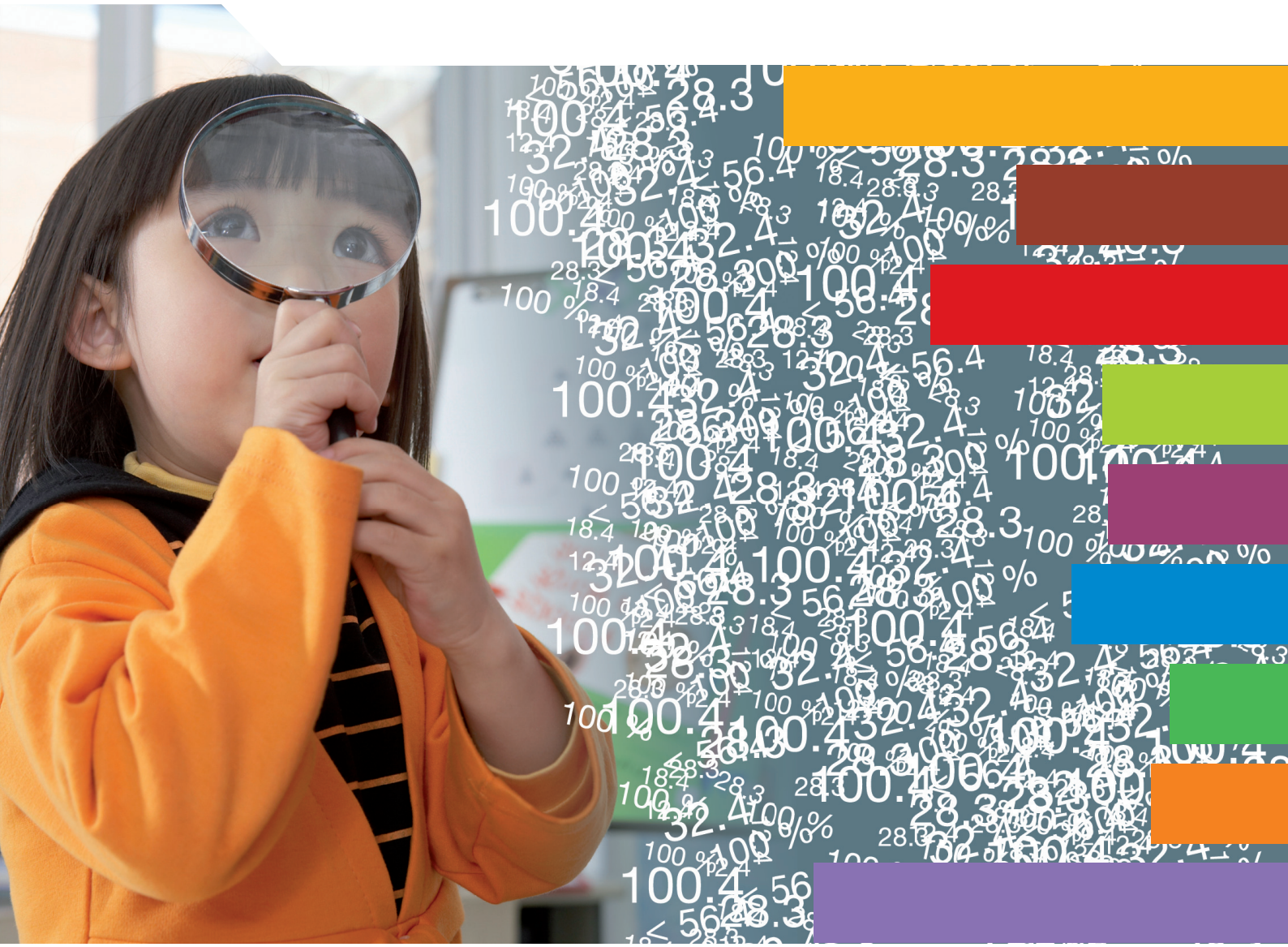
Education at a Glance 2012 Highlights



OECD

Education at a Glance 2012

HIGHLIGHTS

OECD
BETTER POLICIES FOR BETTER LIVES

This work is published on the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of the Organisation or of the governments of its member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

Please cite this publication as:
OECD (2012), *Education at a Glance 2012: Highlights*, OECD Publishing.
http://dx.doi.org/10.1787/eag_highlights-2012-en

ISBN 978-92-64-17956-1 (print)
ISBN 978-92-64-17957-8 (HTML)

Series: Education at a Glance
ISSN 2076-2631 (print)
ISSN 2076-264X (online)

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.

Photo credits: Cover © Carlos Restrepo/Fotolia.
Images: Chapter 1 © Jeffrey Coolidge/The Image Bank/Getty Images.
Chapter 2 © Tom Grill/Photographer's Choice RF/Getty Images.
Chapter 3 © Julia Smith/Riser/Getty Images.
Chapter 4 © Image Source/Image Source/Getty Images.
Chapter 5 © Digital Vision/Inmagine ltd.

Corrigenda to OECD publications may be found on line at: *www.oecd.org/publishing/corrigenda*.

© OECD 2012

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgement of OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to *rights@oecd.org*. Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at *info@copyright.com* or the Centre français d'exploitation du droit de copie (CFC) at *contact@cfcopies.com*.

Foreword

Education at a Glance 2012: Highlights *offers a reader-friendly introduction to the OECD's collection of internationally comparable data on education.*

As the name suggests, it is derived from Education at a Glance 2012, *the OECD's flagship compendium of education statistics. However, it differs from that publication in a number of ways, most significantly in its structure, which is made up of five sections that explore the following topics:*

- **Education levels and student numbers:** *This section looks at education levels in the general population, how and where young people are studying and how well they make the transition into the world of work.*
- **The economic and social benefits of education:** *This section looks at the extent to which education brings economic gains to individuals, in the form of higher incomes and lower unemployment rates, and at how these benefits serve as an incentive for people and societies to invest in education. It also examines the societal benefits related to having a highly educated population.*
- **Paying for education:** *This section looks at how much countries spend on education, the role of private spending, what education money is spent on and whether countries are getting value for money.*
- **The school environment:** *This section looks at how much time teachers spend at work, and how much of that time is spent teaching, class sizes, teachers' salaries and the age and gender distribution of teachers.*
- **Equity:** *This special section looks at issues relating to equity in education, particularly the accessibility of education at all levels, intergenerational mobility, gender gaps in education and the impact of socio-economic background on student performance, especially for the children of immigrants.*

In general, this publication uses the terminology employed in Education at a Glance 2012. *However, in one or two places terminology has been simplified. Readers who want to find out more should consult the "Reader's Guide".*

Tables and figures in this volume are accompanied by a dynamic hyperlink, or StatLink, that will direct readers to an Internet site where the corresponding data are available in Excel™ format. In addition, reference is sometimes made in the text to figures and tables that appear in Education at a Glance 2012. *This material can generally be accessed via the StatLinks accompanying the tables and figures in the relevant indicator, or at www.oecd.org/edu/eag2012.*

Readers wishing to find out more about the OECD's work on education should go to www.oecd.org/edu.

Table of Contents

Reader's guide 7

1. Education levels and student numbers 11

To what level have adults studied? 12
Who participates in education? 14
How many young people finish secondary education? 16
How many young people enter tertiary education? 18
How many young people graduate from tertiary education? 20
How successful are students in moving from education to work? 22
How many students study abroad and where do they go? 24

2. The economic and social benefits of education 27

How much more do tertiary graduates earn? 28
How does education affect employment rates? 30
What are the incentives for people to invest in education? 32
What are the incentives for societies to invest in education? 34
What are the social benefits of education? 36
How does education affect the economy? 38

3. Paying for education 41

How much is spent per student? 42
Has spending per student increased? 44
What share of national wealth is spent on education? 46
What share of public spending goes to education? 48
What is the role of private spending? 50
How much do tertiary students pay? 52
What are education funds spent on? 54
How much do teachers cost? 56

4. The school environment 59

How long do students spend in the classroom? 60
How many students are in each classroom? 62
How much are teachers paid? 64
How much time do teachers spend teaching? 66
Who are the teachers? 68

5. Special section: Equity 71

What is equity in education? 72
Access to early childhood education 74
Access to secondary and tertiary education 76
Access to the labour market 78
Access to lifelong learning 80
Does parental education affect students' chances? 82
Integrating immigrants' children 84
Reducing the gender gap 86

Statistical note 89

This book has...

StatLinks

A service that delivers Excel® files from the printed page!

Look for the *StatLinks* at the bottom right-hand corner of the tables or graphs in this book. To download the matching Excel® spreadsheet, just type the link into your Internet browser, starting with the ***http://dx.doi.org*** prefix.
If you're reading the PDF e-book edition, and your PC is connected to the Internet, simply click on the link. You'll find *StatLinks* appearing in more OECD books.

Reader's guide

This section introduces some of the terminology used in this publication, and explains how readers can use the links provided to get further information.

Levels of education

Education systems vary considerably from country to country, including the ages at which students typically begin and end each phase of schooling, the duration of courses and what students are taught and expected to learn. These variations greatly complicate the compilation of internationally comparable statistics on education. In response, the United Nations created an International Standard Classification of Education (ISCED), which provides a basis for comparing different education systems and a standard terminology.

The table below introduces this system of classification and explains what is meant by each level of education. Readers should note that this publication uses slightly simplified terminology, which differs from that used in both the ISCED classification and in *Education at a Glance* 2012. The table shows the equivalent terms in the two publications, the ISCED classifications and definitions of what it all means.

Term used to describe levels of education in *Education at a Glance 2012* *ISCED classification (and subcategories)*	**Term generally used in this publication**
Pre-primary education *ISCED 0.*	**Pre-primary education** The first stage of organised instruction designed to introduce very young children to the school atmosphere. Minimum entry age of 3.
Primary education *ISCED 1.*	**Primary education** Designed to provide a sound basic education in reading, writing and mathematics and a basic understanding of some other subjects. Entry age: between 5 and 7. Duration: 6 years.
Lower secondary education *ISCED 2 (subcategories: 2A prepares students for continuing academic education, leading to 3A; 2B has stronger vocational focus, leading to 3B; 2C offers preparation for entering workforce).*	**Lower secondary education** Completes provision of basic education, usually in a more subject-oriented way with more specialist teachers. Entry follows 6 years of primary education; duration is 3 years. In some countries, the end of this level marks the end of compulsory education.
Upper secondary education *ISCED 3 (subcategories: 3A prepares students for university-level education at level 5A ; 3B for entry to vocationally oriented tertiary education at level 5B; 3C prepares students for workforce or for post-secondary non tertiary education, ISCED 4).*	**Upper secondary education** Even stronger subject specialisation than at lower-secondary level, with teachers usually more qualified. Students typically expected to have completed 9 years of education or lower secondary schooling before entry and are generally around the age of 15 or 16.
Post-secondary non-tertiary education *ISCED 4 (subcategories: 4A may prepare students for entry to tertiary education, both university level and vocationally oriented education; 4B typically prepares students to enter the workforce).*	**Post-secondary non-tertiary education** Programmes at this level may be regarded nationally as part of upper secondary or post-secondary education, but in terms of international comparison their status is less clear-cut. Programme content may not be much more advanced than in upper secondary, and is certainly lower than at tertiary level. Entry typically requires completion of an upper secondary programme. Duration usually equivalent to between 6 months and 2 years of full-time study.

Term used to describe levels of education in *Education at a Glance 2012* *ISCED classification (and subcategories)*	**Term generally used in this publication**
Tertiary education *ISCED 5 (subcategories 5A and 5B, see below).*	**Tertiary education** ISCED 5 is the first stage of tertiary education (the second – ISCED 6 – involves advanced research). At level 5, it is often more useful to distinguish between two subcategories: 5A, which represents longer and more theoretical programmes; and 5B, where programmes are shorter and more practically oriented. Note, though, that as tertiary education differs greatly between countries, the demarcation between these two subcategories is not always clear-cut.
Tertiary-type A *ISCED 5A.*	**University-level education** "Long-stream" programmes that are theory based and aimed at preparing students for further research or to give access to highly skilled professions, such as medicine or architecture. Entry preceded by 13 years of education, students typically required to have completed upper secondary or post-secondary non-tertiary education. Duration equivalent to at least 3 years of full-time study, but 4 is more usual.
Tertiary-type B *ISCED 5B.*	**Vocationally oriented tertiary education** "Short-stream" programmes that are more practically oriented or focus on the skills needed for students to directly enter specific occupations. Entry preceded by 13 years of education; students may require mastery of specific subjects studied at levels 3B or 4A. Duration equivalent to at least 2 years of full-time study, but 3 is more usual.
Advanced research programmes *ISCED 6.*	**Advanced research programmes** The second stage of tertiary education. Programmes are devoted to advanced study and original research.

For fuller definitions and explanations of the ISCED standard, please consult *Classifying Education Programmes: Manual for ISCED-97 Implementation in OECD Countries* (1999).

Country coverage

OECD and partner countries: This publication features data on education from the 34 OECD member countries, two non-OECD countries that participate in the OECD Indicators of Education Systems Programme (INES), namely Brazil and the Russian Federation, and other G20 countries that do not participate in INES (Argentina, China, India, Indonesia, Saudi Arabia and South Africa).

Belgium: Data on Belgium may be applicable only to either the Flemish Community or the French Community. Where this is the case, the text and figures refer to Belgium (Fl.) for the Flemish Community and Belgium (Fr.) for the French community.

EU21: These are the 21 OECD countries for which data are available or can be estimated that are members of the European Union: Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Poland, Portugal, Slovenia, the Slovak Republic, Spain, Sweden and the United Kingdom.

G20: These are Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Korea, Mexico, the Russian Federation, Saudi Arabia, South Africa, Turkey, the United Kingdom, the United States and the European Union (which is not included in the G20 average).

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.

Notes to tables and figures

For further details on the data behind any figure, see the relevant indicator in the full publication *Education at a Glance 2012*, or click the hyperlink in the figure's source to download the data and notes.

234

1. EDUCATION LEVELS AND STUDENT NUMBERS

To what level have adults studied?

Who participates in education?

How many young people finish secondary education?

How many young people enter tertiary education?

How many young people graduate from tertiary education?

How successful are students in moving from education to work?

How many students study abroad and where do they go?

To what level have adults studied?

- *On average across OECD countries, 26% of all adults have below upper secondary education, 44% upper secondary education and 30% tertiary education.*
- *Upper secondary education is the norm among younger adults in OECD countries, to a far greater extent than for older adults. In 2010, 25 OECD countries had upper secondary attainment rates of 80% or more among 25-34 year-olds.*
- *The rate of tertiary attainment is also higher among younger adults, reaching 38% of 25-34 year-olds.*

Significance

Education is important for both the present, giving individuals the knowledge and skills to participate fully and effectively in society, and for the future, as it helps expand scientific and cultural knowledge. The level to which adults have studied is often used as a proxy for the level of human capital – the skills available in the population and labour force. The global economic crisis has provided an additional incentive for people to build their skills, in difficult economic circumstances.

Findings

Across almost all OECD countries, upper secondary attainment is the norm. On average, 74% of 25-64 year-olds have achieved this level, compared with 82% for 25-34 year-olds. However, levels vary between countries. For instance in Brazil, China, Mexico, Portugal and Turkey roughly half of this age group have not completed secondary school.

Some countries have seen dramatic increases in upper secondary attainment rates from generation to generation. In Chile, Greece, Ireland, Italy, Korea, Portugal and Spain upper secondary attainment rates for 25-34 year-olds are at least 30 percentage points higher than for older adults (55-64 year-olds).

Differences between age groups are less pronounced in countries with traditionally high levels of upper secondary attainment. For instance, in Estonia, Germany and Norway, the upper secondary attainment rate is less than 5 percentage points higher for 55-64 year-olds than for 25-34 year-olds. In the United States, it has decreased slightly. Among non-OECD G20 countries, Brazil, China and the Russian Federation all have made notable progress in increasing upper secondary attainment rates between generations.

Tertiary attainment levels have increased considerably over the past 30 years and nearly 210 million people in OECD countries have completed tertiary education. Canada, Japan, Korea and the Russian Federation have the highest proportion of young adults with tertiary education, with 55% or more of adults aged 25-34 having reached this level of education.

In almost all countries younger adults have higher rates of tertiary education than the generation about to leave the labour market. On average across OECD countries, 38% of 25-34 year-olds have completed tertiary education, compared with 23% of 55-64 year-olds.

Trends

Efforts to raise people's level of education have led to significant changes in attainment rates, particularly at the top and bottom ends of the education spectrum. On average among OECD countries, between 1997 and 2010, the proportion of adults who had not attained an upper secondary education fell from 36% to 26%, while the proportion completing tertiary education rose about 10 percentage points from 21%. The proportion completing upper secondary or post-secondary non-tertiary education was almost unchanged, rising from 43% to 44%.

Definitions

Data on population and education attainment are taken from *OECD* and *Eurostat Databases*, which are compiled from National Labour Force Surveys.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator A1).

Areas covered include:

- Educational attainment of adults, by gender.
- Potential growth in population with tertiary attainment.

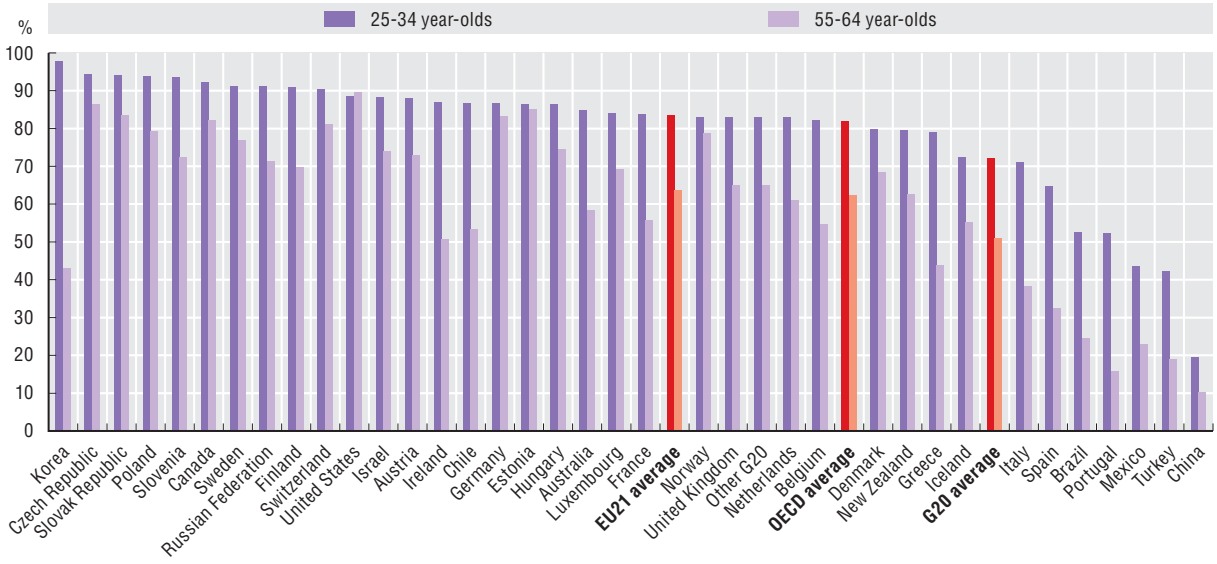
Additional data on gender gaps in vocational and tertiary education is available online in Indicator A1 at *www.oecd.org/edu/eag2012*.

Further reading from OECD

Reviews of National Policies for Education (series).

Figure 1.1. **Population that has attained at least upper secondary education, 2010**

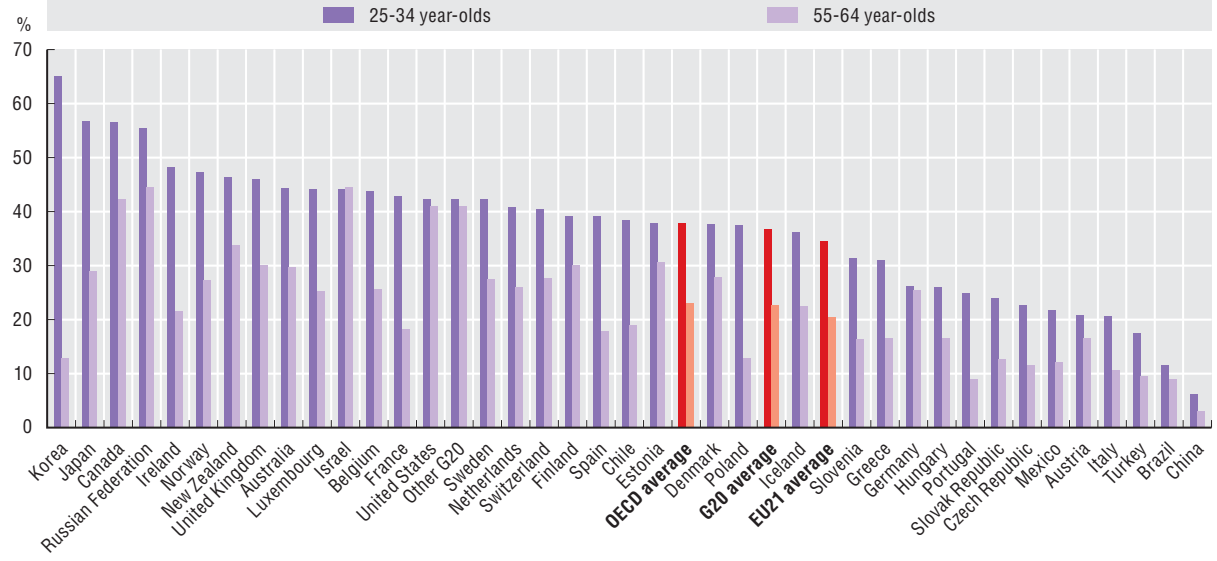
This figure shows the percentage of 25-34 year-olds and 55-64 year-olds who have been through at least upper secondary education. The rapid expansion of education in recent decades means younger people tend to have higher levels of education.



Source: OECD (2012), *Education at a Glance 2012*, Table A1.2a, available at: *http://dx.doi.org/10.1787/888932664176*.

Figure 1.2. **Population that has attained tertiary education, 2010**

This figure shows the percentage of 25-34 year-olds and 55-64 year-olds who have been through tertiary education.



Source: OECD (2012), *Education at a Glance 2012*, Table A1.3a, available at: *http://dx.doi.org/10.1787/888932664233*.

Who participates in education?

- *Virtually everyone in OECD countries has access to at least 13 years of formal education, and the average 5-year old can expect to complete more than 17 years of education by the time they are 40.*
- *More than three-quarters of 4-year-olds (79%) are enrolled in early childhood education in OECD countries.*
- *In 25 OECD countries, 80% or more of 15-19 year-olds are in education, with girls on average slightly ahead of boys.*
- *The proportion of 20-29 year-olds in education increased substantially in 20 OECD countries between 2009 and 2010, compared with 2005-10 and numbers are expected to continue growing.*

Significance

A well-educated population is essential for economic and social development; societies therefore have a real interest in ensuring that children and adults have access to a wide range of educational opportunities. This section examines the evolution in access to education from 1995 to 2010, focusing on the number of young people who continue studying once compulsory education has ended.

Findings

Virtually all people in OECD countries have access to at least 13 years of formal education and at least 90% of students are enrolled in education for 15 years or more in Belgium, Norway and Sweden. By contrast, in Chile, Indonesia, Saudi Arabia and Turkey, 90% of children have access to education for 8-10 years. In almost half of OECD countries, full enrolment begins between the ages of 5 and 7. However, participation in early education is expanding. In almost two-thirds of OECD countries, over 75% of 3-4 year-olds are enrolled in either pre-primary or primary programmes. Participation rates are higher in European countries (78%) than in other OECD countries (72%).

Access to education is universal between the ages of 5 and 14 in all OECD and other G20 countries with available data, and a 5-year-old child in an OECD country can expect to have more than 17 years of education (full or part-time) by the age of 40. In 25 OECD countries, 80% or more of 15-19 year-olds are in education. The OECD average is 84% for girls and 82% for boys. More than 90% of this age group are in education in Belgium, the Czech Republic, Hungary, Ireland, the Netherlands, Poland and Slovenia. However, more than 20% of 15-19 year-olds are not enrolled in education in Argentina, Austria, Brazil, Chile, China, Indonesia, Israel, Luxembourg, Mexico, New Zealand, Turkey and the United Kingdom.

On average in OECD countries, 27% of 20-29 year-olds were enrolled in education – mostly tertiary education – in 2010. Enrolment rates were 30% or more in Australia, Belgium, Denmark, Finland, Germany, Greece, Iceland, Korea, the Netherlands, New Zealand, Slovenia and Sweden. More women than men are in education in this age group on average, with a gap of more than 10 percentage points in Slovenia and Sweden.

Trends

Enrolment rates for 15-19 year-olds increased on average by 10.4 percentage points between 1995 and 2010. France is the only exception, with an enrolment rate decreasing from 89% to 84% during this period. There has been growth, too, in enrolment for 20-29 year-olds, with a 10.1 percentage point increase between 1995 and 2010. Growth was at least 12 percentage points in the Czech Republic, Finland, Greece, Hungary, Iceland, Korea, New Zealand, Poland, Sweden and Turkey. These increases may reveal the general awareness of the benefits of participating in education in a restricted labour market.

Definitions

Data for the 2009-10 school year are based on the UOE data collection on education statistics, administered annually by the OECD. Except where otherwise noted, figures are based on head counts and do not distinguish between full-time and part-time study.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

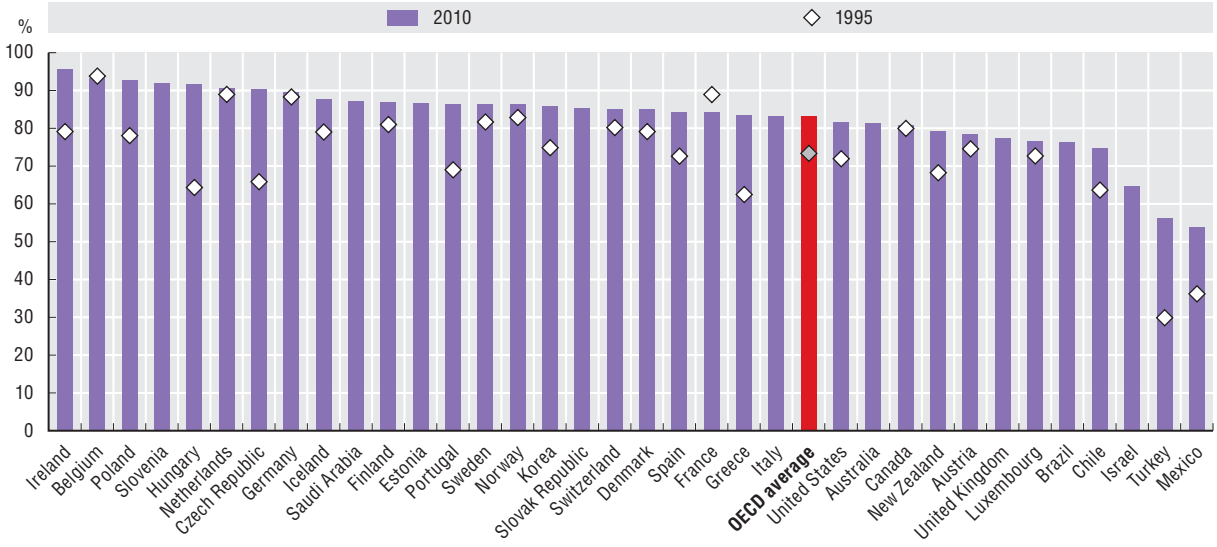
For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicators C1 and C2).

Areas covered include:

- Students in primary, secondary and tertiary education, by type of institution or mode of enrolment.
- Transition characteristics from age 15 to 20, by level of education.
- Education expectancy.

Figure 1.3. **Enrolment rates of 15-19 year-olds (1995, 2010)**

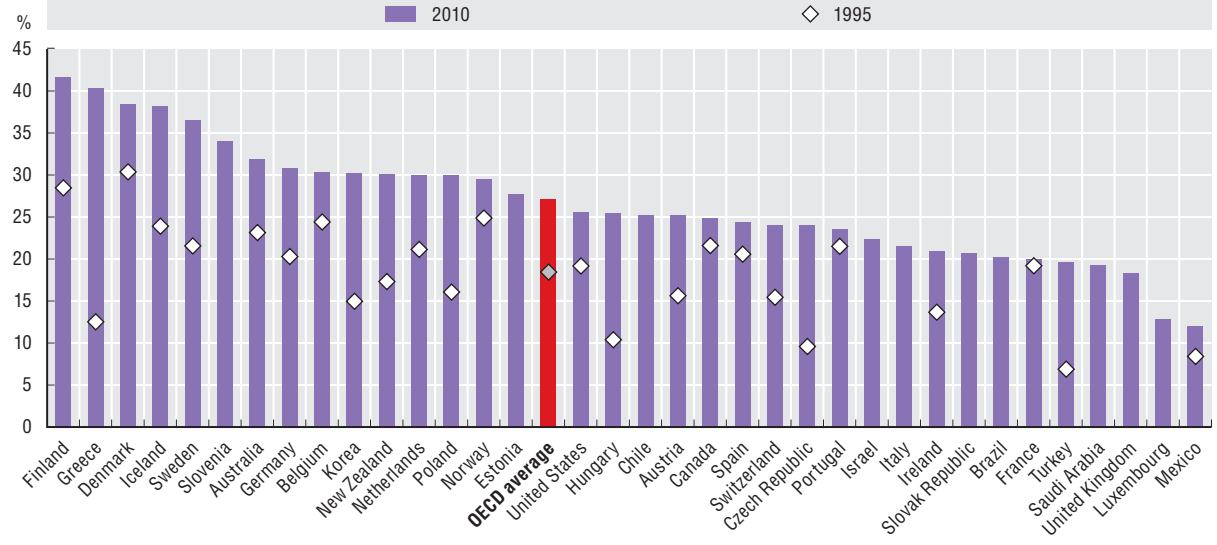
This figure shows the increase or decrease in the percentage of 15-19 year-olds enrolled in full-time and part-time education.



Source: OECD (2012), *Education at a Glance 2012*, Table C1.2, available at: *http://dx.doi.org/10.1787/888932666836.*

Figure 1.4. **Enrolment rates of 20-29 year-olds (1995, 2010)**

This figure shows the increase or decrease in the percentage of 20-29 year-olds enrolled in full-time and part-time education.



Source: OECD (2012), *Education at a Glance 2012*, Table C1.2, available at: *http://dx.doi.org/10.1787/888932666836.*

How many young people finish secondary education?

- *Based on current patterns of graduation, it is estimated that an average of 84% of today's young people in OECD countries will complete upper secondary education over their lifetimes. For G20 countries, the level is 78%.*
- *Girls are more likely than boys to complete upper secondary education in OECD countries, a reversal of historical trends.*
- *Most boys in vocational programmes at the upper secondary level choose to study engineering, manufacturing and construction, while girls opt for a range of fields, notably business, law, social sciences, health and welfare, and services.*

Significance

This section shows how many students are expected to finish secondary education. Completing upper secondary education does not in itself guarantee that students are adequately equipped with the basic skills and knowledge necessary to enter the labour market or tertiary studies. However, these rates do give an indication of the extent to which education systems succeed in preparing students to meet the labour market's minimum requirements. Young people in OECD countries who do not finish secondary education face severe difficulties when it comes to finding work. Policy makers are examining ways to reduce the number of early school-leavers, defined as those students who do not complete their upper secondary education. Internationally comparable measures of how many students successfully complete upper secondary programmes – which also show how many students are not completing these programmes – can assist efforts to that end.

Findings

The percentage of young people graduating from upper secondary education exceeds 75% in 23 of the 27 countries with available data. In Finland, Greece, Ireland, Israel, Japan, Korea, Portugal, Slovenia and the United Kingdom it is 90% or more. Graduation rates for girls exceed those for boys in almost all OECD countries, except Germany. The gap is greatest in Iceland and Portugal, where graduation rates among young women exceed those of young men by 20 percentage points or more. Only in China, Germany, Ireland, Japan, Korea and Turkey is there little or no gender gap in upper secondary graduation.

In most countries, upper secondary education is designed to prepare students to enter university-level education. In Germany, Slovenia, and Switzerland, however, students are more likely to enrol in and graduate from upper secondary programmes that lead to pre-vocational or vocational education (tertiary-type B), where courses are typically shorter and focus on developing practical, technical or occupational skills. Some 47% of boys and 44% of girls graduated from vocational programmes in 2010 in OECD countries, but while most boys choose engineering, manufacturing or construction, girls tend to prefer social sciences, business, law, health, education and services. Only in Argentina do girls prefer engineering, manufacturing and construction.

It is estimated that 70% of boys and girls who begin an upper secondary programme complete it within the planned duration of the programme. However, in some countries, it is relatively common for students and apprentices to take a break from their studies and leave the education system temporarily. Around 10% of upper secondary graduates in Denmark, Finland and Norway are 25 or older, while 20% in Iceland and more than 40% in Portugal are.

Trends

Since 1995, the upper secondary graduation rate has increased by an average of eight percentage points among OECD countries with comparable data, with an annual growth rate of 0.6%. The greatest increase occurred in Portugal, which showed an annual growth rate of 4.7% between 1995 and 2010.

Definitions

Data for the 2009-10 school year are based on the UOE data collection on education statistics, administered by the OECD in 2011. Upper secondary graduation rates are calculated for the years 2005-10 as net graduation rates, which represent the estimated percentage of an age cohort that will complete education at those levels. Gross graduation rates are presented for the years 1995, 2000-04, or for 2005-10 for countries that are unable to provide such detailed data.

Data on successful completion of upper secondary programmes by gender and programmes come from a special survey carried out in December 2011.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

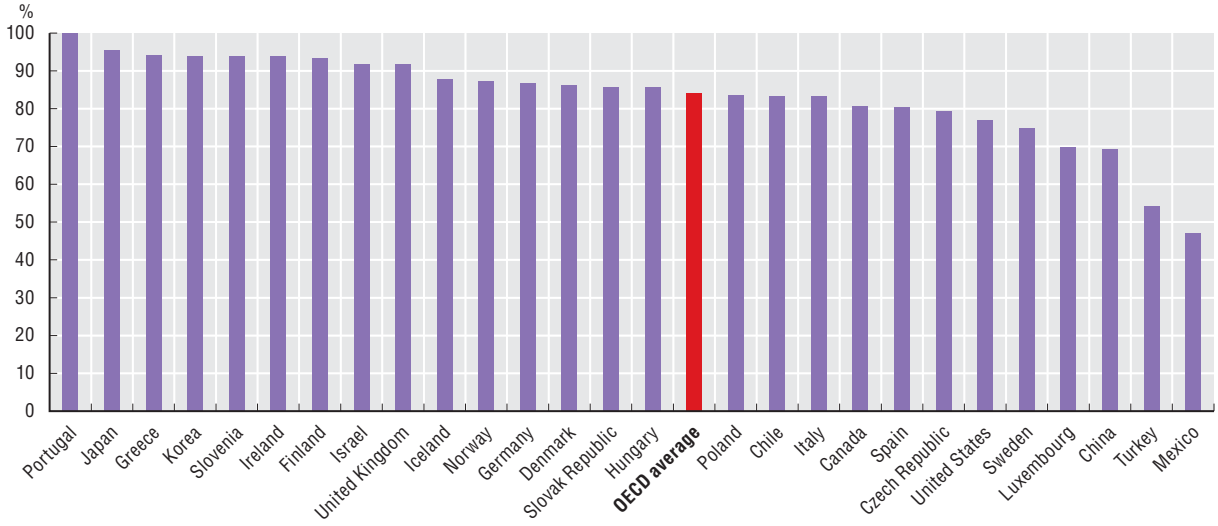
For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator A2).

Areas covered include:

- Current upper secondary graduation rates and trends.
- Successful completion of upper secondary programmes, by programme orientation and gender.

Figure 1.5. **Successful graduation from upper-secondary programmes**

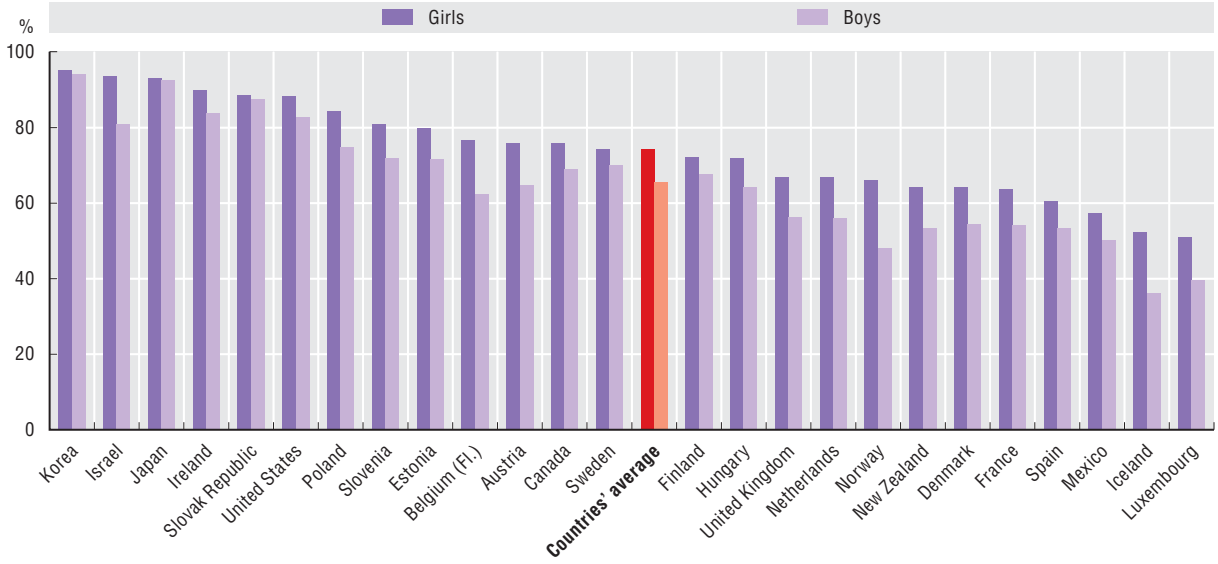
This figure shows the percentage of students who enter an upper secondary programme for the first time and who graduate from it. It represents the relationship between the graduates and the new entrants in the same level of education. The calculation is made in the amount of time normally allocated for completing the programme.



Source: OECD (2012), *Education at a Glance 2012*, Table A2.1, available at: *http://dx.doi.org/10.1787/888932664347*.

Figure 1.6. **Successful completion of upper-secondary programmes by gender**

This figure shows the percentage of students who enter and successfully complete an upper secondary programme, by gender.



Source: OECD (2012), *Education at a Glance 2012*, Table A2.5, available at: *http://dx.doi.org/10.1787/888932664480*.

How many young people enter tertiary education?

This page includes revisions. Details available at: *www.oecd.org/publishing/corrigenda*.

- *An average of 62% of today's young adults in OECD countries are expected to enter university-level programmes and 17% to enter vocationally oriented programmes over their lifetimes.*
- *In 2010, the expected rate of entry into university-level programmes was 25% higher for women than for men.*
- *Entry rates for university-level programmes increased by an average of nearly 25 percentage points across OECD countries between 1995 and 2010, while entry rates for vocationally oriented programmes remained stable.*

Significance

This section shows how many students will enter a specific type of tertiary education programme during their lifetimes. It also sheds light on the accessibility and perceived value of tertiary programmes, and provides some indication of the degree to which a population is acquiring the high-level skills and knowledge valued by today's labour market. High entry and participation rates in tertiary education imply that a highly educated labour force is being developed and maintained.

Findings

It is estimated that 62% of young adults in OECD countries will enter university-level programmes during their lifetimes if current patterns of entry continue. In several countries, at least 70% of young adults are expected to enter these programmes, while in Belgium, China, Indonesia, Luxembourg and Mexico, not more than 35% are expected to do so.

The proportion of students entering vocationally-oriented programmes is generally smaller, mainly because these programmes are less developed in most OECD countries. In the countries for which data are available, an average of 17% of young adults is expected to enter these programmes, 19% of women and 16% of men. Proportions range from 3% or less in Italy, Mexico, the Netherlands, Norway, Poland, Portugal and the Slovak Republic; to 30% or more in Argentina, Belgium, Korea, and New Zealand; to more than 50% in Chile.

On average, in all OECD countries with comparable data, the proportion of young adults expected to enter university-level programmes increased by 15 percentage points between 2000 and 2010. In Australia, Austria, the Czech Republic, Iceland, Ireland, Korea, Saudi Arabia and the Slovak Republic, entry rates into these programmes increased by more than 20 percentage points between 2000 and 2010.

Only Finland, Hungary and New Zealand have experienced a decline in entry rates into these programmes. In Hungary, the decrease is counterbalanced by a significant increase in entry rates into vocationally oriented programmes during the same period. In New Zealand, the rise and fall of entry rates between 2000 and 2010 closely mirrors the rise and fall of the number of international students over the same period.

Traditionally, students enter academic programmes immediately after having completed upper secondary education, and this remains true in many countries. For example, in Belgium, Indonesia, Italy and Mexico more than 90% of all new entrants into tertiary education are under 25 years of age. In other countries, the transition from upper secondary to tertiary education may occur at a later age because of time spent in the labour force or the military.

Trends

The proportion of students entering university-level education increased by nearly 25 percentage points on average in OECD countries between 1995 and 2010. This rise is due to the increased accessibility of tertiary education in many countries, but also because of structural changes in the education systems of some countries.

Definitions

Data on trends in entry rates for the years 1995, 2000, 2001, 2002, 2003 and 2004 are based on a special survey carried out in OECD countries in January 2007. The net entry rate for a specific age is obtained by dividing the number of entrants of that age to each type of tertiary education by the total population in the corresponding age group.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator C3).

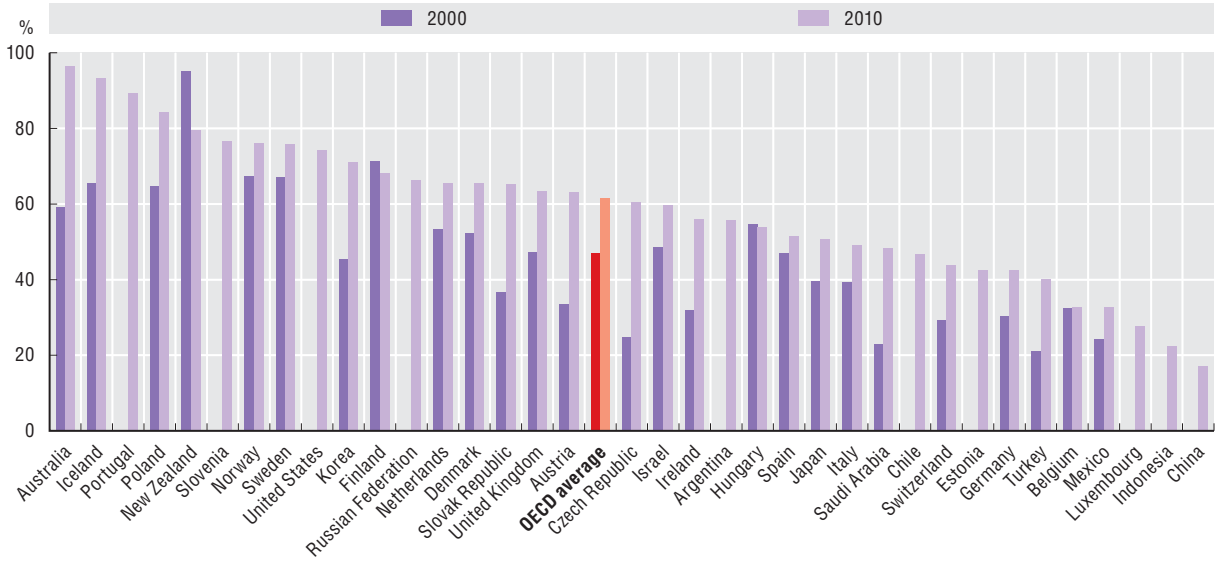
Areas covered include:

- Entry rates by level of education.
- Age of new entrants in tertiary education.
- Distribution by age and gender of new entrants.

This page includes revisions. Details available at: *www.oecd.org/publishing/corrigenda*.

Figure 1.7. **Entry rates into university-level education (2000, 2010)**

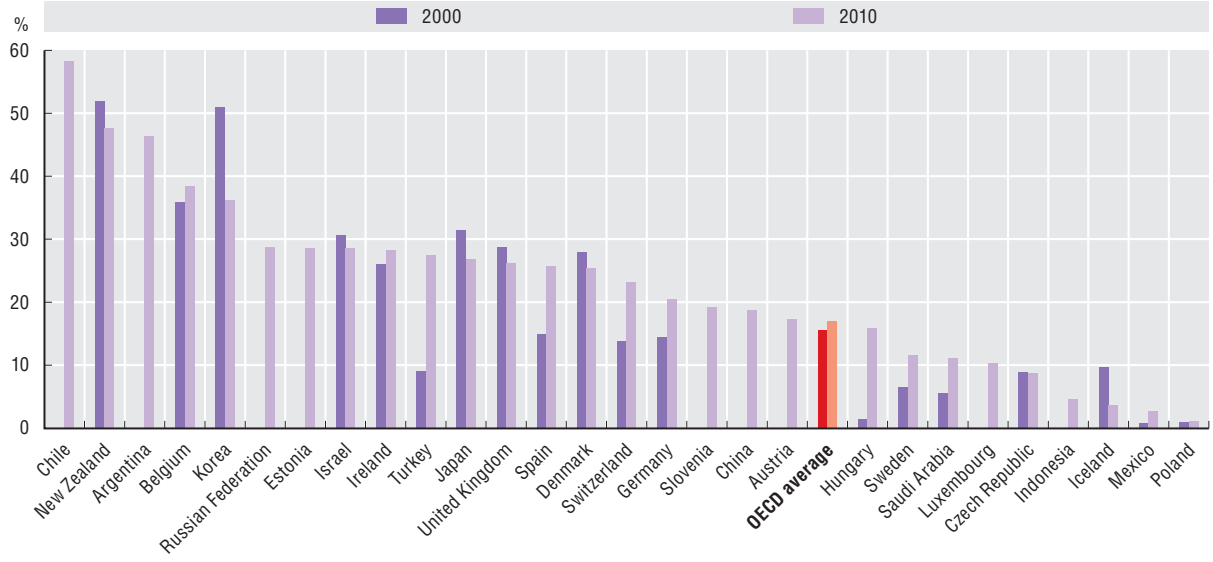
This figure shows the growth – or otherwise – in the percentage of young people entering university-level education. Entry rates have risen in most OECD countries.



Source: OECD (2012), *Education at a Glance 2012*, Table C3.3, available at: *http://dx.doi.org/10.1787/888932667140*.

Figure 1.8. **Entry rates into vocationally oriented tertiary education (2000, 2010)**

This figure shows the relative stability, in most OECD countries, in the percentage of young people entering vocationally oriented tertiary education.



Source: OECD (2012), *Education at a Glance 2012*, Table C3.3, available at: *http://dx.doi.org/10.1787/888932667140*.

How many young people graduate from tertiary education?

- *On average 39% of young people are expected to complete university level education in 27 OECD countries with comparable data.*
- *Graduation rates range from 25% and below in Mexico, Saudi Arabia and Turkey, to 50% and above in Australia, Denmark, Iceland, Poland and the United Kingdom.*
- *Graduation rates for young women are expected to be notably higher than those for young men in OECD countries – 47%* versus *32% on average.*

Significance

Tertiary education indicates a country's capacity to produce workers with advanced, specialised knowledge and skills. Countries with high graduation rates at tertiary level are also those most likely to be developing or maintaining a highly skilled labour force. Tertiary education varies widely in structure and scope between countries, and graduation rates are influenced both by the degree of access to these programmes and the demand for higher skills in the labour market. There are strong incentives to obtain a tertiary education in OECD countries, including higher salaries and better employment prospects.

Findings

Graduation rates vary significantly between countries: In Mexico, Saudi Arabia and Turkey, only 25% or less of young people graduate from university-level education; by contrast, the proportion is 50% or more in Australia, Denmark, Iceland, Poland and the United Kingdom. Graduation rates for some countries, in particular Australia, New Zealand and the United Kingdom, are artificially inflated by the presence of international students.

Disparities in graduation rates are even greater between men and women. On average in OECD countries, significantly more women (47%) are expected to obtain university-level qualifications than men (32%) based on current graduation rates. The gender gap in favour of women is at least 25 percentage points in Iceland, Poland, the Slovak Republic and Slovenia. In Germany, Mexico and Switzerland, graduation rates between sexes are quite balanced. In Japan and Turkey, by contrast, more men graduate from university-level education.

In spite of rapidly expanding demand for university programmes in recent decades, there is also still a place for shorter, vocationally-oriented programmes. On average, 11% of young adults in OECD countries complete vocationally-oriented programmes; as with university level programmes, completion rates are higher for women (12%) than for men (9%). Graduation rates from vocational programmes are significant – in excess of 20% of young people – in only a few OECD countries, most notably Canada, Ireland, Japan, New Zealand and Slovenia. At the highest levels of tertiary education, about 1.6% of people complete advanced research programmes in OECD countries. The proportion exceeds 2.5% in Germany, the Slovak Republic, Sweden and Switzerland (see Table A3.3 in *Education at a Glance 2012*).

In China, an estimated 14% of young people will graduate from university-level programmes and 18% will graduate from vocationally-oriented programmes during their lifetimes.

Trends

On average across OECD countries with comparable data, graduation rates from university-level education have increased between 1995 and 2010. The increase was particularly steep between 1995 and 2000, and then levelled off. Over the past three years, graduation rates have remained relatively stable at around 39%. The most significant increases since 1995 were reported in Austria, the Czech Republic, the Slovak Republic, Switzerland and Turkey, where the annual growth rate is over 8%.

Definitions

Data are for the 2009-10 academic year and are based on the UOE data collection on education statistics administered by the OECD in 2011. Tertiary graduates are those who obtain a university degree, vocational qualifications, or advanced research degrees of doctorate standard. Net graduation rates represent the estimated percentage of an age group that will complete tertiary education. Data presented here refer only to first-time graduates.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator A3).

Areas covered include:

- Graduation rates by qualification level and by gender.
- The share of older students as graduates.
- The share of international students as graduates.

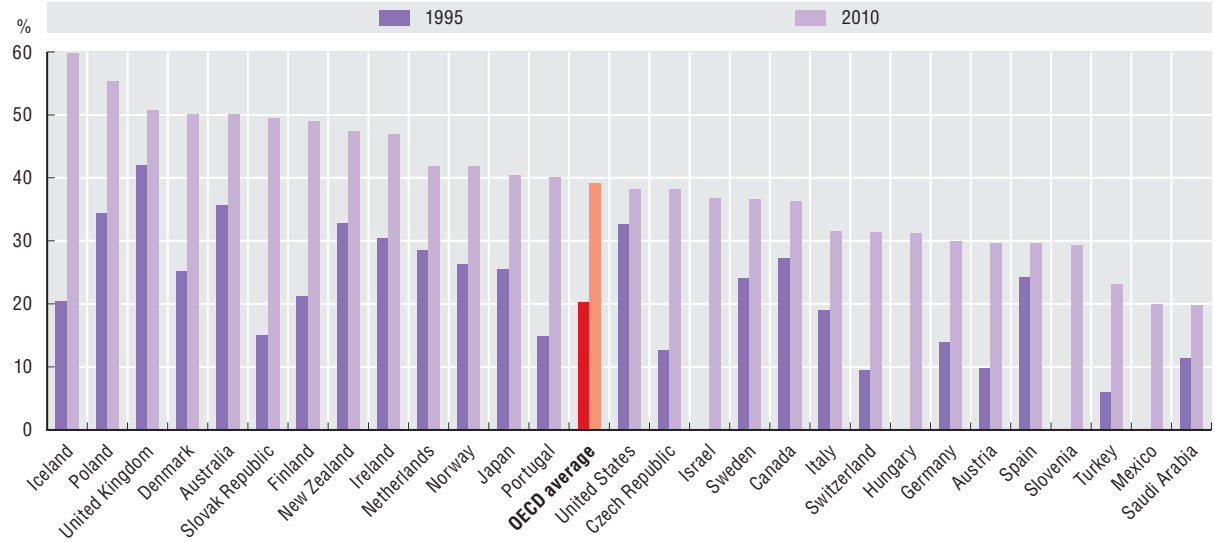
Further reading from OECD

Higher Education Management and Policy (journal).

OECD Reviews of Tertiary Education (series of national reviews).

Figure 1.9. **First time graduation rates from university-level education (1995, 2010)**

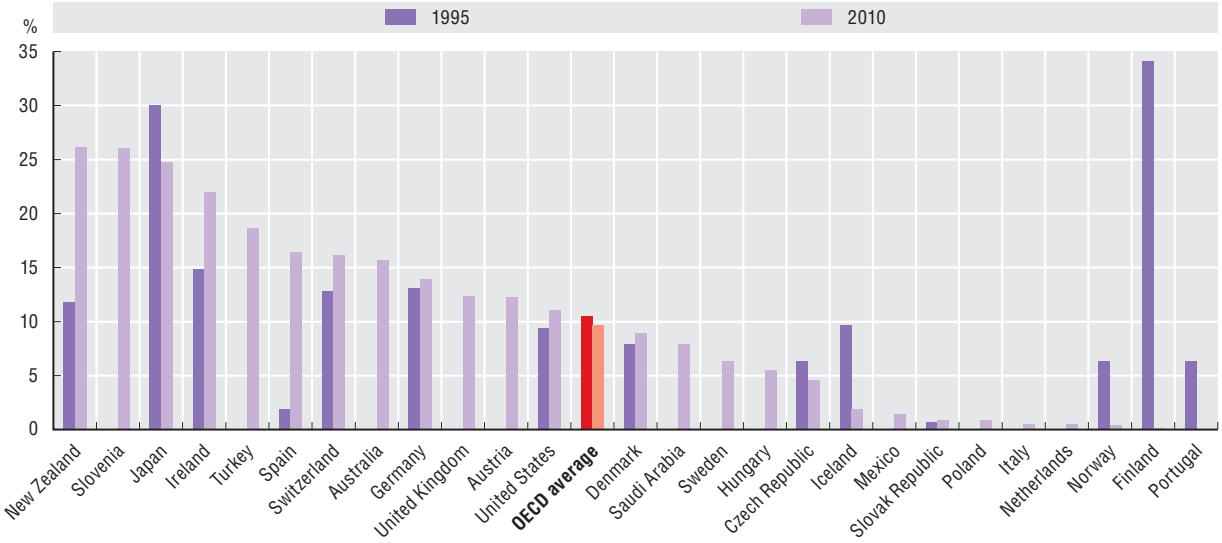
This figure shows the growth or decline in the percentage of first-time graduates from university-level education.



Source: OECD (2012), *Education at a Glance 2012*, Table A3.2, available at: *http://dx.doi.org/10.1787/888932664575*.

Figure 1.10. **First time graduation rates from vocationally oriented education (1995, 2010)**

This figure shows the growth or decline in the percentage of first-time graduates from vocationally oriented tertiary education.



Source: OECD (2012), *Education at a Glance 2012*, Table A3.2, available at: *http://dx.doi.org/10.1787/888932664575*.

How successful are students in moving from education to work?

- *On average across OECD countries, 16% of 15-29 year-olds are neither employed, nor in education or training (NEET); this proportion increased substantially in 2009 and 2010 compared with pre-crisis levels.*
- *Overall, the proportion of NEETs is 4 percentage points higher among 15-29 year-old women than among men, but situations vary widely from one country to another. In all countries except Israel, the proportion of 15-29 year-olds not in education and inactive is higher for young women than for young men.*
- *The lack of an upper secondary qualification is a serious impediment to finding work, while having a university-level degree increases the likelihood of having a job, particularly during difficult economic times.*

Significance

This section illustrates the difficulty of moving from education to work for the younger generation following the financial crisis and recession that began in 2008. High unemployment rates mean that those with more work experience are favoured over new entrants into the labour market. This section looks at the number of years young people can be expected to spend in education, employment and non-employment. To improve the transition of young people from school to work, education systems should work to ensure that people have skills that match the requirements of the labour market, and to minimise the proportion of young adults who are neither in school nor in work.

Findings

The average 15-year-old in an OECD country in 2010 could expect to spend the next 15 years of his or her life as follows: 7.0 additional years in education, 5.5 years in a job, unemployed for a total of 1 year, and out of the labour force entirely (neither in education nor seeking work) for 1.3 years. A girl would spend longer in education (7.2 years) than a boy (6.9), less time working (5.0 years for a girl, 5.9 for a boy) and much longer out of the labour force entirely, at 1.8 years compared with 0.9 for a man.

Those who fail to complete upper secondary education are much more likely to have difficulty finding a job. On average, completion of upper secondary education reduces unemployment among 20-24 year-olds by 8 percentage points. In Estonia, France, Ireland, the Slovak Republic and Spain, at least 25% of 20-24 year-olds who have not completed secondary education are not in school and unemployed.

Completing tertiary education reduces unemployment among 25-29 year-olds by 2.3 percentage points compared to those who completed upper secondary education. On average in OECD countries, 47% of 15-29 year-olds are in education. In Denmark, Finland, Germany, Iceland, Luxembourg, the Netherlands, Slovenia and Sweden, the level is more than 50%. Conversely, less than 35% of this age group were in education in Mexico and Turkey.

Some 48% of 15-29 year-olds have jobs on average in OECD countries. In Australia, Canada, Denmark, Iceland, the Netherlands and Norway, the rate is more than 60%, against less than 40% in Hungary, Israel, Italy, the Slovak Republic and Turkey.

Trends

Efforts by governments to raise people's level of education have led to significant changes in educational participation. In 1998, 41.1% of 15-29 year-olds were in education. This had risen to 47.1% by 2010. The NEET population among 15-29 year-olds decreased from 16.0% in 1998 to 15.8% in 2010. This included a decrease of 1.3 percentage points between 1998 and 2001, and 1.6 percentage points between 2002 and 2008. But at the height of the global economic crisis in 2008-10, the NEET population increased by 2.1%.

Definitions

Data are collected as part of the annual OECD Labour Force Survey, and usually refer to the first quarter, or the average of the first three months of the calendar year, thereby excluding summer employment. For certain European countries, the data come from the annual European Labour Force Survey.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator C5).

Areas covered include:

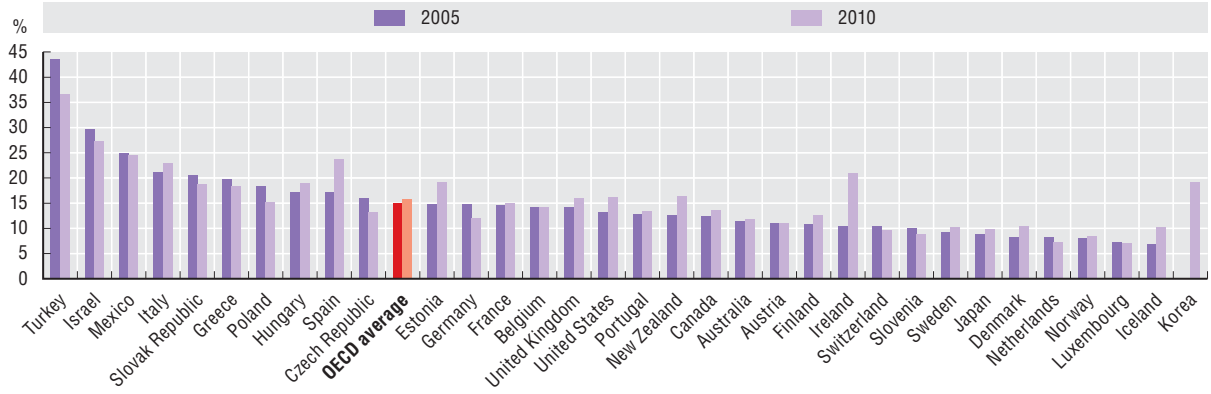
- Expected years in education and not in education for 15-29 year-olds, as well as trends and gender differences.
- Transition from school to work for different age groups.

Further reading from OECD

Better Skills, Better Jobs, Better Lives (2012).

Figure 1.11. **Young people not in education, training or employment (2005, 2010)**

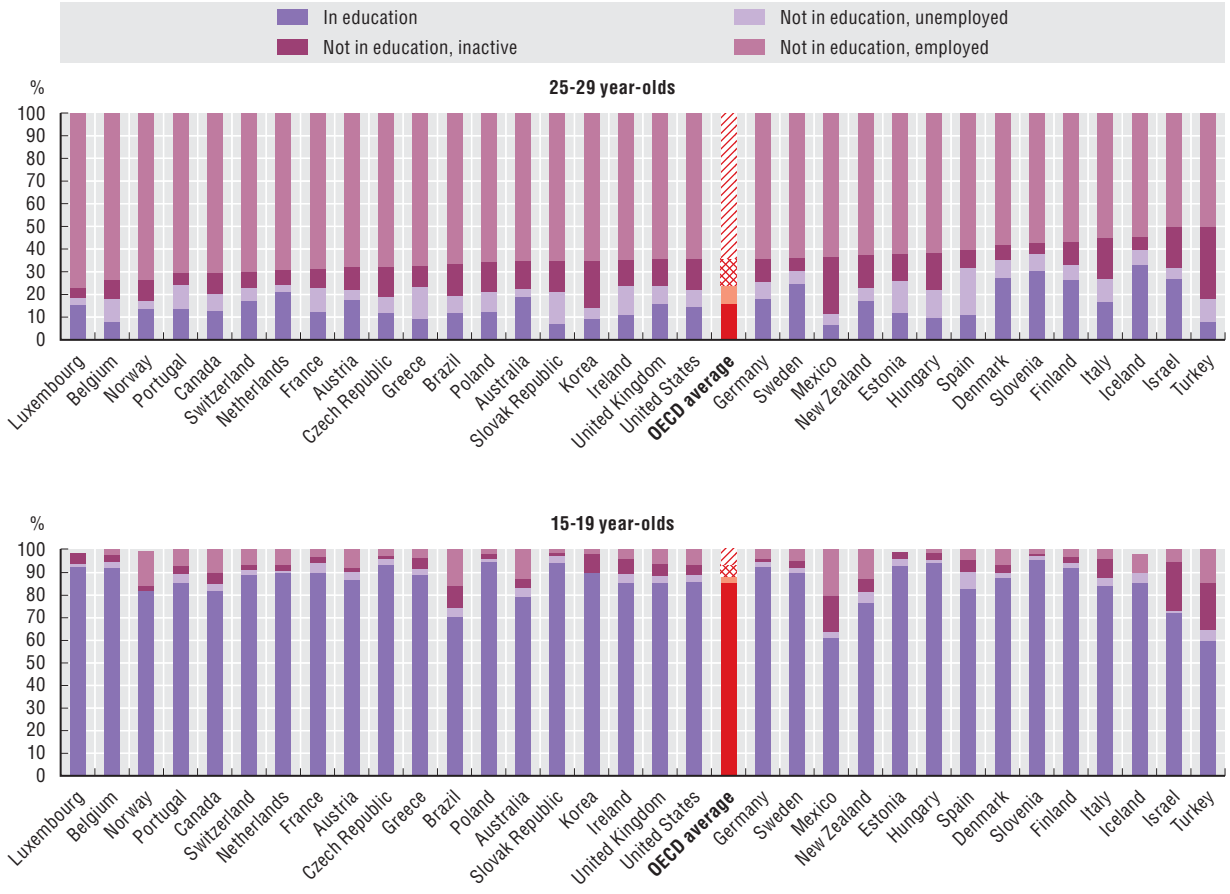
This figure shows the growth or decline in the percentage of youth population not in education, training or employment (NEETs).



Source: OECD (2012), *Education at a Glance 2012*, Table C5.4a, available at: *http://dx.doi.org/10.1787/888932667520.*

Figure 1.12. **Education and employment among young people, 2010**

These figures show the distribution of education and work status among young adults, by age group. Young adults leaving school and entering a difficult labour market are more likely to become unemployed or fall outside the labour force entirely.



Source: OECD (2012), *Education at a Glance 2012*, Table C5.2a, available at: *http://dx.doi.org/10.1787/888932667425.*

How many students study abroad and where do they go?

- *More than 4.1 million tertiary-level students were enrolled outside their country of citizenship in 2010.*
- *Australia, Austria, Luxembourg, New Zealand, Switzerland and the United Kingdom have the highest percentages of international students among their tertiary students.*
- *Asians account for 52% of all students studying abroad worldwide. In absolute terms, the largest numbers of international students are from China, India and Korea.*
- *Some 77% of students worldwide who study abroad do so in OECD countries. This proportion has remained stable during the past decade.*

Significance

This section looks at the extent to which students are studying abroad and their preferred destinations. Pursuing higher-level education in a foreign country allows students to expand their knowledge of other cultures and languages, and to better equip themselves in an increasingly globalised labour market. Beyond its social and educational effects, studying abroad has a considerable economic impact. The internationalisation of education is likely to have a growing impact on some countries' economy as a result of revenue from tuition fees and domestic consumption by international students.

Findings

OECD countries attract the bulk of students who study abroad worldwide – almost four out of five. Many of these come from other OECD countries, mainly Canada, France, Germany, Japan, Korea, Turkey and the United States. In terms of where students choose to study, the United Kingdom and the United States each receive more than 10% of all foreign students worldwide. Europe is the preferred destination for students studying outside their country, with 41% of all international students. North America has 21% of all international students. Nevertheless, the fastest growing regions of destination are Latin America and the Caribbean, Oceania, and Asia mirroring the internationalisation of universities in an increasing set of countries (see Chart C4.1 and Table C4.6 in *Education at a Glance 2012*).

In a number of countries, especially in Australia and New Zealand, the large presence of international students has a significant impact on tertiary graduation rates (see Chart A3.1 in *Education at a Glance 2012*). If data from international students are excluded, Australia's graduation rate from university-level first degree programmes drops by 16 percentage points and New Zealand's by 7 percentage points.

Trends

Over the past three decades, the number of international students has increased fivefold from 0.8 million worldwide in 1975 to 4.1 million in 2010. This growth has accelerated during the period, mirroring the processes of economic and social globalisation. The global increase in the number of international students also reflects the overall increase in tertiary enrolment.

Since 2000, the number of foreign tertiary students enrolled worldwide has increased by 99%, for an average annual growth rate of 7.1%. The number of foreign tertiary students enrolled in OECD countries doubled since 2000, for an average annual growth rate of 7.2%.

Definitions

Data on international and foreign students are based on the UOE data collection on education statistics, administered annually by the OECD. Data from the UNESCO Institute for Statistics are also included. Students are classified as "international" if they left their country of origin and moved to another country to study. Students are classified as "foreign" if they are not citizens of the country in which they are studying. This latter category includes some students who are permanent residents, albeit not citizens, of the countries in which they are studying (for example, young people from immigrant families).

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

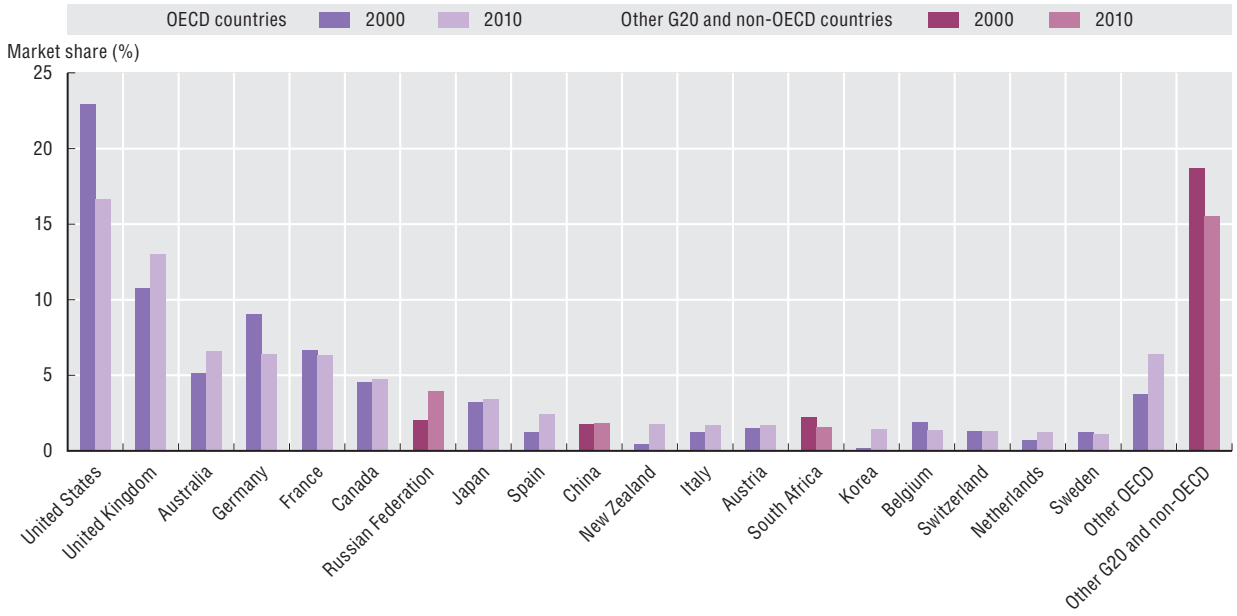
For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator C4).

Areas covered include:

- Distribution of students by country of origin and destination.
- Trends in the number of students studying abroad.

Figure 1.13. **Trends in international education market shares (2000, 2010)**

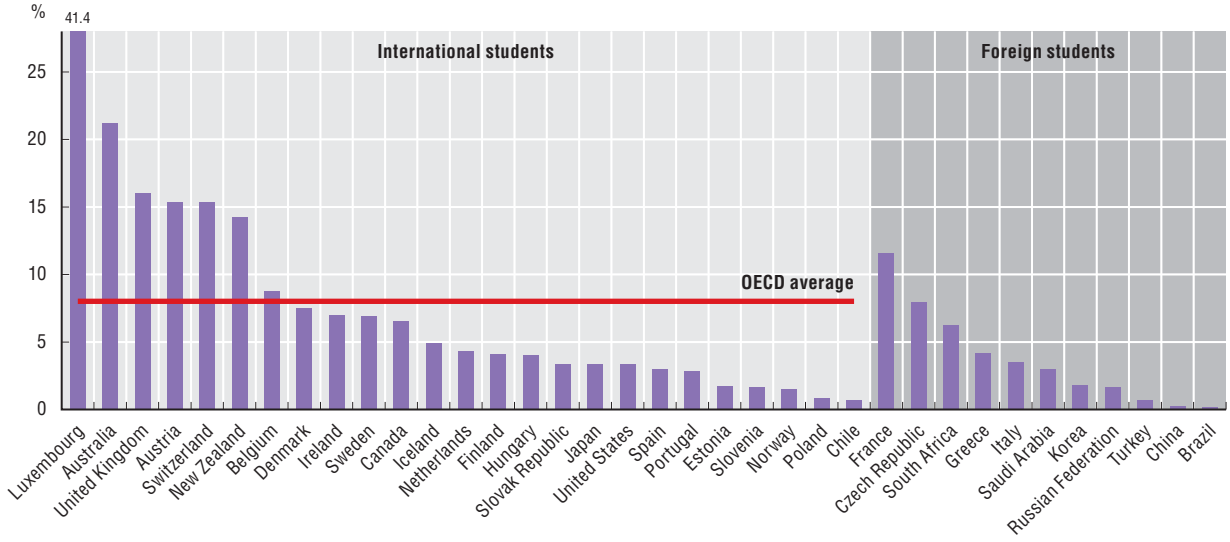
This figure shows the distribution of foreign and international students in tertiary education, by destination.



Source: OECD (2012), *Education at a Glance 2012*, Table C4.7, available at: *http://dx.doi.org/10.1787/888932667349*.

Figure 1.14. **Student mobility in tertiary education, 2010**

This figure shows the percentage of international students at the tertiary level in each country.



Source: OECD (2012), *Education at a Glance 2012*, Table C4.1, available at: *http://dx.doi.org/10.1787/888932667235*.

2. THE ECONOMIC AND SOCIAL BENEFITS OF EDUCATION

How much more do tertiary graduates earn?

How does education affect employment rates?

What are the incentives for people to invest in education?

What are the incentives for societies to invest in education?

What are the social benefits of education?

How does education affect the economy?

How much more do tertiary graduates earn?

- *Earnings tend to rise in line with people's level of education.*
- *People with higher (tertiary) education can expect to earn 55% more on average in OECD countries than a person without tertiary education. Those who have not completed secondary education earn 23% less than those who have.*
- *Across all countries and all levels of education, women earn less than men, and that gap is not reduced with more education.*

Significance

This section examines the relative earnings of workers with different levels of education. Differences in pre-tax earnings between educational groups provide a good indication of supply and demand for education. Combined with data on earnings over time, these differences provide a strong signal of whether education systems are meeting the demands of the labour market.

Findings

Variations among countries in relative earnings reflect a number of factors, including the demand for skills in the labour market, minimum wage legislation, the strength of unions, the coverage of collective bargaining agreements, the supply of workers at various levels of educational attainment and levels of part-time and seasonal work. Still, earnings differentials are among the more straightforward indications as to whether the supply of educated individuals meets demand, particularly in the light of changes over time.

As the data show, educational attainment is strongly linked to average earnings. On average across OECD countries, graduates of tertiary education earn 55% more than upper secondary and post-secondary non-tertiary graduates. The earnings premium for tertiary education is substantial in most countries, and exceeds 50% in 17 out of 32 countries. At the other end of the education scale, people who have not completed upper secondary education earn 23% less than those with an upper secondary or post-secondary non-tertiary education.

More education does little to narrow the gender gap in earnings. Women earn substantially less than men, on average, whatever their education level. The gap is smallest among those with upper secondary and post-secondary non-tertiary education, and largest among those with tertiary education. Women with tertiary education earn 75% or more of men's earnings in only five countries: Finland, New Zealand, Slovenia, Spain and the United Kingdom. In Brazil, Estonia, Italy and Korea, women who have obtained a tertiary degree earn 65% or less of what tertiary-educated men earn.

The earnings advantage from education increases with age. Tertiary earnings are relatively higher at an older age: the earnings premium for a person with tertiary education ranges from 37% at 25-34 years old to 69% or more at 55-64 years old. For those with below upper secondary education the earnings disadvantage increases with age in all countries except Australia, Denmark, Finland, Ireland, Norway, the Slovak Republic, Sweden, the United Kingdom and the United States.

Trends

Demand for young professionals with tertiary education has kept up with the increasing supply from higher educational institutions in most OECD countries. Despite an increase in the proportion of 25-64 year-olds with tertiary attainment from 21% in 2000 to 30% in 2010, the earnings premium for those with a tertiary education has increased by 10 percentage points over the same period.

Definitions

Earnings data differ across countries in a number of ways, including whether they are reported annually, monthly or weekly. Thus results shown here should be interpreted with caution. Similarly, the prevalence of part-time and part-year earnings in most countries suggest that caution is needed in interpreting earnings differentials in countries, particularly between men and women.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator A8).

Areas covered include:

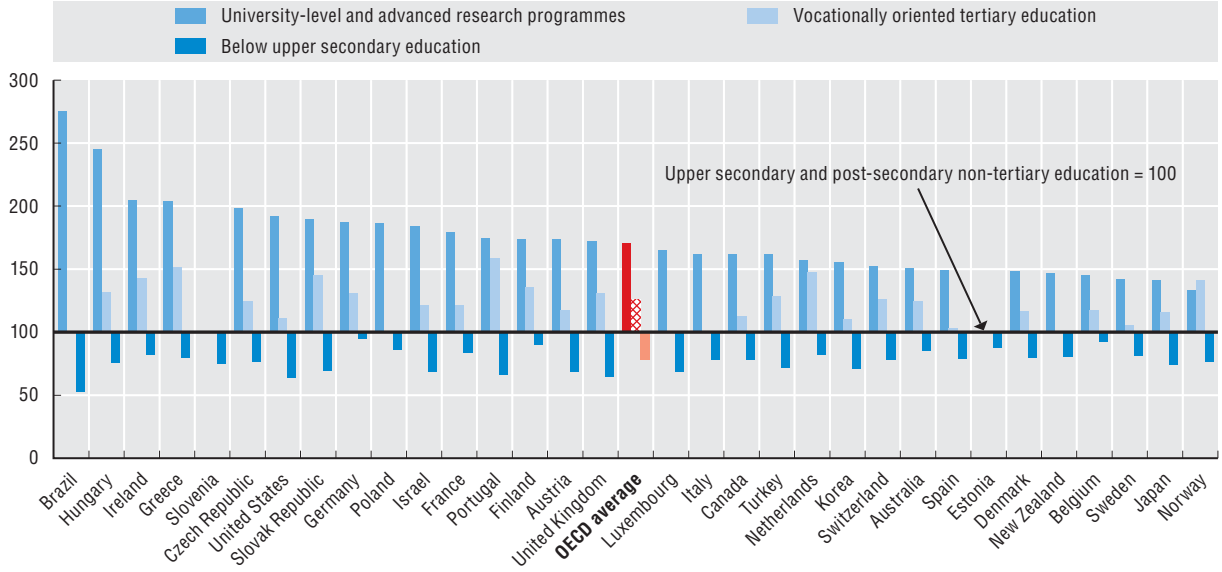
- Trends in relative earnings of the population.
- Differences in earnings by gender and by age.
- Differences in earnings distribution according to educational attainment.

Further reading from OECD

Better Skills, Better Jobs, Better Lives (2012).

Figure 2.1. **Relative earnings by level of education for men (2010 or latest available year)**

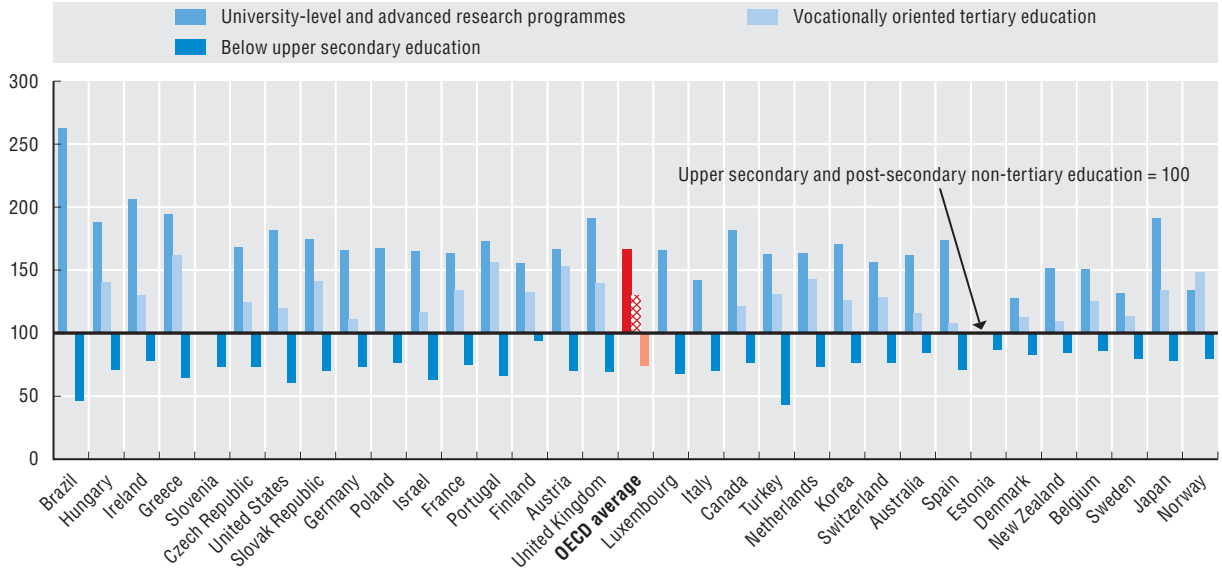
This figure compares earnings between the different levels of educational attainment among 25-64 year-old men, using upper secondary and post secondary non-tertiary education as a baseline (the line labelled 100 in the left-hand scale on the graph).



Source: OECD (2012), *Education at a Glance 2012*, Table A8.1, available at: *http://dx.doi.org/10.1787/888932665335*.

Figure 2.2. **Relative earnings by level of education for women (2010 or latest available year)**

This figure compares earnings between the different levels of educational attainment among 25-64 year-old women, using upper secondary and post secondary non-tertiary education as a baseline (the line labelled 100 in the left-hand scale on the graph).



Source: OECD (2012), *Education at a Glance 2012*, Table A8.1, available at: *http://dx.doi.org/10.1787/888932665335*.

How does education affect employment rates?

- *In general, people with higher levels of education have better job prospects; the difference is particularly marked between those who have attained upper secondary education and those who have not.*
- *In all OECD countries, tertiary graduates are more likely to be in work than non-graduates.*
- *Men generally have higher employment rates than women; for those with tertiary education the difference reaches more than 25 percentage points in favour of men in some countries.*

Significance

This section examines the relationship between education and working life. OECD countries depend upon a stable supply of well-educated workers to promote economic development. Data on employment and unemployment rates – and how they evolve over time – thus carry important information for policy makers about the supply, and potential supply, of skills available to the labour market and about employers' demand for these skills. It is particularly important for policy makers to distinguish between the impact of the economic crisis and the longer-run structural changes occurring in OECD economies.

Findings

Education has a substantial impact on employment prospects. On average across OECD countries, 83% of the population with tertiary education is employed. In Iceland, Norway, Sweden and Switzerland, the average employment rate of tertiary-educated individuals is over 88%. The OECD average falls to about 74% for people with upper secondary and post-secondary non-tertiary education and to just below 56% for those without an upper secondary education.

Although the gap narrows among people with higher levels of education, the employment rate of women is far below that of men at all levels of education. Among those with only a lower secondary education, the employment rate is 69% for men and 49% for women; among those with university level education and advanced research programmes, this rises to 88% for men and 79% for women. The gender difference in employment rates for tertiary-educated individuals, which exists in all OECD countries without exception, is particularly large in Chile, the Czech Republic, Japan, Korea, Mexico and Turkey, where the difference reaches 29 percentage points.

Gender gaps in employment rates can be partly explained by over- and under-representation of women in certain fields of education. In 2010, in every OECD country except Japan and Turkey, more than 70% of university level students and people undertaking advanced research qualifications in the field of education were women. Similarly, 74% of degrees awarded in the field of health and welfare also went to women on average across OECD countries. By contrast, in most countries, fewer than 30% of all graduates in the fields of engineering, manufacturing and construction were women. Perhaps not surprisingly, women are under-represented in high-technology industries.

Trends

Education is generally good insurance against unemployment, even in difficult economic times. Over the past 14 years, employment rates for men and women with tertiary education have consistently been higher than for those without. On average across OECD countries, unemployment rates for people with tertiary education have remained below 5% and below 8% for those with only an upper secondary education. However, they have exceeded 10% several times between 1998 and 2010 for those without an upper secondary education. During the recent economic crisis, the increase in the average unemployment rate for individuals without an upper secondary education was 1.1 percentage points higher than for those with at least an upper secondary degree.

Definitions

The employment rate refers to the number of persons in employment as a percentage of the population of working age. The unemployment rate refers to unemployed persons as a percentage of the civil labour force. The unemployed are defined as people actively seeking employment and currently available to start work. The employed are defined as those who work for pay or profit for at least one hour a week, or who have a job but are temporarily not at work due to illness, leave or industrial action.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

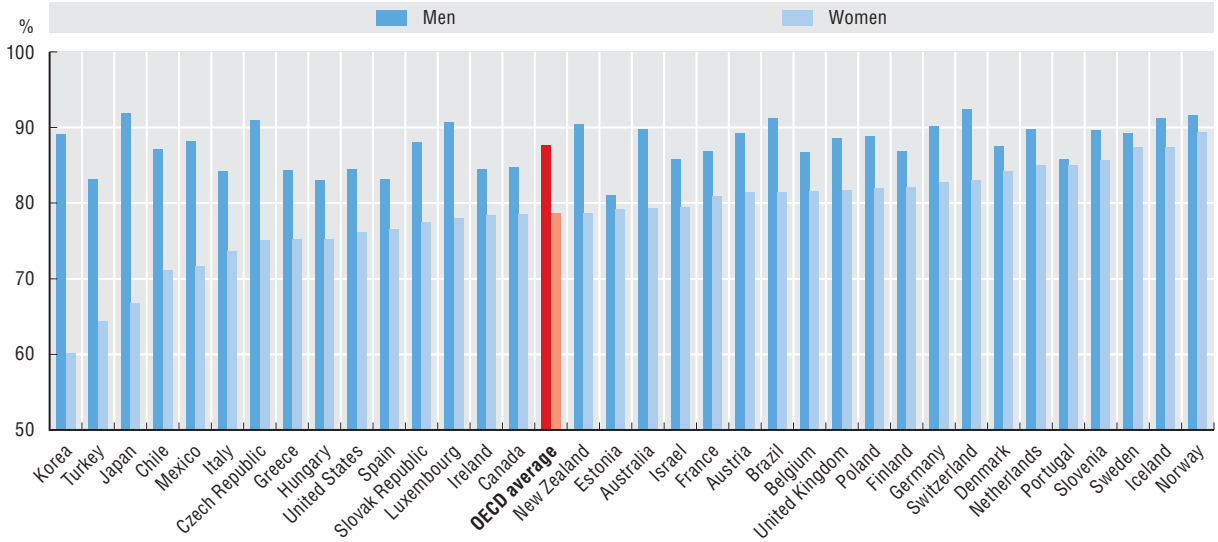
For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator A7).

Areas covered include:

- Trends in employment and unemployment rates, by gender and educational attainment.
- Trends in unemployment rates, by age.
- Employment rates of individuals with vocational and general education.

Figure 2.3. **Employment rate of 25-64 year-olds with tertiary education, by gender, 2010**

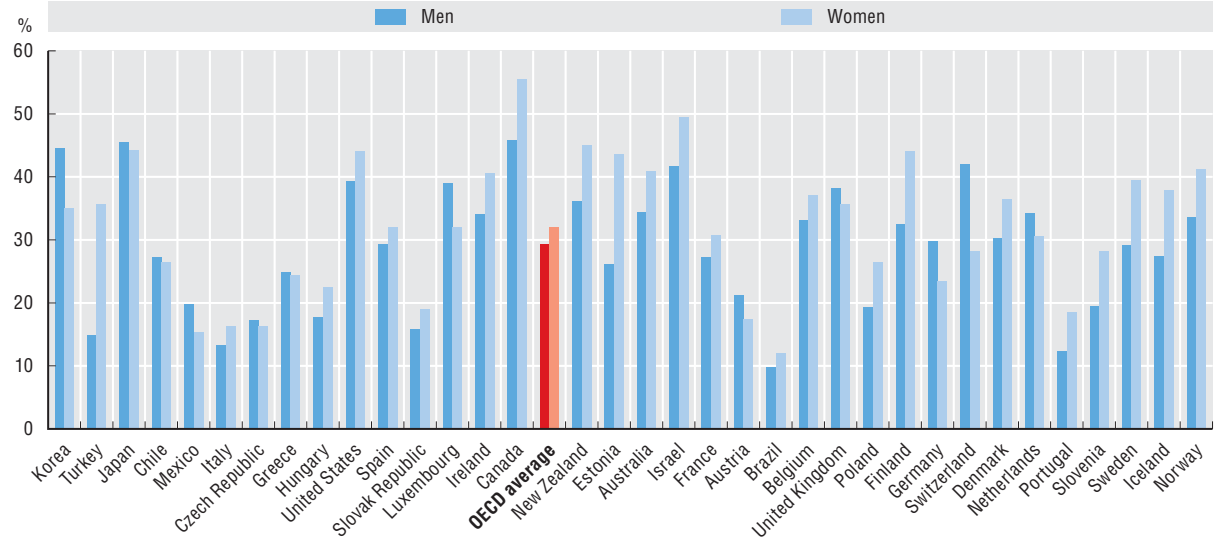
This figure shows the differences in employment rates of men and women with higher levels of educational attainment.



Source: OECD (2012), *Education at a Glance 2012*, Tables A7.3b and A7.3c, available at: *http://dx.doi.org/10.1787/888932665145* and *http://dx.doi.org/10.1787/888932665164*.

Figure 2.4. **Men and women with tertiary education, 2010**

This figure shows the percentage of 25-64 year-olds with tertiary education, by gender.



Source: OECD (2012), *Education at a Glance 2012*, Tables A1.3b and A1.3c, available at: *http://dx.doi.org/10.1787/888932664252* and *http://dx.doi.org/10.1787/888932664271*.

What are the incentives for people to invest in education?

- *Rewards are typically higher for individuals who attain tertiary education than those with upper secondary education or post-secondary non-tertiary education.*
- *Tertiary education brings substantial rewards across OECD countries, generating net returns of USD 162 000 for men and USD 110 000 for women.*
- *Individuals invest an average USD 55 000 to acquire a tertiary education qualification, taking into account direct costs such as tuition fees and indirect costs such as loss of earnings while studying.*

Significance

The efforts people make to continue education after compulsory schooling can be thought of as an investment with the potential to bring rewards in the form of future financial returns. People invest in education in two ways (these are the "costs"): directly, for example through the payment of tuition fees, and indirectly, by sacrificing potential income when not in work and studying. As with any investment, a rate of return can be calculated. In this case, the rate is primarily driven by the reality that people with higher levels of education earn more and are more likely to be in work ("benefits"). Where the rate of return is high, it implies a real financial incentive for people to continue their education.

Findings

On average across OECD countries, investing in tertiary education is associated with net returns more than 60% larger than those linked to upper secondary education, reflecting the fact that an upper secondary education has become the norm in OECD countries.

Men generally enjoy better financial returns on their upper secondary education, except in Estonia, Hungary, Italy, Poland and Spain. On average net returns are close to USD 90 000 for men and USD 67 000 for women. The returns for investing in tertiary education are also higher for men, except in Australia, where average returns are nearly identical between men and women, and in Spain and Turkey, where the returns are higher for women. Net returns associated with a tertiary education are close to USD 162 000 for men and USD 110 000 for women.

A man who invests in upper secondary or post secondary non-tertiary education can expect a net gain of more than USD 90 000 during his working life over a man who has not attained that level of education. But behind these averages lie big variations between countries. In Ireland, Korea, the Slovak Republic and the United States, this level of education generates a net gain for a man of over USD 150 000. In Estonia, Finland, Germany, Poland and Turkey, however, these net benefits are less than USD 40 000.

Tertiary education brings substantial net returns for men in Portugal and the United States, where an investment generates over USD 300 000 and thus provides a strong incentive to complete this level of education. The returns on tertiary education are lower in Denmark, Estonia, New Zealand, Sweden and Turkey, where a man with a tertiary education can expect a net gain of between USD 52 000 and USD 74 000 over his working life. Much of the difference between countries is driven by gaps in earnings.

An individual invests an average USD 55 000 to acquire a tertiary qualification, when direct and indirect costs are taken into account. For a man in Japan, the Netherlands, the United Kingdom and the United States, this investment exceeds USD 100 000. Government grants are particularly important in Austria, Finland and the Netherlands, where they account for between 14% and 15% of total costs, for both men and women. In Denmark, about 45% of what an individual invests in tertiary education is covered by government grants.

Definitions

The economic returns to education are measured in terms of net present value, or NPV. In the calculations, private investment costs include after-tax foregone earnings adjusted for the probability of finding a job (unemployment rate) and direct private expenditures on education. The discount rate is set at 3%, which largely reflects the typical interest on an investment in long-term government bonds in an OECD country. The rate used in this edition is below the rate of 5% used in *Education at a Glance 2009*. This change has a substantial impact on the net present value of education and needs to be taken into account if the results for these two years are compared.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

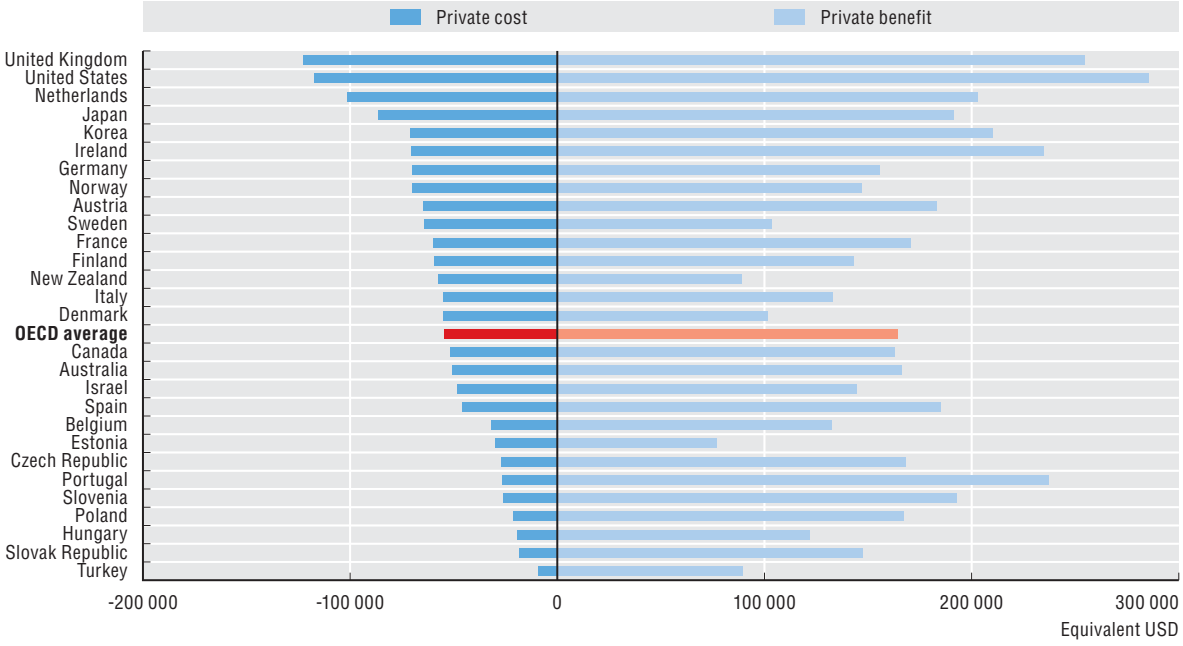
For additional material, notes and a full explanation of sourcing and methodologies, as well as a technical explanation of how the NPV is derived, see *Education at a Glance 2012* (Indicator A9).

Areas covered include:

- Private costs and benefits of tertiary education, by gender.

Figure 2.5. **Private costs and benefits for women obtaining tertiary education, 2008**

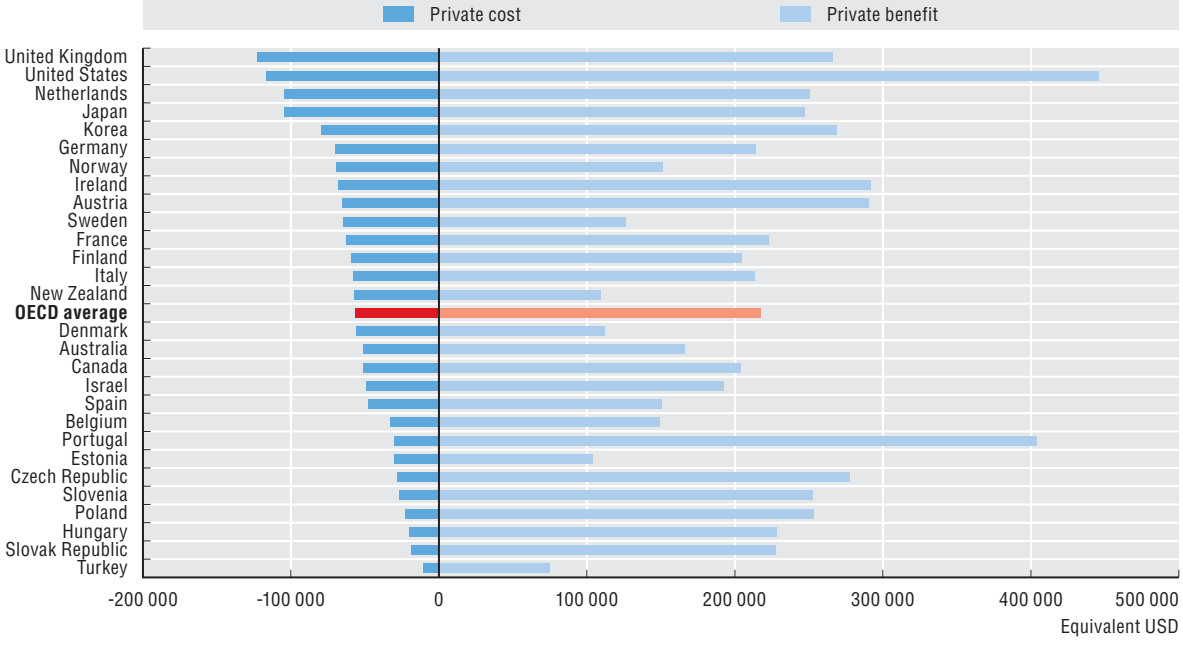
This figure shows the private costs (tuition fees and foregone earnings) and private benefits (increased lifetime earnings) for women obtaining tertiary education as part of initial education. On average across OECD countries, a woman investing in tertiary education can expect a net gain of USD 110 000.



Source: OECD (2012), *Education at a Glance 2012*, Table A9.3, available at: *http://dx.doi.org/10.1787/888932665563*.

Figure 2.6. **Private costs and benefits for men obtaining tertiary education, 2008**

This figure shows the private costs (tuition fees and foregone earnings) and private benefits (increased lifetime earnings) for men obtaining tertiary education as part of initial education. On average across OECD countries, a man investing in tertiary education can expect a net gain of close to USD 162 000.



Source: OECD (2012), *Education at a Glance 2012*, Table A9.3, available at: *http://dx.doi.org/10.1787/888932665563*.

What are the incentives for societies to invest in education?

- *As with returns to individuals, the benefits to the public purse are higher when people complete tertiary rather than upper secondary education.*
- *On average among OECD countries, the net public return on an investment in tertiary education is over USD 100 000 for a man – nearly three times the amount of public investment – and over USD 52 000 for a woman.*
- *On average across OECD countries, over USD 92 000 is invested in a man's tertiary education, taking into account both public and private spending.*

Significance

The economic benefits of education flow not just to individuals but also to governments through additional tax receipts and lower social welfare payments when people enter the labour market. These public returns, which take into account the fact that providing education is also a cost to governments, offer an additional perspective on the overall returns to education. At the same time, they must be understood in the much wider context of the benefits that economies and societies gain from increasing levels of education.

Findings

On average across OECD countries, investing in upper secondary or post-secondary non-tertiary education generates a public net return of USD 36 000 for men and around USD 14 000 less for women across their working life. Public returns for a man are positive in all countries except Estonia; and for a woman in all countries except in Estonia, Israel and Korea. In Austria, Ireland and the United Kingdom, this investment generates a net return of more than USD 70 000 per man. Public benefits are about twice as large, on average, as the overall public costs for upper secondary or post-secondary non-tertiary education, for both men and women.

Public returns from tertiary education are substantially larger, in part because larger shares of the investment costs are borne by the individuals themselves. On average across OECD countries, the net public return on an investment in tertiary education is over USD 100 000 for a man and over USD 52 000 for a woman. Public benefits correspond to four times the amount of public investments for men and more than twice the amount for women. In Hungary, the benefits are 14 times larger than the public sector's initial investment in a man's tertiary education.

For the public sector, the costs of education include direct expenditures on education (such as paying teachers' salaries), public-private transfers, and lost tax revenues on students' foregone earnings. The benefits include increased revenue from income taxes and social insurance payments on higher wages as well as a lower need for social transfers (housing benefits and social assistance) that the public sector does not have to pay above a certain level of earnings. But in practice, rising levels of education produce a much wider – and more complex – set of fiscal effects on the benefit side. For instance, better educated individuals generally have better health, which lowers public expenditure on provision of health care. Also, their earnings premium means they spend more on goods and services, leading to wider economic benefits.

Together with foregone public earnings in the form of taxes and social contributions, direct and indirect public investment costs for a man with a tertiary education are on average USD 36 000 among OECD countries. These costs exceed USD 50 000 in Denmark, Finland, Germany, the Netherlands, Norway and Sweden. In Korea and Turkey, the total public investment cost does not exceed USD 15 000.

Definitions

The economic returns to education are measured by the net present value or NPV. In the calculations, public costs include lost income tax receipts during the school years, and public expenditures. The discount rate is set at 3%, which largely reflects the typical interest on an investment in long-term government bonds in an OECD country. The rate used in this edition is below the rate of 5% used in *Education at a Glance 2009*. This change has a substantial impact on the net present value of education and needs to be taken into account if the results for these two years are compared.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator A9).

Areas covered include:

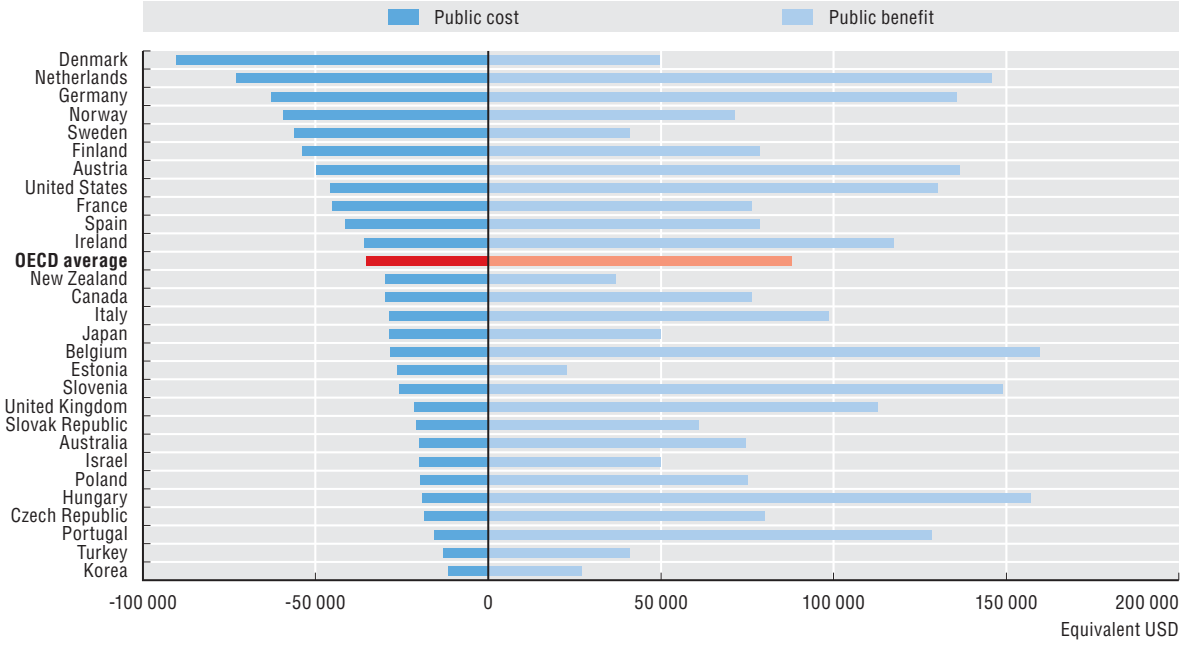
- Public rates of return for an individual obtaining tertiary education, as part of initial education.
- Public rates of return for an individual obtaining an upper secondary education or post-secondary non-tertiary education, as part of initial education.

Further reading from OECD

Understanding the Social Outcomes of Learning (2007).

Figure 2.7. **Public costs and benefits for a woman obtaining tertiary education, 2008**

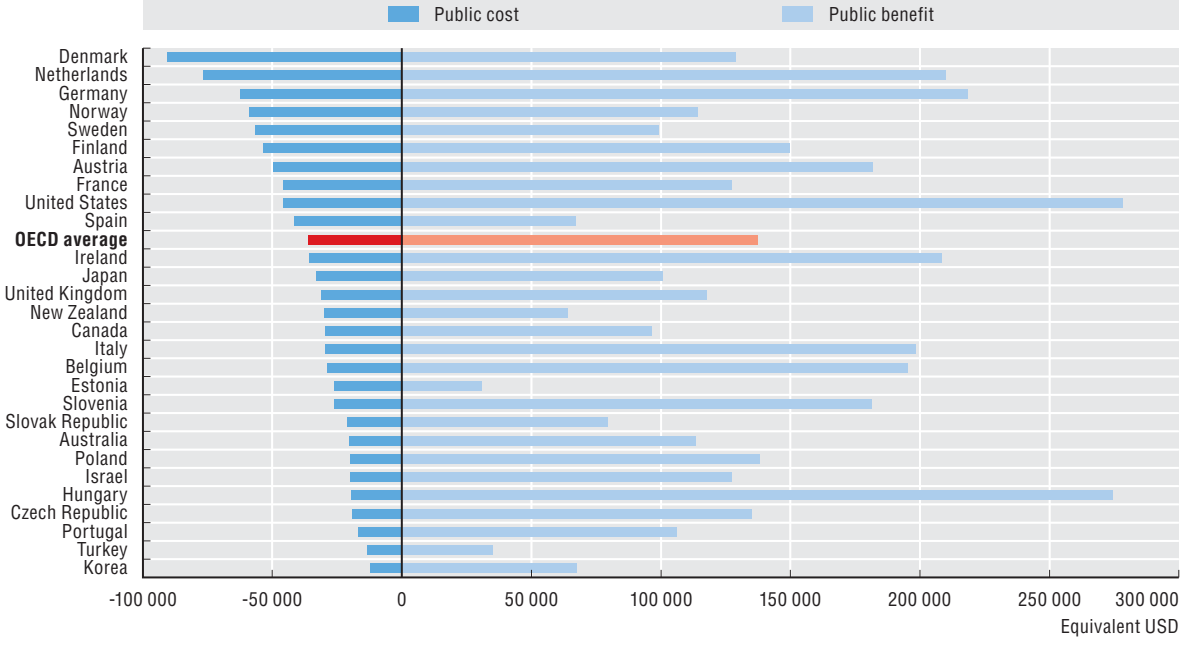
This figure shows the public costs (direct expenditure and forgone tax revenues) and public benefits (increased tax revenues and lower need for social transfers, among others) for a woman who successfully completes tertiary education as part of her initial education. On average across OECD countries, the net public return from an investment in tertiary education exceeds USD 52 000 for a woman.



Source: OECD (2012), *Education at a Glance 2012*, Table A9.4, available at: *http://dx.doi.org/10.1787/888932665582*.

Figure 2.8. **Public costs and benefits for a man obtaining tertiary education, 2008**

This figure shows the public costs (direct expenditure and forgone tax revenues) and public benefits (increased tax revenues and lower need for social transfers, among others) for a man who successfully completes tertiary education as part of his initial education. On average across OECD countries, the net public return from an investment in tertiary education is over USD 100 000 for a man.



Source: OECD (2012), *Education at a Glance 2012*, Table A9.4, available at: *http://dx.doi.org/10.1787/888932665582*.

What are the social benefits of education?

- *Adults with higher levels of educational attainment are more likely to live longer, show higher levels of civic engagement and exhibit greater satisfaction with life.*
- *There is a clear positive relationship between education and life expectancy, although it is not as strong for women.*
- *There are significant differences in voting behaviour associated with educational attainment in most countries. On average, the gap in the voting rate between high- and low-educated adults is 14.8 percentage points. This gap is particularly wide among young adults with a difference of 26.8 percentage points.*

Significance

Raising people's well-being and improving social cohesion are major concerns for OECD governments. There is general agreement on the important role that education and skills can play in attaining these outcomes, but far less certainty over how exactly this can be achieved. This section looks at the relationship between educational attainment and social measures of well-being in OECD countries. It focuses on three outcomes: life expectancy, voting and life satisfaction.

Findings

Education is an important predictor of life expectancy. Men with tertiary education can expect to live eight years longer than those who have not attained upper secondary education. The difference is four years among women, although on average they live longer than men overall. Differences in life expectancy are particularly large among men in central European countries. On average, a 30 year-old man with tertiary education in the Czech Republic can expect to live 17 years longer than a 30 year-old man who has not completed upper secondary education.

Voting behaviour is also associated with educational attainment in most countries. On average, the gap in voting rates between adults (25-64 year olds) with tertiary degrees and those not having reached upper-secondary education is 14.8 percentage points. This gap is considerably wider among younger adults aged 25-34, at 26.8 percentage points. For younger adults in Germany, this gap reaches 49.6 percentage points. Furthermore, students in grade 8 (approximately 14 years old), with higher levels of civic competencies show more supportive attitudes towards equal rights for ethnic minorities. In New Zealand, for example, those with strong civic knowledge score an average 56.1 points on a scale measuring support for equal rights for ethnic minorities, while those with lower civic knowledge only score an average 45.6 points.

Finally, adults with higher levels of educational attainment are generally more likely than those with lower levels of attainment to engage in social activities and exhibit greater satisfaction with life.

Definitions

Developmental work for this indicator was carried out by INES Network on Labour Market, Economic and Social Outcomes of Learning in collaboration with the OECD's Centre for Educational Research and Innovation (CERI). Calculations are based on data from the *EUROSTAT Statistical Database*, *STATCAN's CANSIM Database* for Canada, FitzGerald, Byre and Znuderl (2011) for Ireland, Centers for Disease Control and Prevention (CDC) (2010) for the United States, European Social Survey (ESS) 2008 and 010, General Social Survey (GSS) 2008 for Canada; Current Population Survey (CPS) 2008 for the United States; Estudo Eleitoral Brasileiro (ESEB) 2010 for Brazil.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator A11).

Areas covered include:

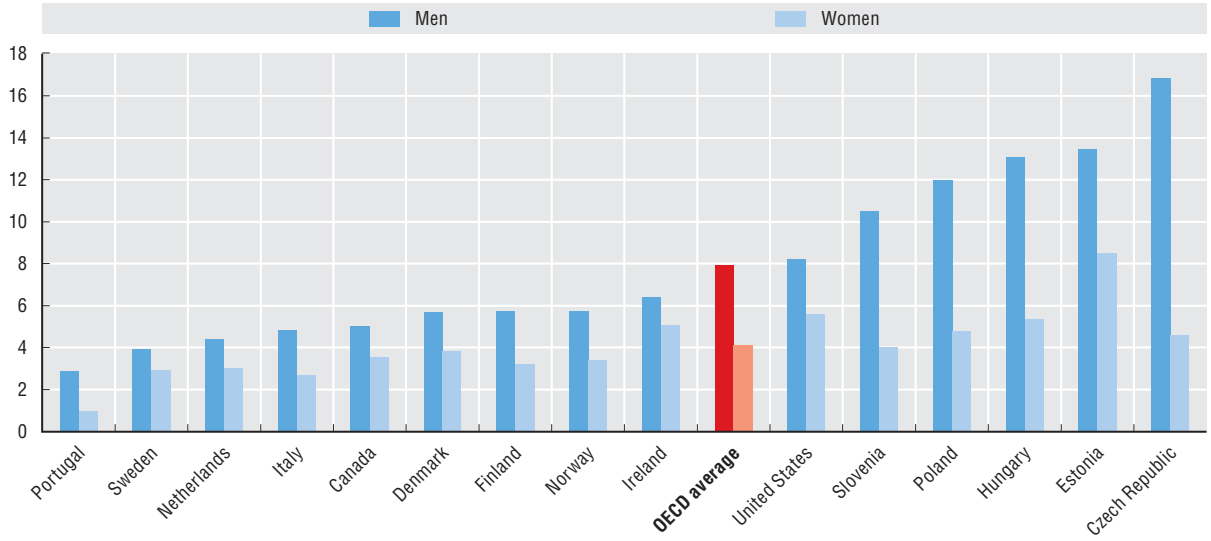
- Education level and life expectancy, voter turnout and engagement in social activities.
- Relationship between education level and civic behaviour.

Further reading from OECD

Improving Health and Social Cohesion through Education (2010).

Figure 2.9. **Life expectancy gaps between levels of education, by gender, 2010**

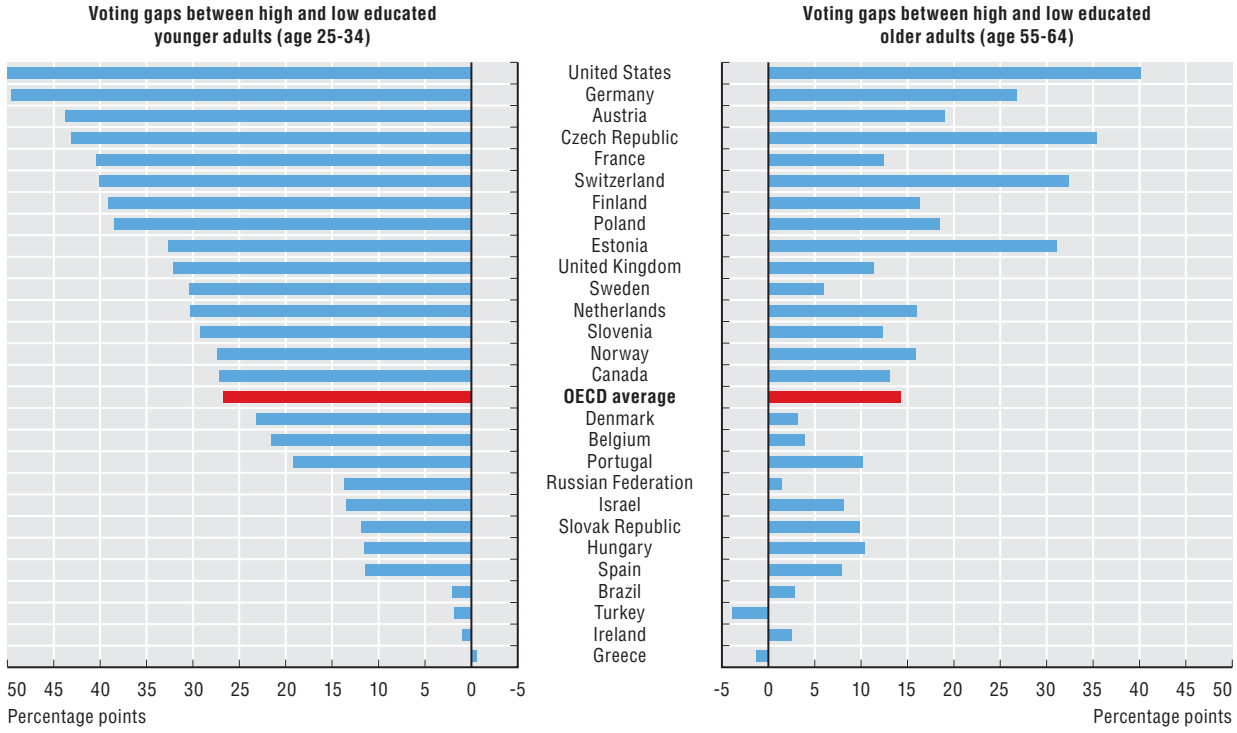
This figure shows the differences in expected years of life remaining at age 30 between high educated and low educated, by gender.



Source: OECD (2012), *Education at a Glance 2012*, Table A11.1, available at: *http://dx.doi.org/10.1787/888932665753*.

Figure 2.10. **Voting gaps between levels of education, by age group, 2010**

This figure shows the differences in electoral participation between people with high and low levels of education, at different ages. Countries with compulsory voting are included in the data, i.e. *Belgium, Greece and Turkey.*



Source: OECD (2012), *Education at a Glance 2012*, Table A11.2, available at: *http://dx.doi.org/10.1787/888932665772*.

How does education affect the economy?

- *More than half of the GDP growth in OECD countries over the past decade is related to labour income growth among tertiary-educated individuals.*
- *Employers pay almost twice as much for a 45-54 year-old worker with tertiary education, than for someone without an upper secondary education.*
- *The most attractive wages for people with tertiary education are found in Australia, Austria, Ireland, Luxembourg, the Netherlands, the United Kingdom and the United States, where average spending power exceeds USD 40 000 per year.*

Significance

The skills available in the labour force and the price of those skills determine how countries will fare in the global market. As services and production systems become more complex, they require workers with higher levels of education. In order to attract and retain skilled workers, it is important for societies to strike the right balance between fostering overall equity and offering strong economic incentives.

Increasing attainment levels in the population, better employment prospects and the increasing earnings that come with higher educational attainment can all contribute to growth and prosperity in OECD countries. In this context, labour income growth in GDP by educational categories provides a simple measure to illustrate this move towards higher skills and the impact it has on economic growth.

Findings

On average, about half of the economic growth is related to labour income growth at the tertiary level of education. In France, Norway, Switzerland and the United Kingdom, 60% or more of growth in gross domestic product (GDP) is generated by those who have attained a tertiary education. In Denmark and Ireland, the labour income growth of those with tertiary education exceeds GDP growth, largely as a consequence of a strong shift towards higher skills and the impact of the global economic crisis on overall economic activity in these countries.

Annual labour costs increase substantially with educational attainment. On average across OECD countries, a person without an upper secondary education costs USD 38 000 to employ, an individual with an upper secondary education costs USD 46 000 and a tertiary-educated person costs USD 68 000 per year. In Austria, Denmark, Ireland, Italy, Luxembourg, the Netherlands, Norway and the United States, over the course of a year, employers pay at least USD 20 000 more than the OECD average to employ individuals with tertiary degrees.

The most attractive wages for tertiary-educated individuals are found in Australia, Austria, Ireland, Luxembourg, the Netherlands, the United Kingdom and the United States, where average net spending power exceeds USD 40 000 per year. There are substantial differences in labour-related tax policies among OECD countries. After accounting for taxes and compulsory contributions, an individual between the ages of 45 and 54 without an upper secondary education can, on average across OECD countries, expect to keep 62% of labour costs in net income, while a tertiary-educated worker can expect to keep 56% of those costs. This figure reaches 70% or more for an individual with a tertiary education in Israel, Korea and New Zealand, while it is below 50% in Austria, Belgium, France, Germany, Hungary, Italy, the Netherlands and Sweden.

Trends

Even during the recent economic downturn, labour income growth among tertiary graduates generated a positive impact on GDP of more than half a percentage point per year (between 2008 and 2010). While GDP shrank by almost 4% across OECD countries in 2009, labour income growth among tertiary graduates still made a positive contribution to GDP of 0.4%.

Definitions

This indicator is based on data on GDP and labour income extracted from the *OECD National Account Statistics Database* in September 2011. Data on earnings are supplemented with information on employers' social contributions and non-tax compulsory payments from the OECD's *Taxing Wages Database*.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator A10).

Areas covered include:

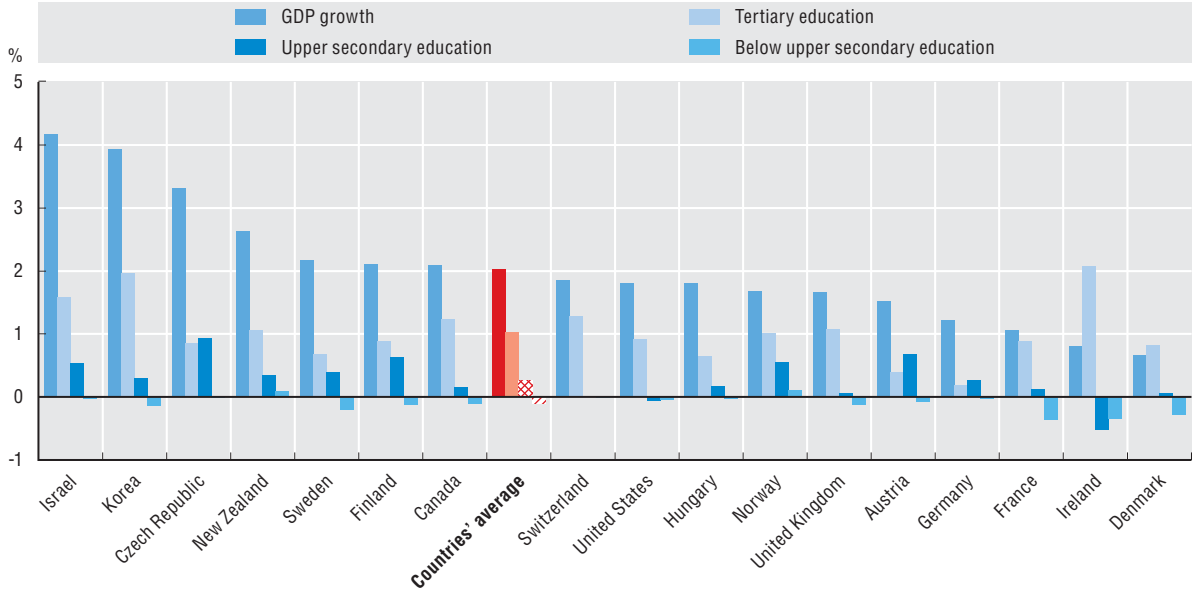
- Relationship between GDP growth and labour income growth.

Further reading from OECD

Taxing Wages (2011).

Figure 2.11. **Average GDP growth over one year and labour income growth by education levels between 2000 and 2010**

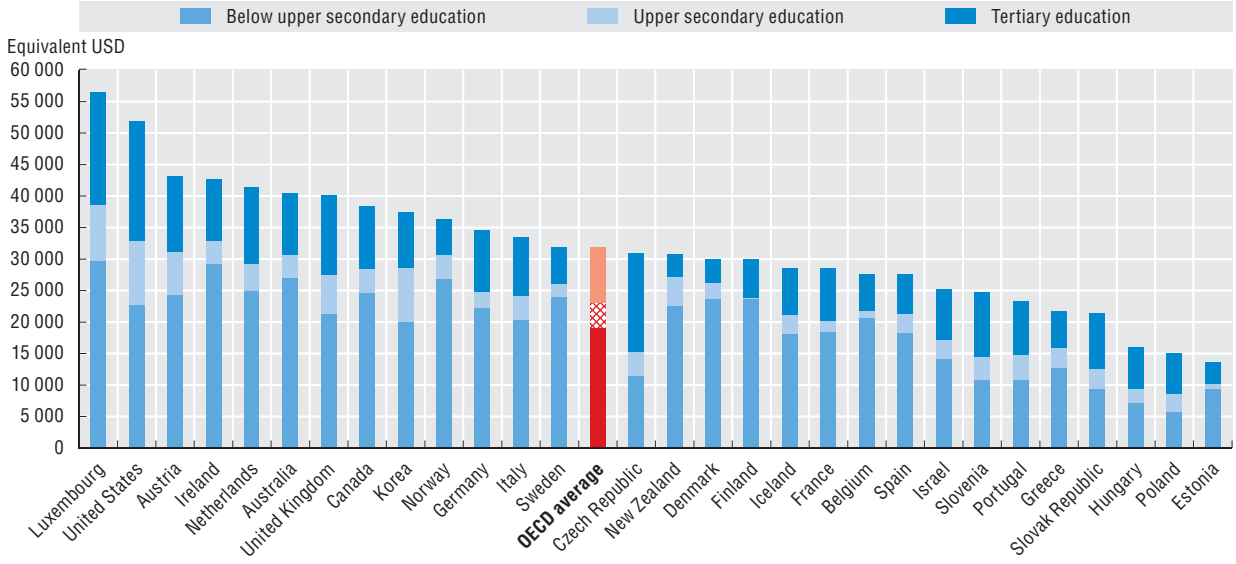
This figure shows the correlation between GDP growth and labour income growth between 2000 and 2010. In many countries, over half of the GDP growth is related to labour income growth at the tertiary level of education.



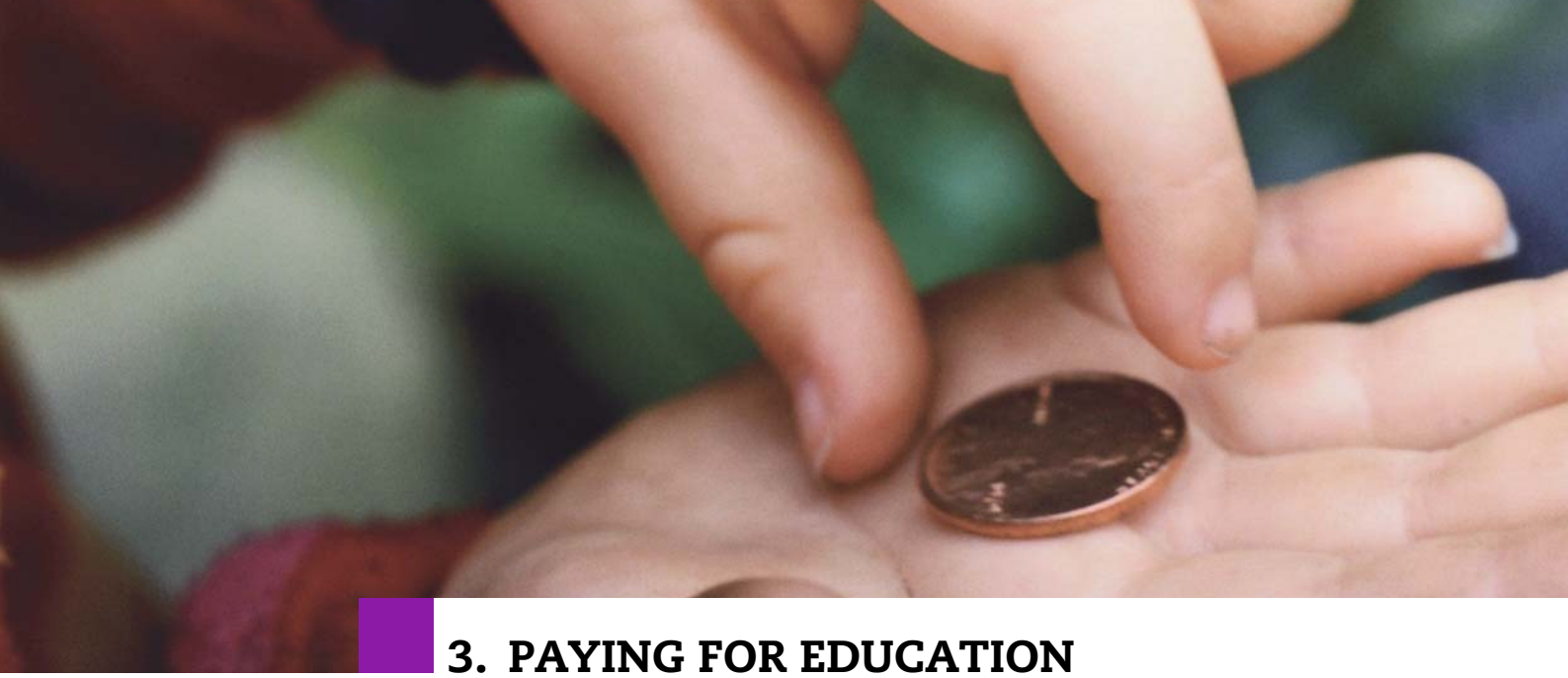
Source: OECD (2012), *Education at a Glance 2012*, Table A10.1, available at: *http://dx.doi.org/10.1787/888932665620*.

Figure 2.12. **Average labour income by education level (2009 or latest available year)**

This figure compares average labour income by education level across countries, in PPP-adjusted USD.



Source: OECD (2012), *Education at a Glance 2012*, Table A10.2, available at: *http://dx.doi.org/10.1787/888932665639*.



3. PAYING FOR EDUCATION

How much is spent per student?

Has spending per student increased?

What share of national wealth is spent on education?

What share of public spending goes to education?

What is the role of private spending?

How much do tertiary students pay?

What are education funds spent on?

How much do teachers cost?

How much is spent per student?

- *OECD countries on average spend USD 9 252 per student each year between primary and tertiary education, although spending levels vary widely among countries.*
- *On average, OECD countries spend nearly twice as much per student at the tertiary level than at the primary level.*
- *Most spending in education is devoted to salaries for teachers and other staff.*

Significance

This section shows the levels of combined public and private spending on education. In debates about learning, demand for high-quality education, which may mean spending more per student, is often tempered by the desire to keep taxes low. This issue is all the more important at a time of economic crisis and tight public spending. While it is difficult to determine the level of spending needed to prepare a student for work and life, international comparisons can provide reference points for comparisons of education resources.

Findings

OECD countries on average spend USD 9 252 per student each year across primary, secondary and tertiary education. But spending varies widely between countries, ranging from USD 4 000 per student or less in Argentina, Brazil, Chile, Indonesia, Mexico and South Africa, to more than USD 10 000 in Australia, Austria, Belgium, Denmark, Ireland, Japan, the Netherlands, Norway, Sweden, Switzerland and the United Kingdom, and more than USD 15 000 in the United States.

The factors that drive spending vary among countries. For example, among the ten countries with the highest expenditure at the secondary level, Belgium, Denmark, Ireland, Luxembourg, the Netherlands, Switzerland and the United States are among the ten countries with the highest teachers' salaries, while Austria, Belgium, Denmark and Norway are among the countries with the lowest student-to-teacher ratios.

In every OECD country, spending rises sharply from primary to tertiary education. OECD countries on average spend USD 7 719 per student at primary level, USD 9 312 at secondary level and USD 13 728 at tertiary level.

Most spending in education is devoted to salaries for teachers and other staff as well as other core services (school buildings, teaching materials, books and administration). At the tertiary level, however, other services, particularly research and development activities (R&D), also constitute a large slice of expenditure. R&D expenditure represents an average of 31% of total expenditure per tertiary student and can account for more than 40% in Norway, Portugal, Sweden and Switzerland. Once R&D activities and ancillary services are excluded, expenditure by educational core services in tertiary institutions falls to an average USD 8 944 per student. By contrast, spending on ancillary services at primary, secondary and post-secondary non-tertiary levels exceeds 10% of the total expenditure per student only in Finland, France, Hungary, Korea, the Slovak Republic, Sweden and the United Kingdom.

Finally, it should be noted that examining only the annual spending per student may not fully reflect the total spent on a student at each level of education. For example, annual spending per tertiary student in Japan is about the same as in Belgium, at USD 15 957 and USD 15 443, respectively. However, it takes more than one year longer to complete a tertiary degree in Japan than in Belgium. As a result, the cumulative expenditure for each tertiary student is nearly USD 20 000 less in Belgium than in Japan – USD 46 175 *versus* USD 66 856.

Definitions

Data refer to the financial year 2009 and are based on the UOE data collection on education statistics administered by the OECD in 2011. Spending per student at a particular level of education is calculated by dividing the total expenditure of educational institutions at that level by the corresponding full-time equivalent enrolment.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

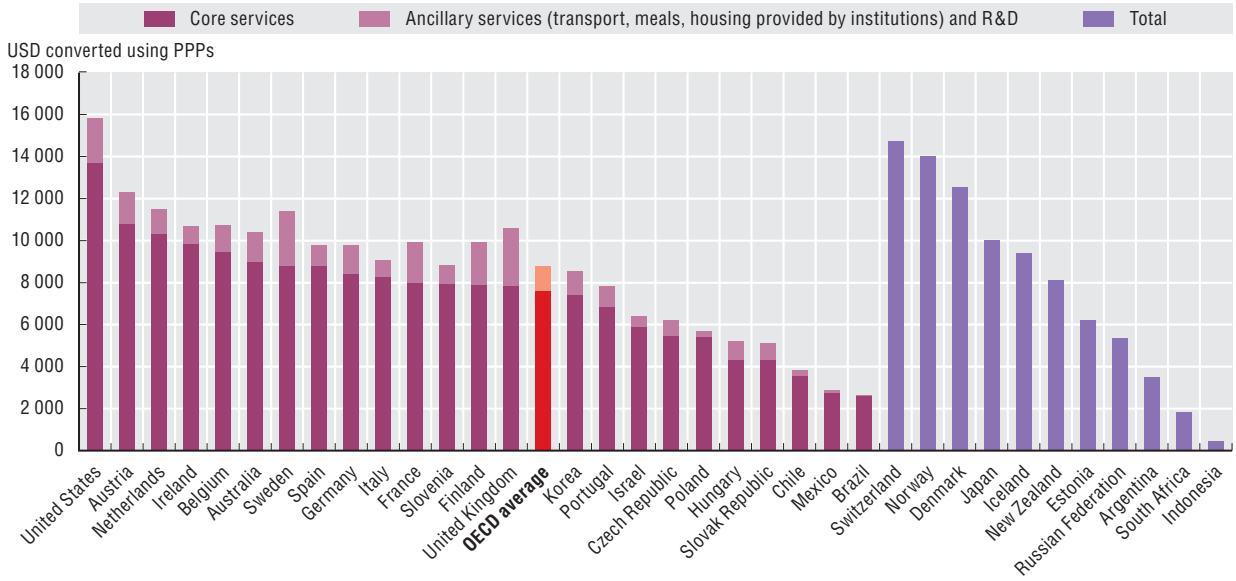
For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator B1).

Areas covered include:

- Annual expenditure by educational institutions per student for all services, and compared to GDP per capita.
- Cumulative expenditure by educational institutions per student.

Figure 3.1. **Annual expenditure per student, 2009**

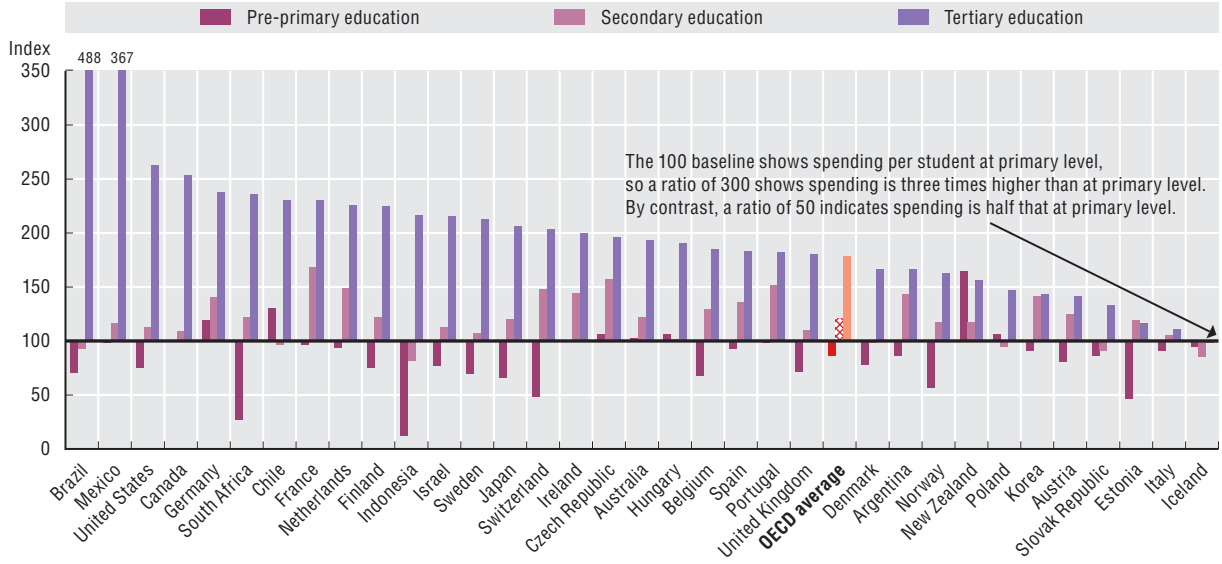
This figure shows how much is spent annually (by educational institutions) per student between primary and tertiary education; these data give a sense of the cost per student of formal education.



Source: OECD (2012), *Education at a Glance 2012*, Table B1.2, available at: *http://dx.doi.org/10.1787/888932665905*.

Figure 3.2. **Expenditure on education relative to spending on primary education, 2009**

This figure shows annual spending (by educational institutions) per student for different levels of education compared with spending at primary level.



Source: OECD (2012), *Education at a Glance 2012*, Table B1.1a, available at: *http://dx.doi.org/10.1787/888932665867*.

Has spending per student increased?

- *Expenditure by educational institutions per student at primary, secondary and post-secondary non-tertiary levels increased by more than 36% on average between 2000 and 2009, a period when enrolment levels remained generally static.*
- *At the tertiary level, spending per student rose by 15% on average in OECD countries between 2000 and 2009. However, in six countries spending per student fell because overall spending did not keep pace with a rise in student numbers.*
- *As of 2009, the economic crisis had not yet affected investment in education in most OECD countries.*

Significance

This section looks at whether spending on education has risen or fallen in recent years. Policy makers are under constant pressure to improve the quality of educational services while expanding access to educational opportunities, in particular at the tertiary level. Over time, spending on educational institutions tends to rise, in large part because teachers' salaries rise in line with general earnings. However, if the cost of schooling each student is not accompanied by improvements in educational outcomes, it raises the spectre of falling productivity levels.

Findings

Spending per student by educational institutions at the primary, secondary and post-secondary non-tertiary levels increased in OECD countries by an average of 56% between 1995 and 2009. The increase is quite similar over the periods 2000-05 and 2005-09, showing that the global economic crisis has not yet affected investment in education in most countries. Only Hungary and Mexico showed a decrease in expenditure per student at these levels of education between 2005 and 2009. In 24 countries, expenditure per primary, secondary and post-secondary non-tertiary student increased by at least 16% between 2000 and 2009. The increase exceeded 50% in Brazil, the Czech Republic, Estonia, Hungary, Ireland, Korea, Poland, the Slovak Republic and the United Kingdom. By contrast, in France, Israel and Italy, this expenditure increased by only 10% or less between 2000 and 2009. Changes in enrolments do not seem to have been the main factor behind changes in expenditure at these levels.

The pattern is different at the tertiary level. In some cases, spending per student fell between 1995 and 2009, as expenditure did not keep up with expanding enrolments. Between 2000 and 2009, Iceland, Israel and the United States recorded a decrease in per-student expenditure in tertiary education. This is also the case in Brazil, Hungary and Switzerland, where public expenditure per student decreased during the period. In all of these countries, the decline was mainly the result of a rapid increase of 25% or more in the number of tertiary students. On average in OECD countries, such spending remained stable between 1995 and 2000 but then increased in 2000-05 and 2005-09, as governments invested massively in response to the expansion of tertiary education. Between 2000 and 2009, Estonia, Korea, Portugal, Spain and the United Kingdom increased expenditure per student by 30% or more.

Trends

In many OECD countries, expenditure has not kept up with expanding enrolments. In addition, some OECD countries emphasise broad access to higher education, while others invest in near-universal education for children as young as three or four.

Both investment in education and the number of students enrolled in education can be affected by financial crises. Consequently, the recent global economic crisis is likely to have resulted in changes in the level of expenditure per student. However, because the crisis began in late 2008, available data cannot show yet the full extent of this impact.

Definitions

Data for the 2009 financial year are based on the UOE data collection on education statistics administered by the OECD in 2011. OECD countries were asked to collect the 1995, 2000 and 2005 data according to the definitions and the coverage of UOE 2011 data collection. All expenditure data, as well as the GDP for 1995, 2000 and 2005, are adjusted to 2009 prices using the GDP price deflator. Spending per student at a particular level of education is calculated by dividing the total expenditure of educational institutions at that level by the corresponding full-time equivalent enrolment.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator B1).

Areas covered include:

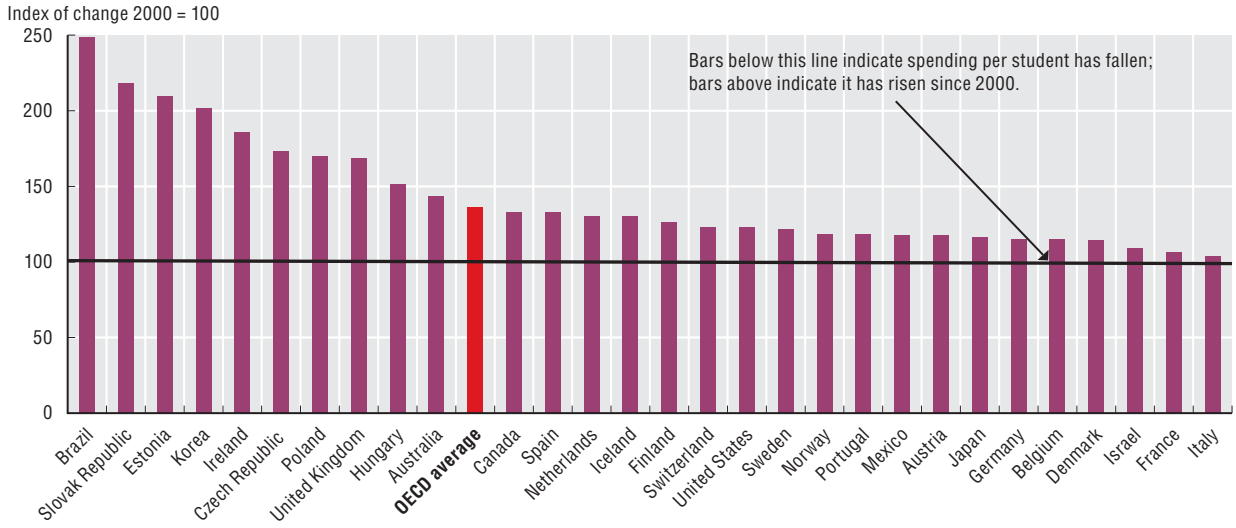
- Changes in expenditure by educational institutions by level of education.
- Changes in expenditure and in GDP per capita.

Further reading from OECD

Trends Shaping Education 2010.

Figure 3.3. **Trends in expenditure per student in non-tertiary education (2000, 2009)**

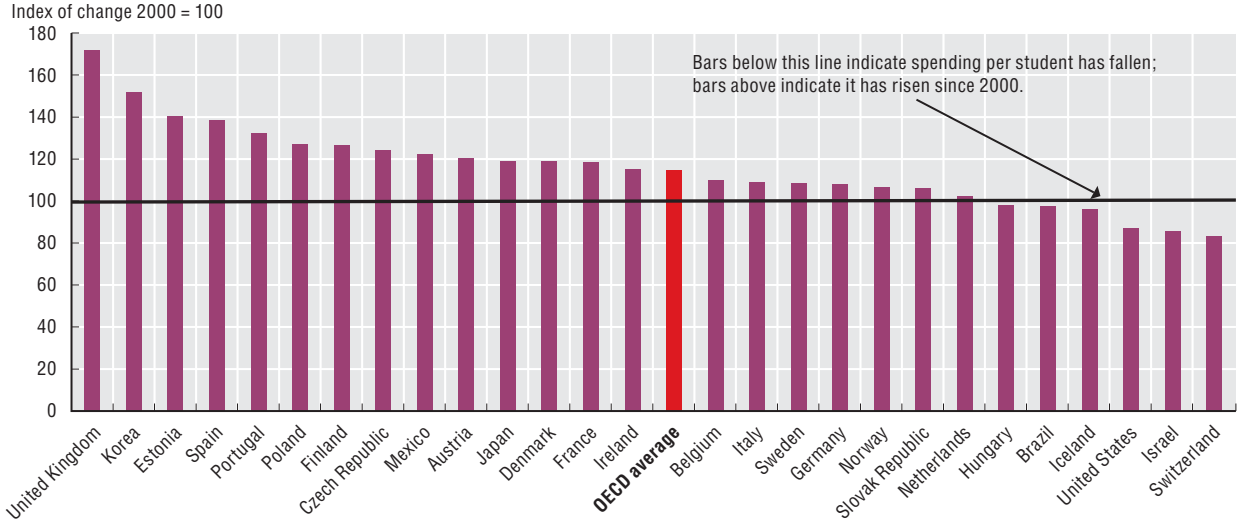
This figure shows the increase or decline in spending in real terms per student in primary, secondary and post-secondary non-tertiary education.



Source: OECD (2012), *Education at a Glance 2012*, Table B1.5a, available at: *http://dx.doi.org/10.1787/888932665981*.

Figure 3.4. **Trends in expenditure per student in tertiary education (2000, 2009)**

This figure shows the increase or decline in spending in real terms per student in tertiary education.



Source: OECD (2012), *Education at a Glance 2012*, Table B1.5b, available at: *http://dx.doi.org/10.1787/888932666000*.

What share of national wealth is spent on education?

- *OECD countries spend 6.2% of their GDP on educational institutions, on average.*
- *Between 2000 and 2009, expenditure on educational institutions across all levels of education increased by an average of 36% in OECD countries, reflecting the fact that more people are completing upper secondary and tertiary education than ever before.*
- *Despite the economic crisis, expenditure for all levels of education combined increased in 24 out of the 31 countries with available data between 2008 and 2009, although GDP in 26 of these countries decreased.*

Significance

This section examines the proportion of a nation's wealth that is invested in education. In other words, it shows to what extent a country – including its government, private enterprise, individual students and their families – prioritises education in relation to overall spending.

Findings

OECD countries spend 6.2% of their GDP on education, on average, although the proportions vary by country: above 7% in Denmark, Iceland, Israel, Korea, New Zealand and the United States, but less than 5% in the Czech Republic, Hungary, India, Indonesia, Italy, the Slovak Republic and South Africa.

About 64% of OECD expenditure on educational institutions, or 4.0% on average of GDP, is devoted to primary, secondary and post-secondary non-tertiary education. Tertiary education accounts for nearly one-quarter of the average OECD spending on education, or on average 1.6% of GDP. Canada, Chile, Korea and the United States spend between 2.4% and 2.6% of their GDP on tertiary institutions. Four countries devote less than 1% of GDP to tertiary education, namely Brazil (0.8%), Indonesia (0.7%), the Slovak Republic (0.9%) and South Africa (0.6%). In Belgium, Brazil, France, Iceland, Norway, Portugal, Switzerland and the United Kingdom the share of GDP spent on tertiary institutions is below the OECD average while the share of GDP spent on primary, secondary and post-secondary non-tertiary education is above the OECD average.

Differences in spending on educational institutions are most striking at the pre-primary level, where they range from less than 0.2% of GDP in Australia, India, Indonesia, Ireland and South Africa to about 0.9% or more in Denmark, Iceland, Israel, Spain and the Russian Federation. However, as countries often structure and fund pre-primary education in very different ways, it is unsafe to draw inferences from these data on access to and quality of early childhood education.

Trends

With an unprecedented number of people completing secondary and tertiary education between 2000 and 2009, many countries made massive financial investments in education during that period. For all levels of education combined, public and private investment in education increased on average by 36% in OECD countries over this period.

The global economic crisis that began in 2008 had (and is still having) a major negative impact on different sectors of the economy. While it is still early to assess the full impact of the crisis, education seems to have been spared from early budget cuts. Only Israel shows a decrease in expenditure on educational institutions as a percentage of GDP. Between 2008 and 2009, expenditure on education institutions started to fall in Belgium, Estonia, Iceland, Italy, Japan and the United States but the reductions seen in these six countries were smaller than the drop in GDP. As a result, the share of GDP devoted to education continued to rise. In the remaining countries, education expenditure increased by an average of 4%.

Definitions

Data refer to the 2009 financial year and are based on the UOE data collection on education statistics administered by the OECD in 2011. Expenditure on educational institutions includes expenditure on both instructional institutions (those that provide teaching to individuals in an organised group setting or through distance education) and non-instructional institutions (those that provide administrative, advisory or professional services to other educational institutions, but do not enrol students themselves).

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

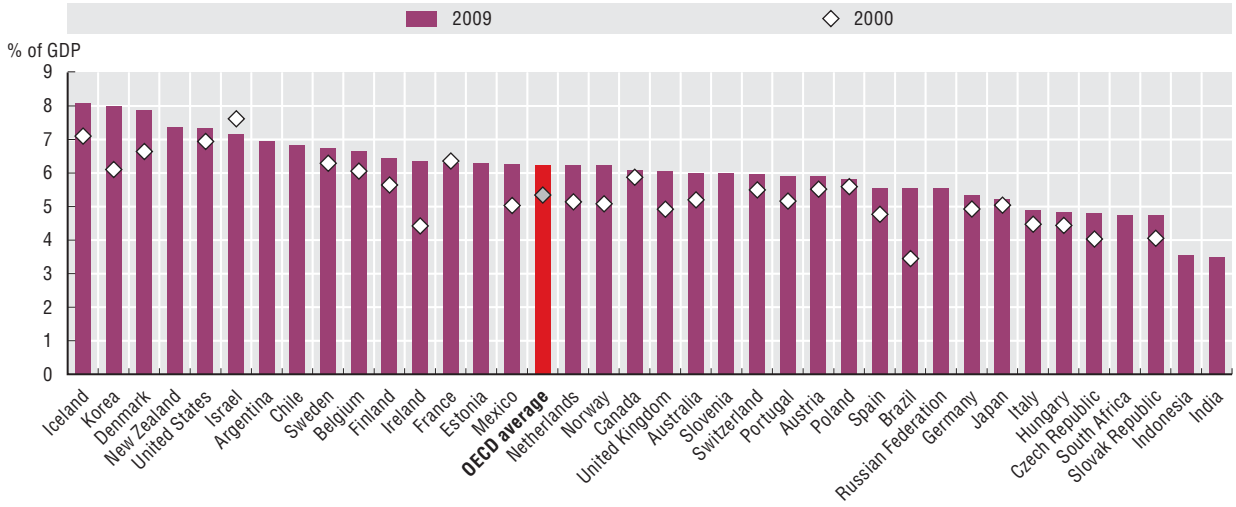
For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator B2).

Areas covered include:

- Expenditure on educational institutions as a percentage of GDP.
- Change in expenditure, 1995, 2000, 2005 and 2008-09.

Figure 3.5. **Trends in education expenditure as a percentage of GDP (2000, 2009)**

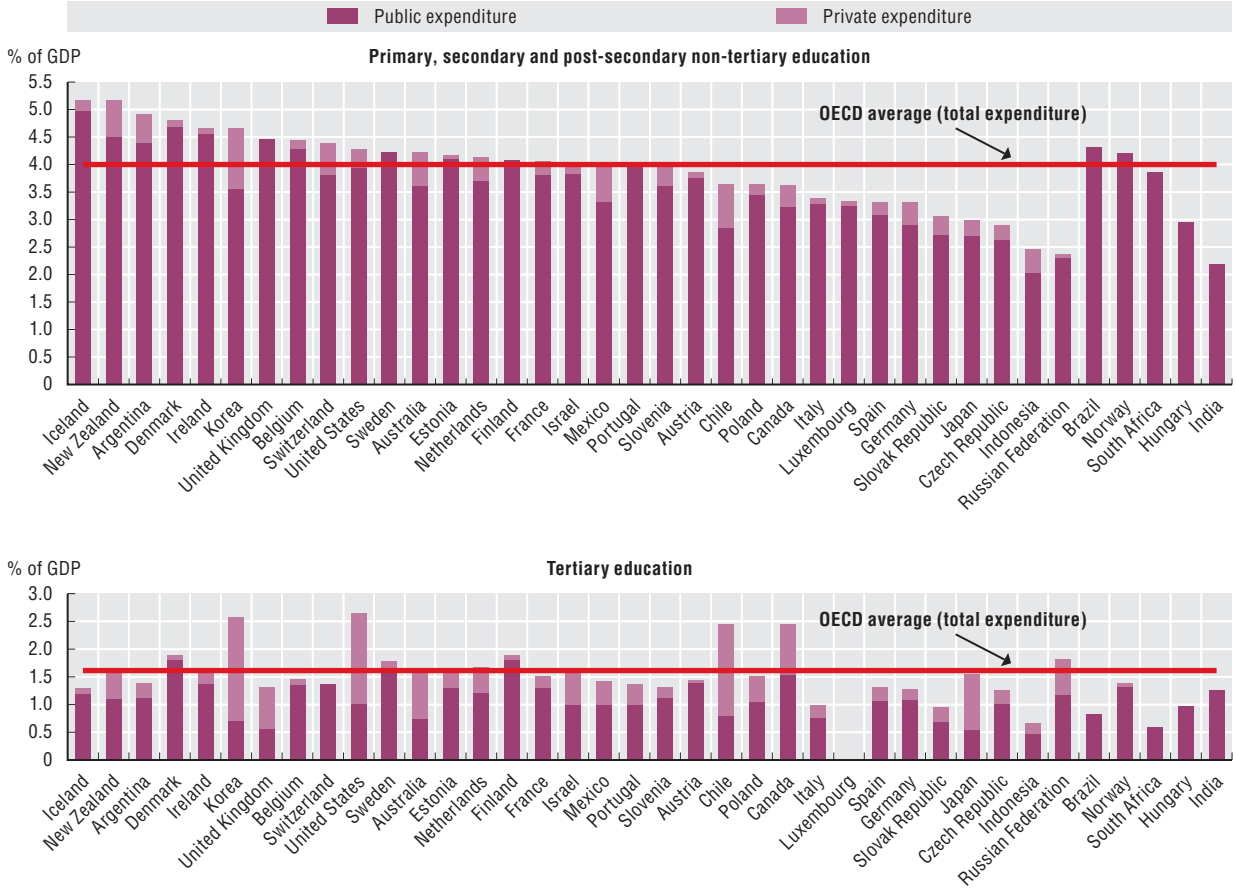
This figure shows the share of national income that countries devote to expenditure on educational institutions, and how that share has changed over time.



Source: OECD (2012), *Education at a Glance 2012*, Table B2.1, available at: *http://dx.doi.org/10.1787/888932666076*.

Figure 3.6. **Expenditure as a percentage of GDP, 2009**

These figures show the share of national income – both public and private – devoted to each level of education.



Source: OECD (2012), *Education at a Glance 2012*, Table B2.3, available at: *http://dx.doi.org/10.1787/888932666114*.

What share of public spending goes to education?

- *Public funding of education is a social priority, accounting for 13% of total public spending, on average in OECD countries.*
- *Public expenditure on primary, secondary and post-secondary non-tertiary education is on average more than twice that on tertiary education in OECD countries.*
- *The proportion of public spending devoted to education increased slightly between 1995 and 2009 in most countries. Over the period 2005-09 however, this proportion remained stable.*

Significance

Public spending on education, as a percentage of total public spending, indicates the importance placed on education relative to that of other areas of public spending, such as health care, social security and national security. Since the second half of the 1990s, most OECD countries have sought to consolidate public budgets, and education has had to compete with several other sectors for public financial support. This section evaluates the change in spending on education, both in absolute terms and relative to changes in the size of public budgets.

Findings

On average, OECD countries devote 13% of total public expenditures to education, with levels ranging from less than 10% in the Czech Republic, Italy, Japan and the Slovak Republic, to more than 19% in Chile, Mexico and New Zealand.

Even in countries with relatively low rates of public spending, education is considered a priority. For example, the share of public spending devoted to education in Brazil, Chile, Mexico, New Zealand and Switzerland is among the highest, yet total public spending accounts for a relatively low proportion of GDP in these countries.

In most countries, about two-thirds of total public expenditure on education is devoted to primary, secondary and post-secondary non-tertiary education. This is mainly due to the near-universal enrolment rates at these levels of education. The private share also tends to be greater at the tertiary level. In OECD and G20 countries, the percentages of public expenditure devoted to the tertiary level range from below 15% in the United Kingdom to over 30% in Canada, Finland and Norway.

Trends

Over the past 15 years (1995-2009), public expenditure on all levels of education has increased slightly in two-thirds of the countries with available data. The 0.5 percentage point average increase, however, hides strong disparities between countries. Brazil, Denmark, the Netherlands, New Zealand, Sweden and Switzerland, have all increased the share of education in public spending by more than two percentage points, while other countries, such as Mexico (–1.9 percentage points) have seen it decrease considerably.

In addition, spending patterns changed considerably between 2005 and 2009. During this period, public expenditure on education as a percentage of total expenditure decreased in 19 countries. The beginning of the economic crisis in 2008, which put more pressure on public budgets, may be related to decreases in the later years. The largest decrease was seen in Iceland with a 2.7 percentage point fall. New Zealand, however, increased the share of public spending on education as a percentage of total public expenditure by 5.8 percentage points.

Definitions

Data refer to the financial year 2009 and are based on the UOE data collection on education statistics administered by the OECD in 2011. Public expenditure on education includes expenditure by all public entities, including ministries other than the Ministry of Education, local and regional governments and other public agencies. Total public expenditure, also referred to as total public spending, corresponds to the non-repayable current and capital expenditure of all levels of government.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

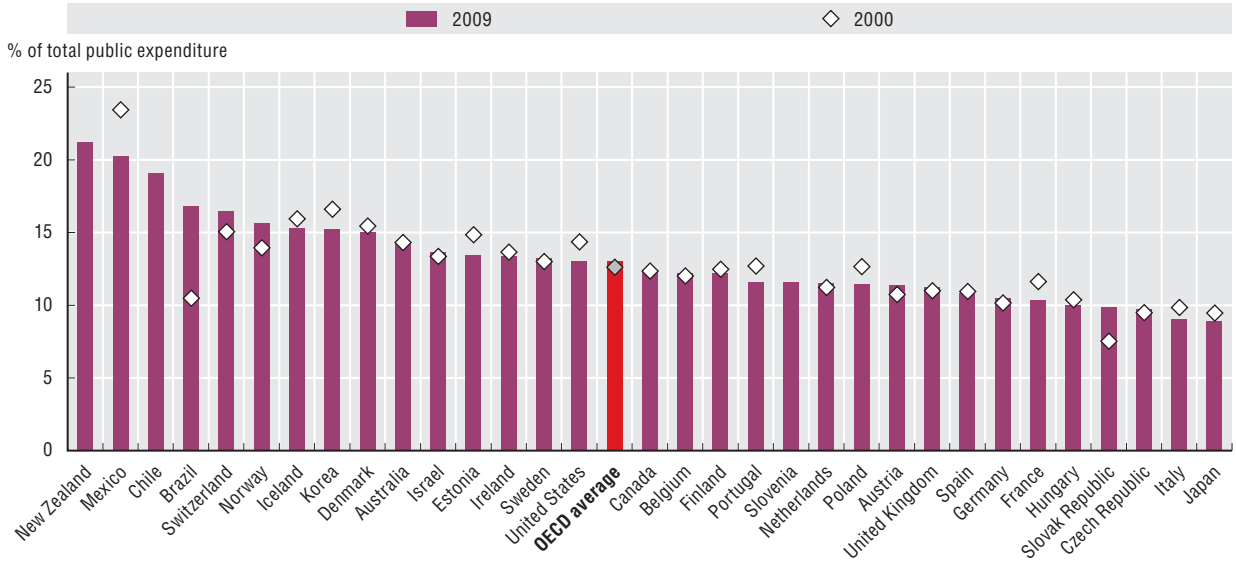
For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator B4).

Areas covered include:

- Distribution of total public expenditure on education.
- Initial sources of public educational funds and final purchasers of educational resources by level of government.

Figure 3.7. **Trends in public spending on education as a percentage of total public expenditure (2000, 2009)**

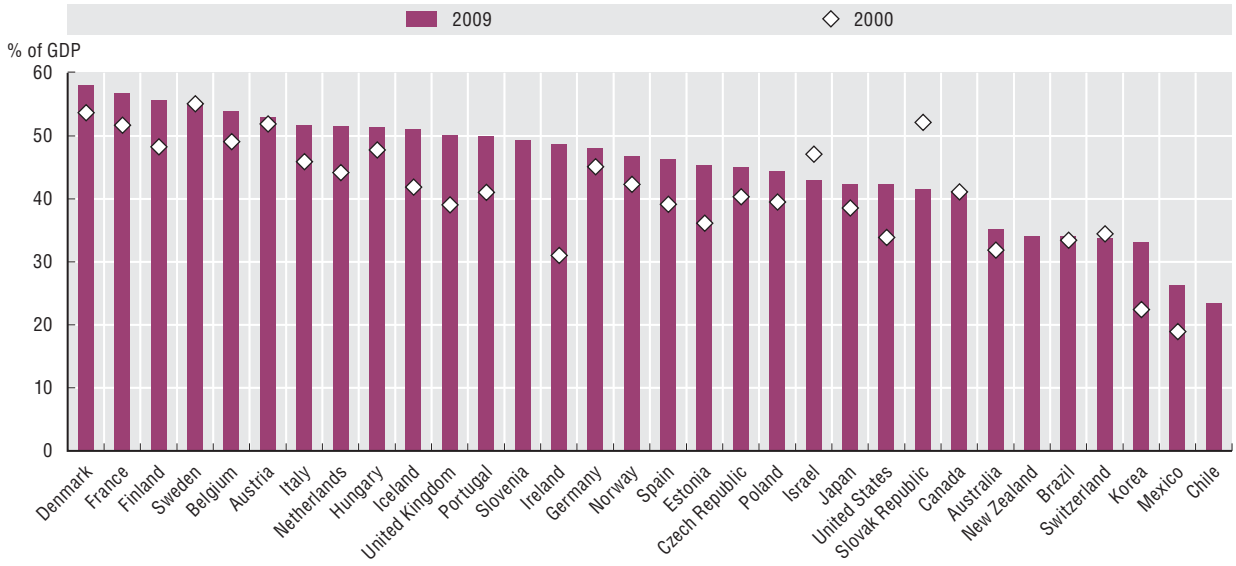
This figure shows total public spending on education (which includes spending on educational institutions and spending such as public subsidies to households), and how it has evolved.



Source: OECD (2012), *Education at a Glance 2012*, Table B4.3, available at: *http://dx.doi.org/10.1787/888932666342*.

Figure 3.8. **Total public expenditure as a percentage of GDP (2000, 2009)**

This figure shows the size of public spending as a percentage of the overall economy. These data provide context for examining the proportion of public spending that is devoted to education.



Source: OECD (2012), *Education at a Glance 2012*, Chart B4.2, available at: *http://dx.doi.org/10.1787/888932662732*.

What is the role of private spending?

- *Public funding accounts for 84% of all funds for educational institutions, on average in OECD countries.*
- *For all levels of education, private institutions receive about half as much public funding per student as public institutions: USD 4 301* versus *USD 8 329.*
- *Tertiary institutions obtain about 30% of their funds from private sources.*

Significance

This section shows how the financing of educational institutions is shared between public and private entities, particularly at tertiary level. Public funding provides a very large part of investment in education, but the role of private sources has become increasingly important. Some stakeholders are concerned that this balance should not become so tilted that it discourages potential students from attending tertiary education. Thus, it is important to examine changes in public/private funding shares to determine if they are influencing patterns and levels of student participation.

Findings

Public funding represents on average 84% of all funds for education in OECD countries for which comparable data are available. At the primary, secondary and post-secondary non-tertiary levels of education, 91% of the funds come from public sources. Only in Chile, Korea and the United Kingdom is this share less than 80%. Private funding tends to be more frequent at two levels of education – pre-primary and tertiary.

At the pre-primary level, private funding represents on average 18% of the total expenditure in OECD countries. This figure varies widely however, ranging from 5% or less in Belgium, Estonia, Luxembourg, the Netherlands and Sweden, to over 48% in Australia, Japan and Korea.

At the tertiary level, private funding represents on average 30% of total expenditure on educational institutions. The proportion of expenditure on tertiary institutions covered by individuals, businesses and other private sources, ranges from less than 5% in Denmark, Finland and Norway, to more than 40% in Australia, Israel, Japan and the United States, and to over 70% in Chile, Korea and the United Kingdom.

Private entities other than households contribute more, on average, to tertiary education than to other levels of education. In Australia, Canada, the Czech Republic, Israel, Japan, Korea, the Netherlands, the Slovak Republic, Sweden, the United Kingdom and the United States, 10% or more of spending on tertiary education comes from private entities other than individual households.

While public expenditure mainly funds public institutions, it can also play a role in funding private institutions. On average among OECD countries, and across all levels of education, governments spend twice as much per student on public institutions as on private ones (USD 8 329 and USD 4 301, respectively).

Trends

While public funding for all levels of education increased across OECD countries for which comparable data are available between 2000 and 2009, private spending on education increased even more in over three-quarters of these countries. As a result, the share of private funding for tertiary education increased between 2000 and 2009 in 18 out of 25 countries. The share increased by 5 percentage points on average, and by more than 12 percentage points in the Slovak Republic and the United Kingdom.

Decreases in the share of public expenditure in total expenditure on educational institutions and, consequently, increases in the share of private expenditure, have not generally gone hand in hand with cuts (in real terms) in public expenditure on educational institutions. In fact, many OECD countries with the highest growth in private spending have also shown the highest increase in public funding of education. This indicates that an increase in private spending is less likely to replace public investment than to complement it.

Definitions

Data refer to the 2009 financial year and are based on the UOE data collection on education statistics, administered by the OECD in 2011. Private spending includes all direct expenditure on educational institutions, whether partially covered by public subsidies or not.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator B3).

Areas covered include:

- Relative proportions and trends of public and private expenditure on educational institutions for all levels of education.
- Annual public expenditure on educational institutions per student by type of institution.

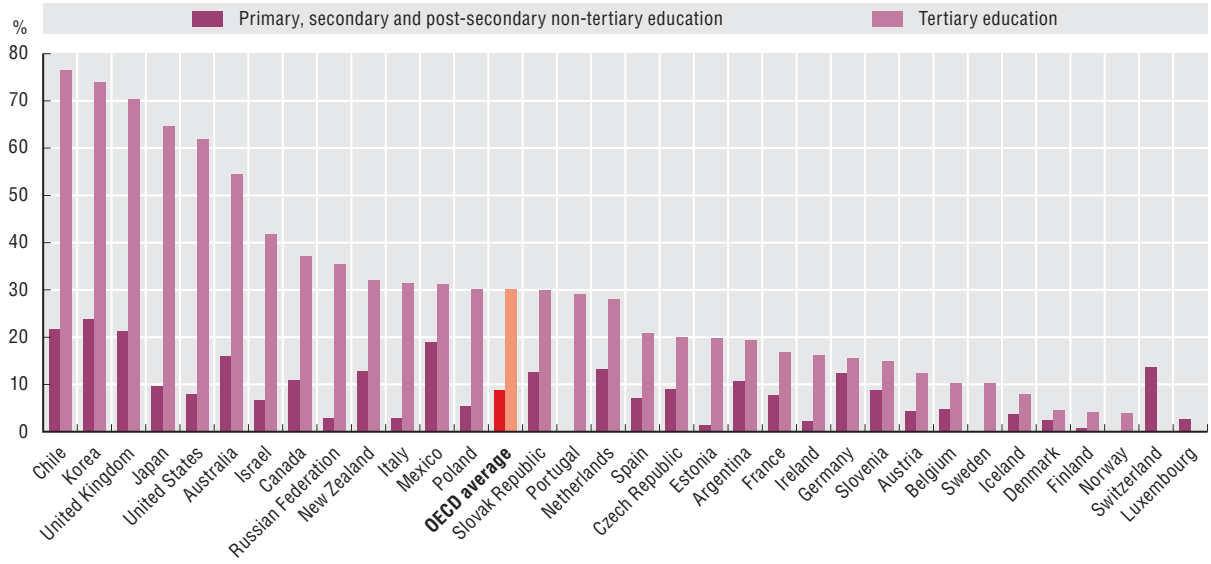
Further reading from OECD

OECD Reviews of Tertiary Education (ongoing).

Higher Education Management and Policy (journal).

Figure 3.9. **Share of private expenditure on educational institutions, 2009**

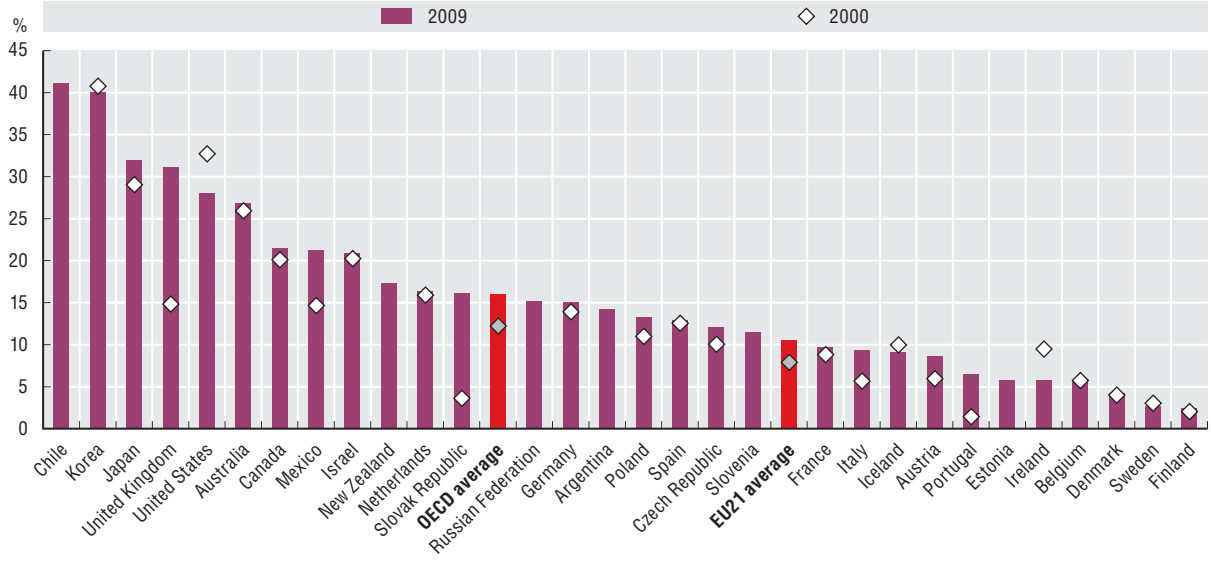
This figure shows the percentage of spending on educational institutions that comes from private funding, by level of education.



Source: OECD (2012), *Education at a Glance 2012*, Tables B3.2a and B3.2b, available at: *http://dx.doi.org/10.1787/888932666209* and *http://dx.doi.org/10.1787/888932666228*.

Figure 3.10. **Trends in the share of private expenditure (2000, 2009)**

This figure shows the increase – or otherwise – in private spending as a percentage of total expenditure on all levels of education from 2000 to 2009.



Source: OECD (2012), *Education at a Glance 2012*, Table B3.1, available at: *http://dx.doi.org/10.1787/888932666190*.

How much do tertiary students pay?

– *University students pay more than USD 1 500 in tuition fees for public institutions in their own country in a third of OECD countries; they pay nothing in eight countries.*

– *Countries with high levels of tuition fees tend to be those where private sources such as companies contribute the most to funding tertiary institutions.*

– *Countries where students pay tuition fees but can benefit from sizeable financial support do not have below-average levels of access to university education.*

Significance

This section examines the relationships between annual tuition fees, direct and indirect public spending on education and public subsidies for student living costs. Governments can address issues of access to and equality of education opportunities by subsidising tuition fees and financially aiding students and their families, particularly students from low-income families. But how this aid is given – whether through grants, scholarships or loans – is a subject of debate in many countries.

Findings

Overall, there are significant differences among OECD countries in the average tuition fees charged for university-level public education. Fees are negligible or low in the Nordic countries, the Czech Republic, Ireland and Mexico, but exceed USD 5 000 in the United States and Korea. However, tuition fees are only part of the picture. It is also important to look at broader support that may be available to students. Student support systems have developed extensively in Australia, Chile, Denmark, Japan, the Netherlands, New Zealand, Norway and the United Kingdom. On average, OECD countries spend 21% of their public budgets for tertiary education on subsidies to households and other private entities.

In this context, countries can be grouped into four main categories:

- No or low tuition fees, and generous student support systems; this includes the Nordics.
- High tuition fees and well-developed student support systems; this includes Australia, Canada, the Netherlands, New Zealand, the United Kingdom and the United States.
- High tuition fees but less developed student support systems; Japan and Korea.
- Low tuition fees and less developed student support systems; this includes Austria, Belgium, the Czech Republic, France, Ireland, Italy, Poland, Portugal, Switzerland, Spain and Mexico.

Trends

Tuition fees continue to spark lively debate, and over the past decades there have been substantial reforms in OECD countries. Since 1995, some German federal states have introduced fees, while other countries such as Australia, Austria, Japan, the Netherlands, New Zealand, Portugal, the United Kingdom and the United States have increased fees. Similarly, Denmark, Ireland and the Slovak Republic increased tuition fees charged for international students (only international students are charged tuition fees in these countries). A few countries, however, have reduced tuition fees. In 2009, Austria for example, eliminated the tuition fees it introduced in 2001/02, for a majority of students.

Since 2009, further changes have been made to tuition fees and public support systems in various countries. For example in 2011 Korea implemented reforms to increase the level of public support available to students for higher education, with the goal of strengthening access and equity in university-level education. In the United Kingdom, tuition fees are scheduled to triple in some universities in 2012, as part of a government plan to stabilise university finances.

Definitions

Data refer to the financial year 2009 and are based on the UOE data collection on education statistics administered by the OECD in 2011. Data on tuition fees charged by educational institutions and financial aid to students were collected through a special survey undertaken in 2010 and refer to the academic year 2008-09. Public subsidies to households include grants/scholarships, public student loans, family or child allowances contingent on student status, public subsidies in cash or in kind for housing, transport, medical expenses, books and supplies, social, recreational and other purposes, and interest-related subsidies for private loans.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator B5).

Areas covered include:

– Average tuition fees charged by university-level educational institutions.

– Distribution of financial aid to students.

– Governance of tertiary institutions.

Further reading from OECD

OECD Reviews of Tertiary Education (ongoing).

Higher Education Management and Policy (journal).

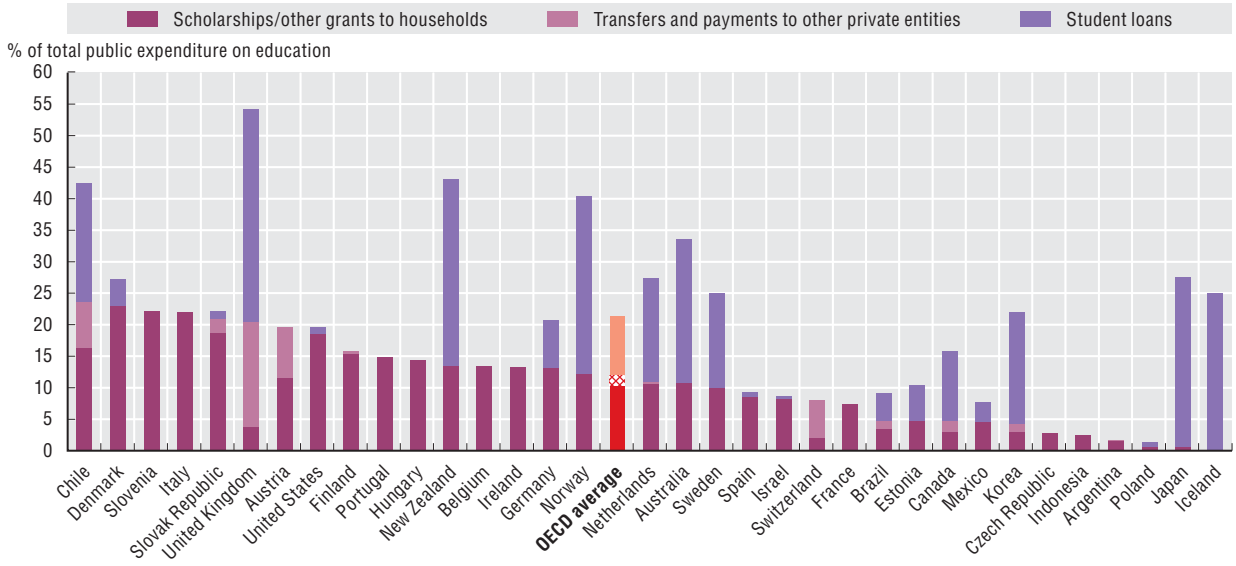
Figure 3.11. **Tuition fees in tertiary education, 2008-09**

This figure shows the average annual tuition fees charged to full-time national students in public institutions for university level education.

Source: OECD (2012), *Education at a Glance 2012*, Table B5.1, available at: *http://dx.doi.org/10.1787/888932666418*.

Figure 3.12. **Public subsidies for tertiary education, 2009**

This figure shows the public subsidies for education given to households and other private entities as a percentage of total public expenditure on education, broken down by the type of subsidy.



Source: OECD (2012), *Education at a Glance 2012*, Table B5.3, available at: *http://dx.doi.org/10.1787/888932666456*.

What are education funds spent on?

- *Current expenditure accounts for an average of more than 90% of total spending on education, all levels of education combined except pre-primary.*
- *Teachers' salaries account for most current expenditure in OECD and other G20 countries with available data.*
- *Current expenditure other than staff costs is largest at the tertiary level, where it reaches 32% of all current expenditure, on average. This is partly due to the higher costs of facilities and equipment in tertiary education.*

Significance

This section details how OECD countries spend their funds for education, including the split between capital expenditure, which is one-off spending on items such as school buildings, and current expenditure, which is recurring spending on items such as teacher salaries. How spending is apportioned, both between current and capital outlays and within these categories, can affect the quality of services, the condition of facilities, and the ability of education systems to adjust to changing demographic and enrolment trends.

Findings

Current expenditure is the largest share of education spending. This is due to the labour-intense nature of education, with teacher salaries accounting for a very large slice of current – and total – education spending. In 2009, more than 90% of total expenditure was devoted to current expenditure at the primary, secondary and post-secondary non-tertiary levels of education combined (91.3%) and at the tertiary level (91.0%).

Staff salaries make up on average 78% of current expenditure in primary, secondary and post-secondary non-tertiary education in OECD countries. In tertiary education, most current expenditure is also related to staff costs in all countries except the Czech Republic and Indonesia. Over 80% of current expenditure in tertiary education is devoted to compensation of staff in Argentina, Brazil, Denmark and Israel (88%, 80%, 83% and 80%, respectively).

There are relatively large differences in how current expenditure is allocated between the primary, secondary, and post-secondary non-tertiary levels on the one hand and tertiary education on the other. In all countries but Denmark, the share devoted to compensation of teachers is smaller at the tertiary level. Only seven countries spend more than 30% of their current expenditure on current expenditure other than compensation of all staff in primary, secondary and post-secondary non-tertiary education: the Czech Republic (37.6%), Finland (35.6%), Indonesia (31.1%), Korea (33.1%), Poland (32.4%), the Slovak Republic (36.4%) and Sweden (32.2%).

Current expenditure other than staff costs is largest at the tertiary level, where it reaches 32% of all current expenditure, on average for OECD countries. This is partly due to the higher costs of facilities and equipment in tertiary education. At the tertiary level of education, the share of total expenditure devoted to capital expenditure is higher than that for primary, secondary and post-secondary non-tertiary education combined in 18 OECD countries. This may be linked to the expansion of tertiary education in recent years, and a consequent need for new buildings to be constructed.

Definitions

Data refer to the financial year 2009 and are based on UOE data collection on education statistics administered by the OECD in 2011. Calculations cover expenditure by public institutions or, where available, by both public and private institutions.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

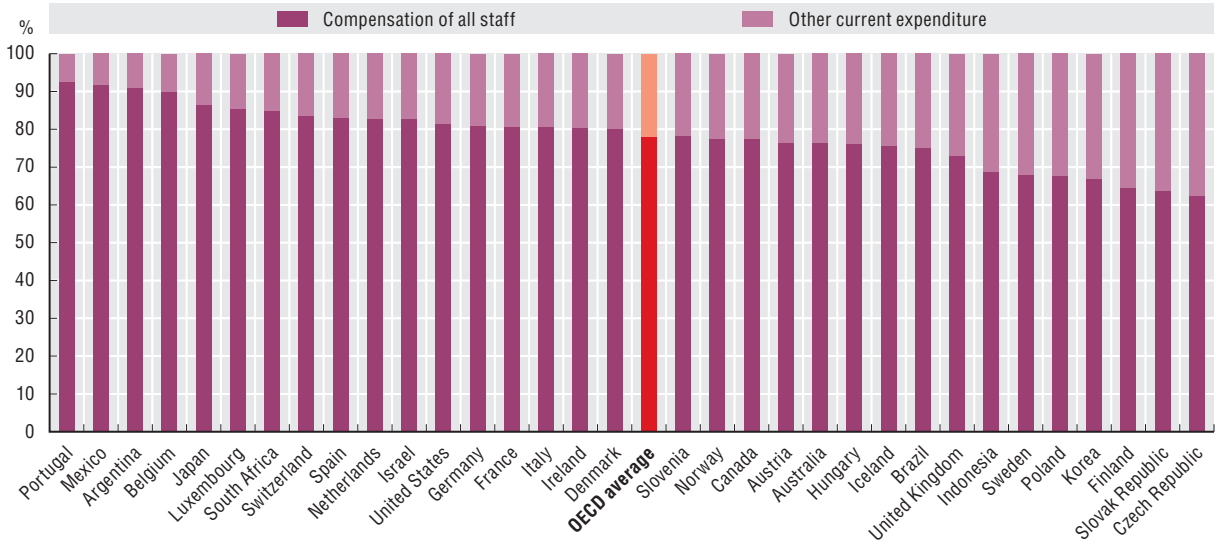
For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator B6).

Areas covered include:

- Expenditure on educational institutions by service category as a percentage of GDP.
- Distribution of current expenditure on educational institutions by level of education.

Figure 3.13. **Staff costs as a proportion of current expenditure in education, 2009**

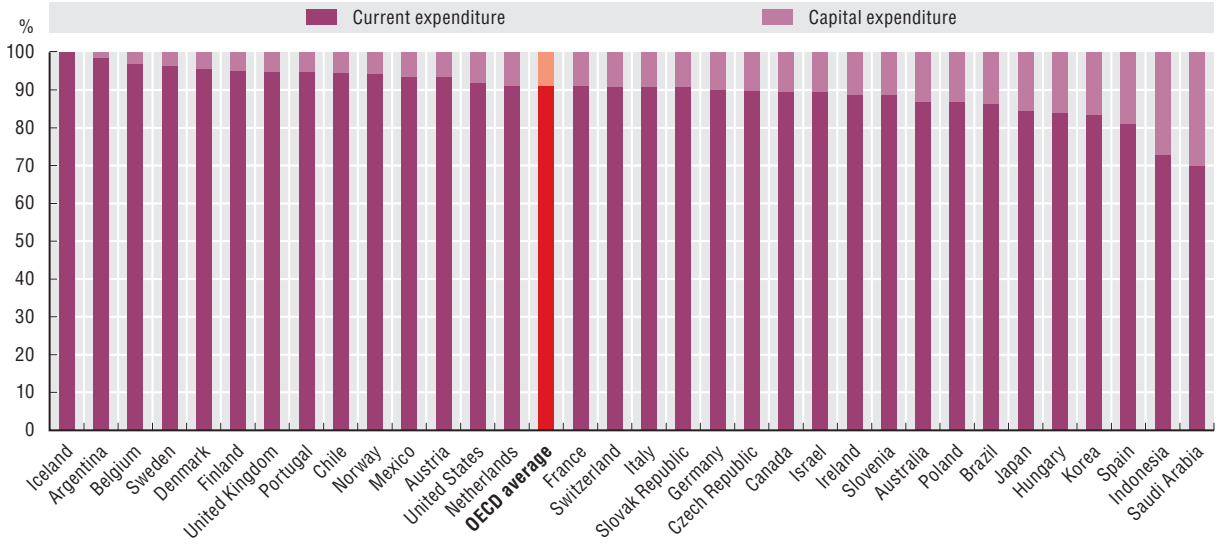
This figure shows the proportion of current expenditure devoted to paying staff in primary, secondary and post-secondary non-tertiary education. Other areas of current spending include transport, student counselling, and recurring spending on school materials and research.



Source: OECD (2012), *Education at a Glance 2012*, Table B6.2, available at: *http://dx.doi.org/10.1787/888932666532*.

Figure 3.14. **Current and capital expenditure in tertiary education, 2009**

This figure shows the distribution of current and capital expenditure in tertiary education by country.



Source: OECD (2012), *Education at a Glance 2012*, Table B6.2, available at: *http://dx.doi.org/10.1787/888932666532*.

How much do teachers cost?

- *Salary cost of teacher per student varies significantly between countries. In 2010, the salary cost of teacher per student varied by a ratio of 1 to 14 or 15, depending on the education level.*
- *Four factors influence the salary cost of teachers: how many hours students spend in the classroom, teachers' teaching hours, estimated class size and teachers' salaries.*
- *The higher the level of education, the greater the impact of teachers' salaries and the lower the impact of class size on salary cost per student.*
- *France and Italy are the only countries where the salary cost of teachers decreased between 2000 and 2010 at primary and lower secondary levels of education.*

Significance

The relationship between resources devoted to education and outcomes achieved has been the focus of much education policy debate in recent years, as governments seek to ensure value for money in public spending while satisfying the educational needs of society and the economy. Indeed, various reforms implemented during the last decade in primary and secondary education have had important impacts in this area. Consequently, there is considerable interest in international comparisons of how various school systems allocate resources. Since teachers account for a major part of spending, their costs are of particular interest.

Findings

There are large differences in the salary cost of teachers per student between countries. In 2010, the salary cost of teachers per student varied by a ratio of 1 to 14 at the primary level (USD 662 in Mexico to USD 9 404 in Luxembourg), 1 to 15 at the lower secondary level (USD 729 in Mexico to USD 11 145 in Luxembourg) and at the upper secondary level (USD 758 in Estonia to USD 11 145 in Luxembourg).

How much teachers cost depends on how much time students spend in the classroom, how much time teachers spend teaching, teachers' salaries and class sizes (which determines how many teachers are needed). Differences in these four factors may explain differences in the level of expenditure between countries. In the same way, a given level of expenditure may result from a different combination of these factors.

Teachers' salaries are most often the main driver of the difference from the average salary cost of teachers per student at each level of education. Estimated class size is the second main driver of the difference at each level.

Naturally, teachers' salaries vary according to countries' relative level of wealth and it can be useful to compare salary cost per student in terms of GDP per capita. Using this measure, there are still large variations between countries: on average in OECD countries, the salary cost per student at upper secondary level represents 9.4% of the GDP per capita, but varies from 4.2% in the Slovak Republic to 23.3% in Portugal.

Trends

The salary cost of teachers per student increased substantially between 2000 and 2010 at the primary and lower secondary levels of education in most countries. On average, it increased by one-third and one-quarter, respectively, among countries with available data in both years: from USD 1 733 to USD 2 307 at the primary level and from USD 2 273 to USD 2 856 at the lower secondary level.

France and Italy are the only countries where the salary cost of teachers per student decreased (slightly) between 2000 and 2010.

Definitions

Values for variables are derived mainly from *Education at a Glance 2012*, and refer to the school years 2009-10 and 1999-2000. Data for school year 1999-2000 are derived from *Education at a Glance 2002* when they are not available in the current edition. Salary cost per student is calculated based on teachers' salaries, the number of hours of instruction for students, the number of hours of teaching for teachers and a proxy class size.

Going further

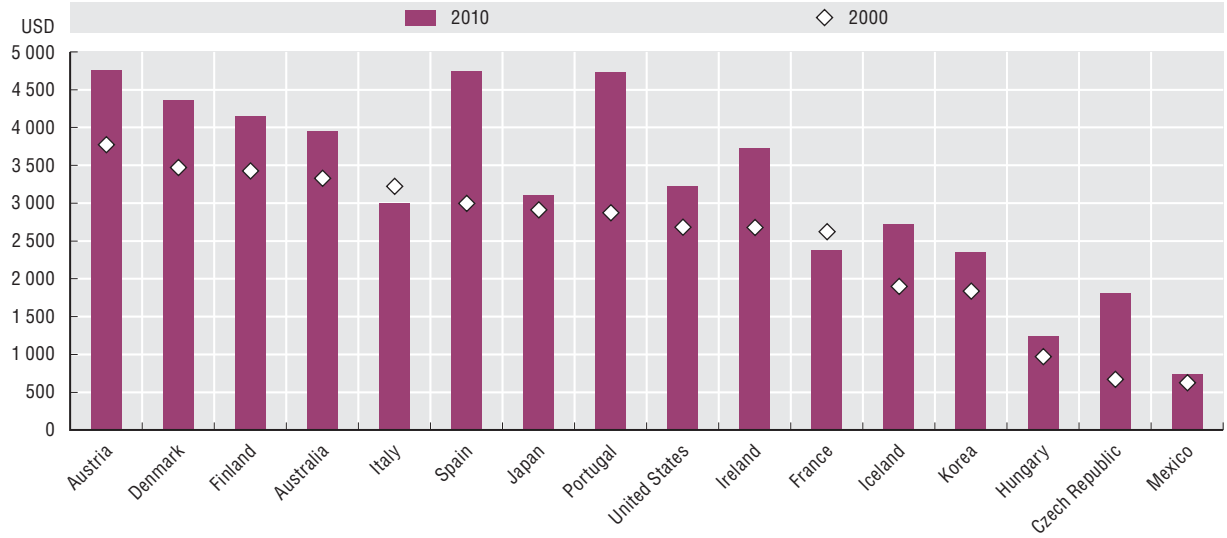
For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator B7).

Areas covered include:

- Salary cost per student by level of education.
- Salary cost per student as a percentage of GDP per capita.

Figure 3.15. **Salary cost of teacher per student at lower secondary level (2000, 2010)**

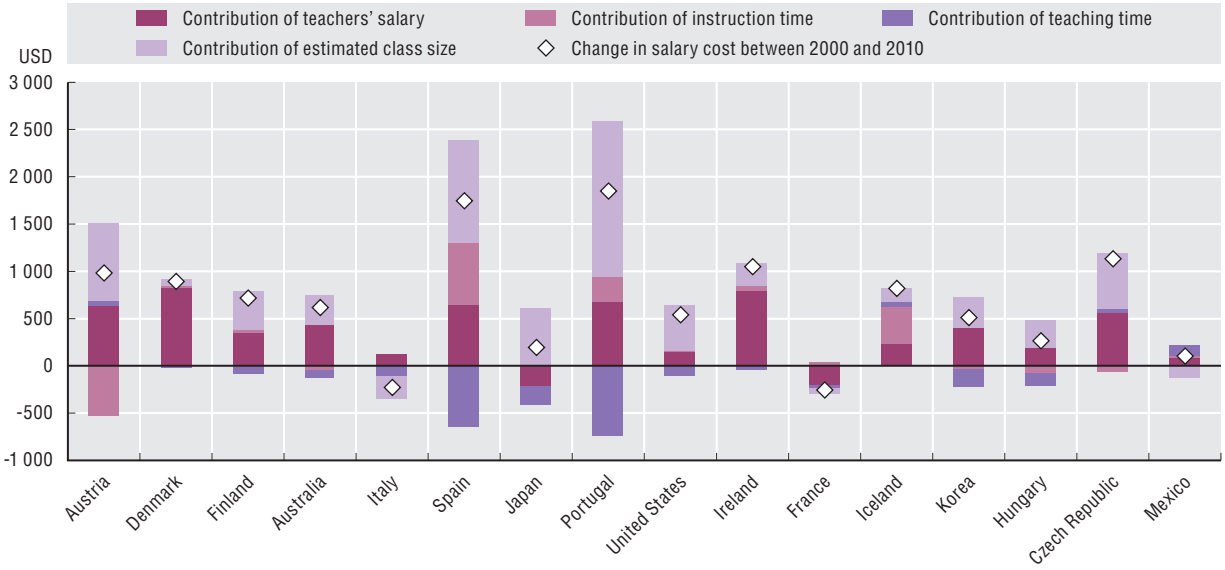
This figure compares the salary cost of teacher per student in 2000 and 2010, in lower secondary education.



Source: OECD (2012), *Education at a Glance 2012*, Table B7.3, available at: *http://dx.doi.org/10.1787/888932666665*.

Figure 3.16. **Contribution of various factors to salary cost per student at lower secondary level (2000, 2010)**

This figure shows the contribution (in USD) of the four factors that affect differences between salary cost of teacher per student and the overall change in salary cost in 2000 and 2010.



Source: OECD (2012), *Education at a Glance 2012*, Chart B7.3, available at: *http://dx.doi.org/10.1787/888932662922*.

4. THE SCHOOL ENVIRONMENT

How long do students spend in the classroom?

How many students are in each classroom?

How much are teachers paid?

How much time do teachers spend teaching?

Who are the teachers?

How long do students spend in the classroom?

- *It is expected that students in OECD countries will receive an average of 6 862 hours of instruction between the ages of 7 and 14, of which 6 710 hours are compulsory.*
- *Reading, writing and literature, mathematics, and science account for almost 55% of compulsory instruction time for 7-8 year-olds in OECD countries, almost 47% for 9-11 year-olds and 41% for 12-14 year-olds.*

Significance

This section examines the amount of time students spend in formal education between the ages of 7 and 14. The choices that countries make about how much time should be devoted to education and which subjects should be compulsory reflect national education priorities. Since a large part of public investment in education goes to instruction time in formal classroom settings, the length of time students spend in school is an important factor in determining the amount of funding that should be devoted to education.

Findings

In OECD countries, students are intended to receive 6 862 hours of instruction on average between the ages of 7 and 14. Formal requirements range from 5 644 hours in Estonia to 8 664 hours in Chile. In OECD countries, students between the ages of 7 and 14 receive an average of 6 710 hours of compulsory instruction.

The proportion of the compulsory curriculum that is devoted to reading, writing and literature varies widely. On average, for 7-8 year-olds in OECD countries, almost 55% of the compulsory curriculum is devoted to three basic subjects: reading, writing and literature (30.4%), mathematics (17.8%) and science (6.5%). Together with the arts (12%), physical education (9%) and social studies (6%), these six study areas form the major part of the curriculum for this age group. On average, the largest portion of the curriculum for 7-8 year-olds is devoted to reading and writing, but the differences among countries are large. For example, in Iceland, reading and writing accounts for 20% of compulsory instruction time while in Denmark, Hungary and Turkey, it accounts for 40% or more of compulsory instruction time.

For 9-11 year-olds in OECD countries, almost 47% of the compulsory curriculum is devoted to three basic subject areas: reading, writing and literature (22.5%), mathematics (16.1%) and science (8.2%). An additional 9% of the compulsory curriculum is devoted to social studies and 8% to foreign languages. However, there is great variation among countries in the percentage of class time devoted to these subjects. Reading, writing and literature, for example, accounts for 13% of instruction time in England, compared with 30% or more in France, Ireland, Mexico and the Netherlands.

For 12-14 year-olds in OECD countries, an average of 41% of the compulsory curriculum is devoted to three subjects: reading, writing and literature (16%), mathematics (13%) and science (12%). The allocation of time for the different subjects within the compulsory curriculum for 12-14 year-olds varies less among countries than it does for 9-11 year-olds. Again, one of the greatest variations is in the time spent teaching reading and writing, which ranges from 11% of compulsory instruction time in Japan and Portugal to 26% in Ireland.

Most OECD countries define a specific number of hours for compulsory instruction. Within that part of the curriculum, schools, teachers and/or students have varying degrees of freedom to choose the subjects they want to teach or study. On average among OECD countries, the flexible part of the curriculum accounts for some 6% of compulsory instruction time for 7-8 year-olds and 9-11 year-olds and 7% for 12-14 year-olds. The Czech Republic allows complete flexibility (100%) in the compulsory curriculum for 7-14 year-olds and Poland allows this for 7-8 year-olds.

Definitions

Data on teaching time distinguish between "compulsory" and "intended" teaching time. Compulsory teaching time refers to the minimum amount of teaching that schools are expected to provide. Intended instruction time is an estimate of the number of hours during which students are taught both compulsory and non-compulsory parts of the curriculum. It does not, however, indicate the quality of the education provided nor the level or quality of the human and material resources involved. Data on instruction time are from the 2011 OECD-INES Survey on Teachers and the Curriculum and refer to the 2009-10 school year.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator D1).

Areas covered include:

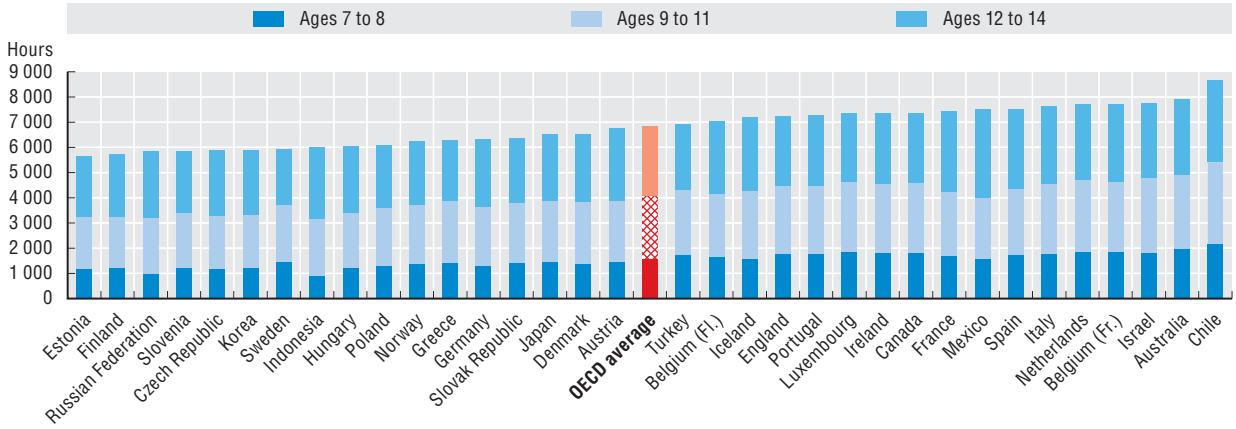
- Compulsory and intended instruction time in public institutions.
- Instruction time per subject.

Further reading from OECD

21st Century Learning Environments (2006).

Figure 4.1. **Total number of instruction hours in public institutions, 2010**

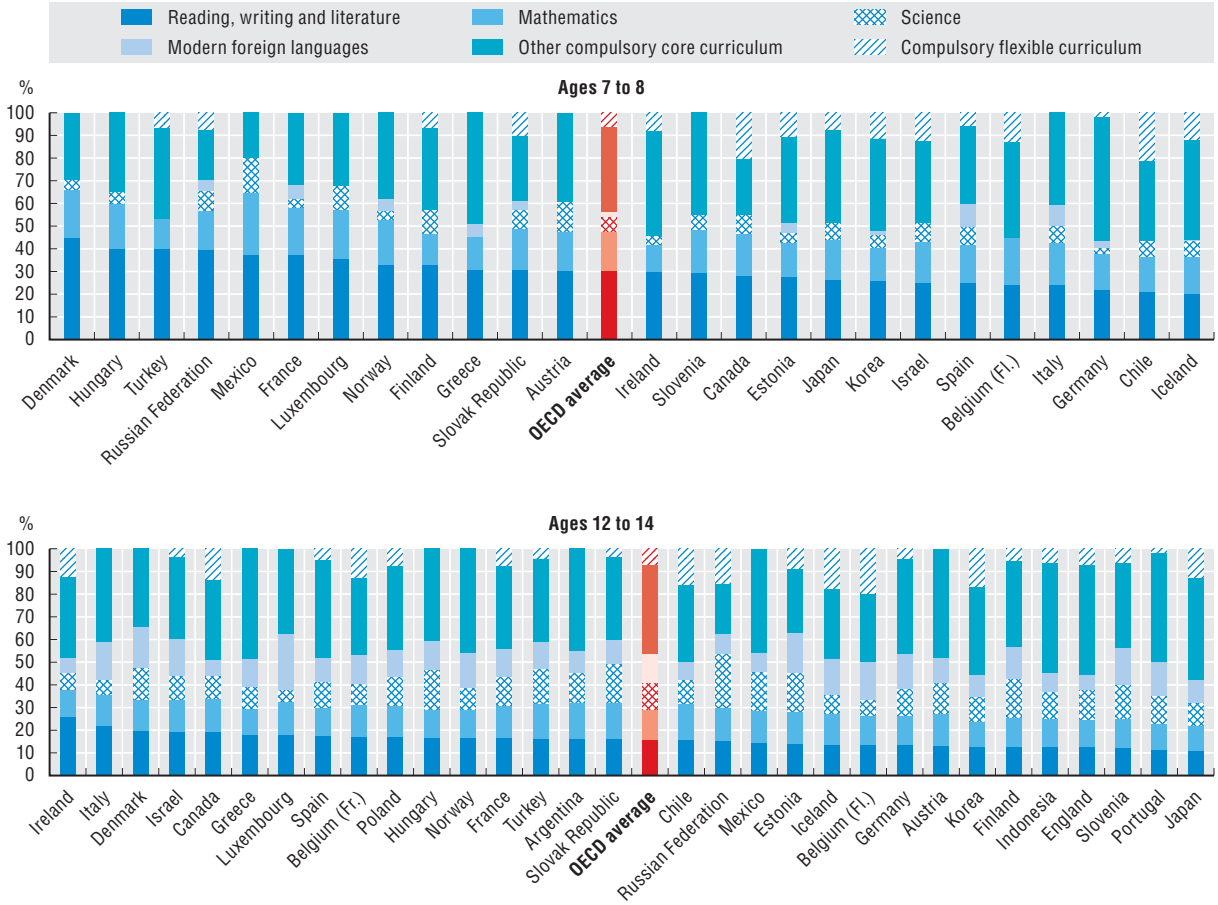
This figure shows the hours of intended instruction that students receive between ages 7 and 14 (this represents the compulsory instruction time public schools are required to deliver as well as the time devoted to non-compulsory instruction).



Source: OECD (2012), *Education at a Glance 2012*, Table D1.1, available at: *http://dx.doi.org/10.1787/888932667862*.

Figure 4.2. **Instruction time by subject, 2010**

These figures show the percentage of compulsory instruction time devoted to each subject for 7-8 year-olds and for 12-14 year-olds.



Source: OECD (2012), *Education at a Glance 2012*, Table D1.2a and D1.2c, available at: *http://dx.doi.org/10.1787/888932667881* and *http://dx.doi.org/10.1787/888932667919*.

How many students are in each classroom?

- *On average, there are more than 21 students per class at primary level in OECD countries, but numbers are usually larger in other G20 countries. Overall class size varies from more than 29 in Chile and China to nearly half that number in Luxembourg and the Russian Federation.*
- *On average, the number of students per class increases by two or more between primary and lower secondary education. In lower secondary education, the average class in OECD countries has about 23 students.*
- *The student-to-teacher ratio in lower and upper secondary education is slightly lower in private than in public institutions.*

Significance

This section examines the number of students per class at the primary and lower secondary levels, in both public and private institutions. Class size is a hotly debated topic in many OECD countries. While smaller classes are often perceived as enabling a higher quality of education, evidence on the impact of class size on student performance is mixed.

Findings

At the primary level, the average class size in OECD and G20 countries is around 21 students, ranging from more than 29 in Chile and China to fewer than 20 in Austria, the Czech Republic, Denmark, Estonia, Finland, Greece, Iceland, Italy, Luxembourg, Mexico, Poland, the Russian Federation, the Slovak Republic, Slovenia and Switzerland (in public institutions).

The number of students per class tends to increase between primary and lower secondary education. In lower secondary education, the average class size is more than 23 students, ranging from 20 or fewer in Denmark, Estonia, Finland, Iceland, Luxembourg, the Russian Federation, Slovenia, Switzerland (in public institutions) and the United Kingdom to more than 34 students per class in Indonesia and Korea and to over 50 in China.

In Brazil, China, Greece, Indonesia, Japan, Korea, Mexico and Poland, the increase in average class size between primary and lower secondary education exceeds four students while the United Kingdom and, to a lesser extent, Switzerland (public institutions only) show a drop in the number of students per class between these two levels of education.

Across the OECD, average class sizes at the primary and lower secondary levels do not differ by more than one student per class between public and private institutions. There are, however, marked differences between countries. At primary level, the average class in a public institution has at least four more students than a private institution in Brazil, the Czech Republic, Iceland, Indonesia, Israel, Poland, the Russian Federation, Turkey and the United Kingdom. By contrast, the reverse is true for China and Spain. At the lower secondary level, where private education is more prevalent than at primary level, class sizes are larger in private institutions in 13 OECD countries.

Trends

From 2000 to 2010, the average class size in countries with available data for both years decreased by one student at both the primary and lower secondary levels. The decrease in average primary class size can be partly explained by reforms of class size during that period. Primary class sizes decreased most notably (by more than four students) in countries that had relatively large class sizes in 2000, such as Korea and Turkey. By contrast, class size increased or was unchanged in countries that had the smallest classes in 2000, such as Denmark, Iceland, Italy and Luxembourg.

Definitions

Class sizes have been calculated by dividing the number of students enrolled by the number of classes. Data for Switzerland refer to public institutions. Data refer to the 2009-10 school year, and are based on the UOE data collection on education statistics administered by the OECD in 2011.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator D2).

Areas covered include:

- Average class size, by type of institution and level of education.
- Ratio of students to teaching staff.
- Teaching staff and non-teaching staff employed in educational institutions.

Further reading from OECD

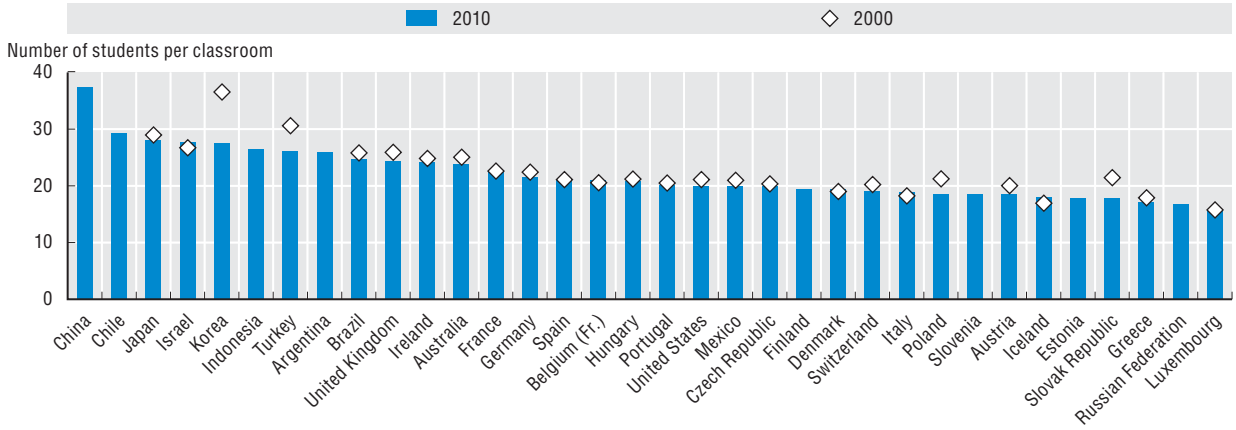
Improving School Leadership (Volume 1: Policy and Practice) (2008).

21st Century Learning Environments (2006).

This page includes revisions. Details available at: *www.oecd.org/publishing/corrigenda*.

Figure 4.3. **Trends in average class size in primary education (2000, 2010)**

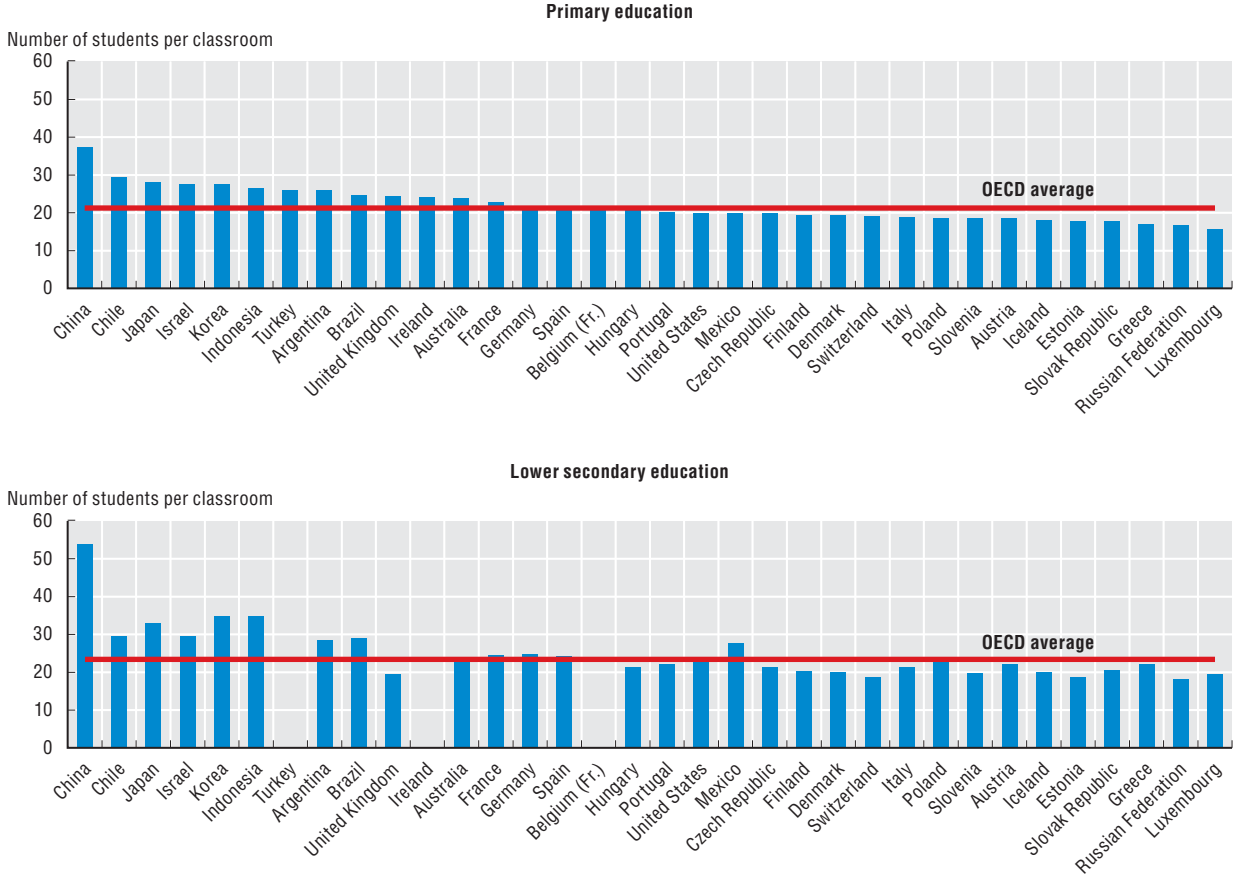
This figure shows the number of students on average in primary classes, and whether these numbers have risen or fallen.



Source: OECD (2012), *Education at a Glance 2012*, Tables D2.1 and D2.5, available at: *http://dx.doi.org/10.1787/888932667976* and *http://dx.doi.org/10.1787/888932668071*.

Figure 4.4. **Average class size, by level of education, 2010**

These figures show how class sizes differ between primary and lower secondary education.



Source: OECD (2012), *Education at a Glance 2012*, Table D2.2, available at: *http://dx.doi.org/10.1787/888932667995*.

How much are teachers paid?

- *Salaries for teachers with at least 15 years of experience average USD 35 630 at the pre-primary level, USD 37 603 at the primary level, USD 39 401 at the lower secondary level and USD 41 182 at the upper secondary level.*
- *On average in OECD countries, teachers' salaries at the primary level represent 82% of average earnings for 25-64 year-olds with a tertiary education against 90% at the upper secondary level.*
- *Teachers' salaries rose, in real terms, in most countries with available data between 2000 and 2010.*

Significance

This section shows the starting, mid-career and maximum statutory salaries of teachers in public pre-primary, primary and secondary education. Since teachers' salaries are the largest single cost in education, teacher compensation is a critical consideration for policy makers seeking to maintain both the quality of teaching and a balanced education budget.

Findings

Teachers' salaries vary widely across countries. Salaries for lower secondary teachers with at least 15 years' experience range from less than USD 15 000 in Argentina, Estonia, Hungary, Indonesia and the Slovak Republic to more than USD 100 000 in Luxembourg.

In most OECD countries, teachers' salaries rise with the level of education they teach. For example, in Belgium, the Czech Republic, Denmark and Poland, the salary of an upper secondary teacher with at least 15 years of experience is about 30% higher than that of a pre-primary teacher with the same amount of experience. In Finland, this difference exceeds 50%. In Australia, Canada, Israel, Korea and Turkey, there is less than a 5% difference between upper secondary and pre-primary school teachers' salaries; in England, Greece, Ireland, Portugal, Scotland and Slovenia, teachers receive the same salary irrespective of the level of education taught. In contrast, in Argentina teachers' salaries decrease with the level of education taught.

Salaries at the top of the scale are, on average, 60% and 62% higher, respectively, than starting salaries in primary and lower secondary education. At the lower secondary level, new teachers entering the profession with the minimum qualification earn on average USD 29 801. For teachers at the top of the salary scale and with the maximum qualifications, salaries average USD 51 872.

To get a sense of the relative value of teachers' salaries within countries, a number of comparisons are useful, such as with the earnings of other tertiary graduates. In the Flemish Community of Belgium (upper secondary level), Korea, Luxembourg (lower and upper secondary levels) and Spain, teachers' salaries are at least 20% higher than those of workers with comparable education. By contrast, in Iceland in both primary and lower secondary education, and in the Slovak Republic at all levels of education, teachers with 15 years of experience are paid 50% or less, on average, of what a worker with tertiary education earns. On average in OECD countries, teachers' salaries at the primary level represent 82% of average earnings for 25-64 year-olds with a tertiary education against 90% at the upper secondary level.

Trends

Teachers' salaries increased in real terms in most countries between 2000 and 2010. In Denmark, Estonia, Ireland, Portugal and Scotland, salaries increased at all levels of education by at least 20%. In the Czech Republic (primary and lower secondary levels) and in Turkey, salaries doubled over the past decade. Only in France and Japan did teachers' salaries decrease in real terms, by more than 5%.

Definitions

Gross teachers' salaries were converted using purchasing power parities (PPPs) for private consumption from the *OECD National Accounts Database*. Starting salaries refer to the average scheduled gross salary per year for a fully qualified full-time teacher at the beginning of the teaching career. Earnings for workers with tertiary education are average earnings for full-time, full-year workers aged 25 to 64 years. Large differences in taxation, social benefits and allowances and additional payments for teachers as well as variations in teaching time, workloads and the use of part-time teachers must also be taken into account in making international comparisons of teachers' benefits. It is thus important to exercise caution in interpreting comparisons of teachers' salaries. Data are from the 2011 OECD-INES Survey on Teachers and the Curriculum and refer to the 2009-10 school year.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator D3).

Areas covered include:

- Teachers' salaries and trends.
- Additional payments for teachers.

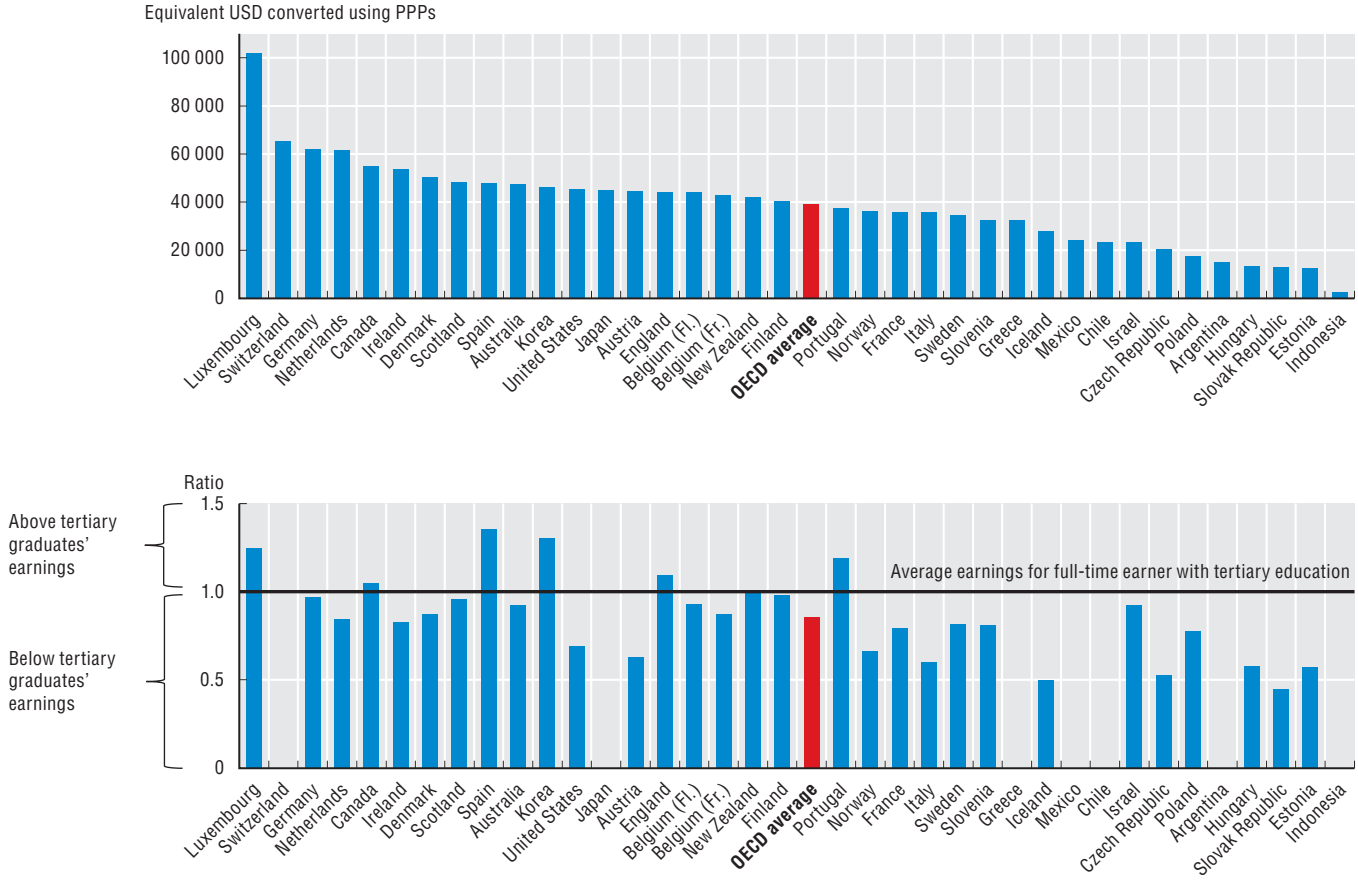
Further reading from OECD

Evaluating and Rewarding the Quality of Teachers: International Practices (2009).

Teachers Matter: Attracting, Developing and Retaining Effective Teachers (2005).

Figure 4.5. **Teachers' salaries in lower secondary education, 2010**

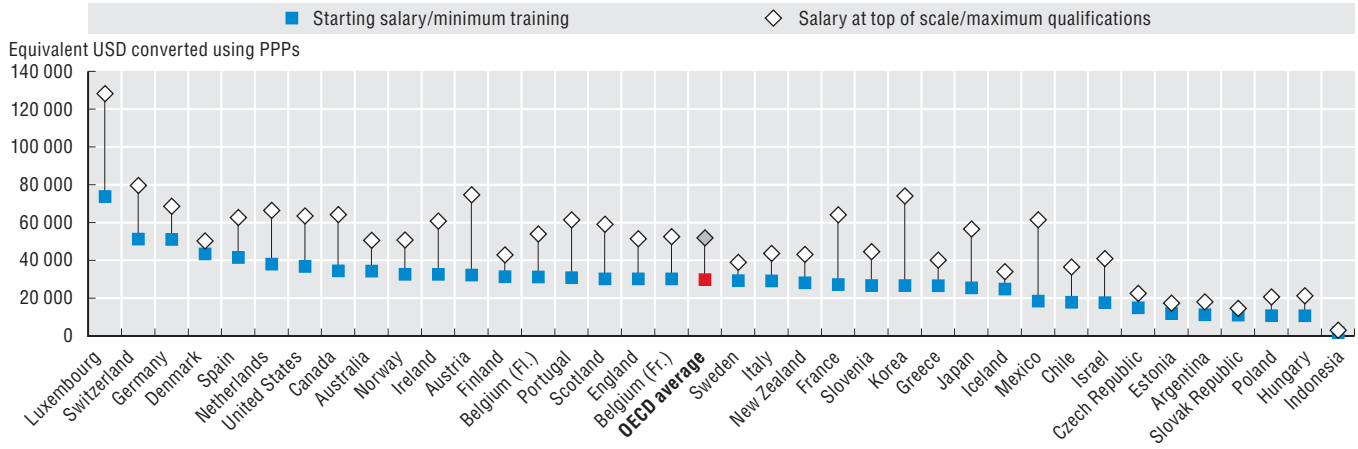
The upper chart in this figure shows how much teachers are paid after 15 years of experience. The lower chart compares teacher salaries with the earnings of other full-time workers with tertiary education.



Source: OECD (2012), *Education at a Glance 2012*, Table D3.1, available at: *http://dx.doi.org/10.1787/888932668109* and *http://dx.doi.org/10.1787/888932668128*.

Figure 4.6. **Minimum and maximum teacher salaries, 2010**

This figure shows the gap between teachers' salaries at the start of their career, with minimum training and at the top of the scale with maximum qualification, in lower secondary education.



Source: OECD (2012), *Education at a Glance 2012*, Table D3.4, available at: *http://dx.doi.org/10.1787/888932668242*.

How much time do teachers spend teaching?

- *The number of teaching hours per teacher in public schools averages 782 hours per year in primary education, 704 hours in lower secondary education and 658 hours in upper secondary education.*
- *Average teaching time remained largely unchanged between 2000 and 2010 at all levels of education.*
- *The way teachers' working time is regulated varies significantly among countries.*

Significance

This section examines the time teachers spend teaching and doing non-teaching work, such as preparing lessons and assessing students. Although working time and teaching time only partly determine teachers' actual workload, they do provide valuable insights into differences in what is demanded of teachers in different countries. Teaching hours and the extent of non-teaching duties may also affect the attractiveness of teaching as a profession. The amount of time that teachers spend teaching is also one of the factors that affect the financial resources countries need to allocate to education.

Findings

The average number of teaching hours in public primary schools is 782 hours per year in OECD countries but ranges from fewer than 600 hours in Greece and Poland to over 1 000 hours in Chile and the United States. The average number of teaching hours per year in public lower secondary school is 704 hours but ranges from less than 500 hours in Greece and Poland to over 1000 hours in Argentina, Chile, Mexico and the United States. The average number of teaching hours in public upper secondary general education is 658 hours per year but ranges from 377 hours in Denmark to 1 368 hours in Argentina.

Primary teachers tend to spend more hours teaching than secondary teachers, although the size of the gap varies between countries. In the Czech Republic, France, Greece and Israel, primary school teachers have at least 30% more annual teaching time than lower secondary teachers. In contrast, the difference does not exceed 3% in Poland and the United States, and there is no difference in Brazil, Chile, Denmark, Estonia, Hungary, Iceland, Scotland and Slovenia. Argentina, England and Mexico are the only countries in which the teaching load for primary school teachers is lighter than that for lower secondary school teachers.

The composition of teachers' annual teaching time, in terms of days, weeks and hours, varies considerably between countries. As a result, the average number of hours per day that teachers teach also varies widely, ranging at the lower secondary level from three hours or less per day in Greece, Indonesia, Japan, Korea, Poland and the Russian Federation, to more than five hours in Argentina, Chile, Mexico and the United States.

In most countries, teachers are formally required to work a specified number of hours per week, including teaching and non-teaching time, to earn their full-time salary. The number of hours for teaching is usually specified, except in Sweden; but some countries also regulate the time a teacher has to be present in the school.

Trends

In most OECD countries with available data, teaching time remained largely unchanged between 2000 and 2010. The number of teaching hours changed dramatically in a few countries, however. It decreased by more than 30% in Denmark at the upper secondary level, while it increased by more than 25% in the Czech Republic at the primary level and in Portugal and Spain at the secondary level.

Definitions

Teaching time is defined as the number of hours per year that a full-time teacher teaches a group or class of students. Working time refers to the normal working hours of a full-time teacher and includes time directly associated with teaching as well as the hours devoted to teaching-related activities, such as preparing lessons, counselling students, correcting assignments and tests, and meeting with parents and other staff. Data are from the 2011 OECD-INES Survey on Teachers and the Curriculum and refer to the 2009-10 school year.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator D4).

Areas covered include:

- Organisation of teachers' working time.
- Number of teaching hours per year, by level of education.

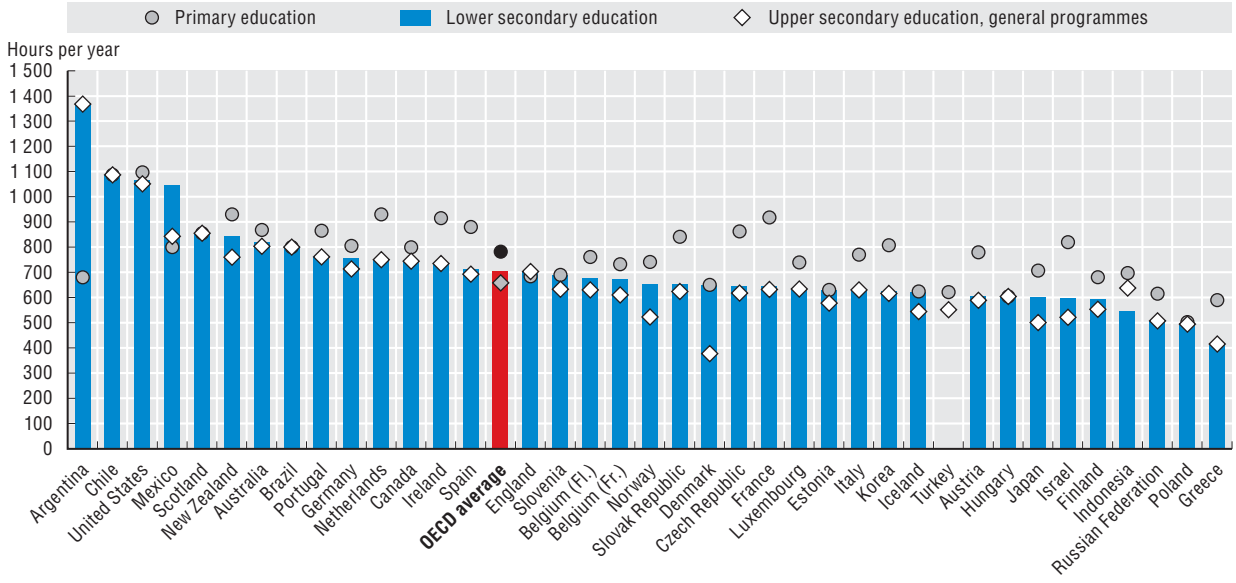
Further reading from OECD

21st Century Learning Environments (2006).

Teachers Matter: Attracting, Developing and Retaining Effective Teachers (2005).

Figure 4.7. **Annual teaching hours by education level, 2010**

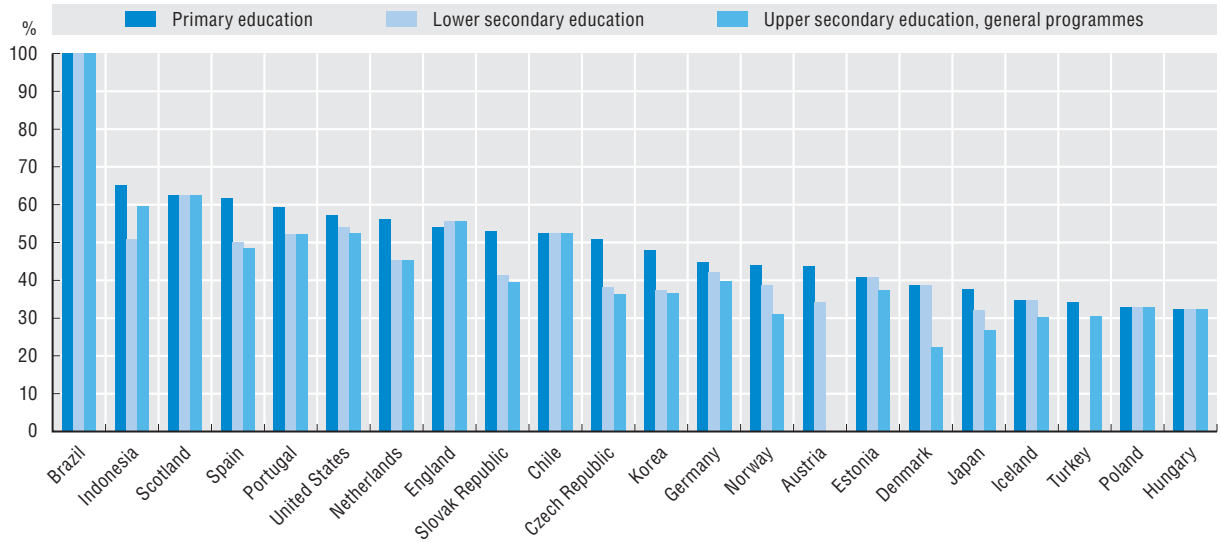
This figure shows the variation in annual teaching hours for teachers at different levels of education.



Source: OECD (2012), *Education at a Glance 2012*, Table D4.1, available at: *http://dx.doi.org/10.1787/888932668318*.

Figure 4.8. **Percentage of teachers' working time spent teaching, 2010**

This figure shows the amount of their working time that teachers spend teaching. Contact time with students is a major part of teachers' workloads, but duties also include preparing classes and correcting assignments.



Source: OECD (2012), *Education at a Glance 2012*, Table D4.1, available at: *http://dx.doi.org/10.1787/888932668318*.

Who are the teachers?

- *About 58% of primary teachers and 63% of secondary teachers are at least 40 years old, on average in OECD countries.*
- *Some two-thirds of teachers and academic staff are women on average in OECD countries, but the proportion of women among teaching staff tends to decline at higher levels of education: from 97% at the pre-primary level to 41% at the tertiary level.*
- *Thirteen OECD countries require that teachers at some or all levels of education participate in continuing training/education.*

Significance

This section presents a profile of the teaching workforce. Getting a better understanding of the teaching workforce means countries can anticipate teacher shortages and work to make the teaching profession a more attractive career choice.

Findings

On average across OECD countries, 58% of primary teachers are at least 40 years old. This proportion exceeds 70% in the Czech Republic, Germany, Italy and Sweden. In only seven countries – Belgium, Brazil, Ireland, Israel, Korea, Luxembourg and the United Kingdom – are more than half of primary teachers under the age of 40. The age distribution of teachers at the secondary level is roughly the same. On average among OECD countries, 63% of secondary teachers are at least 40 years old. In Austria, the Czech Republic, Estonia, Germany and Italy, however, the share rises to 70% or more. The proportion of secondary school teachers aged 50 or older is larger than that of primary school teachers in most countries.

Across all levels of education, women represent two-thirds of the teachers and academic staff, but the percentage of women teachers declines from each level of education to the next. For example, on average across the OECD area, women account for almost 97% of teachers at pre-primary level; 82% at primary level; less than 68% at lower secondary level; 56% at upper secondary level; and 41% in tertiary education. The share of women at the tertiary level varies considerably between countries: from about one-third or less of the teaching staff in Japan and Korea (19% and 34%, respectively) to more than half in Finland, New Zealand, the Russian Federation and South Africa (51%, 52%, 56% and 53% respectively).

The duration of teacher training for pre-primary education varies widely among OECD countries. It ranges from two years for basic certification in Japan, Korea and the United States, to five years in France and Portugal. Teacher training for upper secondary teachers ranges from 3 to 4 years in England and Israel to 6.5 years in Germany. Furthermore, 11 OECD countries and Indonesia require that teachers acquire a license or supplementary credential to become fully certified.

Continuing education for teachers takes on new significance with the rising demand for both differentiated instruction to address a wider range of learning styles and the integration of technology to connect the classroom to the outside world. Only 13 OECD countries now require continuing education for teachers, but that number is likely to increase in the coming years.

Trends

Between 1998 and 2010, the proportion of secondary teachers aged 50 or older climbed from 28.8% to 34.2% on average among countries with comparable data. This increase is particularly large in Austria, Germany, Ireland, Japan, Norway, Switzerland and the United Kingdom, with an increase of 8 percentage points or more.

Definitions

Data on teachers by age and by gender refer to the 2009-10 school year and are based on the UOE data collection on education statistics administered by the OECD in 2011.

Data refer to the academic year 2009-10 and are based on the 2011 OECD-INES Survey on Teachers and the Curriculum.

Going further

For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator D5).

Areas covered include:

- Age distribution of teachers by country and level of education.
- Gender distribution of teachers by country and level of education.
- Teachers' knowledge and skills.
- Requirements to enter the teaching profession.
- Level of government at which different types of decisions about teachers are taken.

Further reading from OECD

Educating Teachers for Diversity: Meeting the Challenge (2010).

Evaluating and Rewarding the Quality of Teachers: International Practices (2009).

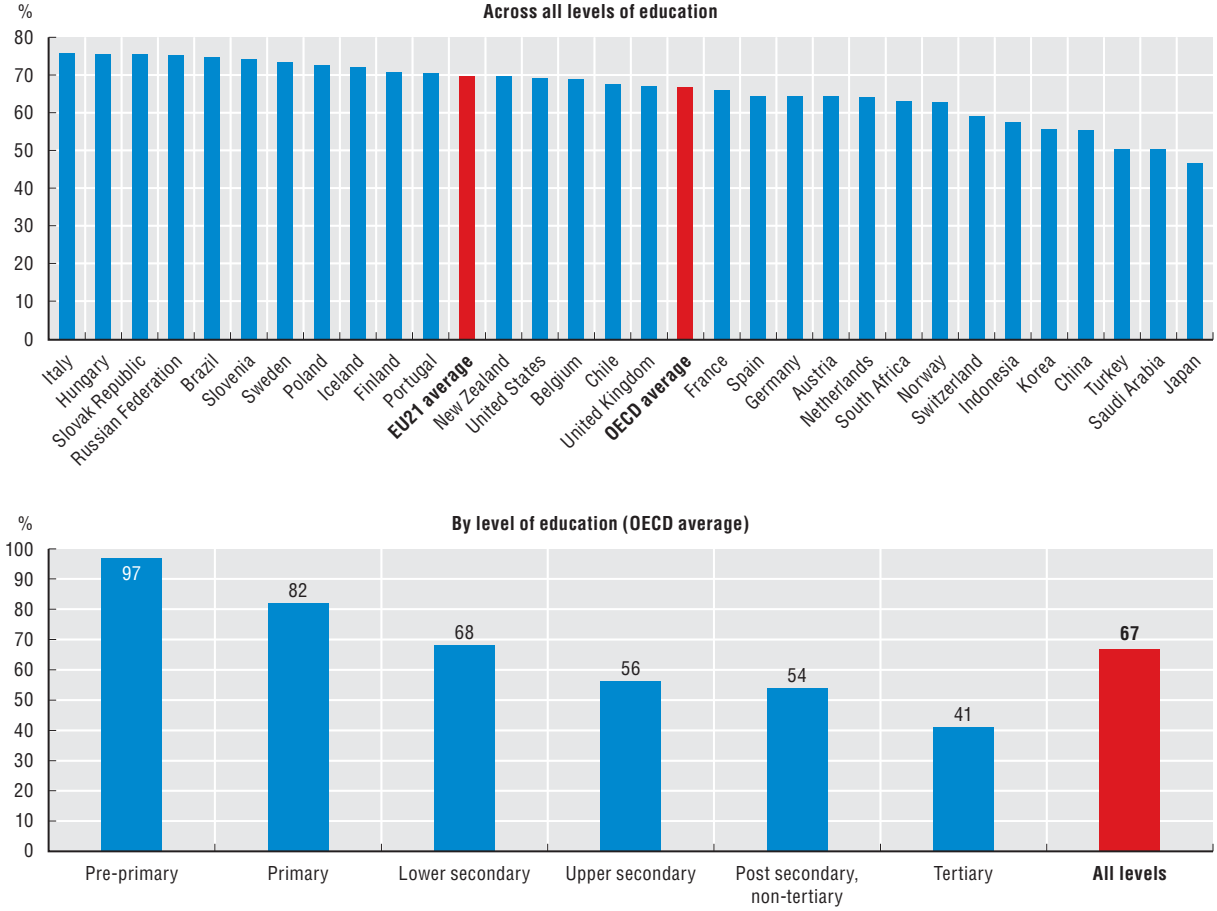
Figure 4.9. **Age distribution of teachers, 2010**

This figure shows the average percentage of teachers in each age group in primary, lower secondary and upper secondary education in OECD countries.

Source: OECD (2012), *Education at a Glance 2012*, Tables D5.1 and D5.2, available at: *http://dx.doi.org/10.1787/888932668375* and *http://dx.doi.org/10.1787/888932668394*.

Figure 4.10. **Gender distribution of teachers, 2010**

The upper chart shows the percentage of teachers who are women across all levels of education, by country. The lower chart shows the percentage of teachers who are women by level of education, on average in OECD countries.



Source: OECD (2012), *Education at a Glance 2012*, Table D5.3, available at: *http://dx.doi.org/10.1787/888932668413*.

TODAY'S LESSON: MATH
3+3=
3+2=
2+5=
3+5=
3

5. SPECIAL SECTION: EQUITY

What is equity in education?

Access to early childhood education

Access to secondary and tertiary education

Access to the labour market

Access to lifelong learning

Does parental education affect students' chances?

Integrating immigrants' children

Reducing the gender gap

What is equity in education?

- *About a quarter of children in OECD countries miss out on pre-primary education, although it leads to better school performance overall.*
- *About one in five youngsters (19%) across OECD countries lacks basic literacy skills.*
- *Students with an immigrant background tend to do less well in school, with a performance gap of up to 1.5 years in some countries.*
- *Across OECD countries, 50% of 25-34 year-olds, but only 27% of 55-64 year-olds participate in formal and/or non-formal education.*

Introduction

A well-educated population is essential to a country's economic and social development – a higher level of education means higher earnings, better health and a longer life. So it is in society's interest to ensure that all children and adults have access to a wide variety of educational opportunities.

Are you less likely to complete secondary school or gain a university place if you live in a disadvantaged part of town? Will children lose out if they do not go to kindergarten, or if their parents are immigrants? Is it harder to top up your skills or retrain as an adult if you are above a certain age, or if you are a woman? And what can governments do to help level the playing field? This section looks at equity in education and how it can help overcome social and economic inequalities.

Key features of equity in education

Students' background has an impact on their academic achievement – those whose parents have a low level of education, who have low socio-economic status, or come from an immigrant background, as well as boys, have a higher risk of low performance at age 15. Some 19% of people at this age in OECD countries lack basic literacy skills, making it more likely that they will drop out of school with no qualifications. Indeed, some 20% of 25-34-year-olds across OECD countries have not attained upper secondary education. Students with an immigrant background are more likely to leave school earlier than their classmates, and when they stay in school many of them are behind their peers – a difference that in some countries is equivalent to 1.5 years of schooling.

When it comes to improving equity in educational results, the key is to start early. When children attend pre-primary education, they are more likely to be successful at school when they get to 15 and in the years beyond.

Catching up later in life is possible but not always easy. On average in OECD countries, 8% of adults aged 25-64 are in formal education, but far more of them (17%) are in the 25-34 age group than in the 55-64 age group, where the rate is just 2%.

And there is also the question of equity of expectation – there has been much progress in reducing the gender gap in terms of educational attainment, but girls are still less likely to choose studies or careers in fields such as maths or computer science, at least partly because of their vision of the right career for them.

Definitions

Items in this section are taken from OECD *Education at a Glance 2012* and from *Equity and Quality in Education: Supporting Disadvantaged Students and Schools* (OECD, 2012). The information in both publications is drawn from the results of the *PISA 2009* assessment of students' competence in reading, mathematics and science.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

For additional material, notes and a full explanation of sourcing and methodologies, see *PISA 2009 Results: Volume I*, "What Students Know and Can Do: Student Performance in Reading, Mathematics and Science" (Chapter 2), and *PISA 2009 Results: Volume II*, "Overcoming Social Background: Equity in Learning Opportunities and Outcomes".

For additional material on adult learning, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator C6).

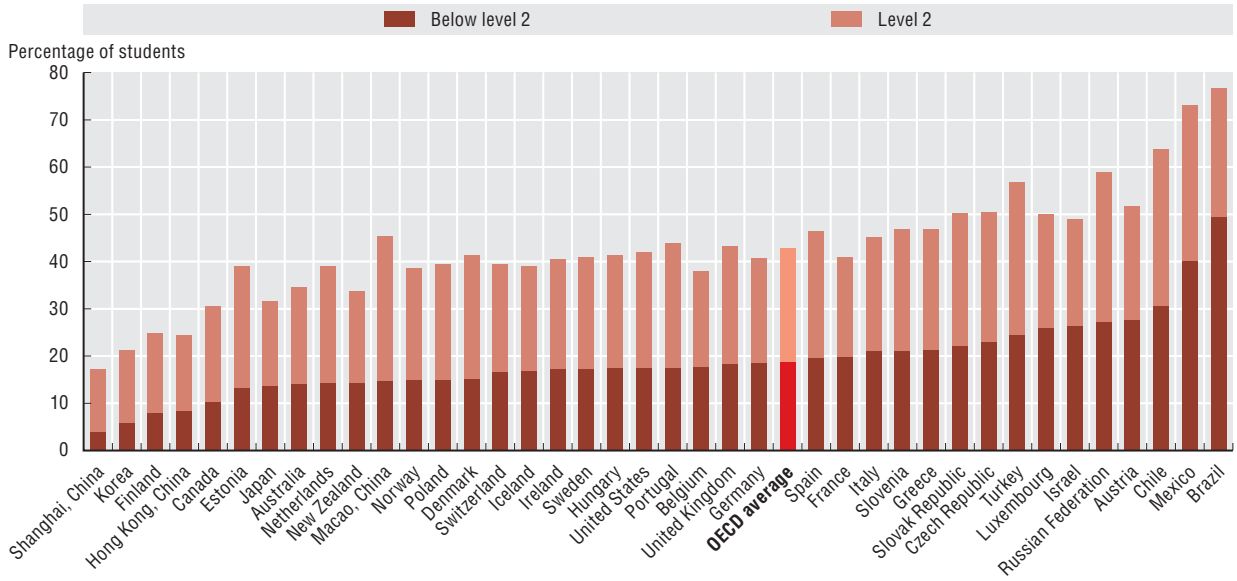
Further reading from OECD

OECD (2012), *Equity and Quality in Education: Supporting Disadvantaged Students and Schools*.

Figure 5.1. **A significant number of students do not master basic skills**

15-year-old students' attainment at or below Level 2 of the PISA reading scale, 2009

Students below proficiency Level 2 are at risk of dropping out, while those below Level 1 can be regarded as having an educational level that puts them at a serious disadvantage for full participation in society and the economy.

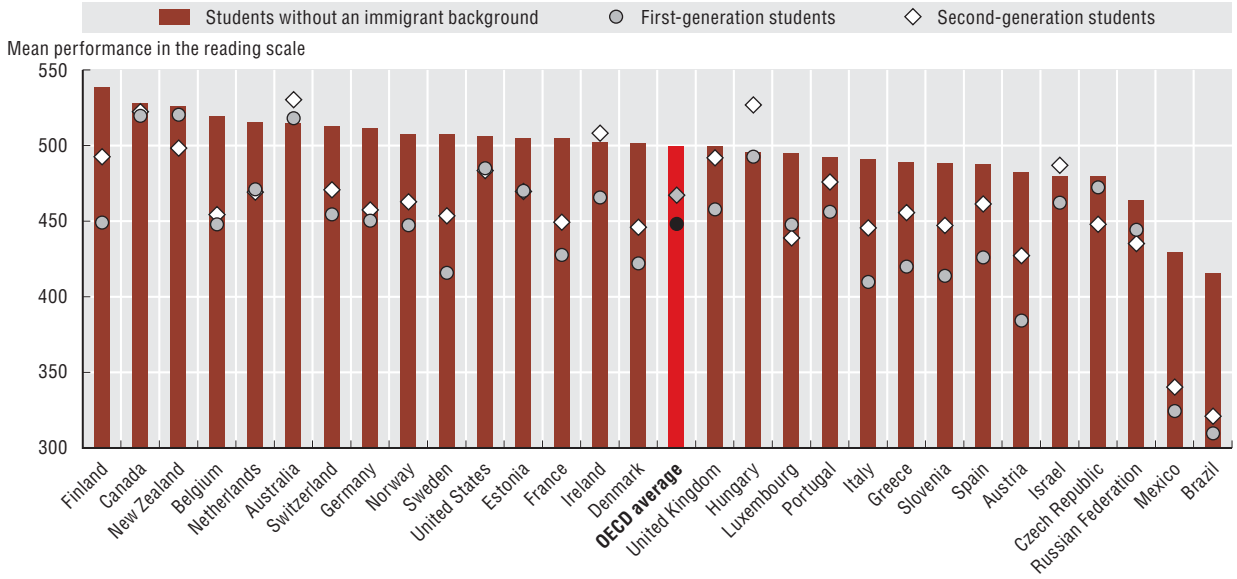


Source: OECD (2012), *Equity and Quality in Education: Supporting Disadvantaged Students and Schools*, Figure 1.2, available at: *http://dx.doi.org/10.1787/888932560835*.

Figure 5.2. **A considerable reading gap exists between immigrant students and natives**

Reading performance by immigrant status in PISA, 2009

This figure shows performance differences between natives (bars), first-generation students (blobs) and second-generation students (diamonds). For example, in Italy students without an immigrant background performed 45 points higher than those who were born in the country but whose parents are foreign-born (second-generation) students, which is equivalent to one school year. Non-OECD member economies are included for comparison.



Source: OECD (2012), *Equity and Quality in Education: Supporting Disadvantaged Students and Schools*, Figure 1.7, available at: *http://dx.doi.org/10.1787/888932560911*.

Access to early childhood education

- *Fifteen-year-olds who attended pre-primary education tend to perform better at school.*
- *More than three-quarters of 4-year-olds (79%) are enrolled in early childhood education across OECD countries.*
- *Expenditure on pre-primary education accounts for 9% of OECD spending on educational institutions.*
- *Compared to primary, secondary and post-secondary non-tertiary education, pre-primary institutions have the largest proportion of funds from private sources with 18%.*

Significance

Early childhood education helps to build a strong foundation for lifelong learning and can pIay a significant role in a child's development. Making sure all children start on an equal footing can also mitigate social inequalities. It is thus important to promote sustained public funding to support the growth and quality of early childhood programmes.

As countries expand their early childhood programmes, they need to consider parents' needs and expectations regarding accessibility, cost, programme, quality and accountability. Private institutions, child care, or extra-curricular activities can result in heavy financial burdens for parents, even when government subsidies are provided.

Findings

Results from the OECD's PISA assessment of students at age 15 show that, in most countries, pupils who have attended pre-primary education programmes tend to perform better than those who have not. PISA research also shows that longer duration of pre-primary education, smaller pupil-to-teacher ratios and higher public expenditure per child all enhance the positive effects of pre-primary attendance.

Education now begins for most children well before they are 5 years old in the majority of OECD countries. More than three quarters (79%) of 4-year-olds are enrolled in early childhood education programmes across OECD countries and this reaches 83%, on average, in OECD countries that are part of the European Union.

Annual expenditure per pupil for both public and private institutions at pre-primary level averages USD 6 670 in OECD countries. Expenditure varies, however, from USD 2 500 or less in Argentina, Brazil, Indonesia, Mexico and South Africa to more than USD 10 000 in Luxembourg and New Zealand. As a percentage of GDP, expenditure on pre-primary education accounts for 9% of total OECD expenditure on educational institutions. Publicly-funded pre-primary education tends to be more strongly developed in the European countries than the non-European countries of the OECD.

Pre-primary institutions obtain the largest proportion of funds from private sources compared to primary, secondary and post-secondary non-tertiary education, with 18%. Private funding varies widely, however, between countries, ranging from 5% or less in Belgium, Estonia, Luxembourg, the Netherlands and Sweden, to 25% or more in Argentina, Austria and Germany and over 48% in Australia, Japan and Korea.

Trends

Enrolment in early childhood education programmes rose from 77% of 4-year-olds in 2005 to 81% in 2010 on average for OECD countries. In Mexico and Poland, enrolment rates of 4 year-olds increased by more than 20 percentage points during this period.

Definitions

Items in this section are taken from the PISA 2009 assessment of students' competence in reading, mathematics and science and from *Starting Strong II and III: Early Childhood Education and Care* (OECD, 2006 and 2011).

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator C2).

Areas covered include:

- Enrolment rates in pre-primary programmes.
- Expenditure by public and private sources.
- Influence of pre-primary education policies on PISA results.

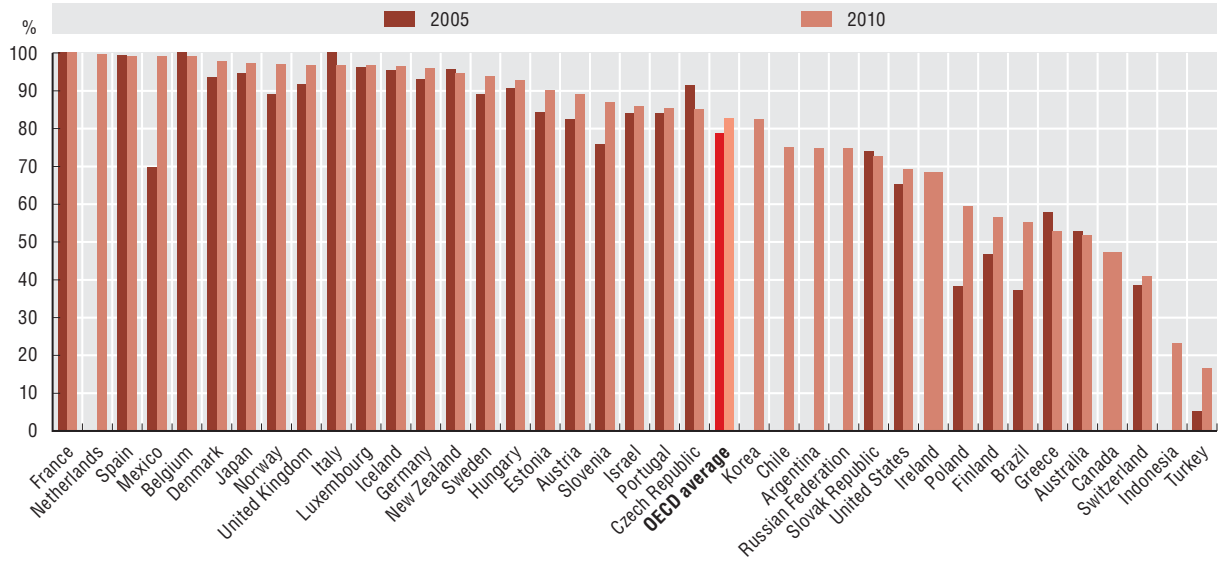
Further reading from OECD

The following additional material relevant to this indicator is available online:

- *PISA Volume II.*
- *Starting Strong II and III: Early Childhood Education and Care*, 2006 and 2011.

Figure 5.3. **Enrolment rates at age 4 in education (2005 and 2010)**

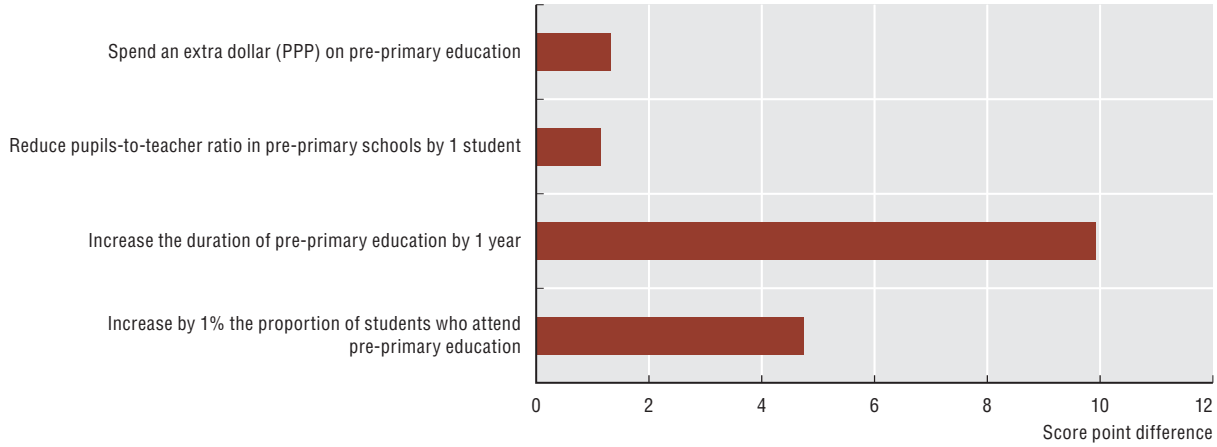
This figure compares the 2005 and 2010 enrolment rates of full-time and part-time pupils aged 4 in public and private institutions.



Source: OECD (2012), *Education at a Glance 2012*, Table C2.1, available at: *http://dx.doi.org/10.1787/888932667026*.

Figure 5.4. **Influence of pre-primary education policies on PISA results, 2009**

This figure compares the score point difference in PISA results generated by different pre-primary education policies.



Source: OECD (2012), *Starting Strong III: A Quality Toolbox for Early Childhood Education and Care*, OECD, Paris, available at: *http://dx.doi.org/10.1787/9789264123564-en*.

Access to secondary and tertiary education

- *National examinations are more prevalent at the upper secondary level than at the primary level. Twenty-three countries have national examinations at the upper secondary level.*
- *Thirty-two countries reported using entrance examinations for tertiary education.*
- *Twenty countries reported that they have alternative routes or flexible pathways that can be used to gain access to tertiary education.*

Significance

A number of factors motivate students to learn. This section looks at some of the key factors that may influence the amount of pressure placed on students to work hard in school, such as the presence and nature of examinations that influence access to secondary and tertiary education. Other factors that can motivate students include requirements for access to tertiary education and the availability and competition for places in tertiary education; however, alternative routes or flexible pathways to higher education are necessary to strengthen equity in access to education.

Findings

National examinations are more prevalent at the upper secondary level than at primary and lower secondary level. Twenty-three of 36 countries have national examinations at the upper secondary level, and in 18 of them these examinations are compulsory for students in general programmes. In addition to national examinations, seven countries reported using other non-national standardised examinations at the upper secondary level.

A total of 32 countries use entrance examinations that are not administered by upper secondary schools, for tertiary education; in nine of these countries the examination covers all fields of study, in seven the examinations cover more than half of the fields of study, and in the remaining 16 countries the examinations cover only some of the fields of study available. In addition to entrance examinations, other factors, criteria or special circumstances are used to determine access to tertiary education. The most common is Grade Point Average (GPA) from secondary schools: 21 countries reported using GPA as a criterion. Other factors include previous work experience in 14 countries, application letters or written rationale in 11 countries and past service or volunteer work in 10 countries. Family background factors, such as ethnicity of the applicant or family income, were used in only six and eight countries, respectively.

The number of available places at tertiary level and the degree of competition for these places are important factors in determining how much pressure students may experience as they go through primary and secondary school. For example, if tertiary education is guaranteed for all upper secondary graduates, students will probably feel less pressure than if they had to compete with peers or had to meet certain performance standards to be admitted. University entry rates illustrate the relative accessibility of tertiary education within each country.

Additional alternative routes or flexible pathways can be used to access tertiary education in 20 countries. In Sweden, higher education institutions can use alternative selection criteria for as many as a third of the available places, though these alternative criteria are mainly used to select from among applicants who have the necessary formal qualifications. Special tests other than the standard university entrance examinations, relevant knowledge, professional or vocational experience and other criteria relevant to the programme can be considered in these cases.

Trends

In addition to certifying student performance, national examinations are also a prominent means of holding schools and education systems accountable. This method of ensuring accountability has become increasingly important internationally in the past few decades. This shift to greater use of national examinations is also partly attributed to the technological advances that make it easier to test large populations of students regularly.

Definitions

Data are from the 2011 OECD-INES Survey on National Examinations and Access to Tertiary Education and refer to the school year 2010-11.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator D7).

Areas covered include:

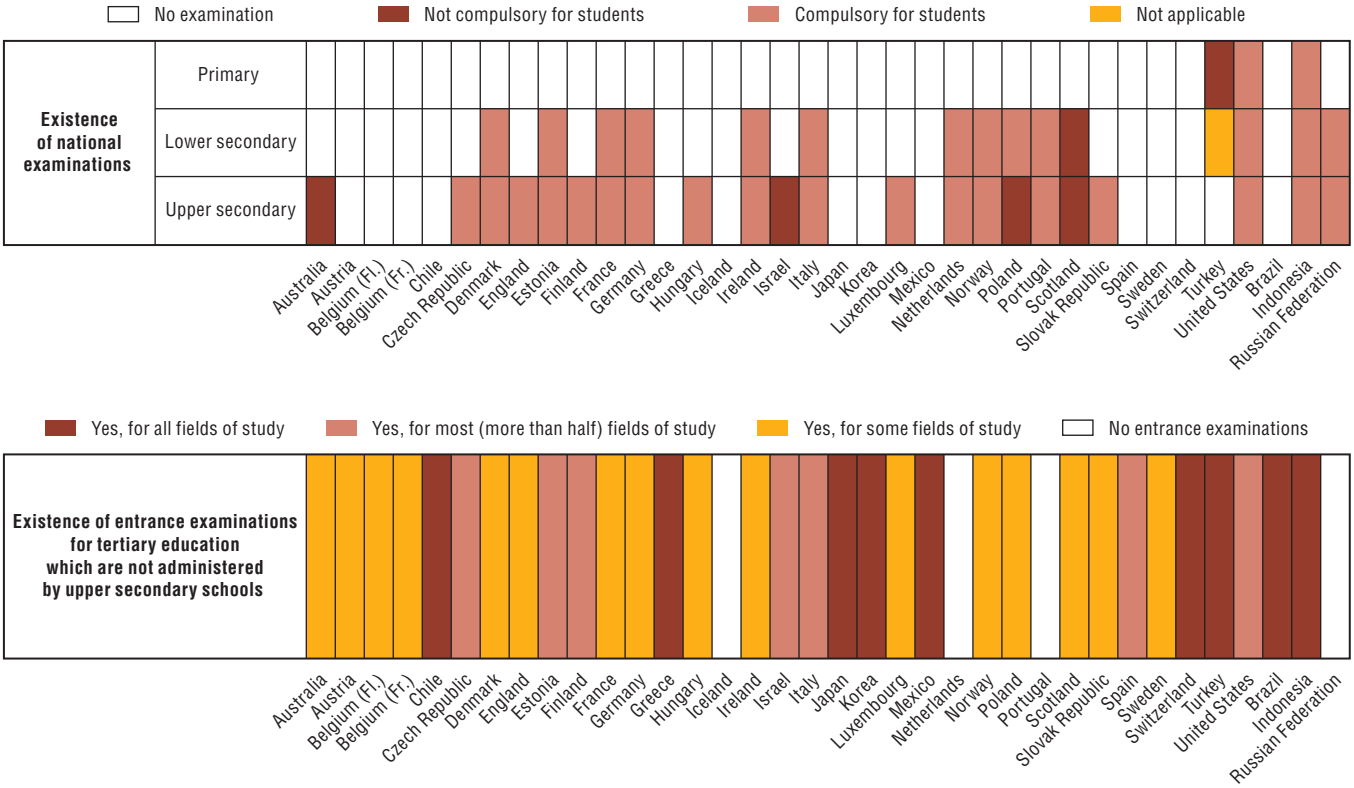
- Examinations and access to secondary and tertiary education.
- Influence of factors other than examinations to determine access to tertiary education.

Further reading from OECD

OECD (2011), "Resources, Policies and Practices", *PISA 2009 Results: What Makes a School Successful?*.

Figure 5.5. **Examinations and access to secondary and tertiary education, 2011**

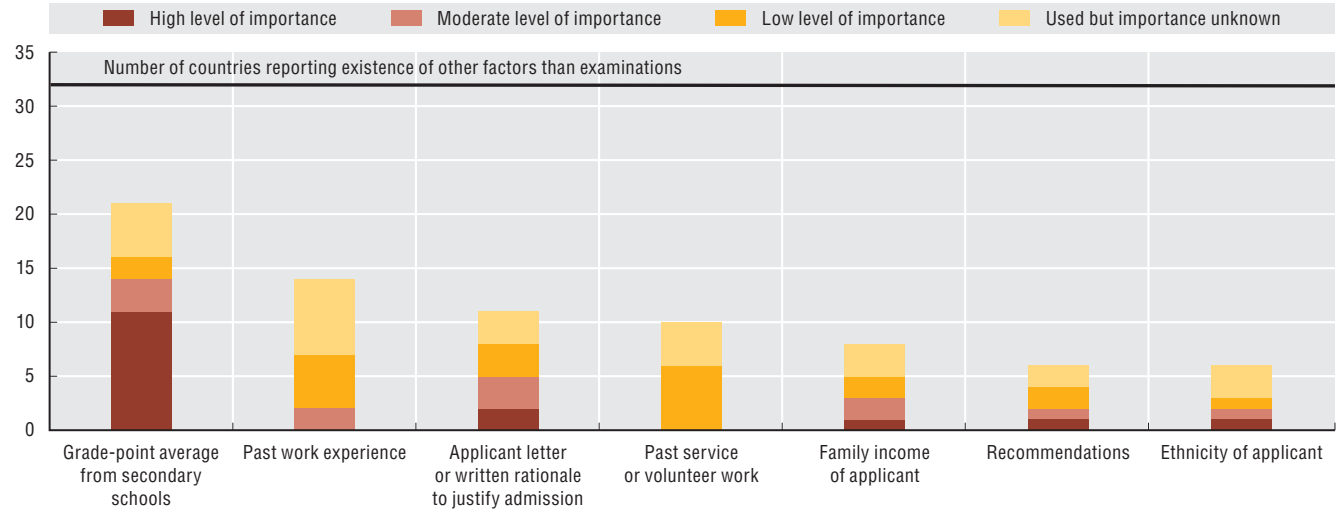
These figures show national examination requirements that determine access to secondary and tertiary education, by country.



Source: OECD (2012), *Education at a Glance 2012*, Tables D7.1a, D7.2a, D7.3a and D7.1b, D7.1c, D7.2b, D7.2c, available at: *http://dx.doi.org/10.1787/888932668812*; *http://dx.doi.org/10.1787/888932668869*; *http://dx.doi.org/10.1787/888932668945*; *http://dx.doi.org/10.1787/888932668831*; *http://dx.doi.org/10.1787/888932668850*; *http://dx.doi.org/10.1787/888932668888*; *http://dx.doi.org/10.1787/888932668907*.

Figure 5.6. **Influence of factors other than examinations in access to tertiary education, 2011**

This figure shows the number of countries which use selection mechanisms other than examinations and the importance of these criteria in determining access to the first stage of tertiary education.



Source: OECD (2012), *Education at a Glance 2012*, Table D7.4a, available at: *http://dx.doi.org/10.1787/888932668983*.

Access to the labour market

- *Women have higher tertiary attainment rates on average across OECD countries, but their employment rates are much lower than those of men.*
- *Younger people face higher risks of unemployment at all levels of education.*
- *Individuals with a vocational upper secondary education as their highest degree have higher employment rates than adults with a general upper secondary education.*

Significance

This section looks at how gender, type of education and age can restrict or accelerate access to the labour market. The benefits of education on employability are indisputable. These benefits, however, are not equally shared between men and women, people with general education as opposed to vocational education or between young and senior adults. This is especially relevant in times of economic hardship as the impact of economic conditions on individuals' chances of being employed or unemployed varies significantly. Data on the relationship between educational attainment on employment and unemployment provide valuable information to policy makers seeking to understand and respond to challenging economic circumstances.

Findings

Women have higher tertiary attainment rates than men on average across OECD countries, but in most countries, the employment rates of highly-skilled women are still remarkably low. On average among OECD countries, 32% of 25-64 year-old women had successfully completed tertiary education in 2010, compared with 29% of men. The employment rate for women with tertiary education was still 9 percentage points lower than that of men, however. This gap is particularly large in Chile, the Czech Republic, Japan, Korea, Mexico and Turkey, where the difference reaches 29 percentage points. In the Nordic countries, where women's employment rates are highest, expansion of child-care services was implemented specifically to increase job opportunities for women. In Sweden, for example, the expansion of child care services during the 1970s is thought to have helped increase women's employment rates from 60% to over 80%. There are fewer women working full-time than men in most OECD countries. Although this rate increases with higher education levels, only 69% of tertiary-educated women work full-time compared with 84% of men, on average, across OECD countries.

Unemployment rates vary considerably, depending on the age group. Overall, unemployment rates among 55-64 year-olds are much lower than those for 25-34 year-olds. On average across OECD countries, 19.1% of 25-34 year-olds without upper secondary education are unemployed, while this concerns only 8.8% of 55-64 olds. Unemployment is lower for people with tertiary education but there is still an age gap. For 55-64 year-olds with a tertiary education, the unemployment rate is 4%, while it is 6.5% for 25-34 year-olds.

Vocational education and training (VET) is generally geared towards giving students relevant labour market skills for a particular occupation or industry. Research has shown that investing in VET can yield good economic returns and countries with strong VET systems, like Germany, have been relatively successful in tackling youth unemployment. On average across OECD countries, 31% of the population has attained vocational upper secondary education. The average employment rate of these individuals is 75.5% which is 4.8 percentage points higher than those with general upper secondary education. This may be due to the fact that throughout the course of vocational education, individuals typically learn specific skills that are immediately needed in the labour market. By contrast, skills learned in general education at an upper secondary level might be less specific and have weaker links to the labour market. In addition, the inactivity rate is about 5 percentage points lower among 25-64 year-olds with a vocational education, compared with adults with a general education.

Definitions

The employment rate refers to the number of persons in employment as a percentage of the population of working age. The unemployment rate refers to unemployed persons as a percentage of the civil labour force. The unemployed are defined as people actively seeking employment and currently available to start work. The employed are defined as those who work for pay or profit for at least one hour a week, or who have a job but are temporarily not at work due to illness, leave or industrial action.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

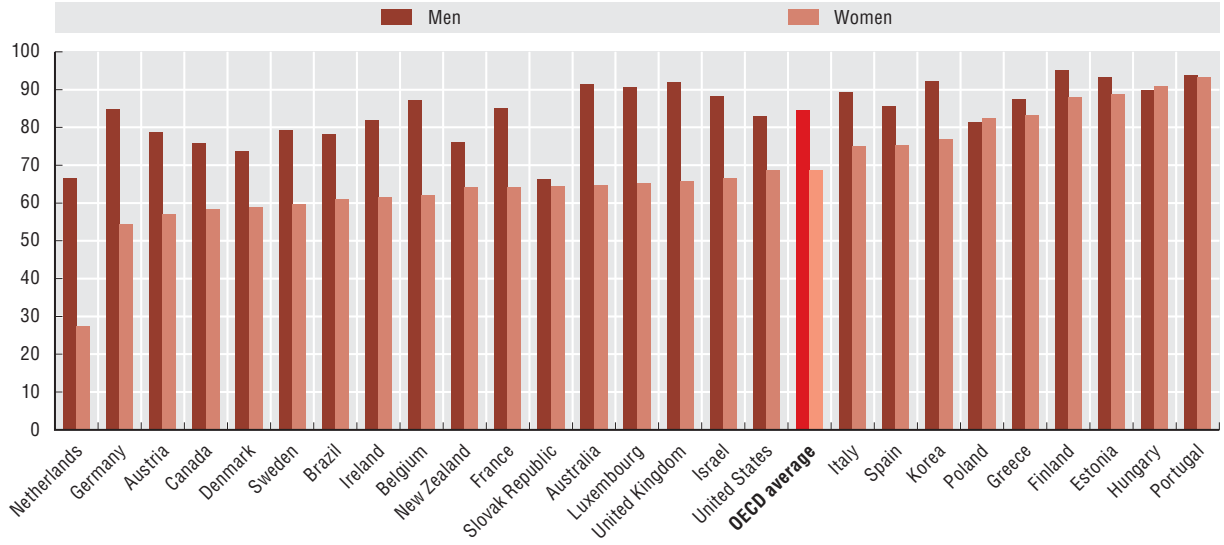
For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator A7).

Areas covered include:

- Size and labour outcomes of vocational education and training by gender.
- Difference between employment rates of vocational and general education attainment by gender.

Figure 5.7. **Proportion of full-time earners among 25-64 year-old tertiary-educated individuals, by gender (2010 or latest available year)**

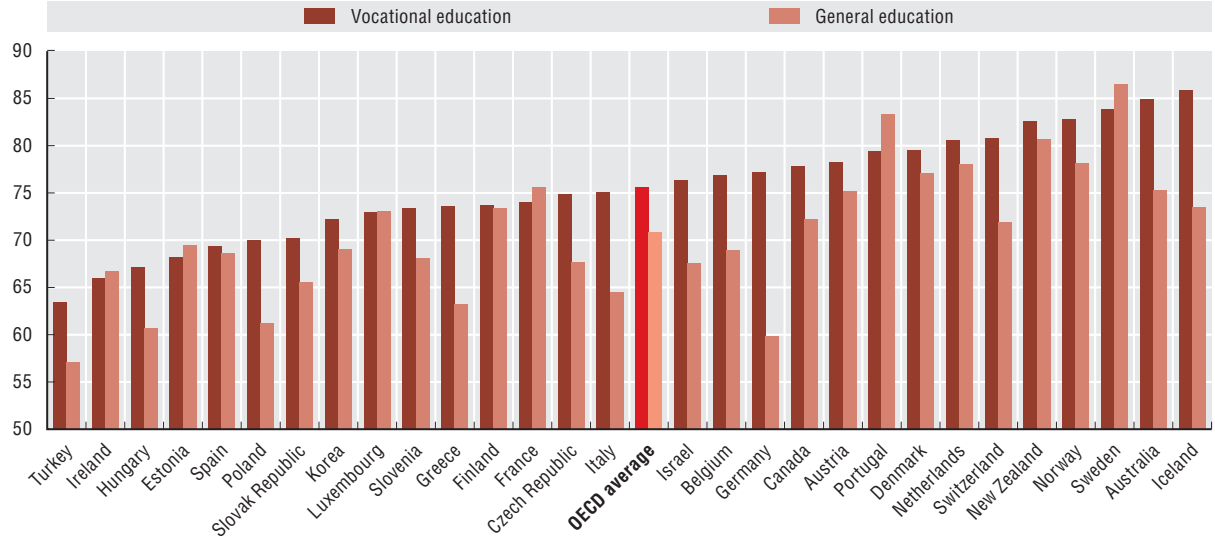
This figure compares the proportion of full-time workers among men and women with tertiary education. Only 69% of tertiary-educated women work on a full-time basis compared with 84% for men, on average, across OECD countries.



Source: OECD (2012), *Education at a Glance 2012*, Table A7.5, available at: *http://dx.doi.org/10.1787/888932665278*.

Figure 5.8. **Employment rates of people with vocational and general upper secondary education, 2010**

This figure compares the employment rates of individuals with vocational upper-secondary education and those with general upper-secondary education. People with a vocational upper secondary education tend to have higher employment rates than adults with a general upper secondary education.



Source: OECD (2012), *Education at a Glance 2012*, Table A7.6, available at: *http://dx.doi.org/10.1787/888932665297*.

Access to lifelong learning

- *More than 40% of adults participate in formal and/or non-formal education in a given year across OECD countries.*
- *Age and educational attainment both influence participation in adult learning.*
- *Employers invest more in non-formal education per participant for men than for women.*

Significance

Investing in education and training after leaving initial education is essential for upgrading the skills of the labour force. Competition for skills is fierce, particularly in high-growth, high-technology markets. In order to meet the needs of a changing labour market, an ever-larger segment of the population must be able to adapt to changing technologies and to learn and apply new sets of skills. Increasing investment in adult learning and reducing inequity in participation are among the policy goals found in many OECD countries.

Findings

More than 40% of adults participate in formal and/or non-formal education in a given year across OECD countries. This proportion ranges from less than 15% in Greece and Hungary to more than 60% in New Zealand and Sweden.

Age and educational attainment both influence participation in adult learning. Participation in all types of adult learning – formal, non-formal and informal – tends to decline for older people in many OECD countries. Across OECD countries, 50% of 25-34 year-olds participate in formal and/or non-formal education compared with only 27% of 55-64 year-olds. The lowest overall participation rate, 14%, is found amongst the older cohort with a low level of education. The highest participation rate, 65%, is found amongst younger people with tertiary education.

Formal education delivered by educational institutions such as schools, colleges or universities, is provided to 8% of adults on average in OECD countries. Formal education is provided to 17% of 25-34 year-olds and 2% of 55-64 year-olds. Across OECD countries, a participant in non-formal education receives 76 hours of instruction annually. Four out of five of these hours are job-related. In all OECD countries, the oldest cohort (55-64 year-olds) receives fewer hours of instruction in job-related non-formal education than average. The difference in instruction hours between the youngest and the oldest cohort amount to more than 30 hours in Belgium, Hungary, Korea and the United Kingdom.

Gender can also have an impact on access to non-formal education, as the annual investment per participant in employer-sponsored non-formal education is substantially higher for men than for women. The labour costs of working time devoted to non-formal education are higher for men in every country but the estimated total number of hours in employer-sponsored non-formal education is higher for women in the Czech Republic, Denmark, Finland, Hungary, Portugal and Spain.

Definitions

Data for non-European countries were calculated from country-specific household surveys (see Annex 3). Data for countries in the European Statistical System come from the pilot EU Adult Education Survey (AES). The EU AES was conducted by 29 countries in the EU, EFTA and candidate countries between 2005 and 2008. The EU AES is a pilot exercise using a common framework, including a standard questionnaire, tools and quality reporting.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

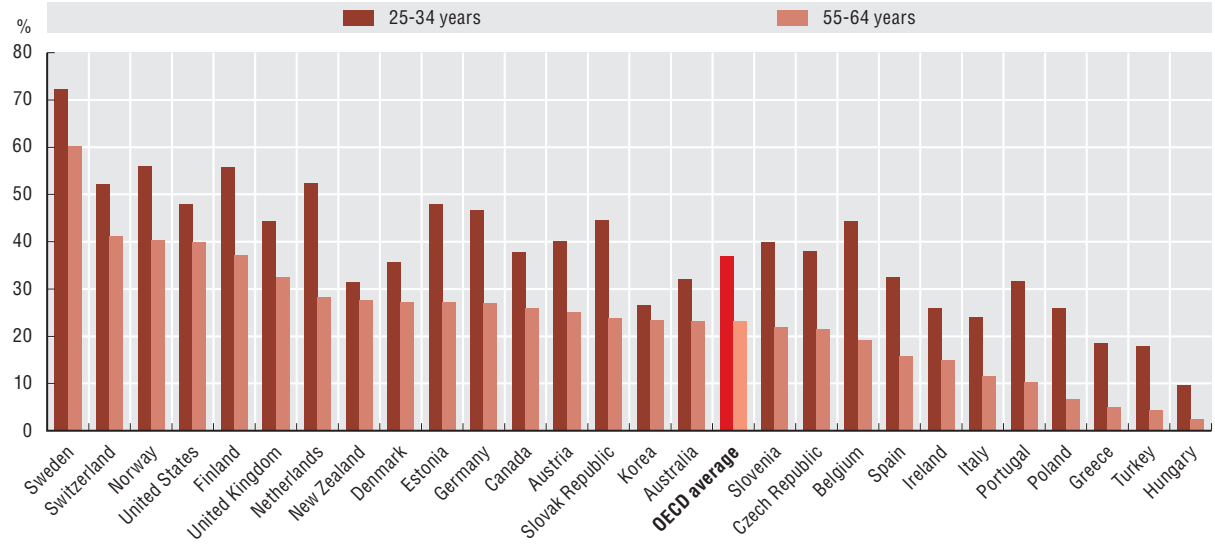
For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator C6).

Areas covered include:

- Participation in non-formal education and adult learning by age group.
- Mean hours of job-related non-formal education by age group.

Figure 5.9. **Participation in non-formal education, by age group, 2007**

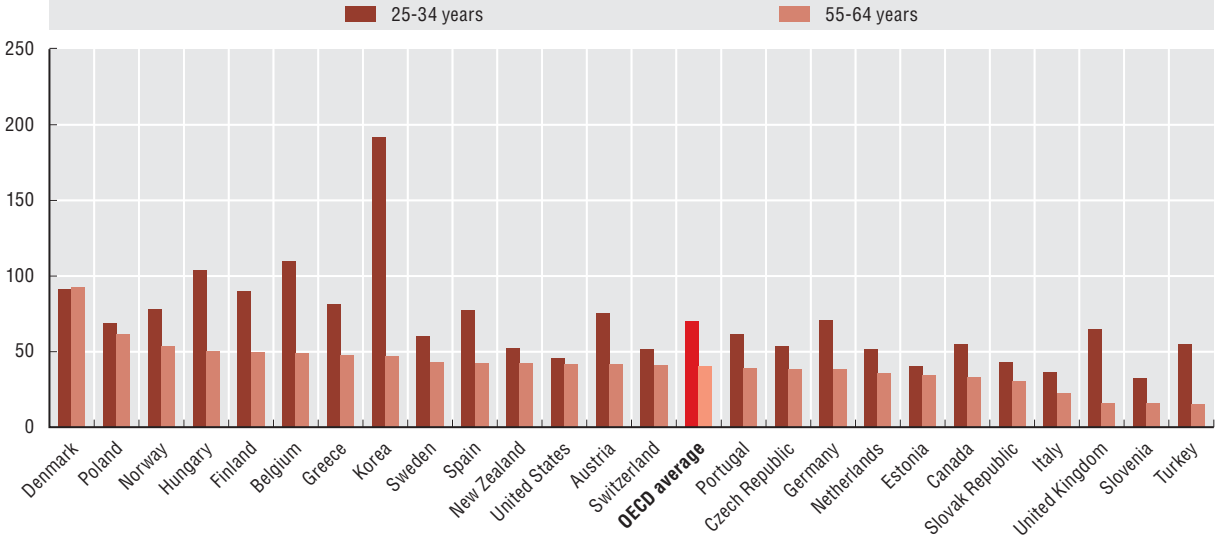
This figure compares the participation levels of 25-34 year-olds and 55-64 year-olds in non-formal education.



Source: OECD (2012), *Education at a Glance 2012*, Table C6.4a, available at: *http://dx.doi.org/10.1787/888932667672*.

Figure 5.10. **Mean hours of job-related non-formal education by age group, 2007**

This figure compares hours of job-related non-formal education received on average by 25-34 year-olds and 55-64 year-olds.



Source: OECD (2012), *Education at a Glance 2012*, Table C6.8, available at: *http://dx.doi.org/10.1787/888932667767*.

Does parental education affect students' chances?

- *Only one in five students from families with low levels of education attains a tertiary degree. On average across OECD countries, 66% of students with at least one parent with tertiary education graduate from tertiary education.*
- *Young women are more successful than young men in attaining a higher level of education than their parents.*
- *On average across OECD countries, approximately half of 25-34 year-old non-students have achieved the same level of education as their parents while more than one-third have surpassed their parents' educational level.*

Significance

Because of its strong links to earnings, employment, overall wealth and the well-being of individuals, education is a key element in mitigating inequalities in societies. It is important, then, to level the playing field for young people from weak educational backgrounds. Various policy options, such as maintaining reasonable costs for higher education and robust student-support systems, can help these students. Ensuring access to and success in higher education for all is important, but so is addressing inequalities at the earliest stages of schooling. Little can be done to remedy poor outcomes at the last stage of the education ladder without also compromising the quality of higher education.

Findings

On average across OECD countries, 66% of individuals with at least one highly educated parent succeed in attaining a tertiary degree, while only 20% of individuals whose parents have low levels of education have a tertiary degree. Young people aged 25-34 with low educational backgrounds enjoy the greatest educational opportunities in Australia, Canada, Denmark, Finland, France, Iceland, Ireland, the Netherlands, Spain and Sweden, where at least 25% of this cohort have reached tertiary education and less than 30% have not completed at least an upper secondary education. At the other end of the spectrum, in Italy, Portugal, Turkey and the United States more than 40% of young people from low educational backgrounds do not complete upper secondary education and fewer than 20% have made it to tertiary education.

Young women (25-34 year-olds) are more likely than young men to attain a higher level of education than their parents. The differences in intergenerational mobility are particularly stark in Greece, Iceland, Norway, Portugal, Slovenia and Spain, where young women are at least 10 percentage points more likely than young men to belong to this group.

Trends

The expansion of education systems in many OECD countries, both at the upper secondary or post-secondary non-tertiary and the tertiary levels of education, has given young people an opportunity to attain a higher level of education than their parents. On average, 37% of young people have achieved a higher level of education than their parents, while only 13% have not been able to reach their parents' educational level. In all countries except Estonia, Germany and Iceland, upward mobility in education is more common than downward mobility, reflecting the expansion of education systems in most OECD countries. The expansion of education has been particularly pronounced in Australia, the Czech Republic, Greece, Hungary, Ireland, Italy and Poland, where the difference between upward and downward educational mobility is 40 percentage points or more.

Definitions

The 2009 Transition *Ad Hoc* Module, a supplement to the 2009 EU Labour Force Surveys, was used for most of the countries in this analysis. The Adult Literacy and Lifeskills Survey (ALL) was used as a data source for Australia, Canada, New Zealand and the United States. The first wave, which took place in 2003, includes Canada and the United States. The second wave took place in 2006 for New Zealand and Australia.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator A6).

Areas covered include:

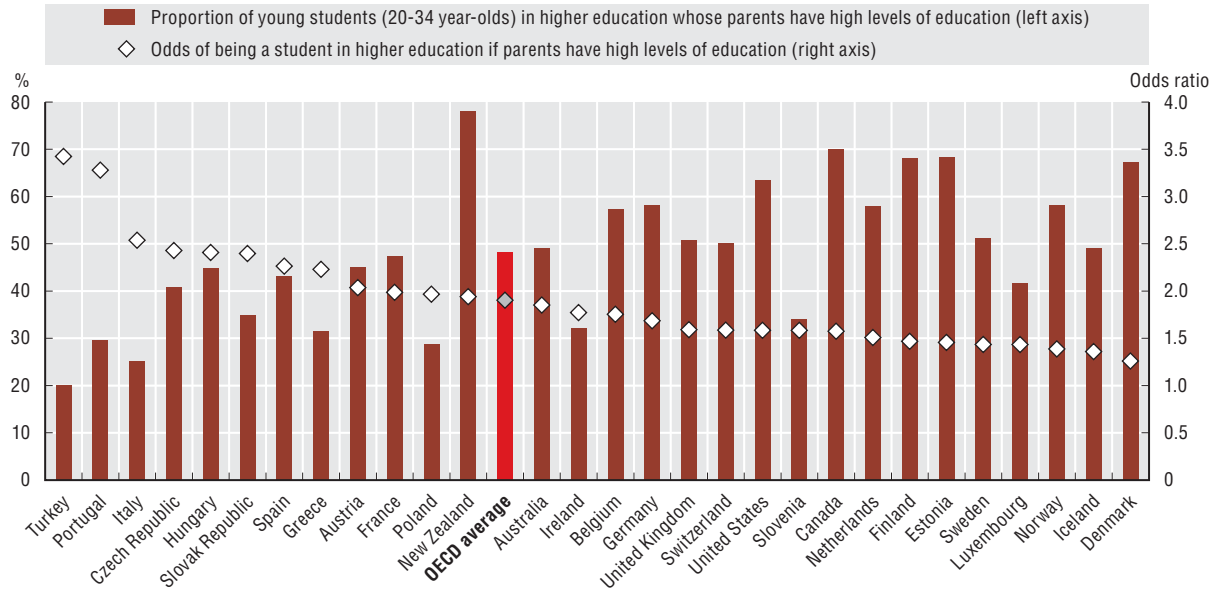
- Odds of attending higher education if parents are highly educated.
- Intergenerational mobility.

Further reading from OECD

OECD (2012), *Let's Read Them a Story! The Parent Factor in Education.*

Figure 5.11. **The odds of attending higher education if parents are highly educated, 2009**

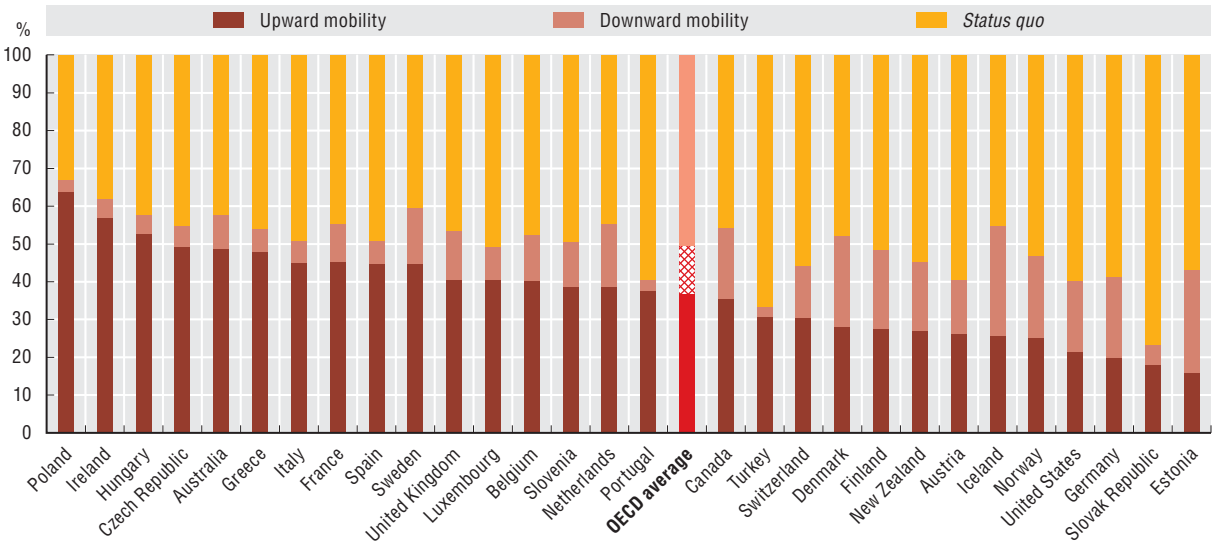
This figure compares the level of influence high parental education levels can have on higher education attainment, by country.



Source: OECD (2012), *Education at a Glance 2012*, Table A6.1, available at: *http://dx.doi.org/10.1787/888932664955*.

Figure 5.12. **Intergenerational mobility in education, 2009**

This figure shows the shares of both ascending and descending mobility in education, by country.



Source: OECD (2012), *Education at a Glance 2012*, Table A6.3, available at: *http://dx.doi.org/10.1787/888932664993*.

Integrating immigrants' children

– *In many countries, the level of reading performance of immigrant students is lower than that of non-immigrant students.*

– *The educational attainment of mothers has a stronger impact on the reading performance of students in a school than the primary language at home or the proportion of immigrant students in that school.*

– *In many countries and for all students – not only immigrant students – being in an advantaged* versus *a disadvantaged school has a stronger impact on reading scores than family background.*

Significance

A country's success in integrating immigrant students is a key measure of its education system's quality and equity and also sheds light on the efficiency of its broader social policies. Designing education policies to address the needs of immigrant students is often difficult and expensive and education policy alone is unlikely to address these challenges fully. Reducing the concentration of educational disadvantage in schools may imply changes in other areas of social policy – for example, housing policies that promote a more balanced social mix in schools at an early age.

Findings

In many countries, the performance level in reading of immigrant students is lower than that of non-immigrant students. Non-immigrant students outperformed immigrant students by more than 40 score points on both 2000 and 2009 PISA assessments.

The school's composition – that is, the characteristics of the student population – can exert a significant influence on a student's performance. Three measures can define a school's composition: the percentage of immigrant students, the percentage of immigrant students in a school speaking another language at home and the percentage of students (whatever their origin) in a school who have mothers with low educational attainment. The greatest impact on reading performance comes from the percentage of students from disadvantaged backgrounds, *i.e.* schools that have a high concentration of students with mothers with low educational attainment. Across OECD countries, the gap between students attending disadvantaged *versus* advantaged schools is nearly the equivalent of two school years. The percentage of children who mostly speak a foreign language at home is next in terms of correlation while the percentage of immigrant students is last.

Across OECD countries, more than one third of immigrant students attend schools with the highest concentrations of students with mothers with low educational attainment. There are very large differences in scores between schools, except in nordic and eastern European countries and some countries with a long tradition of attracting immigrants such as Australia, Canada and New Zealand.

Immigrant students from socio-economically disadvantaged neighbourhoods but with highly educated mothers are overrepresented in "disadvantaged schools". Across OECD countries, more than a quarter of students with highly educated mothers in disadvantaged schools are immigrant students. In the European Union, these students are more than twice as likely to attend disadvantaged schools as their non-immigrant counterparts. There is strong overrepresentation of immigrant students with highly educated mothers in disadvantaged schools in all countries except Brazil, Estonia, Israel and Norway.

Trends

On average among OECD countries with comparable data, the percentage of immigrant students increased by two percentage points between 2000 and 2009. The performance difference between immigrant and non-immigrant students remained broadly similar. Non-immigrant students outperformed immigrant students by more than 40 score points on both 2000 and 2009 PISA assessments.

Definitions

Items in this section are taken from the PISA 2009 assessment of students' competence in reading. PISA covers students who are between 15 years 3 months and 16 years 2 months of age at the time of assessment, and who 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, whether they attend general or vocational programmes, and whether they attend public, private or foreign schools within the country.

For information on the PISA assessment instruments and the methods used in PISA see the PISA website, *www.pisa.oecd.org*.

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator A5).

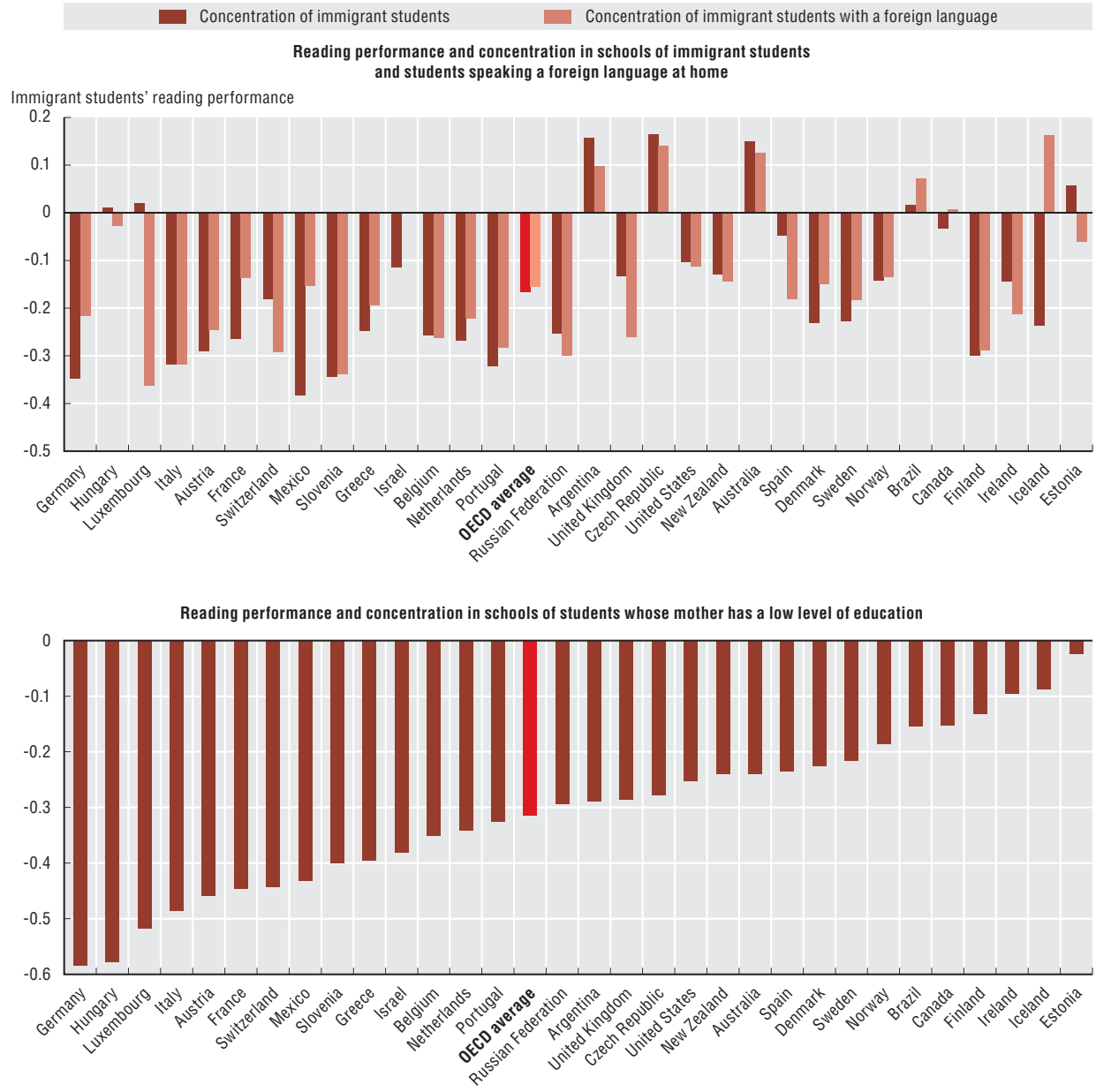
Further reading from OECD

OECD (2010), *Closing the Gap for Immigrant Students*.

OECD (2012), *Untapped Skills: Realising the Potential of Immigrant Student*, PISA.

Figure 5.13. **Factors affecting reading performance**

These figures show that having more students with a low-educated mother has a greater negative effect on reading performance than having more immigrants or students who speak a foreign language at home.



Source: OECD (2012), *Education at a Glance 2012*, Table A5.1, available at: *http://dx.doi.org/10.1787/888932664860*.

Reducing the gender gap

- *In almost all countries, girls have more ambitious professional aspirations than boys.*
- *Countries where girls are significantly more ambitious than boys tend to be those where women outnumber men at university.*
- *Only 5% of 15 year-old girls in OECD countries aim for a career in engineering and computing compared with 18% for boys.*

Significance

Significant progress has been achieved in reducing the gender gap in educational attainment, although in certain fields of study such as mathematics and computer science, gender differences still exist. Gender equality is not only a goal in itself, it is also economically beneficial. Education systems can influence students' perceptions of what occupations lie ahead of them and prior to that their academic decisions and performance. Strengthening the role that education systems can play in moderating gender differences in performance in different subject areas should be an important policy objective. This indicator begins by examining data from OECD's PISA study on gender differences in the occupations which 15-year old students expect to practice by the age of 30 and then goes on to analyse which fields girls and boys choose to study several years after.

Findings

When asked what they expect to be doing around the age of 30, 15-year-old girls tend to have more ambitious professional aspirations than boys. On average, girls are 11 percentage points more likely than boys to expect to work in high-status careers such as legislators, senior officials, managers and professionals. France, Germany and Japan are the only OECD countries where similar proportions of boys and girls aspire to these careers, while in Switzerland, boys generally have slightly more ambitious aspirations than girls. The gender gap in career expectations is particularly wide in Greece and Poland where it reaches 20 percentage points.

Countries where 15-year-old girls have significantly higher career aspirations than boys tend to be those where women are over-represented at university. The proportion of women with a first university degree exceeds that of men in 35 out of 39 countries and on average in OECD countries, 59% of all university graduates are women. The proportion is below 50% only in China, Japan, Korea and Turkey. However men are still more likely than women to hold advanced research qualifications across the OECD. In Japan and Korea, two-thirds or more of advanced research qualifications are awarded to men.

In recent years, girls in many countries have caught up with or even surpassed boys in science proficiency. Better performance in science among girls, however, does not necessarily mean that girls will pursue all types of science-related careers. Careers in "engineering and computing" still attract relatively few girls. On average, only 5% of 15 year-old girls in OECD countries aim for a career in engineering and computing, compared with 18% of boys. In contrast, more girls than boys expect a career in health and services in every OECD country.

Trends

Gender gaps still exist both in the education system and in the labour market, although these have narrowed slightly since 2000. For example, the proportion of women who entered university rose from 60% in 2005 to 69% in 2010, while the proportion of men who entered similar programmes only rose from 48% in 2005 to 55% in 2010.

While few girls expect to enter certain science careers, such as engineering and computing, the proportion of women in these fields of education has increased slightly, from 23% to 27%, over the past decade.

Definitions

Data on graduates and new entrants refer to the academic year 2009-10 and are based on the UOE data collection on education statistics administered by the OECD in 2011 (for details, see Annex 3 at *www.oecd.org/edu/eag2012*).

Information on data for Israel:
http://dx.doi.org/10.1787/888932315602.

Going further

For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2012* (Indicator A4).

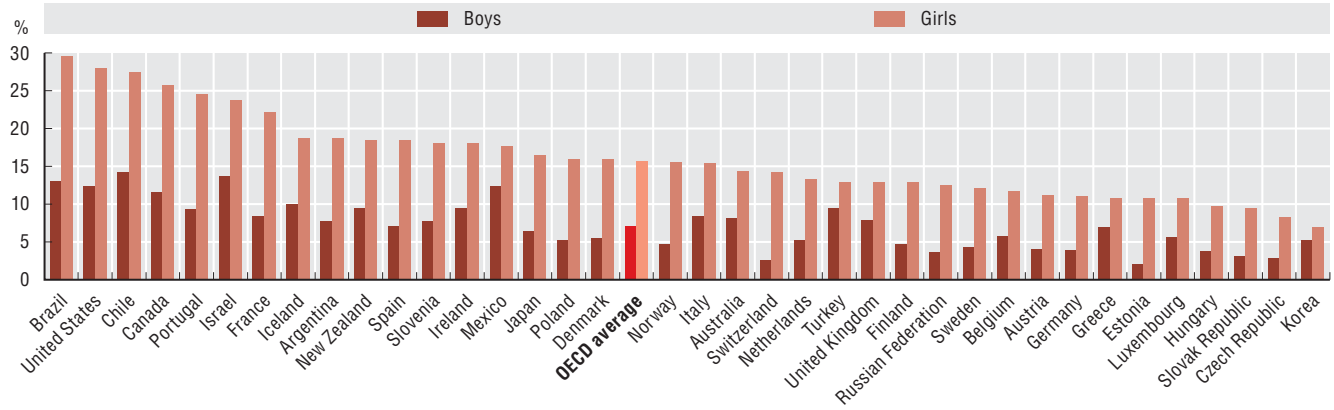
Areas covered include:

- Career expectations by gender.
- Gender differences by field of education.

Further reading from OECD

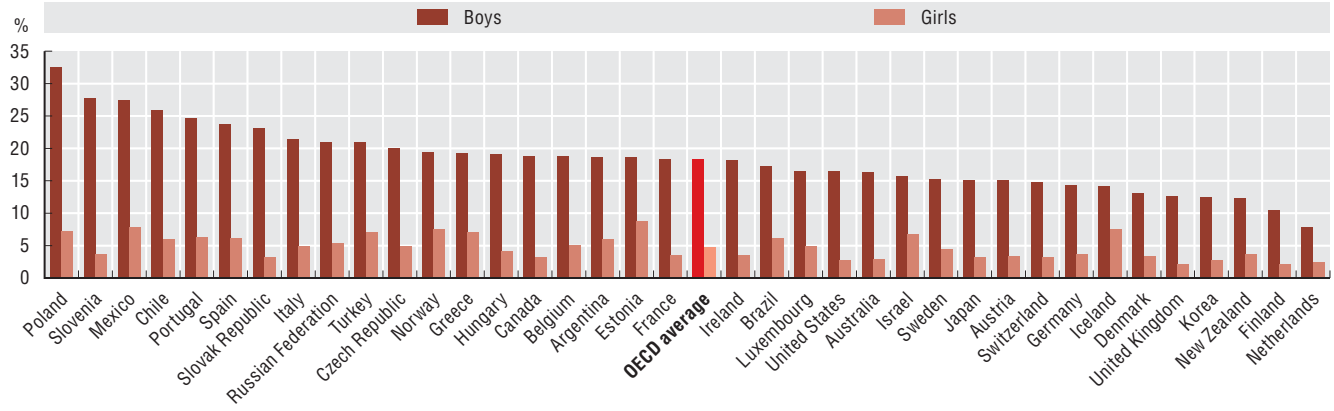
OECD (2011), "Gendered Career Expectations of Students: Perspectives from PISA 2006", *OECD Education Working Papers*.

Figure 5.14. **Percentage of 15-year-old boys and girls planning a career in health services**



Source: OECD (2012), *Education at a Glance 2012*, Table A4.3, available at: *http://dx.doi.org/10.1787/888932664727*.

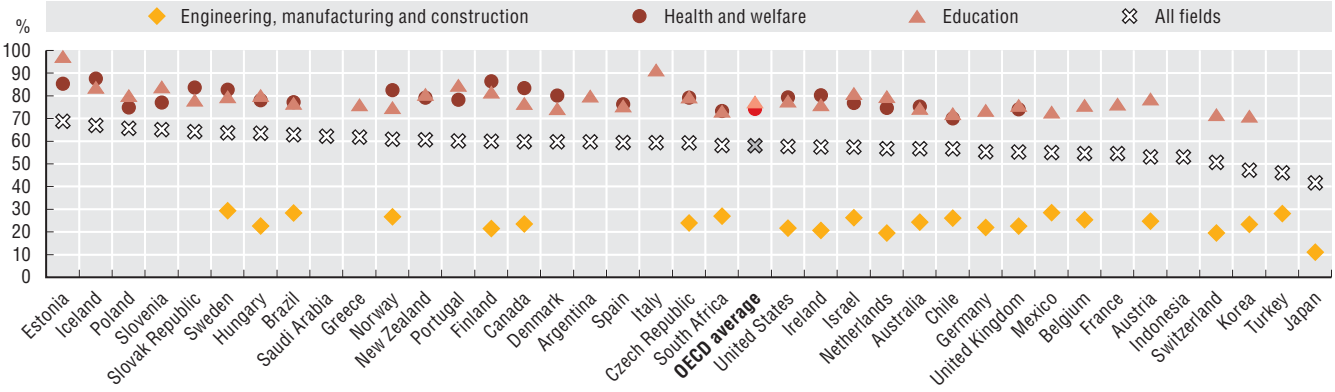
Figure 5.15. **Percentage of 15-year-old boys and girls planning a career in engineering or computing**



Source: OECD (2012), *Education at a Glance 2012*, Table A4.2, available at: *http://dx.doi.org/10.1787/888932664708*.

Figure 5.16. **Share of women graduates, by field of education, 2010**

This figure shows the percentage of tertiary qualifications awarded to women in university and advanced research programmes, by field of education.



Source: OECD (2012), *Education at a Glance 2012*, Table A4.6, available at: *http://dx.doi.org/10.1787/888932664784*.

© OECD 2012

Statistical note

Coverage of statistics

Although a lack of data still limits the scope of the indicators in many countries, the coverage extends, in principle, to the entire national education system (within the national territory) regardless of the ownership or sponsorship of the institutions concerned and regardless of education delivery mechanisms. With one exception described below, all types of students and all age groups are meant to be included: children (including students with special needs), adults, nationals, foreigners, as well as students in open distance learning, in special education programmes or in educational programmes organised by ministries other than the Ministry of Education, provided the main aim of the programme is the educational development of the individual. However, vocational and technical training in the workplace, with the exception of combined school and work-based programmes that are explicitly deemed to be parts of the education system, is not included in the basic education expenditure and enrolment data.

Educational activities classified as "adult" or "non-regular" are covered, provided that the activities involve studies or have a subject matter content similar to "regular" education studies or that the underlying programmes lead to potential qualifications similar to corresponding regular educational programmes. Courses for adults that are primarily for general interest, personal enrichment, leisure or recreation are excluded.

Calculation of international means

For many indicators an OECD average is presented and for some an OECD total.

OECD average: This is calculated as the unweighted mean of the data values of all OECD countries for which data are available or can be estimated. The OECD average therefore refers to an average of data values at the level of the national systems and can be used to answer the question of how an indicator value for a given country compares with the value for a typical or average country. It does not take into account the absolute size of the education system in each country.

OECD total: This is calculated as a weighted mean of the data values of all OECD countries for which data are available or can be estimated. It reflects the value for a given indicator when the OECD area is considered as a whole. This approach is taken for the purpose of comparing, for example, expenditure figures for individual countries with those of the entire OECD area for which valid data are available, with this area considered as a single entity.

EU21 average: This is calculated as the unweighted mean of the data values of the 21 members of the European Union for which data are available or can be estimated (see the "Reader's Guide").

G20 average: This is calculated as the unweighted mean of the data values of all G20 countries (see the "Reader's Guide") for which data are available or can be estimated (the European Commission is not included in the calculation). The G20 average is not computed if data for China or India are not available.

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

The OECD is a unique forum where governments work together to address the economic, social and environmental challenges of globalisation. The OECD is also at the forefront of efforts to understand and to help governments respond to new developments and concerns, such as corporate governance, the information economy and the challenges of an ageing population. The Organisation provides a setting where governments can compare policy experiences, seek answers to common problems, identify good practice and work to co-ordinate domestic and international policies.

The OECD member countries are: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The European Union takes part in the work of the OECD.

OECD Publishing disseminates widely the results of the Organisation's statistics gathering and research on economic, social and environmental issues, as well as the conventions, guidelines and standards agreed by its members.

OECD PUBLISHING, 2, rue André-Pascal, 75775 PARIS CEDEX 16
(96 2012 04 1 P) ISBN 978-92-64-17956-1 – No. 60195 2012

Education at a Glance 2012 Highlights

Education at a Glance 2012: Highlights summarises the OECD's flagship compendium of education statistics, *Education at a Glance.* It provides easily accessible data on key topics in education today, including:

- Education levels and student numbers: How far have adults studied, and how easily do young people enter the world of work?
- Economic and social benefits of education: How does education affect people's job prospects, and what is its impact on incomes?
- Paying for education: What share of public spending goes on education, and what is the role of private spending?
- The school environment: How many hours do teachers work, and how does class size vary?
- Equity: A special section introduces issues relating to equity in education: how important is pre-primary education, how does socio-economic background affect educational performance, how easy is it for older people to access education, and how wide is the gender gap?

Each indicator is presented on a two-page spread. The left-hand page explains the significance of the indicator, discusses the main findings, examines key trends and provides readers with a roadmap for finding out more in the OECD education databases and in other OECD education publications. The right-hand page contains clearly presented charts and tables, accompanied by dynamic hyperlinks (*StatLinks*) that direct readers to the corresponding data in Excel™ format.

Please cite this publication as:

OECD (2012), *Education at a Glance 2012: Highlights*, OECD Publishing.
http://dx.doi.org/10.1787/eag_highlights-2012-en

This work is published on the *OECD iLibrary,* which gathers all OECD books, periodicals and statistical databases. Visit ***www.oecd-ilibrary.org***, and do not hesitate to contact us for more information.

OECD*publishing*
www.oecd.org/publishing

ISBN 978-92-64-17956-1
96 2012 04 1 P