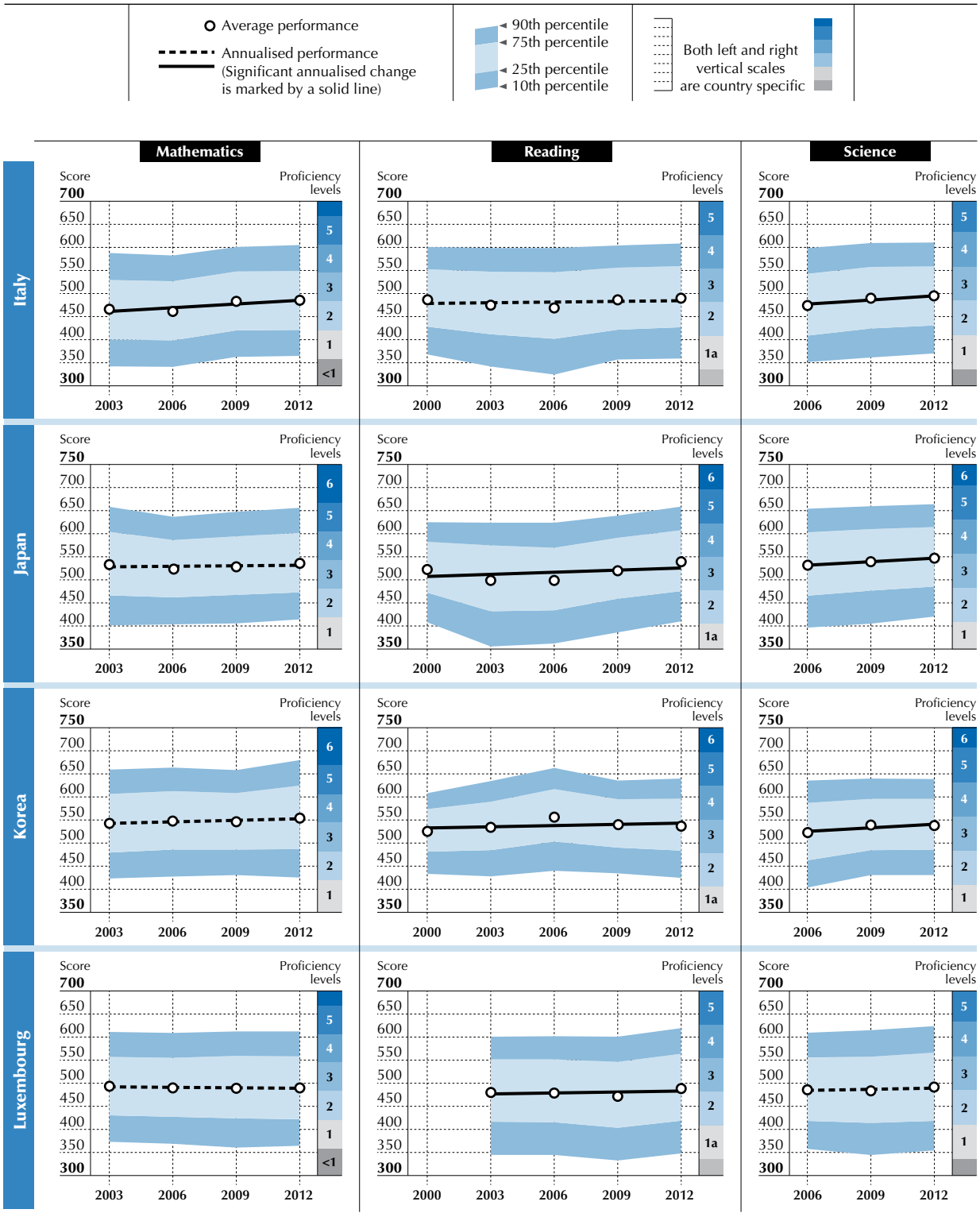
Notes: The slope of the annualised performance is the annualised change, or the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. The line marks the values predicted by the regression model. For more details on the calculation of the annualised change, see Annex A5.
Years in the figure represent PISA assessments.

Source: OECD, PISA 2012 Database, Tables I.2.3b, I.2.3d, I.4.3b, I.4.3d, I.5.3b and I.5.3d.

StatLink http://dx.doi.org/10.1787/888932935648

■ Figure B4.1 [Part 5/9] ■

Trends in mathematics, reading and science performance: OECD countries



Notes: The slope of the annualised performance is the annualised change, or the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. The line marks the values predicted by the regression model. For more details on the calculation of the annualised change, see Annex A5.
Years in the figure represent PISA assessments.

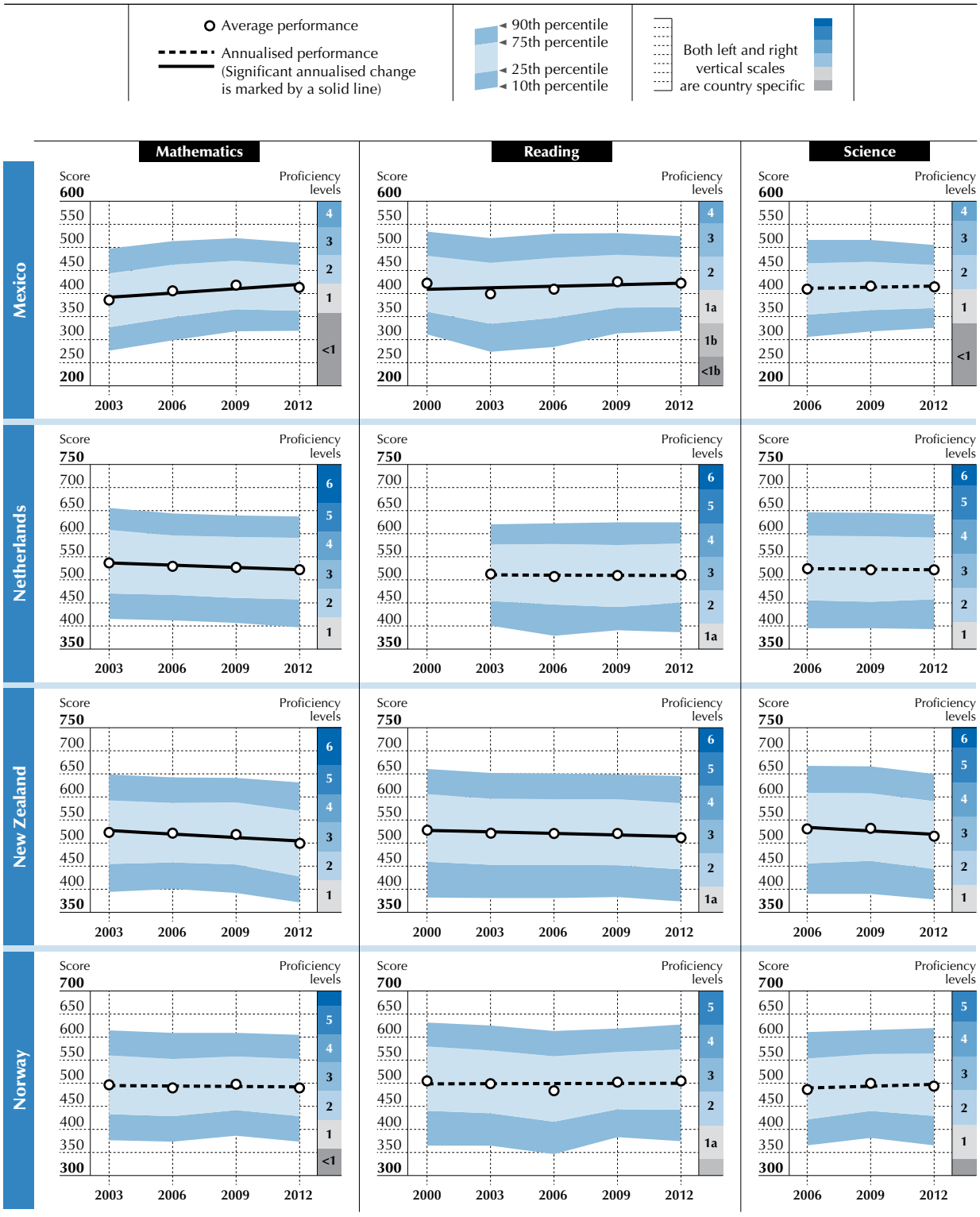
Source: OECD, PISA 2012 Database, Tables I.2.3b, I.2.3d, I.4.3b, I.4.3d, I.5.3b and I.5.3d.

StatLink http://dx.doi.org/10.1787/888932935648



■ Figure B4.1 [Part 6/9] ■

Trends in mathematics, reading and science performance: OECD countries



Notes: The slope of the annualised performance is the annualised change, or the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. The line marks the values predicted by the regression model. For more details on the calculation of the annualised change, see Annex A5.
Years in the figure represent PISA assessments.

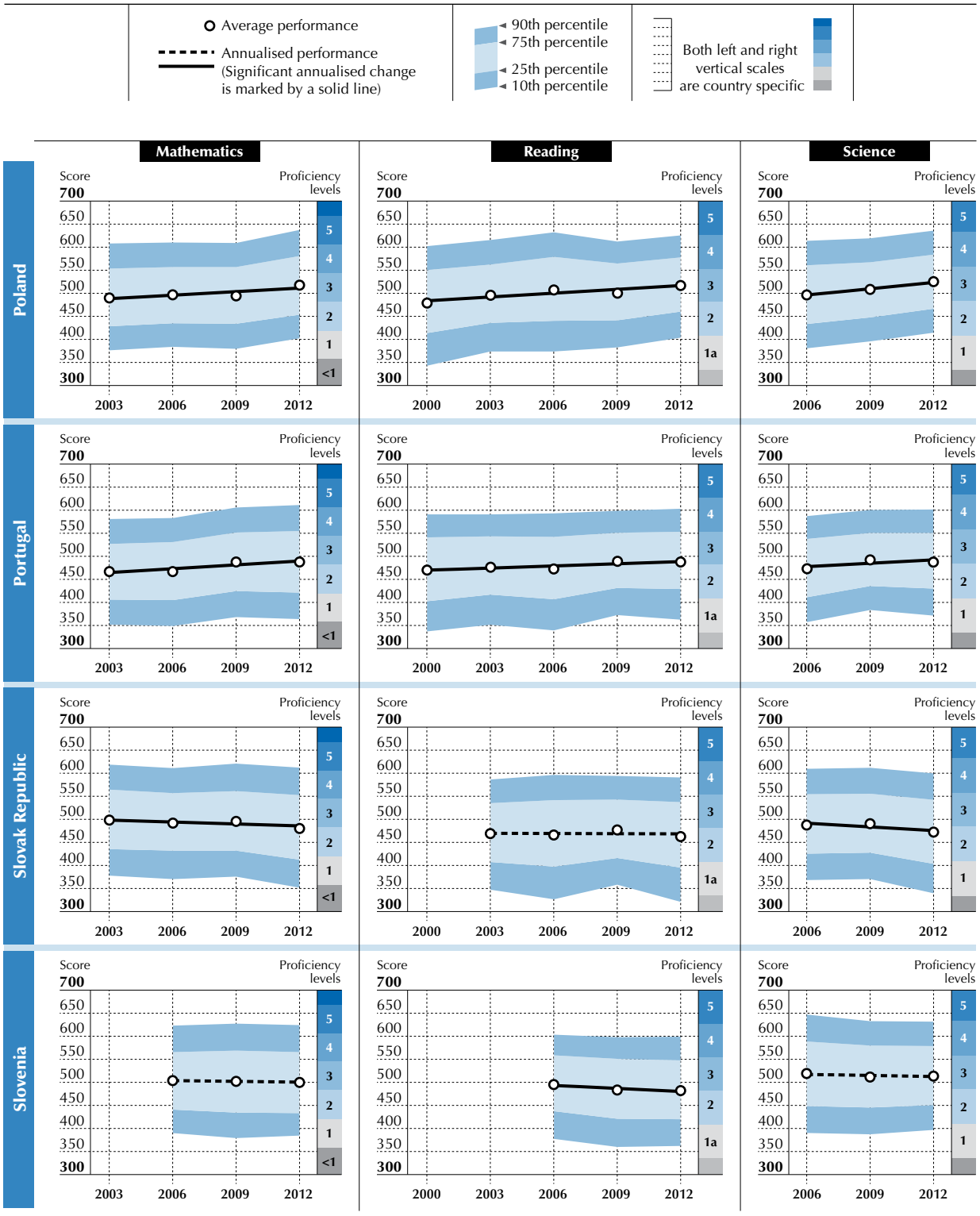
Source: OECD, PISA 2012 Database, Tables I.2.3b, I.2.3d, I.4.3b, I.4.3d, I.5.3b and I.5.3d.

StatLink http://dx.doi.org/10.1787/888932935648



■ Figure B4.1 [Part 7/9] ■

Trends in mathematics, reading and science performance: OECD countries



Notes: The slope of the annualised performance is the annualised change, or the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. The line marks the values predicted by the regression model. For more details on the calculation of the annualised change, see Annex A5.
Years in the figure represent PISA assessments.

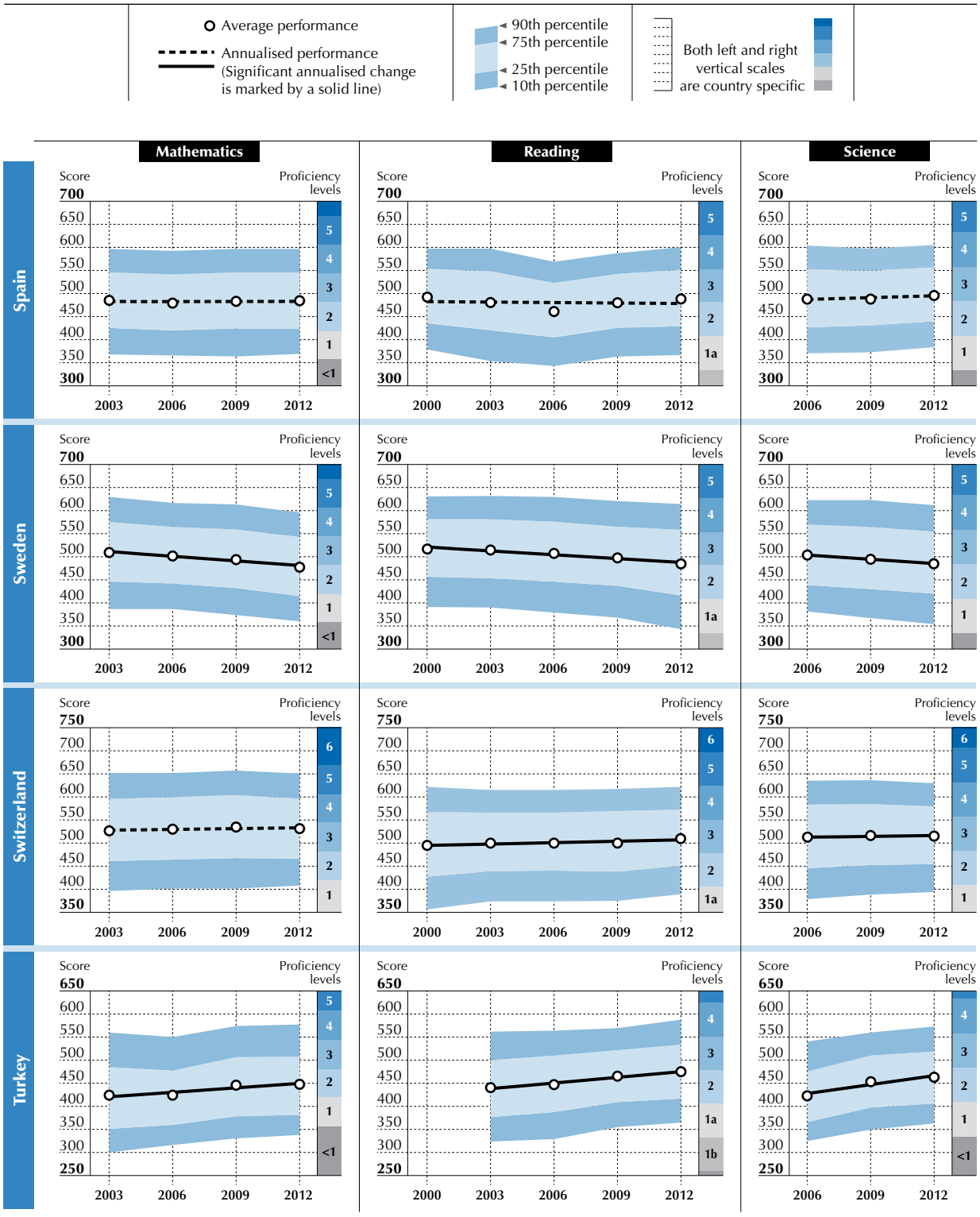
Source: OECD, PISA 2012 Database, Tables I.2.3b, I.2.3d, I.4.3b, I.4.3d, I.5.3b and I.5.3d.

StatLink http://dx.doi.org/10.1787/888932935648



■ Figure B4.1 [Part 8/9] ■

Trends in mathematics, reading and science performance: OECD countries



Notes: The slope of the annualised performance is the annualised change, or the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. The line marks the values predicted by the regression model. For more details on the calculation of the annualised change, see Annex A5.
Years in the figure represent PISA assessments.

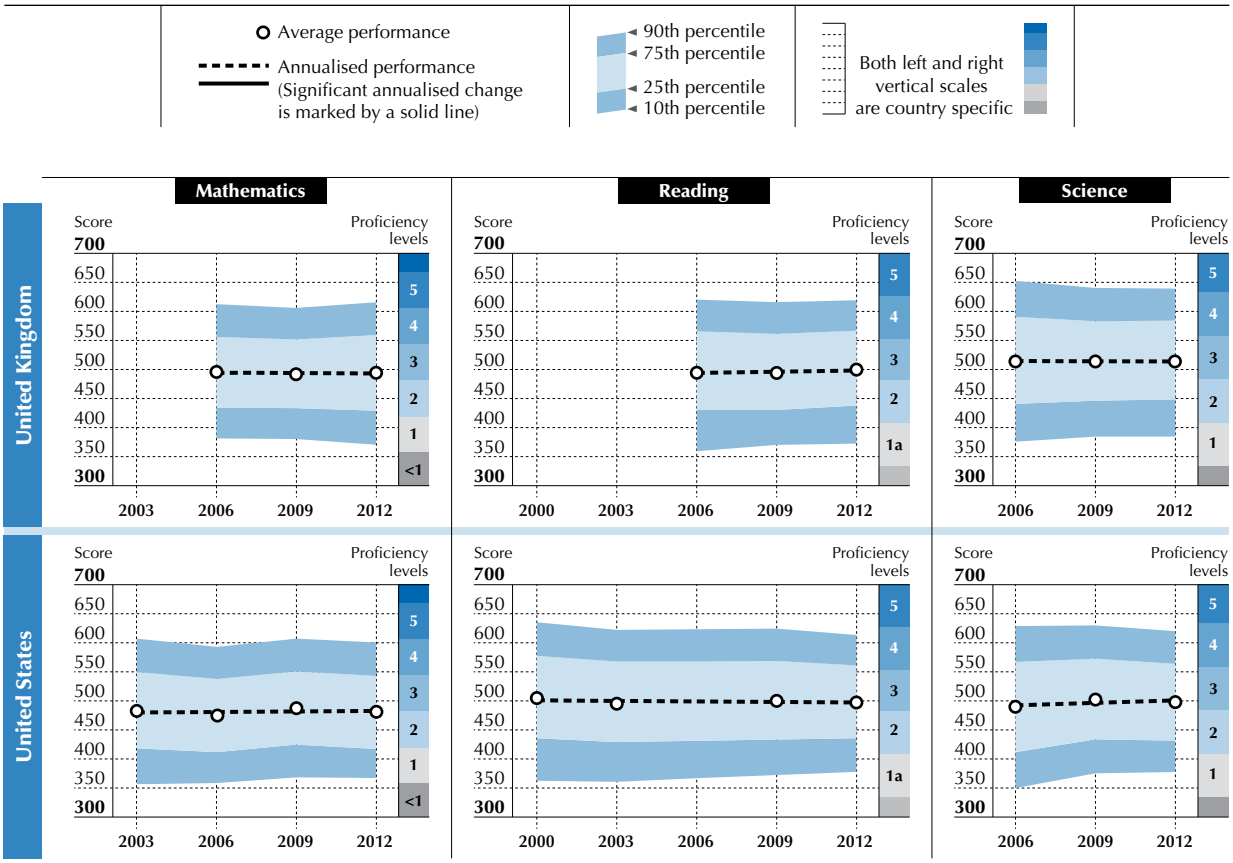
Source: OECD, PISA 2012 Database, Tables I.2.3b, I.2.3d, I.4.3b, I.4.3d, I.5.3b and I.5.3d.

StatLink http://dx.doi.org/10.1787/888932935648



■ Figure B4.1 [Part 9/9] ■

Trends in mathematics, reading and science performance: OECD countries



Notes: The slope of the annualised performance is the annualised change, or the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. The line marks the values predicted by the regression model. For more details on the calculation of the annualised change, see Annex A5.
Years in the figure represent PISA assessments.

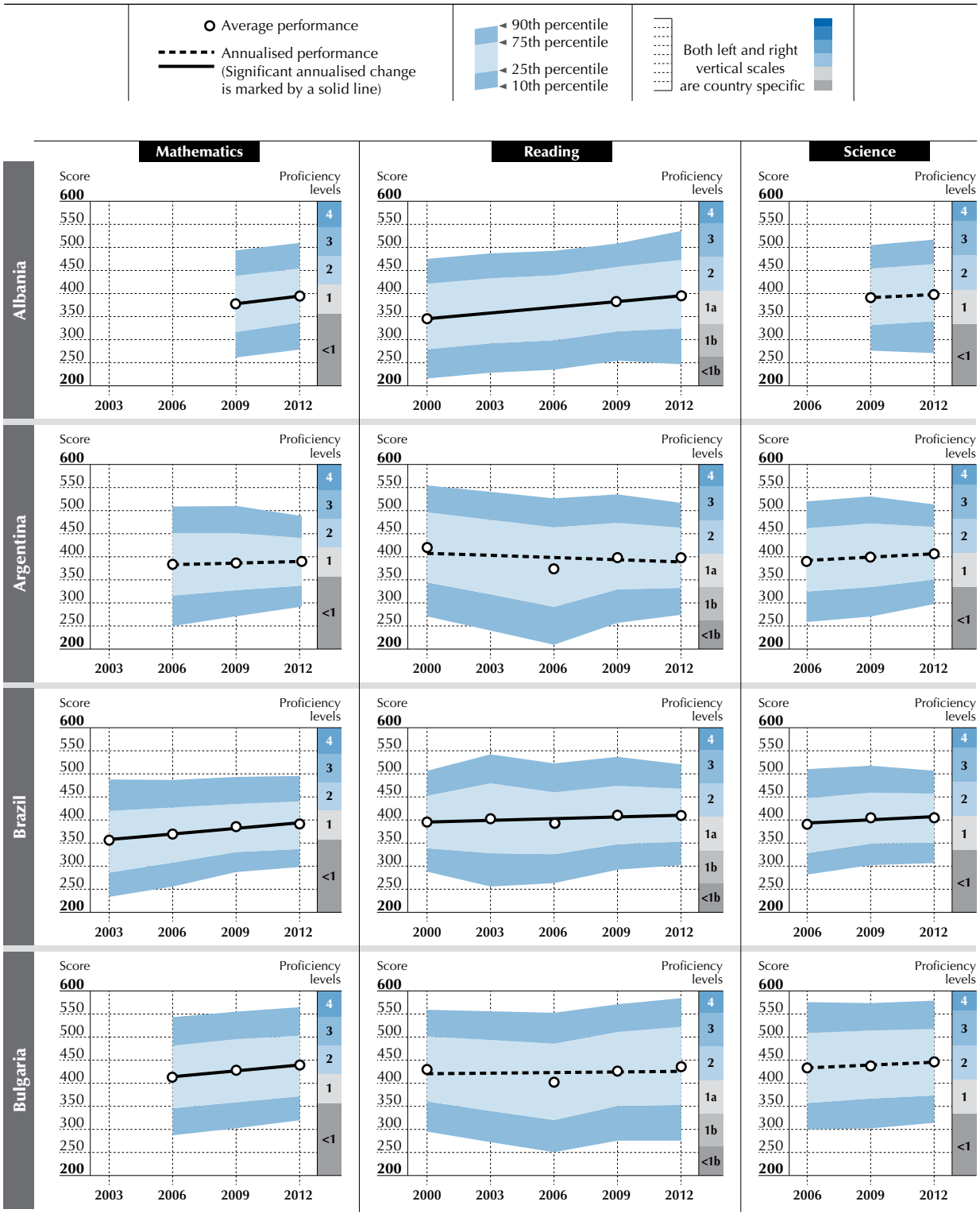
Source: OECD, PISA 2012 Database, Tables I.2.3b, I.2.3d, I.4.3b, I.4.3d, I.5.3b and I.5.3d.

StatLink http://dx.doi.org/10.1787/888932935648



■ Figure B4.2 [Part 1/8] ■

Trends in mathematics, reading and science performance: Partner countries and economies



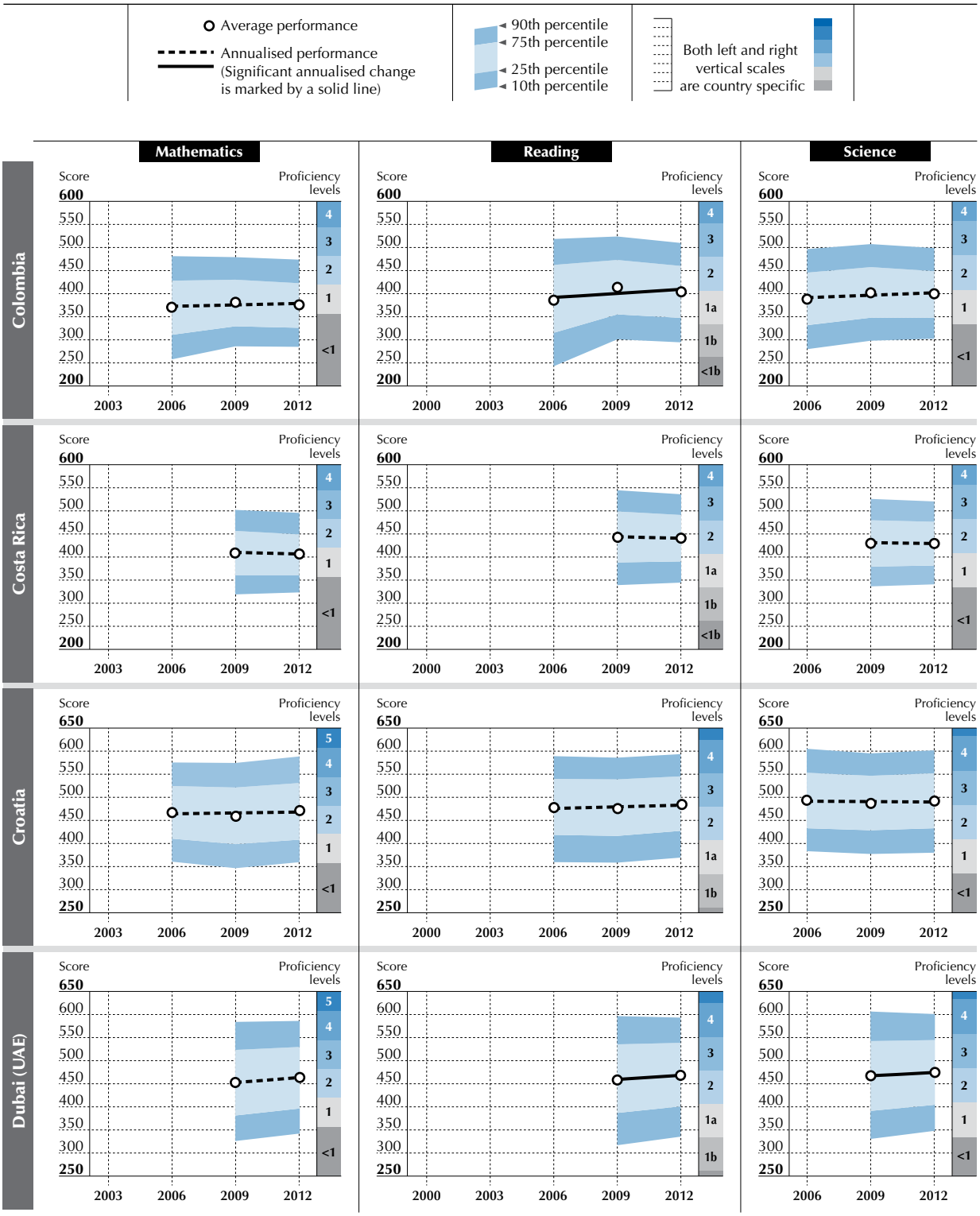
Notes: The slope of the annualised performance is the annualised change, or the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. The line marks the values predicted by the regression model. For more details on the calculation of the annualised change, see Annex A5.
Years in the figure represent PISA assessments.

Source: OECD, PISA 2012 Database, Tables I.2.3b, I.2.3d, I.4.3b, I.4.3d, I.5.3b and I.5.3d.

StatLink http://dx.doi.org/10.1787/888932936446

■ Figure B4.2 [Part 2/8] ■

Trends in mathematics, reading and science performance: Partner countries and economies



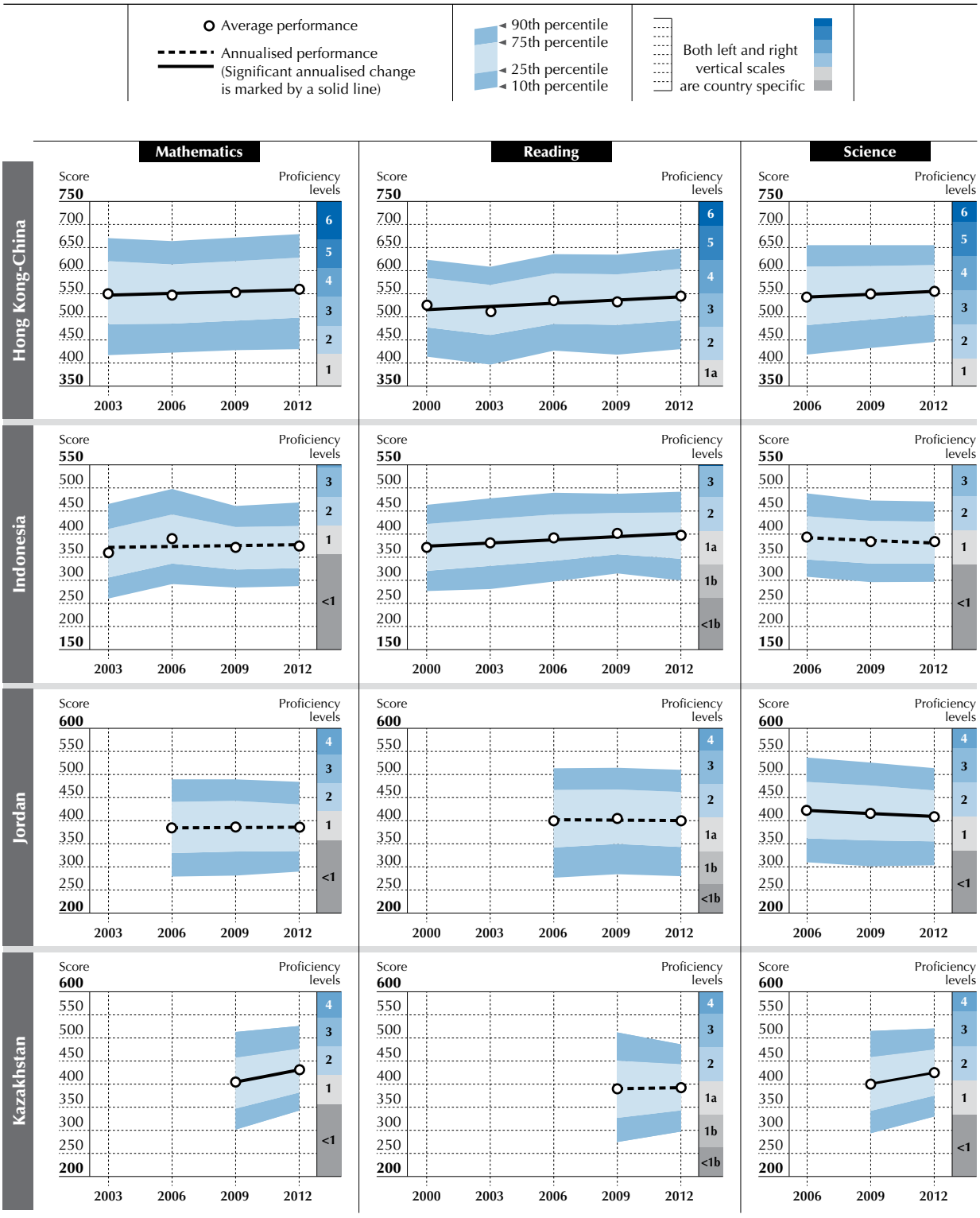
Notes: The slope of the annualised performance is the annualised change, or the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. The line marks the values predicted by the regression model. For more details on the calculation of the annualised change, see Annex A5.
Years in the figure represent PISA assessments.

Source: OECD, PISA 2012 Database, Tables I.2.3b, I.2.3d, I.4.3b, I.4.3d, I.5.3b and I.5.3d.

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■ Figure B4.2 [Part 3/8] ■

Trends in mathematics, reading and science performance: Partner countries and economies



Notes: The slope of the annualised performance is the annualised change, or the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. The line marks the values predicted by the regression model. For more details on the calculation of the annualised change, see Annex A5.
Years in the figure represent PISA assessments.

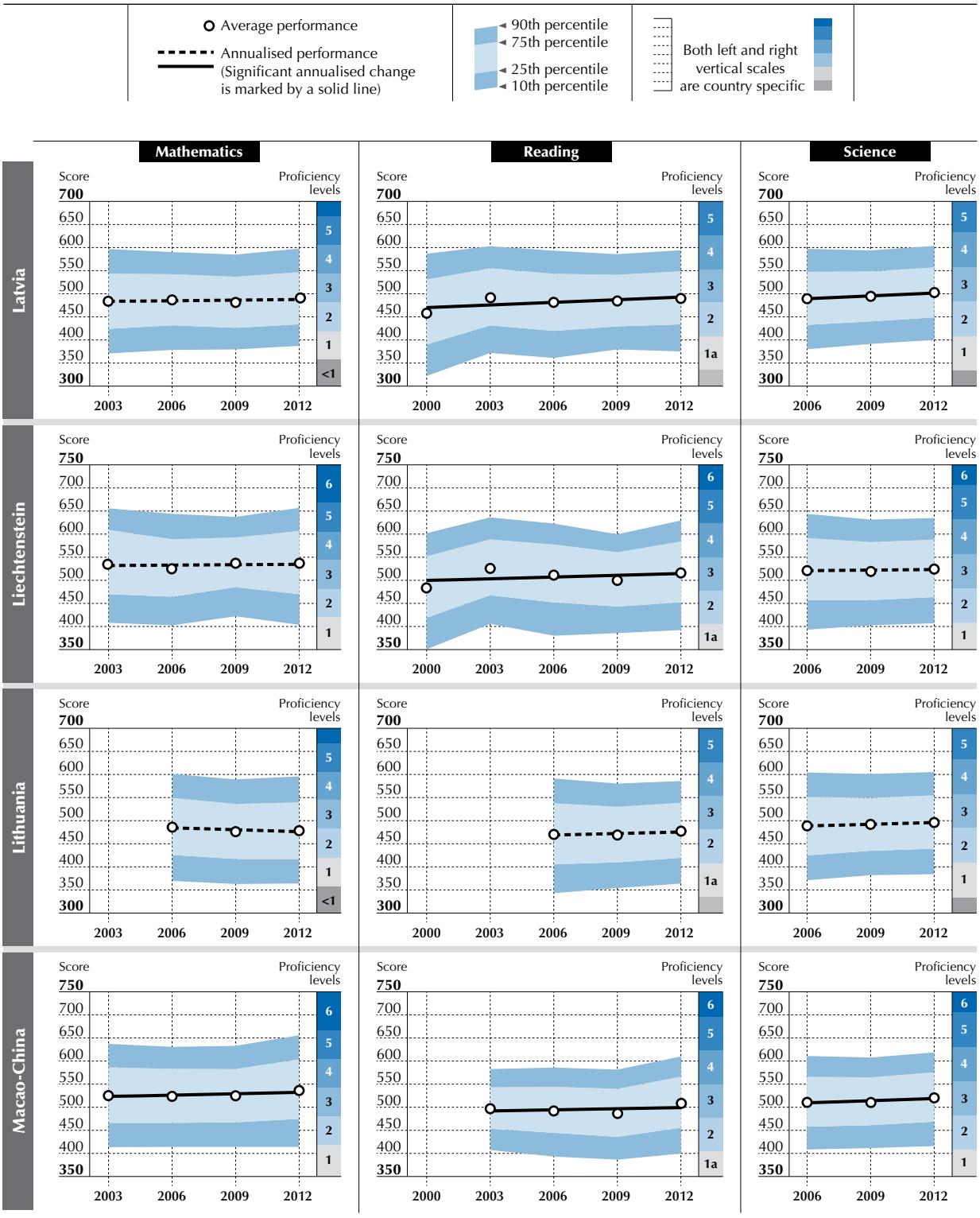
Source: OECD, PISA 2012 Database, Tables I.2.3b, I.2.3d, I.4.3b, I.4.3d, I.5.3b and I.5.3d.

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■ Figure B4.2 [Part 4/8] ■

Trends in mathematics, reading and science performance: Partner countries and economies



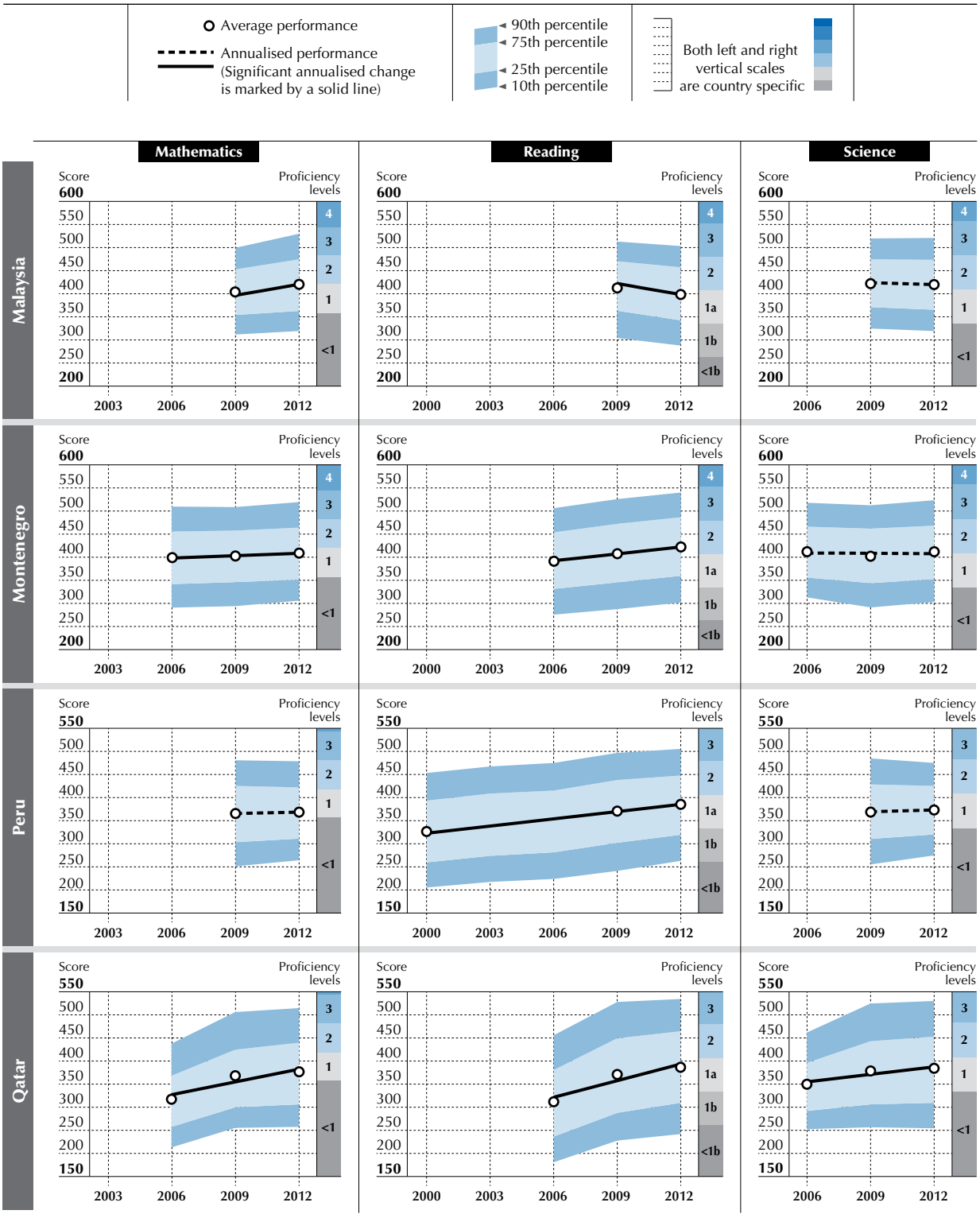
Notes: The slope of the annualised performance is the annualised change, or the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. The line marks the values predicted by the regression model. For more details on the calculation of the annualised change, see Annex A5.
Years in the figure represent PISA assessments.

Source: OECD, PISA 2012 Database, Tables I.2.3b, I.2.3d, I.4.3b, I.4.3d, I.5.3b and I.5.3d.

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■ Figure B4.2 [Part 5/8] ■

Trends in mathematics, reading and science performance: Partner countries and economies



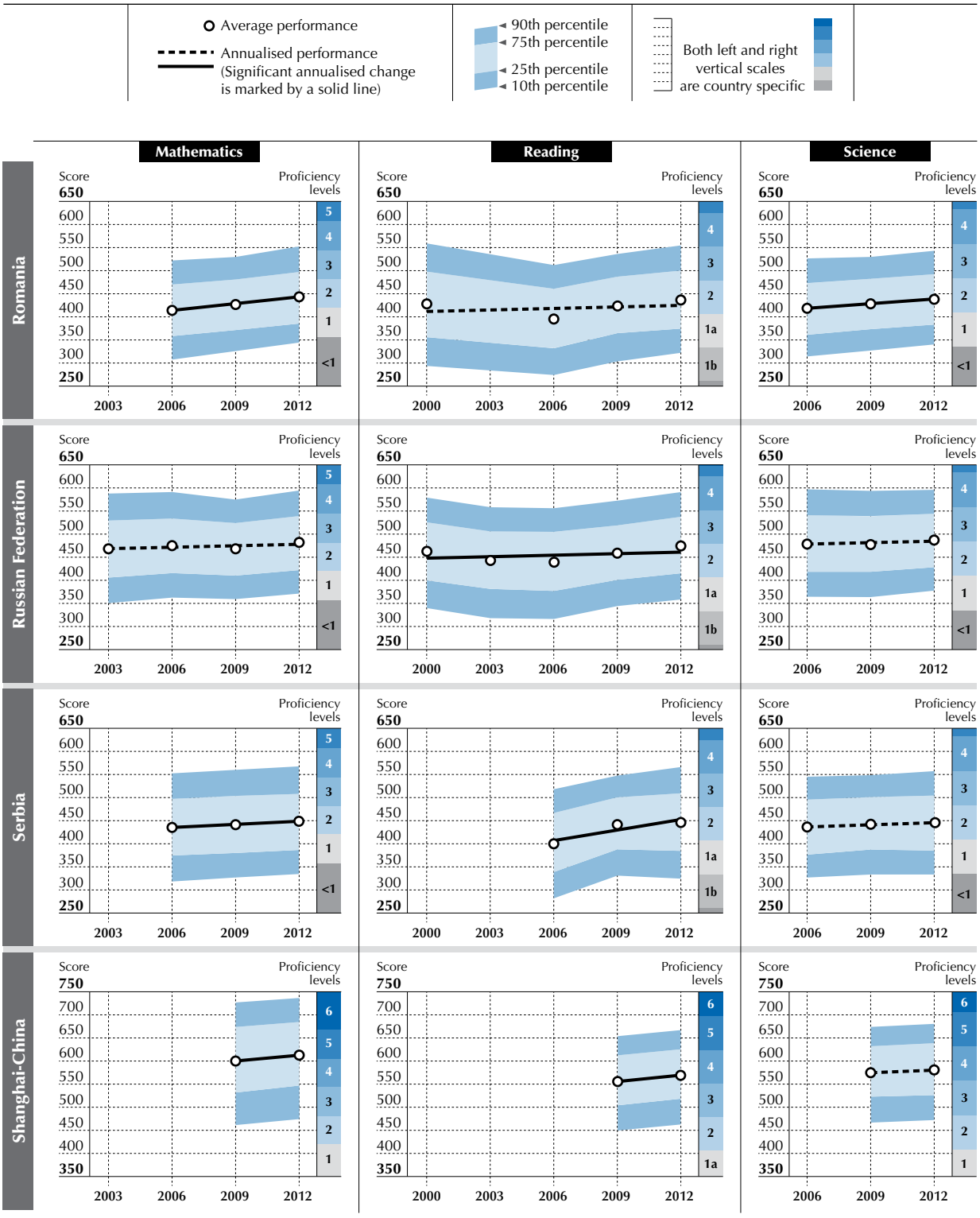
Notes: The slope of the annualised performance is the annualised change, or the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. The line marks the values predicted by the regression model. For more details on the calculation of the annualised change, see Annex A5.
Years in the figure represent PISA assessments.

Source: OECD, PISA 2012 Database, Tables I.2.3b, I.2.3d, I.4.3b, I.4.3d, I.5.3b and I.5.3d.

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■ Figure B4.2 [Part 6/8] ■

Trends in mathematics, reading and science performance: Partner countries and economies



Notes: The slope of the annualised performance is the annualised change, or the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. The line marks the values predicted by the regression model. For more details on the calculation of the annualised change, see Annex A5.
Years in the figure represent PISA assessments.

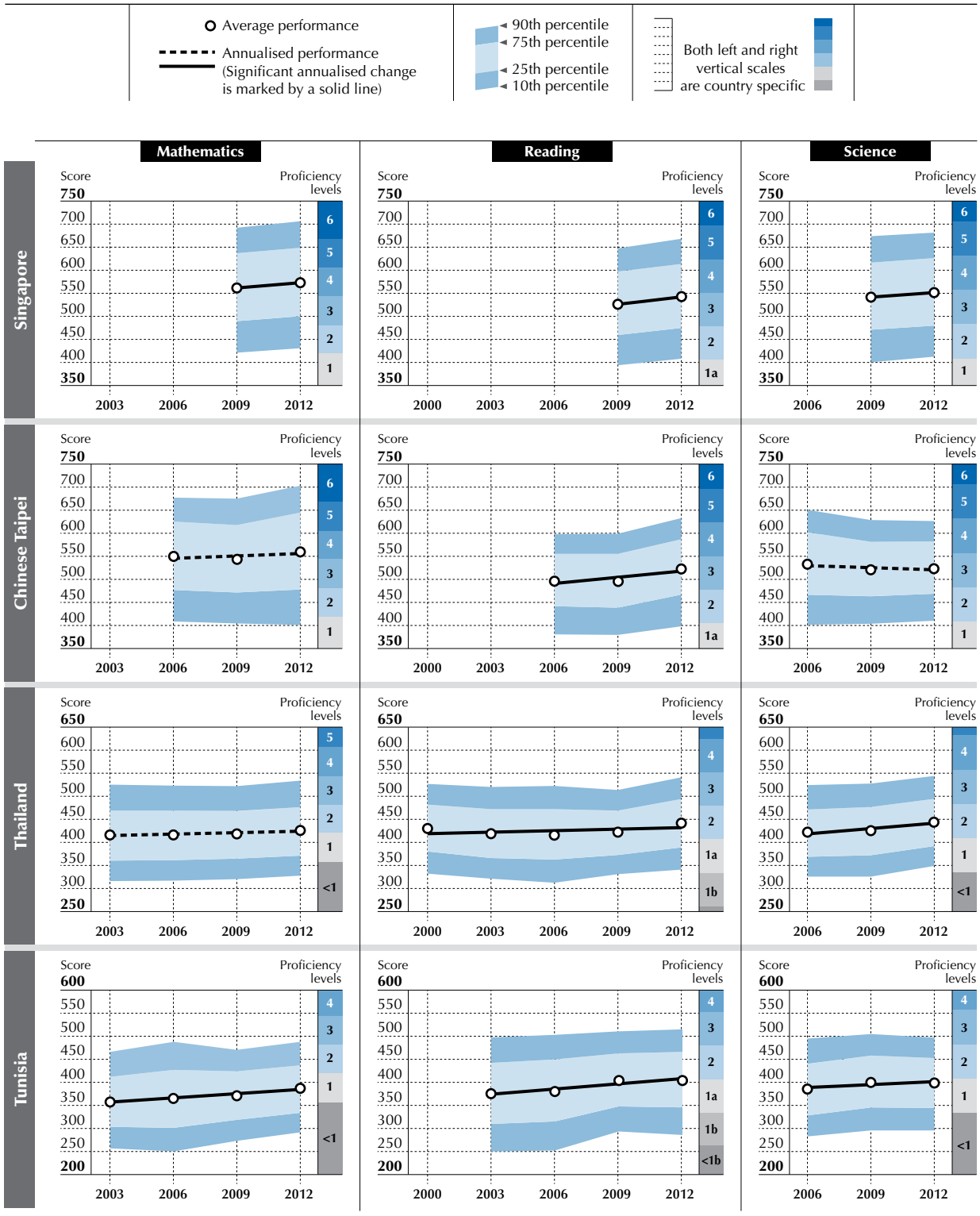
Source: OECD, PISA 2012 Database, Tables I.2.3b, I.2.3d, I.4.3b, I.4.3d, I.5.3b and I.5.3d.

StatLink http://dx.doi.org/10.1787/888932936446



■ Figure B4.2 [Part 7/8] ■

Trends in mathematics, reading and science performance: Partner countries and economies



Notes: The slope of the annualised performance is the annualised change, or the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. The line marks the values predicted by the regression model. For more details on the calculation of the annualised change, see Annex A5.
Years in the figure represent PISA assessments.

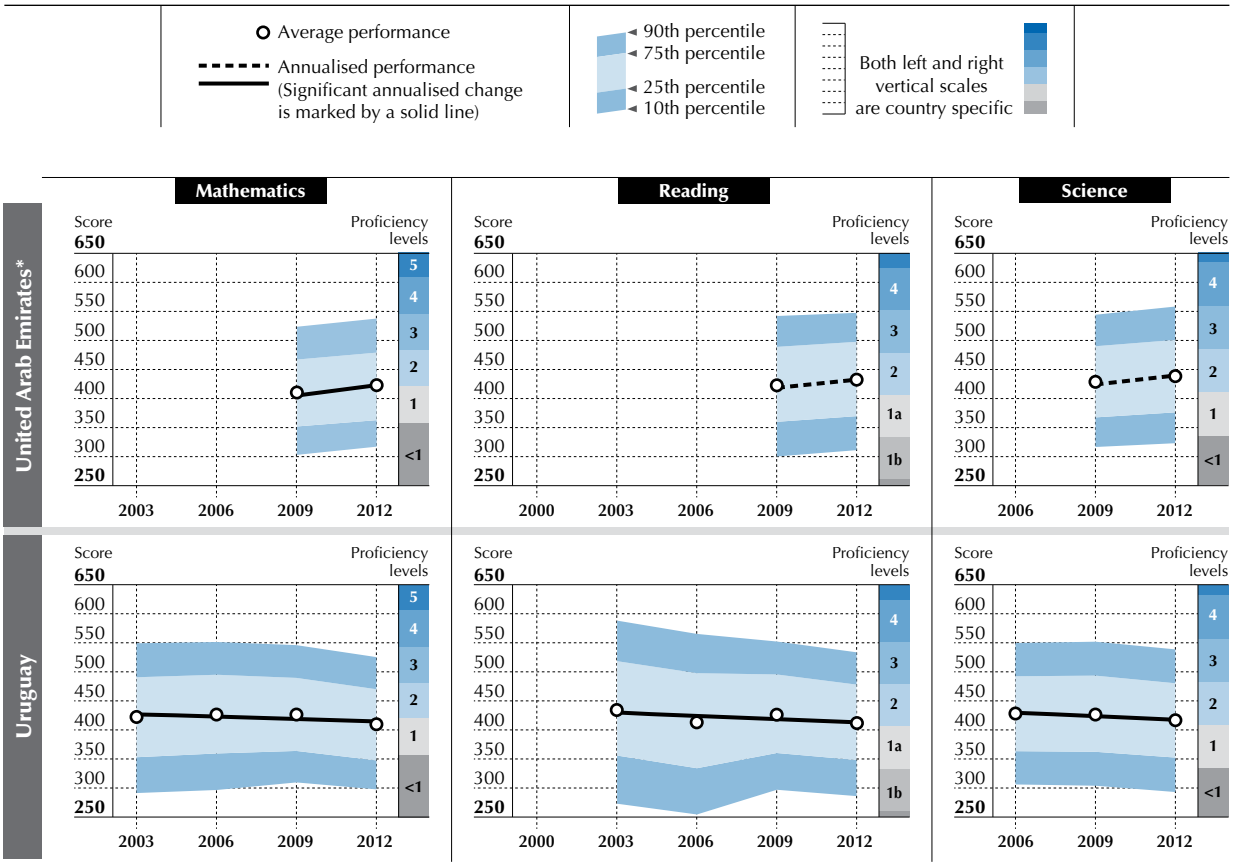
Source: OECD, PISA 2012 Database, Tables I.2.3b, I.2.3d, I.4.3b, I.4.3d, I.5.3b and I.5.3d.

StatLink http://dx.doi.org/10.1787/888932936446



■ Figure B4.2 [Part 8/8] ■

Trends in mathematics, reading and science performance: Partner countries and economies



* United Arab Emirates excluding Dubai. Dubai took the PISA 2009 assessment in 2009 and the rest of the United Arab Emirates in 2010 as part of PISA 2009+.

Notes: The slope of the annualised performance is the annualised change, or the average change between the earliest available measurement in PISA and PISA 2012. For countries and economies with more than one available measurement, the annualised change is calculated with a linear regression model. The line marks the values predicted by the regression model. For more details on the calculation of the annualised change, see Annex A5.
Years in the figure represent PISA assessments.

Source: OECD, PISA 2012 Database, Tables I.2.3b, I.2.3d, I.4.3b, I.4.3d, I.5.3b and I.5.3d.

StatLink http://dx.doi.org/10.1787/888932936446



Annex C

THE DEVELOPMENT AND IMPLEMENTATION OF PISA – A COLLABORATIVE EFFORT



PISA is a collaborative effort, bringing together experts from the participating countries, steered jointly by their governments on the basis of shared, policy-driven interests.

A PISA Governing Board, on which each country is represented, determines the policy priorities for PISA, in the context of OECD objectives, and oversees adherence to these priorities during the implementation of the programme. This includes setting priorities for the development of indicators, for establishing the assessment instruments, and for reporting the results.

Experts from participating countries also serve on working groups that are charged with linking policy objectives with the best internationally available technical expertise. By participating in these expert groups, countries ensure that the instruments are internationally valid and take into account the cultural and educational contexts in OECD member and partner countries and economies, that the assessment materials have strong measurement properties, and that the instruments place emphasise authenticity and educational validity.

Through National Project Managers, participating countries and economies implement PISA at the national level subject to the agreed administration procedures. National Project Managers play a vital role in ensuring that the implementation of the survey is of high quality, and verify and evaluate the survey results, analyses, reports and publications.

The design and implementation of the surveys, within the framework established by the PISA Governing Board, is the responsibility of external contractors. For PISA 2012, the development and implementation of the cognitive assessment and questionnaires, and of the international options, was carried out by a consortium led by the Australian Council for Educational Research (ACER). Other partners in this Consortium include cApStAn Linguistic Quality Control in Belgium, the Centre de Recherche Public Henri Tudor (CRP-HT) in Luxembourg, the Department of Teacher Education and School Research (ILS) at the University of Oslo in Norway, the Deutsches Institut für Internationale Pädagogische Forschung (DIPF) in Germany, the Educational Testing Service (ETS) in the United States, the Leibniz Institute for Science and Mathematics Education (IPN) in Germany, the National Institute for Educational Policy Research in Japan (NIER), the Unité d'analyse des systèmes et des pratiques d'enseignement (aSPe) at the University of Liège in Belgium, and WESTAT in the United States, as well as individual consultants from several countries. ACER also collaborated with Achieve, Inc. in the United States to develop the mathematics framework for PISA 2012.

The OECD Secretariat has overall managerial responsibility for the programme, monitors its implementation daily, acts as the secretariat for the PISA Governing Board, builds consensus among countries and serves as the interlocutor between the PISA Governing Board and the international Consortium charged with implementing the activities. The OECD Secretariat also produces the indicators and analyses and prepares the international reports and publications in co-operation with the PISA Consortium and in close consultation with member and partner countries and economies both at the policy level (PISA Governing Board) and at the level of implementation (National Project Managers).

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