Education at a Glance 2020

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Foreword

Governments are increasingly looking to international comparisons of education opportunities and outcomes as they develop policies to enhance individuals' social and economic prospects, provide incentives for greater efficiency in schooling, and help to mobilise resources to meet rising demands. The OECD Directorate for Education and Skills contributes to these efforts by developing and analysing the quantitative, internationally comparable indicators that it publishes annually in *Education at a Glance*. Together with OECD country policy reviews, these indicators can be used to assist governments in building more effective and equitable education systems.

Education at a Glance addresses the needs of a range of users, from governments seeking to learn policy lessons to academics requiring data for further analysis to the general public wanting to monitor how their countries' schools are progressing in producing world-class students. The publication examines the quality of learning outcomes, the policy levers and contextual factors that shape these outcomes, and the broader private and social returns that accrue to investments in education.

Education at a Glance is the product of a long-standing, collaborative effort between OECD governments, the experts and institutions working within the framework of the OECD Indicators of Education Systems (INES) programme, and the OECD Secretariat. The publication was prepared by the staff of the Innovation and Measuring Progress Division of the OECD Directorate for Education and Skills, under the responsibility of Dirk Van Damme and Marie-Hélène Doumet, and in co-operation with Étienne Albiser, Andrea Borlizzi, Éric Charbonnier, Manon Costinot, Bruce Golding, Yanjun Guo, Hanna Jang, Corinne Heckmann, Karinne Logez, Camila de Moraes, Simon Normandeau, Gara Rojas González, Daniel Sánchez Serra, Markus Schwabe, Giovanni Maria Semeraro, Choyi Whang and Hajar Sabrina Yassine. Administrative support was provided by Valérie Forges, and additional advice and analytical support were provided by Shinyoung Jeon and Pauline Musset. Cassandra Davis and Sophie Limoges provided valuable support in the editorial and production process. The development of the publication was steered by member countries through the INES Working Party and facilitated by the INES Networks. The members of the various bodies as well as the individual experts who have contributed to this publication and to OECD INES more generally are listed at the end of the book.

While much progress has been made in recent years, member countries and the OECD continue to strive to strengthen the link between policy needs and the best available internationally comparable data. This presents various challenges and trade-offs. First, the indicators need to respond to education issues that are high on national policy agendas, and where the international comparative perspective can offer added value to what can be accomplished through national analysis and evaluation. Second, while the indicators should be as comparable as possible, they also need to be as country-specific as is necessary to allow for historical, systemic and cultural differences between countries. Third, the indicators need to be presented in as straightforward a manner as possible, while remaining sufficiently complex to reflect multi-faceted realities. Fourth, there is a general desire to keep the indicator set as small as possible, but it needs to be large enough to be useful to policy makers across countries that face different challenges in education.

The OECD will continue not only to address these challenges vigorously and develop indicators in areas where it is feasible and promising to develop data, but also to advance in areas where a considerable investment still needs to be made in conceptual work. The OECD Programme for International Student Assessment (PISA) and

its extension through the OECD Survey of Adult Skills, a product of the Programme for the International Assessment of Adult Competencies (PIAAC), as well as the OECD Teaching and Learning International Survey (TALIS), are major efforts to this end.

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Editorial

The spread of COVID-19 has sent shockwaves across the globe. The public health crisis, unprecedented in our current lifetime, has caused severe human suffering and loss of life. The exponential rise in infected patients and the dramatic consequences of serious cases of the disease have overwhelmed hospitals and health professionals and put significant strain on the health sector. As governments grappled with the spread of the disease by closing down entire sectors of activity and imposing widespread restrictions on mobility, the sanitary crisis evolved into a major economic crisis expected to burden societies for years to come. According to the OECD's latest *Economic Outlook*, even the most optimistic scenarios predict a brutal recession. Even if a second wave of infections is avoided, global economic activity is expected to fall by 6% in 2020, with average unemployment in OECD countries climbing to 9.2%, from 5.4% in 2019. In the event of a second outbreak triggering a return to lockdown, the situation would be worse.

Education has not been spared. The lockdowns have interrupted conventional schooling with nationwide school closures in most OECD and partner countries, lasting at least 10 weeks in the majority of them. While the educational community has made important efforts to maintain learning continuity during this period, children and students have had to rely more on their own resources to continue learning remotely through the Internet, television or radio. Disadvantaged students have had the hardest time adjusting to distance learning. Spending on education may also be compromised in the coming years. As emergency public funds might be directed to health and social welfare, long-term public spending on education is at risk despite short-term stimulus packages in some countries. Private funding will also become scarce as the economy weakens. More damagingly, the lockdown has exacerbated inequality among workers. While teleworking is often an option for the most qualified, it is seldom possible for those with lower levels of education, many of whom have been on the front lines in the response to the pandemic, providing essential services to society.

Recognising the importance of vocational education

While remote learning has offered some educational continuity when it comes to academic learning, vocational education has been particularly hard hit by the crisis. Social distancing requirements and the closure of enterprises have made practical and work-based learning that are so crucial for the success of vocational education, difficult or impossible. And yet, this sector plays a central role in ensuring the alignment between education and work, the successful transition into the labour market, and for employment and the economic recovery more generally. Not least, many of the professions that formed the backbone of economic and social life during the lockdown hinge on vocational qualifications.

This year's *Education at a Glance* therefore places the spotlight on vocational education and training (VET). Most often provided at upper secondary level, but sometimes also at lower or post-secondary level, VET provides trade, technical and professional skills for the workforce. Often neglected in favour of more prestigious academic routes, VET has often been disregarded in educational policy debates. Indeed, on average across OECD countries, young adults today are less likely to pursue a vocational path and more likely to pursue an academic university degree than their parents were. This may partly reflect long-term labour-market prospects: although young adults with an upper secondary vocational education as their highest attainment are more likely to be employed than those with a general upper secondary one, their employment rate remains more or less stable with age while that of adults with a general upper secondary education increases. In contrast, the employment

advantage of a tertiary education continues to increase with age. Earnings are also lower: adults with an upper secondary vocational qualification have similar earnings to those with an upper secondary general qualification, but they earn 34% less than tertiary-educated adults on average across OECD countries. With rising concerns about the unpredictability of the job market and rapid technological advances making way for digitalisation and automation, it is important for VET programmes to adapt and provide students with the skills needed for tomorrow's society.

Yet the evidence from countries with high-performing vocational systems is that they provide a very effective means of integrating learners into the labour market and opening pathways for further learning and personal growth. During the lockdown that followed the spread of COVID-19, the reliance on vital services such as manufacturing and healthcare, many of which rely on vocational education, has brought to light, more than ever, the need to look at VET with a fresh eye and implement measures to increase its attractiveness to potential learners. One way to do that is to enhance work-based learning and strengthen ties with the private sector. In contrast to exclusively school-based learning, combined school- and work-based programmes provide students with a unique understanding of the workplace. By being placed in direct contact with employers, students assimilate the most relevant skills and gain direct exposure to the labour market. Despite their advantages, these types of VET programmes are still uncommon: they account for only one-third of upper secondary vocational enrolment on average across OECD countries.

Improving the progression from VET into higher levels of education is also important to support students in developing skills that provide value to the workplace. Enabling students to move between programme types, including into higher education, also signals that VET programmes are not an educational dead-end, but can open the door to further learning and self-development. Providing prospects for higher education also encourages vocational students to complete their education. Although the completion rate of students in a vocational upper secondary programme is lower than in general ones, vocational students are more likely to complete their qualification when the programme provides access to tertiary education than when it does not.

Most countries have opened pathways between upper secondary vocational programmes and higher education. On average across OECD countries, almost 7 out of 10 upper secondary vocational students are enrolled in programmes that, in theory, allow them to progress to a higher-level degree. However, while these pathways exist, few actually use them. A survey conducted across a few OECD countries for *Education at a Glance 2019* found that the share of vocational students is lower among entrants to bachelor's or equivalent programmes than at upper secondary level. Although short-cycle tertiary programmes are usually more attractive to vocational students than long-cycle degrees, these do not exist in all countries.

Education for resilience and recovery

As we enter the COVID-19 recovery phase, it will be critical to reflect on the role of educational systems – and particularly vocational education – in fostering resilient societies. VET can support the training of professionals such as healthcare or childcare workers, or those in manufacturing or agriculture, who have maintained essential services to the public during the pandemic. The global health crisis and the generalised lockdown that followed have brought to the fore professions that have often been taken for granted, renewing our awareness of their value to society. This has helped restore a sense of esteem for those workers who have worked relentlessly during this time to keep our world afloat.

The outlook is very uncertain. But, if anything, the pandemic has exposed our vulnerability to crises and revealed how precarious and interdependent the economies we have built can be. Disruptions on the scale we have just witnessed are not limited to pandemics, but may also result from natural, political, economic and environmental disorder. Our capacity to react effectively and efficiently in the future will hinge on governments' foresight, readiness, and preparedness. Through their role in developing the competencies and skills needed for tomorrow's society, education systems will need to be at the heart of this planning. This includes rethinking how the economy should evolve to guard against adversity, and defining the skills, education and training required to

support it. This also means working in close collaboration with other government sectors and the private sector to increase the attractiveness and labour-market prospects of certain professions, including those considered paramount for the common good.

More than ever, the pandemic is a call to renew our political commitment to the Sustainable Development Goals. Ensuring that all young people have the opportunity to succeed at school and develop the skills that will allow them to contribute to society is at the heart of the global agenda and education's promise to our future society. The current crisis has tested our ability to deal with large-scale disruptions. It is now up to us to build as its legacy a more resilient society.



Angel Gurría

OECD Secretary-General

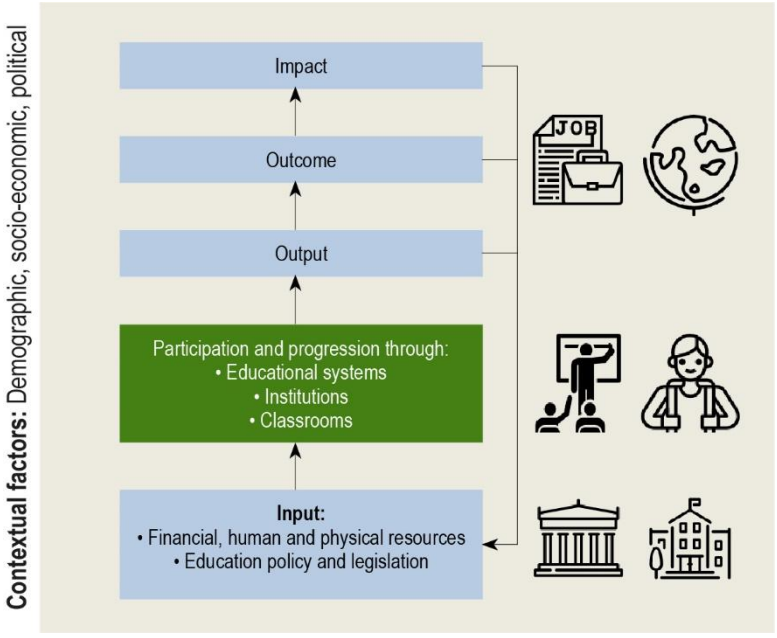
Introduction: The indicators and their framework

The organising framework

Education at a Glance 2020: OECD Indicators offers a rich, comparable and up-to-date array of indicators that reflect a consensus among professionals on how to measure the current state of education internationally. The indicators provide information on the human and financial resources invested in education, how education and learning systems operate and evolve, and the returns to investments in education. They are organised thematically, each accompanied by information on the policy context and interpretation of the data.

The indicators are organised within a framework that distinguishes between the actors in education systems, groups them according to the types of issues they address, and examines contextual factors that influence policy (Figure A). In addition to these dimensions, the time perspective makes it possible to visualise dynamic aspects of the development of education systems.

Figure A. Organising framework of indicators in *Education at a Glance*



Actors in education systems

The OECD Indicators of Education Systems (INES) programme seeks to gauge the performance of national education systems as a whole, rather than to compare individual institutional or other subnational entities. However, there is increasing recognition that many important features of the development, functioning and impact

of education systems can only be assessed through an understanding of learning outcomes and their relationships to inputs and processes at the level of individuals and institutions.

To account for this, the first dimension of the organising framework distinguishes the three levels of actors in education systems:

- education systems as a whole
- providers of educational services (institutions, schools), as well as the instructional setting within those institutions (classrooms, teachers)
- individual participants in education and learning, the students. These can be either children or young adults undergoing initial schooling and training, or adults pursuing lifelong learning programmes.

Indicator groups

The second dimension of the organising framework further groups the indicators into three categories:

- *Indicators on the output, outcomes and impact of education systems*: Output indicators analyse the characteristics of those exiting the system, such as their educational attainment. Outcome indicators examine the direct effects of the output of education systems, such as the employment and earning benefits of pursuing higher education. Impact indicators analyse the long-term indirect effects of the outcomes, such as the knowledge and skills acquired, contributions to economic growth and societal well-being, and social cohesion and equity.
- *Indicators on the participation and progression within education entities*: These indicators assess the likelihood of students accessing, enrolling in and completing different levels of education, as well as the various pathways followed between types of programmes and across education levels.
- *Indicators on the input into education systems or the learning environment*: These indicators provide information on the policy levers that shape the participation, progression, outputs and outcomes at each level. Such policy levers relate to the resources invested in education, including financial, human (such as teachers and other school staff), or physical resources (such as buildings and infrastructure). They also relate to policy choices regarding the instructional setting of classrooms, pedagogical content and delivery of the curriculum. Finally, they analyse the organisation of schools and education systems, including governance, autonomy and specific policies to regulate participation of students in certain programmes.

Contextual factors that influence policy

Policy levers typically have antecedents: external factors that define or constrain policy but are not directly connected to the policy topic at hand. Demographic, socio-economic and political factors are all important national characteristics to take into account when interpreting indicators. The 2008 financial crisis, for example, had a significant impact on public funds available to education.

The characteristics of the students themselves, such as their gender, age, socio-economic status or cultural background, are also important contextual factors that influence the outcomes of education policy.

Indicator analysis using the framework

This versatile framework can be used to understand the operation and functioning of any educational entity, from an education system as a whole to a specific level of education or programme, or even a smaller entity, such as a classroom.

This versatility is important because many features of education systems have varying impacts at different levels of the system. For example, at the level of students within a classroom, the relationship between student

achievement and class size may be negative, if students in small classes benefit from improved interactions with teachers. At the class or school level, however, weaker or disadvantaged students are often intentionally grouped and placed in smaller classes so that they receive more individual attention. At the school level, therefore, the observed relationship between class size and student achievement is often positive, suggesting that students in larger classes perform better than students in smaller classes. At higher levels of aggregation, the relationship between student achievement and class size is further confounded by the socio-economic intake of individual schools or by factors relating to the learning culture in different countries. Therefore, to interpret the indicators, it is important to fully understand the relationships between them.

Analysis of each element of the framework and the interplay between them contribute to understanding a variety of policy perspectives:

- quality of education outcomes and education opportunities
- equality of education outcomes and equity in education opportunities
- adequacy, effectiveness and efficiency of resources invested in education
- relevance of education policy measures to improve education outcomes.

The structure of chapters and indicators in *Education at a Glance*

The indicators published in *Education at a Glance 2020* have been developed within this framework. The chapters are structured through the lens of the education system as a whole, although the indicators themselves are disaggregated and analysed across different levels of education and education settings, and may therefore cover more than one element of the framework.

Chapter A, *The output of educational institutions and the impact of learning*, contains indicators on the output, outcomes and impact of education in the form of the overall attainment of the population, as well as the learning, economic and social outcomes (Figure A). Through this analysis, the indicators in this chapter provide context to shape policies on lifelong learning. They also provide insights into the policy levers needed to address areas where outcomes and impact may not be aligned with national strategic objectives.

Chapter B, *Access to education, participation and progression*, considers the full education system from early childhood to tertiary education and provides indicators on the enrolment, progression and completion of students at each level and programme (Figure A). These indicators can be considered a mixture of output and outcome, to the extent that the output of each education level serves as input to the next and that progression is the result of policies and practices at classroom, institution and system levels. But they can also provide context to identify areas where policy intervention is necessary to address issues of inequity, for example, or to encourage international mobility.

Chapters C and D relate to the inputs into educational systems (Figure A):

- **Chapter C**, *Financial resources invested in education*, provides indicators on expenditure in education and educational institutions, how that expenditure is shared between public and private sources, the tuition fees charged by institutions and the financial mechanisms to support students. These indicators are mainly policy levers, but they also help to explain specific learning outcomes. For example, expenditure on educational institutions per student is a key policy measure that most directly affects individual learners, but it also acts as a constraint on the learning environment in schools and learning conditions in the classroom.
- **Chapter D**, *Teachers, the learning environment and organisation of schools*, provides indicators on instruction time, teachers' and school heads' working time, and teachers' and school heads' salaries. These indicators not only represent policy levers that can be manipulated, but also provide contexts for the quality of instruction and for the outcomes of individual learners. This chapter also presents data on the profile of teachers.

In addition to the regular indicators and core statistics published, *Education at a Glance* also contains analytical work in textboxes. This work usually provides research elements that contribute to the understanding of the indicator, or additional analysis of a smaller number of countries that complement the findings presented.

The Sustainable Development Goal 4

In September 2015, world leaders gathered to set ambitious goals for the future of the global community. Goal 4 of the Sustainable Development Goals (SDGs) seeks to ensure "inclusive and equitable quality education and promote lifelong learning opportunities for all". Each target of the SDG 4 framework has at least one global indicator and a number of related thematic indicators designed to complement the analysis and the measurement of the target.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) oversees the education SDG agenda in the context of the United Nations-led SDG framework. As the custodian agency for most of the SDG 4 indicators, the UNESCO Institute of Statistics (UIS) is co-ordinating global efforts to develop the indicator framework to monitor progress towards SDG 4 targets. In addition to collecting data, UIS works with partners to develop new indicators, statistical approaches and monitoring tools to better assess progress across the education-related SDG targets.

In this context, the OECD's education programmes have a key role to play in the achievement of – and measuring progress towards – SDG 4 and its targets. There is a high level of complementarity between the SDG 4 agenda and the OECD's education policy tools, instruments, evidence and dialogue platforms. The OECD is working with UIS, the SDG 4 Steering Committee and the technical working groups that have been put in place to help build a comprehensive data system for global reporting, agree on the data sources and formulae used for reporting on the SDG 4 global indicators and on selected thematic indicators for OECD member countries and partner countries.

As part of this global effort to advance the dialogue and progress of the SDG monitoring, *Education at a Glance* continues to devote a chapter to this universal education agenda. The chapter aims to provide an assessment of where OECD and partner countries stand on their way to meeting the SDG targets. Depending on the focus of each edition, the selected global and thematic SDG indicators presented may differ from year to year. Thus, the SDG presentation draws on the general framework of *Education at a Glance*.

Vocational education and training in *Education at a Glance 2020*

As the selected theme for this year's publication, vocational education and training (VET) is at the forefront of *Education at a Glance 2020*. there has been renewed interest in VET in recent years as an effective means to open pathways for further learning and personal growth, and ease the transition of learners into the labour market. There is increasing policy interest in providing comparative analysis of the progression of VET students, the outcomes of its graduates and the resources invested. Therefore, a large number of indicators in this year's edition analyse students' participation and progression through vocational education, from lower secondary to short-cycle tertiary education. It also analyses the economic, labour-market and social outcomes of adults with a vocational qualification as well as indicators on the resources invested in VET, both financial and human. This year, two new indicators complement the set of indicators, offering additional analysis of how VET systems differ around the world and upper secondary completion rates by programme orientation.

In line with this general focus, the SDG chapter in this year's edition focuses on upper secondary education and helps inform the debate on youth prospects and youth employment in OECD and partner countries, in the light of the Sustainable Development Agenda. This chapter builds on a selection of SDG 4 indicators to investigate the quality of and participation in secondary education, looking at aspects such as teaching resources in lower secondary education, student outcomes, and the link between upper secondary attainment and access to the labour market.

Table A below summarises the indicators and chapters that contribute to the analysis of vocational education and training in this year's edition.

Table A. Indicators including an analysis of vocational education and training in *Education at a Glance 2020*

Chapter	Indicator number	Indicator	VET content
Chapter A: The output of educational institutions and the impact of learning	A1	To what level have adults studied?	X
	A2	Transition from education to work: Where are today's youth?	
	A3	How does educational attainment affect participation in the labour market?	X
	A4	What are the earnings advantages from education?	X
	A5	What are the financial incentives to invest in education?	
	A6	How are social outcomes related to education?	
	A7	To what extent do adults participate equally in education and learning?	X
Chapter B: Access to education, participation and progression	B1	Who participates in education?	X
	B2	How do early childhood education systems differ around the world?	
	B3	Who is expected to complete upper secondary education?	X
	B4	Who is expected to enter tertiary education?	X
	B5	Who is expected to graduate from tertiary education?	X
	B6	What is the profile of internationally mobile students?	
	B7	How do vocational education systems differ around the world?	X
Chapter C: Financial resources invested in education	C1	How much is spent per student on educational institutions?	X
	C2	What proportion of national wealth is spent on educational institutions?	
	C3	How much public and private investment in educational institutions is there?	
	C4	What is the total public spending on education?	
	C5	How much do tertiary students pay and what public support do they receive?	
	C6	On what resources and services is education funding spent?	
Chapter D: Teachers, the learning environment and the organisation of schools	D1	How does time spent by students in the classroom vary over the years?	
	D2	What is the student-teacher ratio and how big are classes?	X
	D3	How much are teachers and school heads paid?	X
	D4	How much time do teachers and school heads spend teaching and working?	X
	D5	Who are the teachers?	X

Reader's guide

Coverage of the 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 who owns or sponsors the institutions concerned and regardless of how education is delivered. With one exception (described below), all types of students and all age groups are included: children (including students with special needs), adults, nationals, foreigners and students in open-distance learning, in special education programmes or in education programmes organised by ministries other than the ministry of education, provided that the main aim of the programme is to broaden or deepen an individual's knowledge. Vocational and technical training in the workplace is not included in the basic education expenditure and enrolment data, with the exception of combined school- and work-based programmes that are explicitly deemed to be part of the education system.

Educational activities classified as "adult" or "non-regular" are covered, provided that the activities involve the same or similar content as "regular" education studies, or that the programmes of which they are a part lead to qualifications similar to those awarded in regular education programmes.

Courses for adults that are primarily for general interest, personal enrichment, leisure or recreation are excluded.

More information on the coverage of the indicators presented in *Education at a Glance* can be found in the *OECD Handbook for Internationally Comparable Statistics on Education 2018* (OECD, 2018[1]).

Comparability over time

The indicators in *Education at a Glance* are the result of a continuous process of methodological improvement aimed at improving the robustness and international comparability of the indicators. As a result, when analysing indicators over time, it is strongly advised to do so within the most recent edition only, rather than comparing data across different editions. All comparisons over time presented in this report are based on annual revisions of historical data and the methodological improvements which have been implemented in this edition.

Country coverage

This publication features data on education from all OECD countries;[1] two partner countries that participate in the OECD Indicators of Education Systems programme (INES), namely Brazil and the Russian Federation; and other partner G20 and OECD accession countries that are not INES members (Argentina, the People's Republic of China, India, Indonesia, Saudi Arabia and South Africa). Data sources for the non-INES participating countries can come from the regular INES data collections or from the UNESCO Institute of Statistics.

In some instances, and where relevant, a country may be represented through its subnational entities or specific regions.

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.

Note on subnational regions

When interpreting the results on subnational entities, readers should take into account their population as well as their geographical size. For example, in Canada, the population of Nunavut was 37 996 in 2017 and the territory covers 1.9 million square kilometres, while the population of the province of Ontario is 14.2 million and the territory covers 909 000 square kilometres (OECD, 2020[2]). Also, regional disparities tend to be higher when more subnational entities are used in the analysis, especially in big countries like Canada, the Russian Federation or the United States.

Names used for territorial entities

For consistency, national and subnational entities are referred to as "countries" and "economies", respectively, in the whole publication. Territorial and subnational entities are referred to throughout the publication by their subnational name and country, e.g. England (United Kingdom). For consistency with other indicators from *Education at a Glance*, the subnational entity "Flanders (Belgium)" used in the Survey of Adult Skills, a product of the Programme for the International Assessment of Adults (PIAAC) and the Teaching and Learning International Survey (TALIS) will be referred to by the name "Flemish Community of Belgium" throughout the publication. The Flemish Community of Belgium and the French Community of Belgium are abbreviated in the tables and figures as "Flemish Comm. (Belgium)" and "French Comm. (Belgium)".

Calculation of international means

The main purpose of *Education at a Glance* is to provide an authoritative compilation of key international comparisons of education statistics. While overall values are given for countries in these comparisons, readers should not assume that countries themselves are homogeneous. The country averages include significant variations among subnational jurisdictions, much as the OECD average encompasses a variety of national experiences.

For many indicators, an OECD average is presented; for some, an OECD total is shown. The **OECD average** is calculated as the unweighted mean of the data values of all OECD countries[2] 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.

Data from the OECD Teaching and Learning International Survey (TALIS) present an **OECD-31 average.** This is the unweighted mean based on ISCED 2 teacher data across the 31 OECD countries and economies participating in TALIS with adjudicated data.

The **OECD total** is calculated as the weighted mean of the data values of all OECD countries[3] for which data are available or can be estimated. It reflects the value for a given indicator when the OECD countries are considered as a whole. This approach is taken for the purpose of comparing, for example, expenditure charts for individual countries with those of all OECD countries for which data are available, considered as a single entity.

For tables using trend series, an additional average is calculated for countries providing data for all reference years used. This allows the OECD average to be compared over time with no distortion due to the exclusion of some countries in the different years.

For many indicators, an **EU23 average** is also presented. It is calculated as the unweighted mean of the data values of the 23 countries that are members of both the European Union and the OECD for which data are available or can be estimated. The present publication presents time series compiled by the OECD Secretariat for the EU23 which include the United Kingdom for the entire time series, even when data extend beyond the date of the United Kingdom's withdrawal from the European Union on 1 February 2020. The 23 countries therefore included in this average are Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France,

Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden and the United Kingdom. In future publications, the "European Union" aggregate will change to exclude the UK for the entire time series.

The **EU-23 total** is calculated as the weighted mean of the data values of all OECD-EU countries for which data are available or can be estimated. It reflects the value for a given indicator when the OECD-EU area is considered as a whole. The coverage of countries is identical to the EU23 average.

For some indicators, a **G20 average** is presented. The G20 average is calculated as the unweighted mean of the data values of all G20 countries for which data are available or can be estimated (Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Korea, Mexico, the Russian Federation, Saudi Arabia, South Africa, Turkey, the United Kingdom and the United States; the European Union is the 20th member of the G20 but is not included in the calculation). The G20 average is not computed if data for both China and India are not available.

OECD, EU23 and G20 averages and totals can be significantly affected by missing data. In the case of some countries, data may not be available for specific indicators, or specific categories may not apply. Therefore, readers should keep in mind that the term "OECD/EU23/G20 average" refers to the OECD, EU23 or G20 countries included in the respective comparisons. Averages are not calculated if more than 40% of countries have missing information or have information included in other columns.

For some indicators, an **average** is presented. The average corresponds to the arithmetic mean of the estimates included in the table or figure.

Classification of levels of education

The classification of levels of education is based on the International Standard Classification of Education (ISCED). ISCED is an instrument for compiling statistics on education internationally. ISCED-97 was revised, and the new International Standard Classification of Education (ISCED 2011) was formally adopted in November 2011 and is now the basis of the levels presented in this publication, with the exception of tables showing data from the Survey of Adult Skills (PIAAC), which uses the previous ISCED-97 classification.

Table B lists the ISCED 2011 levels used in the publication (OECD/Eurostat/UNESCO Institute for Statistics, 2015[3]).

In some indicators, intermediate programmes are also used. These correspond to recognised qualifications from ISCED 2011 level programmes which are not considered as sufficient for ISCED 2011 completion and are classified at a lower ISCED 2011 level.

The ISCED classification also allows for the analysis of complementary dimensions of programmes, such as their orientation and direct access to higher education levels (Table C). Programme orientation, defined by the second digit of the ISCED code, can be either general or vocational at ISCED levels 2 to 5. Vocational education and training (VET), the focus of this year's publication, is most often offered from lower secondary to short-cycle tertiary level. Vocational programmes prepare students for skilled worker and/or technician-level jobs. They may also include second chance or re-integration programmes which either review material already covered in upper secondary programmes or provide opportunities for young people to change streams. The ISCED 2011 classification also allows for tertiary-level programmes (5 to 8) to be coded into academic or professional orientations. However, in the absence of internationally agreed definitions on these categories for tertiary education, the category "unspecified" is often used in international statistics at levels 6 to 8.

ISCED 2011 introduces a complementary dimension: completion of an ISCED level and direct access to higher levels of education, which is represented by the third digit of the ISCED code (Table C). In the publication, this dimension is used to analyse pathways from upper secondary vocational programmes to higher levels. For

example, ISCED 354 is an upper secondary vocational programme that provides direct access to tertiary education while ISCED 353 does not.

Fields of education and training

Within ISCED, programmes and related qualifications can be classified by fields of education and training as well as by levels. Following the adoption of ISCED 2011, a separate review and global consultation process took place on the ISCED fields of education. The ISCED fields were revised, and the UNESCO General Conference adopted the ISCED 2013 Fields of Education and Training classification (ISCED-F 2013) (UIS, 2014[4]) in November 2013 at its 37th session. The broad ISCED-F fields considered in this publication are education; arts and humanities; social sciences, journalism and information; business, administration and law; natural sciences, mathematics and statistics; information and communication technologies (ICT); engineering, manufacturing and construction; and health and welfare. Throughout this publication, the term "field of study" is used to refer to the different fields of this classification.

Table B. Education levels under the ISCED 2011 classification

Terms used in this publication	ISCED classification
Early childhood education Refers to early childhood programmes that have an intentional education component and aim to develop cognitive, physical and socio-emotional skills necessary for participation in school and society. Programmes at this level are often differentiated by age.	ISCED 0 (sub-categories: 01 for early childhood educational development and 02 for pre-primary education)
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. Typical duration: 6 years.	ISCED 1
Lower secondary education Completes provision of basic education, usually in a more subject-oriented way with more specialist teachers. Programmes may differ by orientation, general or vocational, though this is less common than at upper secondary level. Entry follows completion of primary education and typical duration is 3 years. In some countries, the end of this level marks the end of compulsory education.	ISCED 2
Upper secondary education Stronger specialisation than at lower secondary level. Programmes offered are differentiated by orientation: general or vocational. Typical duration is 3 years.	ISCED 3
Post-secondary non-tertiary education Serves to broaden rather than deepen the knowledge, skills and competencies gained in upper secondary level. Programmes may be designed to increase options for participants in the labour market, for further studies at tertiary level, or both. Usually, programmes at this level are vocationally oriented.	ISCED 4
Short-cycle tertiary education Often designed to provide participants with professional knowledge, skills and competencies. Typically, they are practically based, occupation-specific and prepare students to enter the labour market directly. They may also provide a pathway to other tertiary education programmes (ISCED levels 6 or 7). The minimum duration is 2 years.	ISCED 5
Bachelor's or equivalent level Designed to provide participants with intermediate academic and/or professional knowledge, skills and competencies, leading to a first degree or equivalent qualification. Typical duration: 3-4 years full-time study. This level is referred to as "bachelor's" in the publication.	ISCED 6
Master's or equivalent level Stronger specialisation and more complex content than bachelor's level. Designed to provide participants with advanced academic and/or professional knowledge. May have a substantial research component. Programmes of at least five years' duration preparing for a long first degree/qualification are included at this level if they are equivalent to a master's level programmes in terms of their complexity and content. This level is referred to as "master's" in the publication.	ISCED 7
Doctoral or equivalent level Designed to lead to an advanced research qualification. Programmes at this level are devoted to advanced study and original research, and exist in both academic and professional fields. This level is referred as "doctoral" in the publication.	ISCED 8

Table C. Complementary dimensions in the ISCED 2011 classification

Orientation – second-digit ISCED code		ISCED levels applied to
4	General education	2 to 5
5	Vocational education	
4	Academic education	5 to 8
5	Professional education	5 to 8
6	Unspecified education	6 to 8
Completion and access – third-digit ISCED code		
4	Sufficient for completion of the level with direct access to a higher ISCED level	2 to 8
3	Sufficient for completion of the level without direct access to the higher ISCED level	2 to 4
2	Partial completion of the level without direct access to the higher ISCED level	2 or 3
1	Insufficient for completion of the level without direct access to the higher ISCED level	2 to 8

Note: In the absence of internationally agreed definitions for academic and professional orientations at the tertiary level, "general" or "vocational" will be used at ISCED 2011 levels 2 to 5, and "unspecified orientation" may be used at ISCED 2011 levels 6 to 8.
Source: OECD/Eurostat/UNESCO Institute for Statistics (2015[3]), *ISCED 2011 Operational Manual: Guidelines for Classifying National Education Programmes and Related Qualifications*, http://dx.doi.org/10.1787/9789264228368-en.

Standard error (S.E.)

The statistical estimates presented in this report are based on samples of adults, rather than values that could be calculated if every person in the target population in every country had answered every question. Therefore, each estimate has a degree of uncertainty associated with sampling and measurement error, which can be expressed as a standard error. The use of confidence intervals is a way to make inferences about the population means and proportions in a manner that reflects the uncertainty associated with the sample estimates. In this report, confidence intervals are stated at a 95% level. In other words, the result for the corresponding population would lie within the confidence interval in 95 out of 100 replications of the measurement on different samples drawn from the same population.

In tables showing standard errors, the column with the heading "%" indicates the average percentage, and the column with the heading "S.E." indicates the standard error. Given the survey method, there is a sampling uncertainty in the percentages (%) of twice the standard error (S.E.). For example, for the values % = 10 and S.E. = 2.6, 10% has an uncertainty zone of twice (1.96) the standard error of 2.6, assuming an error risk of 5%. Thus, the true percentage would probably (error risk of 5%) be somewhere between 5% and 15% ("confidence interval"). The confidence interval is calculated as: % +/– 1.96 * S.E., i.e. for the previous example, 5% = 10% – 1.96 * 2.6 and 15% = 10% + 1.96 * 2.6.

Symbols for missing data and abbreviations

These symbols and abbreviations are used in the tables and figures:

a Data are not applicable because the category does not apply.

b There is a break in the series (for example when data for the latest year refer to ISCED 2011 and data for previous years refer to ISCED-97).

c There are too few observations to provide reliable estimates.

d Includes data from another category.

m Data are not available – either missing or the indicator could not be computed due to low respondent numbers.

r Values are below a certain reliability threshold and should be interpreted with caution.

q Data have been withdrawn at the request of the country concerned.

x Data included in another category or column of the table (e.g. x(2) means that data are included in Column 2 of the table).

The statistical software used in the computation of indicators in this publication may result in slightly different values past the fourth significant digit after the decimal point when compared to national statistics.

Further resources

The website http://www.oecd.org/education/education-at-a-glance/ provides information on the methods used to calculate the indicators, on the interpretation of the indicators in the respective national contexts, and on the data sources involved. The website also provides access to the data underlying the indicators and to a comprehensive glossary for technical terms used in this publication.

All post-production changes to this publication are listed at www.oecd.org/publishing/corrigenda (corrections) and http://dx.doi.org/10.1787/eag-data-en (updates).

Education at a Glance uses the OECD's *StatLinks* service. Below each table and figure in *Education at Glance 2020* is a URL that leads to a corresponding Excel file containing the underlying data for the indicator. These URLs are stable and will not change. In addition, readers of the *Education at a Glance* e-book will be able to click directly on these links and the workbook will open in a separate window.

The Education at a Glance Database on OECD.stat (http://stats.oecd.org/) houses the raw data and indicators presented in *Education at a Glance*, as well as the metadata that provides context and explanations for countries' data. The Education at a Glance Database allows users to break down data in more ways than is possible in this publication in order to conduct their own analyses of education systems in participating countries. The Education at a Glance Database can be accessed from the OECD.stat site under the heading "Education and Training".

Layout of tables

In all tables, the numbers in parentheses at the top of the columns are simply used for reference. When a consecutive number does not appear, that column is only available on line.

Abbreviations used in this report

AES	Adult Education Survey
CPD	Continuing professional development
CVTS	Continuing Vocational Training Survey
ECEC	Early childhood education and care
EEA	European Economic Area
ESS	European Social Survey
GDP	Gross domestic product
ICT	Information and communication technologies
ISCED	International Standard Classification of Education

LFD	Master's long first degree
NEET	Neither employed nor in education or training
NPV	Net present value
PIAAC	Survey of Adult Skills
PISA	Programme for International Student Assessment
PPP	Purchasing power parity
R&D	Research and development
S.E.	Standard error
STEM	Science, technology, engineering and mathematics
TALIS	Teaching and Learning International Survey
UIS	UNESCO Institute of Statistics
UOE	Refers to the data collection managed by the three organisations, UNESCO, OECD, Eurostat
VET	Vocational education and training

References

OECD (2020), *OECD Regional Statistics Database*, http://stats.oecd.org/Index.aspx?DataSetCode=REGION_DEMOGR. [2]

OECD (2018), *OECD Handbook for Internationally Comparative Education Statistics: Concepts, Standards, Definitions and Classifications*, OECD Publishing, Paris, https://doi.org/10.1787/9789264304444-en. [1]

OECD/Eurostat/UNESCO Institute for Statistics (2015), *ISCED 2011 Operational Manual: Guidelines for Classifying National Education Programmes and Related Qualifications*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264228368-en. [3]

UIS (2014), *ISCED Fields of Education and Training 2013 (ISCED-F 2013): Manual to Accompany the International Standard Classificiation of Education 2011*, UNESCO Institute for Statistics, Montreal, http://dx.doi.org/10.15220/978-92-9189-150-4-en. [4]

Notes

[1] On 15 May 2020, the OECD Council invited Costa Rica to become a Member. While Costa Rica is included in the OECD zone aggregates reported in this publication, at the time of its preparation, the deposit of Costa Rica's instrument of accession to the OECD Convention was pending.

[2] See Note 1.

[3] See Note 1.

Executive summary

The employment advantage of an upper secondary vocational qualification over a general one tends to weaken over the life-course

Although the provision of formal vocational education and training (VET) can extend from lower secondary to short-cycle tertiary level, more than two-thirds of VET students are enrolled at upper secondary level. In some countries, where vocational education is more common, adults with VET qualifications enjoy high employment rates. However, the employment advantage of a vocational qualification tends to weaken over the life-course. On average across OECD countries, the employment rate of 25-34 year-old adults with an upper secondary or post-secondary non-tertiary vocational qualification (82%) is similar to that among 45-54 year-olds (83%), whereas employment increases from 73% to 80% among those with a general qualification. In contrast, the employment advantage for tertiary-educated adults widens among older age groups. Earnings are also lower: while adults with an upper secondary vocational qualification have similar earnings to those with a general one, they earn 34% less than tertiary-educated adults on average across OECD countries. Poorer labour-market prospects may have contributed to the decline in the share of adults with an upper secondary vocational qualification across the generations: 21% of 25-34 year-olds held such a qualification in 2019 compared to 26% of 45-54 year-olds on average. In contrast, the share of tertiary-educated adults has risen from 35% among the older generation to 45% among young adults.

Combined school- and work-based learning is relatively uncommon despite the benefits

The countries with strong integrated school- and work-based learning vocational programmes are also those with the highest employment rates for adults with vocational qualifications, even surpassing those for tertiary-educated adults in some cases. However, only one-third of all upper secondary vocational students are enrolled in such programmes on average across OECD countries. The duration of the work-based component varies across countries, from less than 30% of the length of the programme in Estonia and Israel to at least 80% in Austria, Finland and Switzerland. The most popular fields of study among vocational graduates vary at different levels of education. While engineering, manufacturing and construction is the most common broad field at upper secondary level, at short-cycle tertiary level, most students graduate from business, administration and law, or health and welfare.

Enabling VET students to pursue tertiary studies can improve their learning and employment outcomes

Around two-thirds of OECD countries have introduced pathways for vocational upper secondary students to continue their education at the tertiary level. On average across OECD countries, almost 7 out of 10 upper secondary vocational students are enrolled in programmes that provide direct access to tertiary education after completion. Better prospects for further education may encourage students to complete their upper secondary vocational qualification. Although the share of vocational upper secondary students who complete their programmes within the theoretical duration plus two years (70%) is lower than for general ones (86%), vocational students are more likely to complete their qualification if their programme provides direct access to tertiary

education than if it does not. The most common direct route from upper secondary vocational programmes to tertiary education is through short-cycle tertiary programmes, which are predominantly vocational in most OECD countries, but also through bachelor's programmes or equivalent. On average across OECD countries, 17% of first-time tertiary entrants enter short-cycle tertiary programmes. The employment rate of adults with a short-cycle tertiary degree is 4 percentage points higher than those with an upper secondary vocational attainment and they earn 16% more on average across OECD countries.

Vocational programmes are often designed to allow older students who wish to develop new skills to re-enter education later in life. While 37% of 15-19 year-old upper secondary students are in vocational programmes, the share increases to 61% among students over 25. Similarly, first-time entrants to short-cycle tertiary education also tend to be older than entrants to long-cycle tertiary programmes (bachelor's or master's long first degrees).

Total spending on educational institutions has increased at a lower rate than GDP

In 2017, total expenditure amounted to approximately USD 9 100 per student in primary institutions and USD 10 500 in secondary institutions on average across OECD countries. Programme orientation influences the level of spending: at upper secondary level, vocational programmes cost around USD 1 500 more per student than general ones on average, as they tend to require more sophisticated equipment and facilities, and training in the workplace can incur additional costs. At the tertiary level, total spending amounted to USD 16 300 per student in 2017 on average across OECD countries. At this level, 68% of total spending comes from public sources compared to 90% at lower levels of education. The largest share is devoted to staff compensation, which accounts for 77% of expenditure at pre-tertiary level, and 67% at tertiary level. After increasing between 2005 and 2012, total expenditure on primary to tertiary institutions as a share of gross domestic product (GDP) has fallen to 4.9% in 2017 on average, below its 2005 value of 5.1%. This is due to educational expenditure rising more slowly than GDP over this period, growing by 17% while GDP grew by 27%.

Instruction and teaching time have remained relatively stable over time

In 2019, compulsory instruction time was 804 hours per year on average at primary level and 922 hours at lower secondary level. This has remained relatively stable since 2014, with changes exceeding 5% in only a few countries. While instruction time for students increases at higher educational levels, statutory teaching time in public institutions decreases: teachers in OECD countries and economies are required to teach on average 778 hours per year at primary level compared to 680 hours at upper secondary level (general programmes). Since 2015, the number of teaching hours per year declined by about 2% at both primary and lower secondary education. Between 2000 and 2019, on average across OECD countries and economies with available data, the statutory salaries of primary and secondary general teachers – with 15 years of experience and the most prevalent qualifications – increased by 2-3%, despite salaries falling after the 2008 economic crisis. However, among countries with available data for all reference years, salaries have remained about constant since 2015.

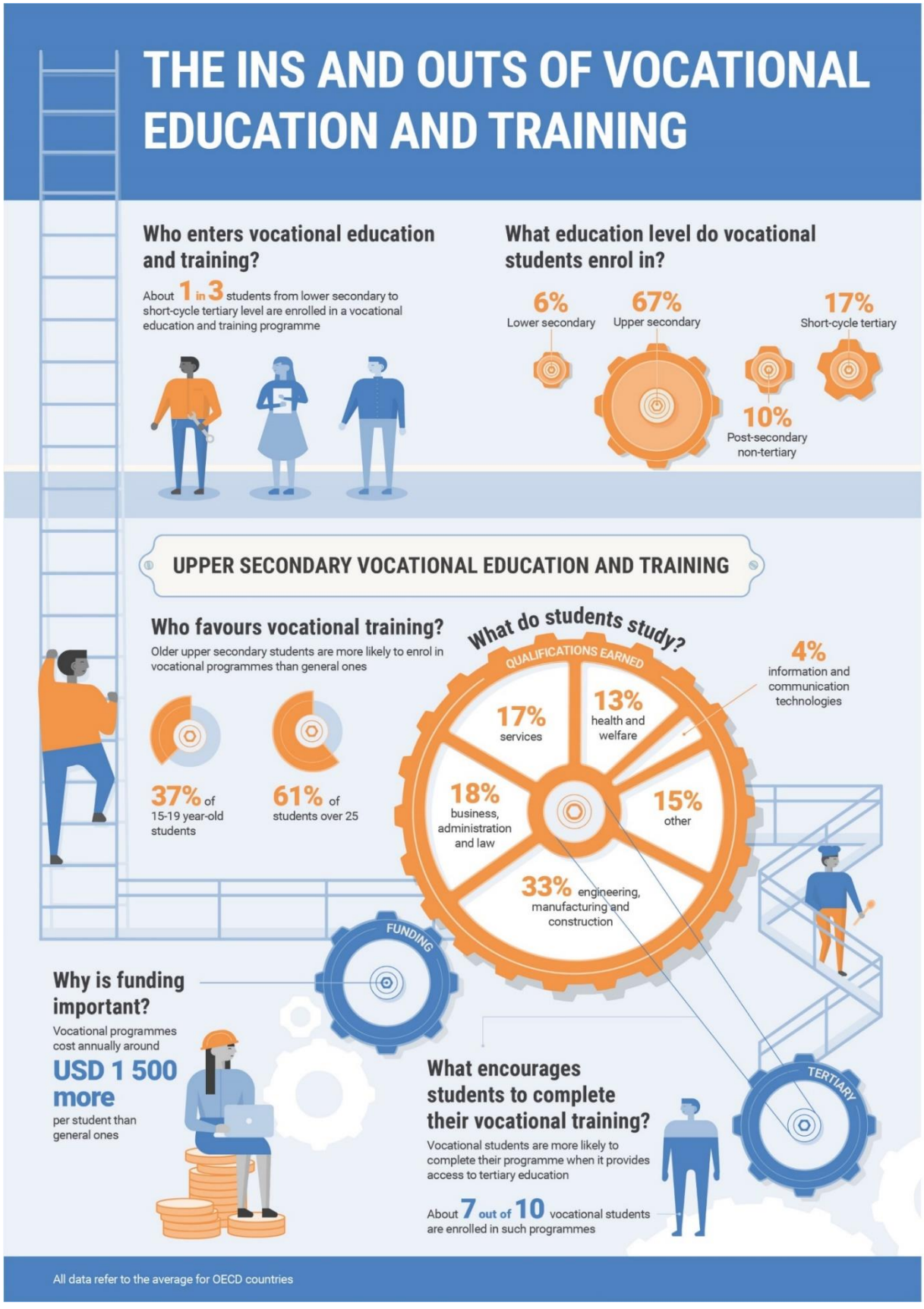
Other findings

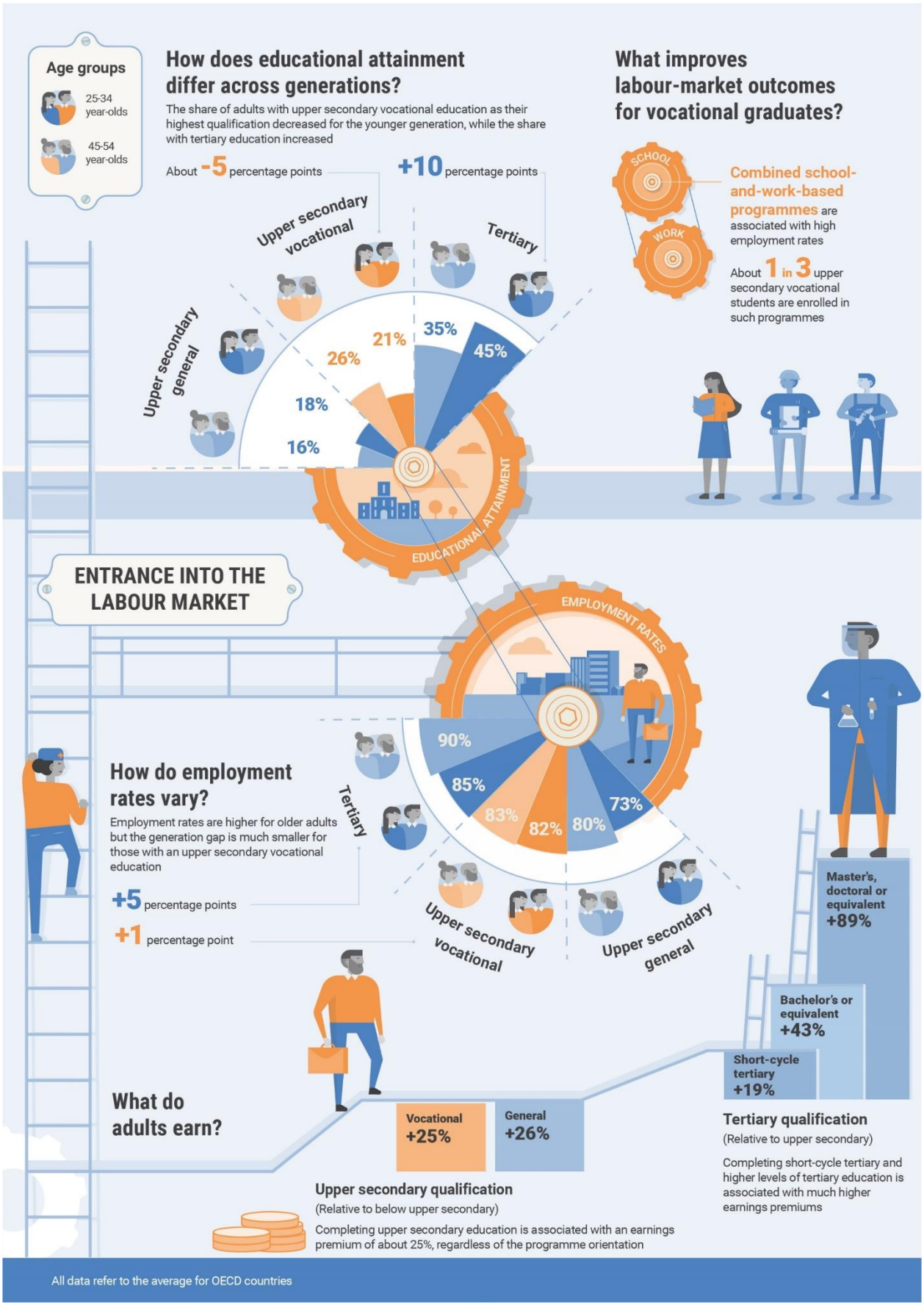
On average across OECD countries in 2018, 26% of children under 3 were enrolled in early childhood education and care (ISCED 0).

The number of international and foreign tertiary students has grown on average by 4.8% per year between 1998 and 2018. Although OECD countries host the great majority of international and foreign students, the fastest growth has been among internationally mobile students enrolled in non-OECD countries.

An upper secondary qualification still offers good protection against unemployment. On average across OECD countries, 61% of 25-34 year-olds without upper secondary education are employed, compared with 78% of those with upper secondary or post-secondary non-tertiary education as their highest attainment.

Infographic 1. The Ins and Outs of Vocational Education and Training




Age groups
25-34 year-olds
45-54 year-olds
How does educational attainment differ across generations?
The share of adults with upper secondary vocational education as their highest qualification decreased for the younger generation, while the share with tertiary education increased
About -5 percentage points
+10 percentage points
Upper secondary vocational
Tertiary
Upper secondary general
21%
35%
26%
45%
18%
16%
EDUCATIONAL ATTAINMENT
What improves labour-market outcomes for vocational graduates?
SCHOOL
WORK
Combined school-and-work-based programmes are associated with high employment rates
About 1 in 3 upper secondary vocational students are enrolled in such programmes
ENTRANCE INTO THE LABOUR MARKET
EMPLOYMENT RATES
90%
85%
83%
82%
80%
73%
How do employment rates vary?
Employment rates are higher for older adults but the generation gap is much smaller for those with an upper secondary vocational education
+5 percentage points
+1 percentage point
Tertiary
Upper secondary vocational
Upper secondary general
What do adults earn?
Vocational +25%
General +26%
Upper secondary qualification
(Relative to below upper secondary)
Completing upper secondary education is associated with an earnings premium of about 25%, regardless of the programme orientation
Master's, doctoral or equivalent +89%
Bachelor's or equivalent +43%
Short-cycle tertiary +19%
Tertiary qualification
(Relative to upper secondary)
Completing short-cycle tertiary and higher levels of tertiary education is associated with much higher earnings premiums
All data refer to the average for OECD countries

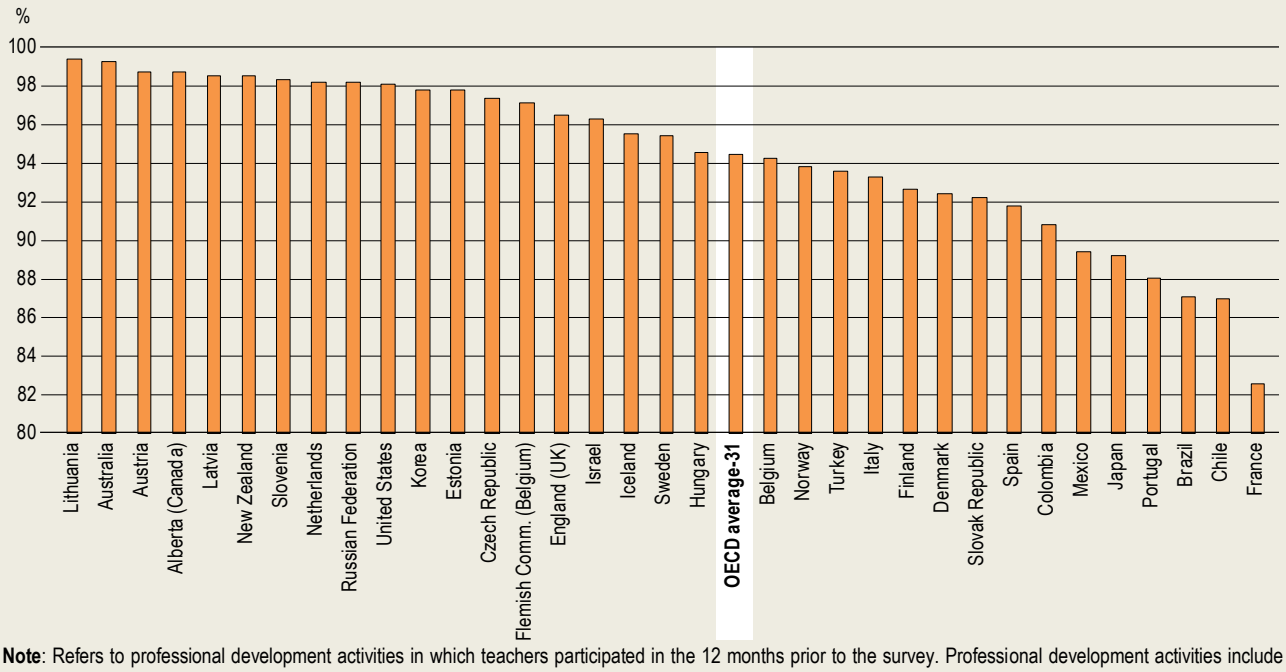
Youth in the Education Sustainable Development Goal

Highlights

- Teaching resources, student outcomes, educational attainment and access to the labour market are all emphasised in the agenda for the fourth Sustainable Development Goal on Education (SDG 4), which aims to ensure access, quality and equity in education.
- On average across OECD countries, lower secondary teachers (aged 25-64) in general programmes earn 89% of the actual salaries of other tertiary-educated workers. There is, however, significant variation between countries and by gender (Indicator D3, used as a proxy for SDG Indicator 4.c.5).
- In over half of the countries with available data, at least 95% of lower secondary teachers report having participated in professional development activities over the past year (SDG Indicator 4.c.7). The format and content of continuous professional development activities for teachers vary significantly across countries, however.

Figure 1. Percentage of lower secondary teachers who participated in professional development activities (2018)

SDG Indicator 4.c.7



Note: Refers to professional development activities in which teachers participated in the 12 months prior to the survey. Professional development activities include "Courses/seminars attended in person", "Online courses/seminars", "Education conferences where teachers and/or researchers present their research or discuss educational issues", "Formal qualification programme (e.g. degree programme)", "Observation visits to other schools", "Observation visits to business premises, public organisations or non-governmental organisations", "Peer and/or self-observation and coaching as part of a formal school arrangement", "Participation in a network of teachers formed specifically for the professional development of teachers", "Reading professional literature" or any other activity ("Other").

Countries and economies are ranked in descending order of the percentage of teachers who participated in professional development activities in the 12 months prior to the survey.

Source: OECD, TALIS 2018 Database, Table I.5.1. See *Source* section for more information (https://doi.org/10.1787/69096873-en).

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Context

In 2015, at the United Nations General Assembly, member states renewed their commitment to global development by adopting the 2030 Agenda for Sustainable Development. The Agenda is divided into 17 Sustainable Development Goals (SDGs), and constitutes a universal call for action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity. The fourth Sustainable Development Goal (SDG 4) is dedicated to education and aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities" by 2030 (UNESCO, 2016[1]).

Unlike previous global targets, like the Millennium Development Goals, SDG 4 places a focus on the *quality* of education, with indicators related to teacher training and student outcomes, alongside more traditional measures of *quantity*, such as access and participation. It also emphasises the importance of learning at all stages of life, by investigating education at all levels (from early childhood education and care to tertiary education) and adult learning. For this edition of *Education at a Glance*, the SDG chapter will focus on secondary education, which is considered a crucial step for continuing to further education and for successful entry in the labour market (see Indicators A3 and A4). This chapter builds on a selection of SDG 4 indicators to investigate the quality of and participation in secondary education, looking at aspects such as teaching resources in lower secondary education, student outcomes, and the link between upper secondary attainment and access to the labour market.

Other findings

- Student performance in reading varies significantly across countries. For instance, while over 85% of students in Canada, Estonia, Finland and Ireland who took part in the Programme for International Student Assessment (PISA) attained Level 2 or above, only half of the students in Brazil and Colombia attained this level (SDG Indicator 4.1.1.c).
- In all countries and economies that participated in PISA 2018, girls scored significantly higher than boys in reading, a gap of 30 points on average across OECD countries (SDG Indicator 4.1.1.c).
- On average across OECD countries, less than 3% of youth are out of school in primary and lower secondary education, but this share rises to 8% at upper secondary level (SDG Indicator 4.1.5).
- On average across OECD countries, 17% of 15-24 year-olds are enrolled in vocational education (at the secondary, post-secondary non-tertiary and short-cycle tertiary levels combined). Most of them are enrolled at secondary level (SDG Indicator 4.3.3).

Analysis

SDG 4 and its associated targets set an ambitious agenda that encompasses access, participation, quality and equity in education, at all levels of education. The analysis below focuses on secondary education, and builds on selected SDG 4 indicators to investigate teaching resources in lower secondary education, student outcomes, and the relationship between upper secondary attainment and access to the labour market.

Teaching resources in lower secondary education

Teachers are often at the centre of initiatives to improve the quality of education, as their work can shape the quality of instruction and student learning outcomes (Darling-Hammond, 2017[2]) (OECD, 2018[3]). The SDG agenda dedicates an entire target (SDG 4.c) to teachers, with indicators that help monitor issues such as the attractiveness of the teaching profession, the supply of qualified and trained teachers, and teachers' professional development.

How attractive are teacher salaries?

Together with the intrinsic benefits of teaching, working conditions (such as working hours or salaries), can be crucial to attracting and retaining effective teachers. One way the SDG agenda investigates the attractiveness of the teaching profession is through SDG Indicator 4.c.5, which is defined as the average teacher salary relative to other professions requiring a comparable level of qualification. Due to the lack of an internationally agreed methodology, this indicator has not yet been approved for monitoring. Nonetheless, Indicator D3, which investigates the same question, helps shed light on teachers' relative salaries.

On average across OECD countries, lower secondary teachers (aged 25-64) in general programmes only earn 89% of the actual salaries of other tertiary-educated workers. Relative salaries vary significantly across countries, however. For instance, while teachers earn around 65% of the actual salaries of other tertiary-educated workers in the Czech Republic and the United States, they earn at least 30% more in Costa Rica, Lithuania and Portugal. To try and capture relative salaries, it is also important to investigate gender differences, which tend to be significant in most countries. On average across OECD countries, while lower secondary male teachers earn 77% of the salaries of other tertiary-educated full-time male workers, female teachers earn slightly more than their counterparts in other professions. This higher earnings ratio among female teachers may make the teaching profession more attractive to women, but it also reflects the persistent gender wage gap in favour of men in the labour market.

How many teachers are available?

One way to monitor the supply of teachers is through the ratio of students to teaching staff. The SDG agenda attempts to capture this issue with an emphasis on teaching quality, by dedicating an indicator (SDG Indicator 4.c.2) to the ratio of students to trained teachers. In the SDG context, trained teachers are defined as teachers who have received at least the minimum organised pre-service and in-service pedagogical teacher training required for teaching at the relevant level in a given country. In the absence of a common standard for teacher training, Indicator D2 (which takes all teachers into account), can help shed light on teacher supply. On average across OECD countries, there are 13 students per teacher in lower secondary education. This ratio varies significantly across countries, however, ranging from 8 students per teacher in Austria, Greece and Lithuania to 33 students per teacher in Mexico.

What share of teachers participate in professional development activities?

While initial teacher education provides the foundations, continuous professional development provides a means to improve the quality of the teaching workforce and to retain effective staff over time. The SDG agenda investigates teachers' professional development through SDG Indicator 4.c.7, which measures the percentage of teachers who received in-service training in the last 12 months by type of training. Data from the OECD Teaching and Learning International Survey (TALIS) 2018 can help monitor this measure. As shown in Figure 1, in over half of the countries and economies with available data, at least 95% of lower secondary teachers declared they had participated in professional development activities over the past year. Although there is variation across countries – with values ranging from 83% in France to 99% in Alberta (Canada), Australia, Austria, Latvia and Lithuania – these results show that professional development has become a crucial part of teachers' career paths (OECD, 2019[4]). Participation in teacher training, however, does not always mean the same thing.

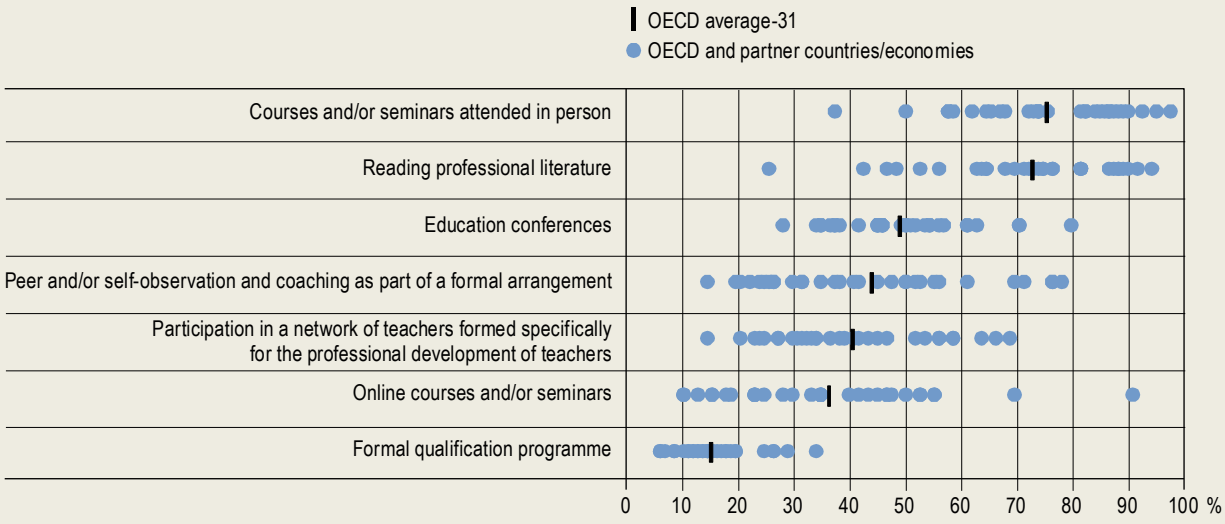
Box 1 discusses some of the differences in the format and content of lower secondary teachers' training within TALIS-participating countries.

Box 1. Teacher professional development, by type of training and content

Teacher professional development can take different forms, from informal activities (e.g. networking, within-school peer collaboration and reading professional literature) to formal activities (e.g. workshops, conferences and formal qualification programmes). On average across OECD countries, as many as 76% of lower secondary teachers declared they had attended courses or seminars in person over the past year, 72% had read professional literature, and 49% had participated in education conferences where teachers, principals and/or researchers present their research or discuss educational issues (Figure 2).

The forms teachers' professional development take vary significantly across countries. For instance, while at least 90% of teachers participate in courses/seminars in person in Australia, Austria, Latvia, Lithuania and Slovenia, only 50% or less do so in France and Japan. Similarly, at least 70% of teachers in Alberta (Canada), Latvia and the Russian Federation attend education conferences, compared to less than 30% of teachers in the Czech Republic and the Slovak Republic (Figure 2).

Figure 2. Percentage of lower secondary teachers who participated in the following types of professional development (2018)



Note: The following countries/economies are included: Alberta (Canada), Australia, Austria, Belgium, the Flemish Community of Belgium, Brazil, Chile, Colombia, the Czech Republic, Denmark, England (United Kingdom), Estonia, Finland, France, Hungary, Iceland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Mexico, the Netherlands, New Zealand, Norway, Portugal, the Russian Federation, the Slovak Republic, Slovenia, Spain, Sweden, Turkey and the United States.
Data for additional types of professional development are available in the TALIS 2018 Database, Table I.5.7.
The types of professional development programmes are ranked from highest to lowest according to the share of lower secondary teachers participating in them, on average across OECD countries participating in TALIS.
Source: OECD, TALIS 2018 Database, Table I.5.7. See *Source* section for more information (https://doi.org/10.1787/69096873-en).

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In terms of content, on average across OECD countries, a large share of teachers report participating in professional development activities related to the "knowledge and understanding of my subject field(s)" (76%) and the "pedagogical competencies in teaching my subject field(s)" (73%). This may reflect the fact that teacher training is often linked with large-scale educational reforms leading to changes in subject and pedagogical content (Little, 1993[5]; Kennedy, 2014[6]; Avalos, 2011[7]). In contrast, teachers were less likely (around 20%) to participate in training activities about "school management and administration", "teaching in a multicultural or multilingual setting" and "communicating with people from

different cultures or countries". As with the forms of teacher training, there is also variation across countries in the content of training. For instance, while less than 60% of teachers participated in training related to the "knowledge and understanding of my subject field(s)" in France and Sweden, this proportion exceeds 90% in Korea and Latvia (Figure 3). This cross-country variation may reflect, in part, the type of initial training received by teachers. For instance, in France, teachers' initial training strongly emphasises field-specific knowledge, and a below-average share of lower secondary teachers report needing training in this area (OECD, 2019[4]).

Figure 3. Percentage of lower secondary teachers who participated in professional development in the following areas (2018)



Note: The following countries/economies are included: Alberta (Canada), Australia, Austria, Belgium, the Flemish Community of Belgium, Brazil, Chile, Colombia, the Czech Republic, Denmark, England (United Kingdom), Estonia, Finland, France, Hungary, Iceland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Mexico, the Netherlands, New Zealand, Norway, Portugal, the Russian Federation, the Slovak Republic, Slovenia, Spain, Sweden, Turkey and the United States.
Data for additional types of professional development are available in the TALIS 2018 Database, Table I.5.18.
Areas of professional development are ranked from highest to lowest according to the share of lower secondary teachers participating in them, on average across OECD countries participating in TALIS.
Source: OECD, TALIS 2018 Database, Tables I.5.18. See *Source* section for more information (https://doi.org/10.1787/69096873-en).

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Student learning outcomes at age 15

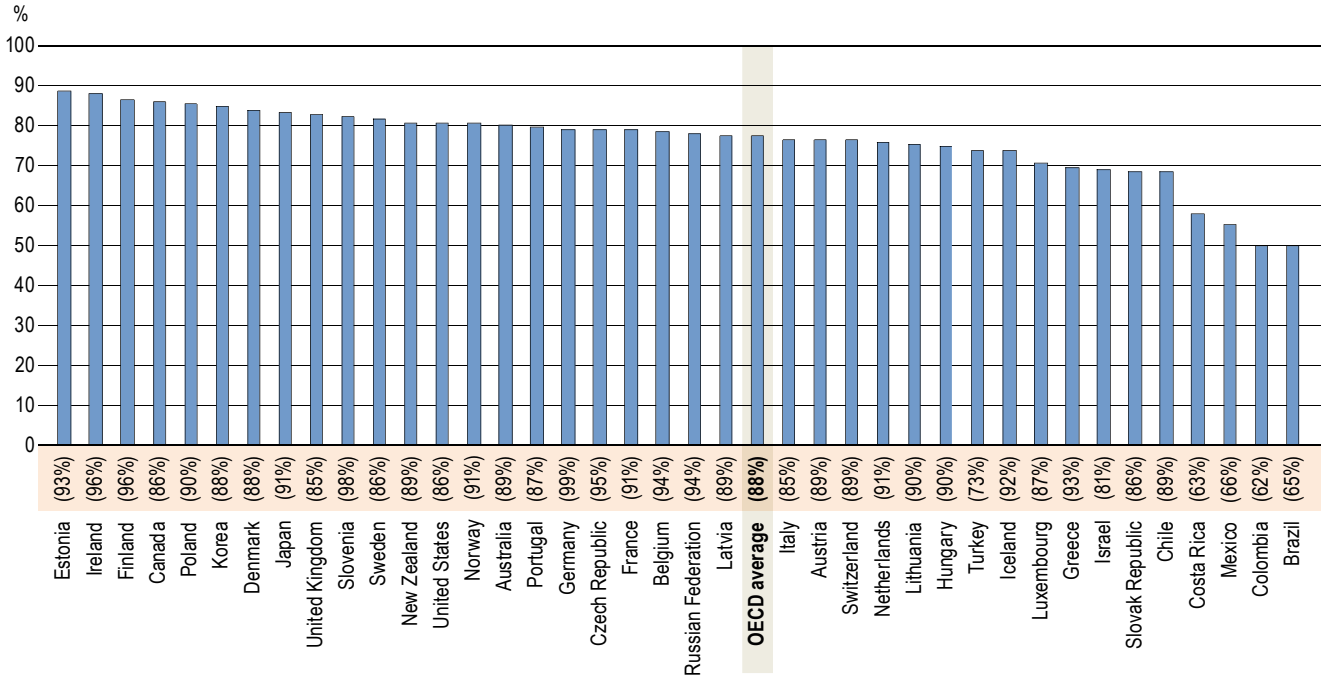
The way teaching is organised and delivered, together with other factors such as class sizes or the human and financial resources available in schools, can have a strong impact on student learning outcomes. The Programme for International

Student Assessment (PISA) measures the performance of 15-year-olds, who are enrolled in either lower secondary or upper secondary education. As such, it helps monitor SDG Indicator 4.1.1.c, which measures the proportion of youth at the end of lower secondary education who achieve at least a minimum proficiency level (i.e. Level 2 or above in the PISA context) in reading and mathematics.

As shown in Figure 4, student performance in reading varies significantly across countries. For instance, the vast majority of students (over 85%) attained Level 2 or above in Canada, Estonia, Finland and Ireland, while only half of the students attained this level in Brazil and Colombia. It is important, however, to look beyond national averages and examine results by gender. In all countries and economies that participated in PISA 2018, girls scored significantly higher than boys in reading, by 30 points more on average across OECD countries. Finland had the widest gender gap (over 50 points), while the narrowest gaps (under 20 points) were in Chile, Colombia and Mexico. These gender disparities in achievement raise concerns, as they may have long-term consequences for boys' and girls' academic and professional lives (OECD, 2019[8]).

Figure 4. Percentage of 15-year-old students at Level 2 or above in the PISA reading assessment (2018)

SDG Indicator 4.1.1



Note: The percentage in parentheses refers to the proportion of 15-year-olds in each country/economy who were covered by the PISA sample (Coverage Index 3). The OECD average does not include Costa Rica.

Countries are ranked in descending order of the percentage of 15-year-old students who performed at or above Level 2.

Source: OECD, PISA 2018 Database, Tables I.B1.1 and I.A2.1. See *Source* section for more information (https://doi.org/10.1787/69096873-en).

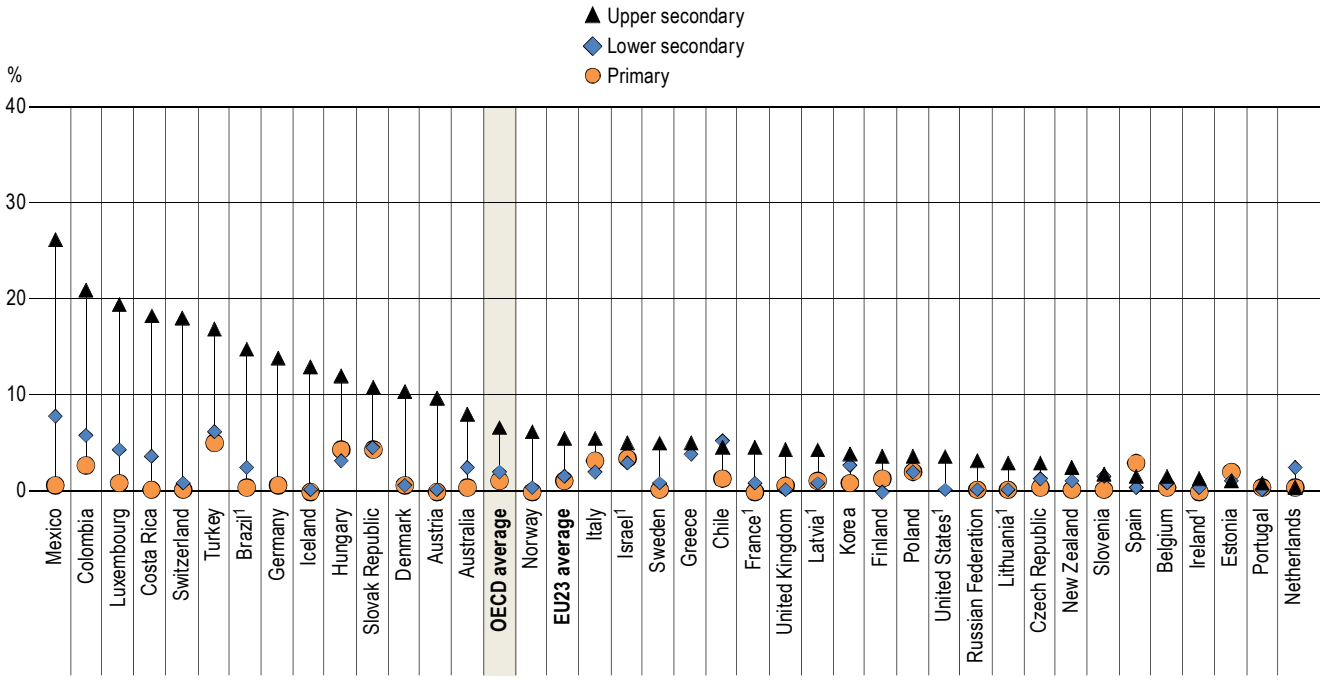
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Participation in upper secondary education and potential impact on labour-market outcomes

Ensuring that all young people have the opportunity to succeed at school is key, as poor outcomes may translate into difficulties in accessing further education and the labour market (OECD, 2019[8]). One way to capture access to education is by measuring the out-of-school rate, which is defined as the percentage of children in the official age range for a given level of education who are not enrolled in school (SDG Indicator 4.1.5). On average across OECD countries, less than 3% of youth are out of school in primary and lower secondary education, but this share rises to 8% at the upper secondary level. This increase is particularly striking in Colombia and Mexico, where over 20% of youth are out of upper secondary education, compared to less than 3% at primary level (Figure 5).

Figure 5. Out-of-school rate, by level of education (2018)

SDG Indicator 4.1.5



1. The source for population data is the UOE data collection for demographic data (Eurostat/DEM) instead of the United Nations Population Division (UNPD).

Countries are ranked in descending order of the out-of-school rate in upper secondary education.

Source: OECD (2020). The official data sources for this indicator are the UOE data collection for enrolment data and the United Nations Population Division (UNPD) for population data. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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One of the ways governments have attempted to increase upper secondary completion and facilitate young people's entry into the labour market is through the development of vocational programmes. The SDG agenda monitors vocational education through Indicator 4.3.3, which measures the participation rate in technical and vocational programmes among 15-24 year-olds in formal education, work-based or in other settings. As shown in Figure 6, on average across OECD countries, 17% of 15-24 year-olds are enrolled in vocational education at the secondary, post-secondary non-tertiary and short-cycle tertiary levels combined. In almost all countries, the majority of students in vocational programmes are enrolled at the secondary level. The exceptions include countries such as Chile, Korea and the Russian Federation, where most students in vocational programmes are enrolled in short-cycle tertiary programmes. When analysing SDG Indicator 4.3.3, it is important to note that the broad age range (15 to 24) may lead to an underestimation of vocational enrolments in countries where vocational programmes are mainly attended by students from narrow age groups.

Increasing upper secondary attainment requires ensuring students can both access programmes and complete them. On average across countries with available true cohort data[1], 72% of students who entered upper secondary education graduated within the theoretical duration of the programme in which they were enrolled. However, completion of upper secondary education can be particularly challenging for students in vocational programmes. On average across countries with true cohort data, the completion rate for vocational programmes within the theoretical duration is 62%, compared to 76% for general programmes (Indicator B3). This gap raises equity concerns, as disadvantaged students are almost three times more likely to be enrolled in a vocational track than advantaged students (OECD, 2016[9]).

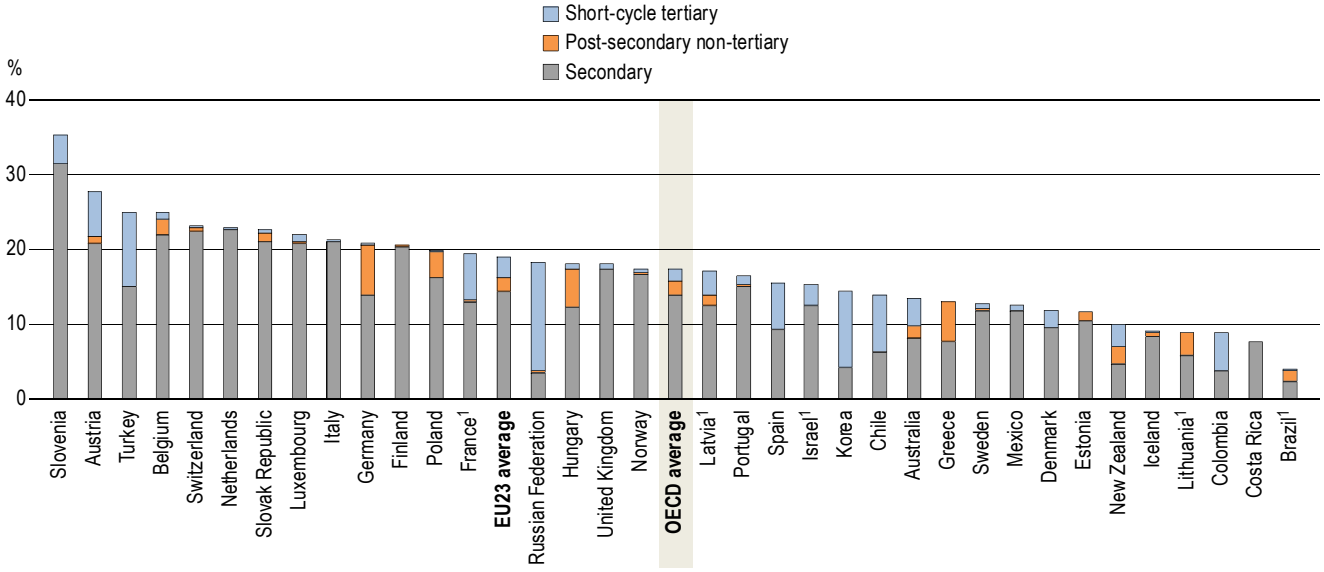
Young people who leave school before completing upper secondary education tend to face challenges in the labour market, including worse employment prospects. For instance, those who have not attained upper secondary education are more likely to be neither employed nor in education or training (NEET). On average across OECD countries, as many as 39% of 25-to-29 year-olds without upper secondary education are NEET, compared to 17% for those with an upper secondary or post-secondary non-tertiary qualification. In spite of differences in scope, these results can help shed light on SDG Indicator 8.6.1,

[1] The true cohort method requires following an entry cohort through a specific time frame. For more information, see Indicator B3.

which is defined as the proportion of youth (aged 15-24) who are not participating in any form of education (formal or non-formal) nor in employment or training.

Figure 6. Participation of 15-24 year-olds in vocational education and training, by level of education (2018)

SDG Indicator 4.3.3



1. The source for population data is the UOE data collection for demographic data (Eurostat/DEM) instead of the United Nations Population Division (UNPD).

Countries are ranked in descending order of enrolment rate of 15-24 year-olds in vocational education and training in secondary, post-secondary and short-cycle tertiary combined.

Source: OECD (2020). The official data sources for this indicator are the UOE data collection for enrolment data and the United Nations Population Division (UNPD) for population data. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Definitions

Technical and vocational education and training (TVET) is a comprehensive term commonly used by the UNESCO Institute for Statistics to refer to education, training and skills development in a wide range of occupational fields, production, services and livelihoods. Vocational education may have work-based components (e.g. apprenticeships, dual-system education programmes). Successful completion of such programmes leads to labour market-relevant, vocational qualifications acknowledged as occupationally oriented by the relevant national authorities and/or the labour market.

SDG Indicator	Definition
4.1.1.c	Proportion of youth at the end of lower secondary education who achieve at least a minimum proficiency level in reading and mathematics
4.c.2	Student-to-trained-teacher ratios
4.c.5	Average teacher salary relative to other professions requiring a comparable level of qualification
4.c.7	Percentage of teachers who received in-service training in the last 12 months by type of training
4.1.5	Upper secondary out-of-school rate
4.3.3	Participation rate in technical and vocational programmes (15- to 24-year-olds), by sex
8.6.1	Proportion of youth (aged 15-24 years) not in education, employment or training

Methodology

All indicators presented in this chapter follow the agreed SDG methodology, including for recommended data sources, and may differ in some cases from other indicators presented in *Education at a Glance*. Please see Annex 3 for country-specific notes (https://doi.org/10.1787/69096873-en).

Source

Indicator	Source
4.1.5	UOE 2018 data collection and UNPD (unless otherwise specified)
4.3.3	UOE 2018 data collection and UNPD (unless otherwise specified)

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Cut-off date for the data: 19 July 2020. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en. More breakdowns can also be found at http://stats.oecd.org/, Education at a Glance Database.

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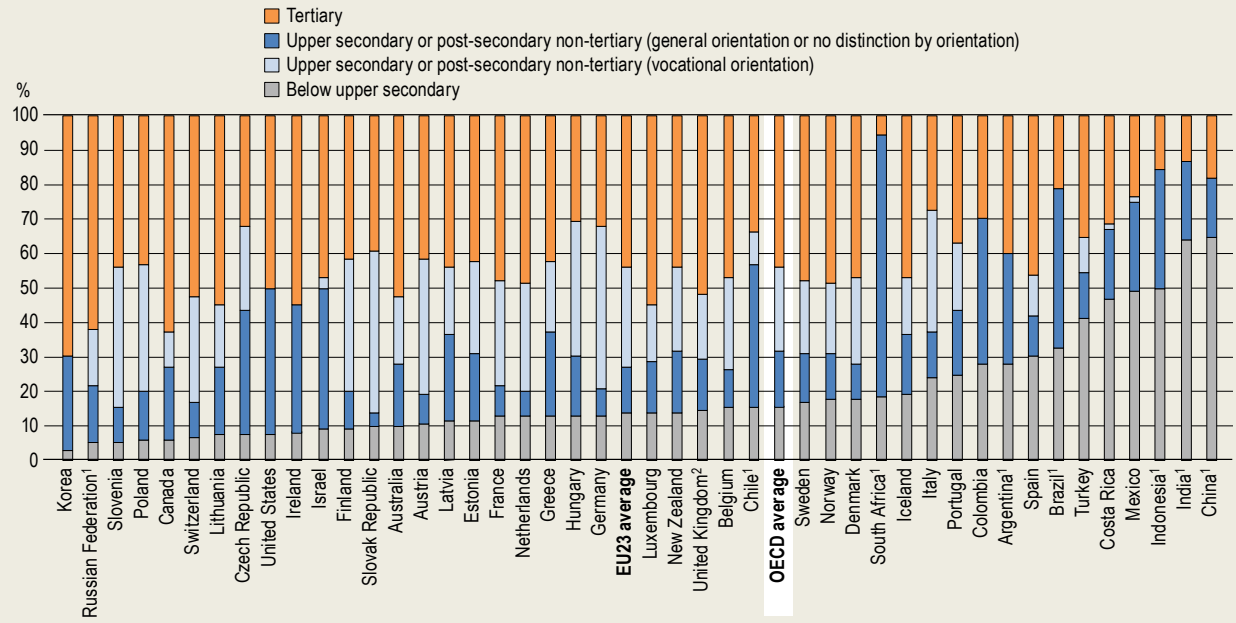
Chapter A. The output of educational institutions and the impact of learning

Indicator A1. To what level have adults studied?

Highlights

- Younger adults (25-34 year-olds) are better educated than they were a decade ago. On average across OECD countries, the share of younger adults without upper secondary education has decreased from 20% in 2009 to 15% in 2019.
- On average across OECD countries, 40% of younger adults have upper secondary or post-secondary non-tertiary education as their highest attainment. Of these, 59% held a vocational qualification. However, the share of adults with a vocational qualification has decreased over the generations: the share is 66% among 35-44 year-olds and 72% among 55-64 year-olds.
- Tertiary education is the most common attainment level among 25-34 year-olds on average in OECD countries (45%). However, the share varies substantially across countries, ranging from 24% in Mexico to 70% in Korea. A bachelor's degree or equivalent is the most common tertiary attainment level for younger adults in most OECD and partner countries.

Figure A1.1. Educational attainment of 25-34 year-olds (2019)



1. Year of reference differs from 2019. Refer to the source table for more details.
2. Data for upper secondary attainment include completion of a sufficient volume and standard of programmes that would be classified individually as completion of intermediate upper secondary programmes (12% of adults aged 25-64 are in this group).

Countries are ranked in ascending order of the share of 25-34 year-olds who attained below upper secondary education.

Source: OECD (2020), Education at a Glance Database, http://stats.oecd.org. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Context

Giving everyone a fair chance to obtain a high-quality education is a fundamental part of the social contract. To improve social mobility and socio-economic outcomes, it is critically important to eliminate inequalities in educational opportunities.

Educational attainment is measured as the percentage of the population who have reached a certain level of education and hold a formal qualification at that level. It is frequently used as a proxy measure of human capital and a signal of the level of an individual's skills (i.e. a measure of the skills associated with a given level of education and available in the population and the labour force).

Higher levels of educational attainment are associated with several positive economic and social outcomes for individuals (see Indicators A2, A3, A4, A5, A6 and A7). Highly educated individuals tend to be more socially engaged and have higher employment rates and higher relative earnings. Educational attainment is also positively associated with greater participation in formal and non-formal adult education and training.

Individuals thus have incentives to pursue more education, and governments have incentives to provide the appropriate infrastructure and policies to support higher levels of educational attainment across the population. Over past decades, almost all OECD countries have seen a significant increase in educational attainment, especially among the young and among women.

Other findings

- In the majority of OECD countries, women are under-represented among adults who attained vocational upper secondary or post-secondary non-tertiary education, and the gender gap in favour of men is wider among younger adults than among older adults.
- Vocational education often provides opportunities for work-based training. About three-quarters of younger adults who attained vocational upper secondary or post-secondary non-tertiary education had some work experience during their period of study, and work experience is often mandatory.
- On average across OECD countries, the share of tertiary-educated younger adults has increased by roughly 10 percentage points between 2009 and 2019. For most countries, this has been associated with a simultaneous decrease in the share of 25-34 year-olds with below upper secondary education or upper secondary or post-secondary non-tertiary education as their highest attainment.
- Although short-cycle tertiary education only accounts for 8% of the attainment of 25-34 year-olds across OECD countries, its share ranges from less than 1% in the Czech Republic, Germany, and Italy to more than 20% in Canada and Korea. While vocational programmes are more common than general programmes at this level of education, in some countries, such as Norway and the United States, more 25-34 year-olds attained a general qualification at this level rather than a vocational one.

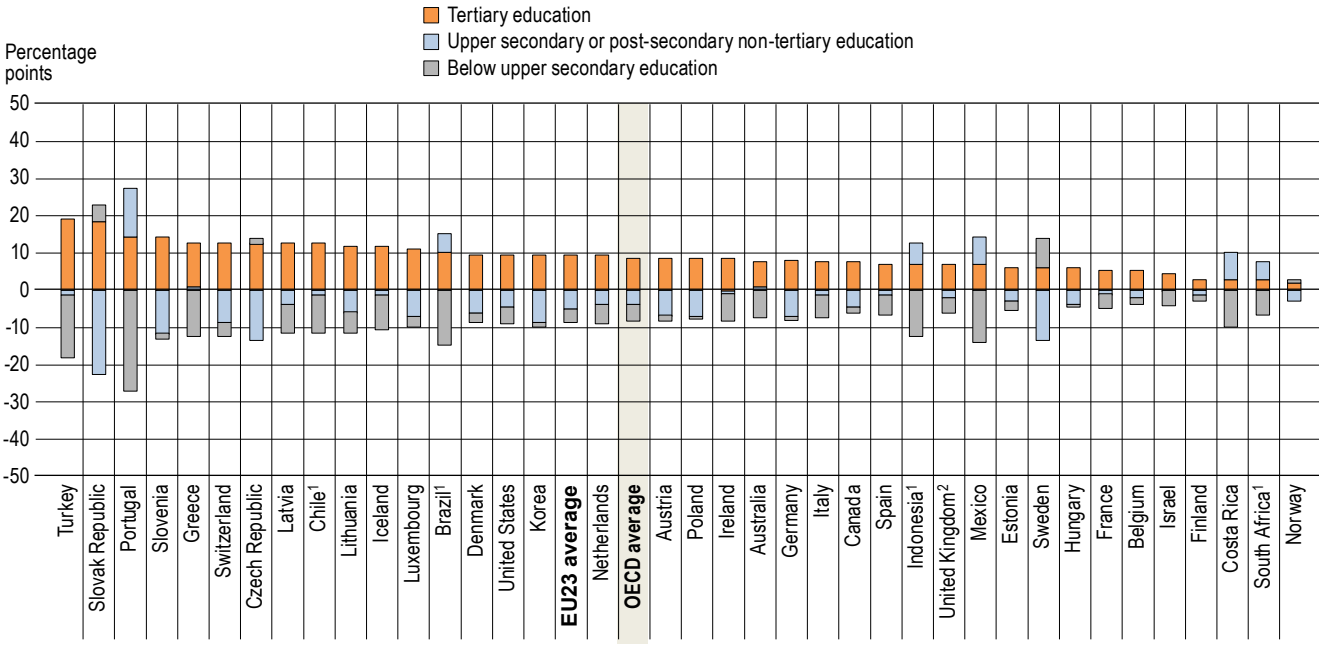
Analysis

Below upper secondary education

The attainment of upper secondary education has become a minimum requirement for navigating the modern economy and society. Young people today who leave school before completing upper secondary education not only face difficulties in the labour market, but also tend to have lower social connectedness than their higher-educated peers (OECD, 2019[1]). In most OECD and partner countries, the majority of younger adults (25-34 year-olds) have attained at least upper secondary education (Figure A1.1). On average across OECD countries, 31% of older adults (55-64 year-olds) did not attain an upper secondary qualification, but this share falls to 15% among younger adults (25-34 year-olds). In all OECD member and partner countries except Estonia, Latvia and Lithuania, 25-34 year-olds are more likely to have completed at least an upper secondary education than 55-64 year-olds (Table A1.3).

On average across OECD countries, the share of younger adults with below upper secondary education as their highest level of education has decreased from 20% in 2009 to 15% in 2019. The decrease has been more remarkable in countries which initially had a high share of younger adults lacking upper secondary education. For example, in Costa Rica, Mexico, Portugal and Turkey, more than 50% of 25-34 year-olds had not attained upper secondary education in 2009 and, although they are still lagging behind the OECD average, this share has dropped by at least 10 percentage points over the last decade. In Spain, the share of 25-34 year-olds without upper secondary education was also high in 2009 but it only fell by 5 percentage points between 2009 and 2019, and it remains at 30%. Norway is the only country with comparable data for 2009 and 2019 where the proportion of younger adults with below upper secondary education increased over the last decade (Table A1.2 and Figure A1.2).

Figure A1.2. Changes in educational attainment of 25-34 year-olds between 2009 and 2019



Note: In most countries there is a break in the time series. Refer to Table A1.2 for more details.

1. Year of reference differs from 2019. Refer to the source table for more details.

2. Data for upper secondary attainment include completion of a sufficient volume and standard of programmes that would be classified individually as completion of intermediate upper secondary programmes (12% of adults aged 25-64 are in this group).

Countries are ranked in descending order of the percentage-point change in tertiary-educated 25-34 year-olds between 2009 and 2019.

Source: OECD (2020), Table A1.2. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

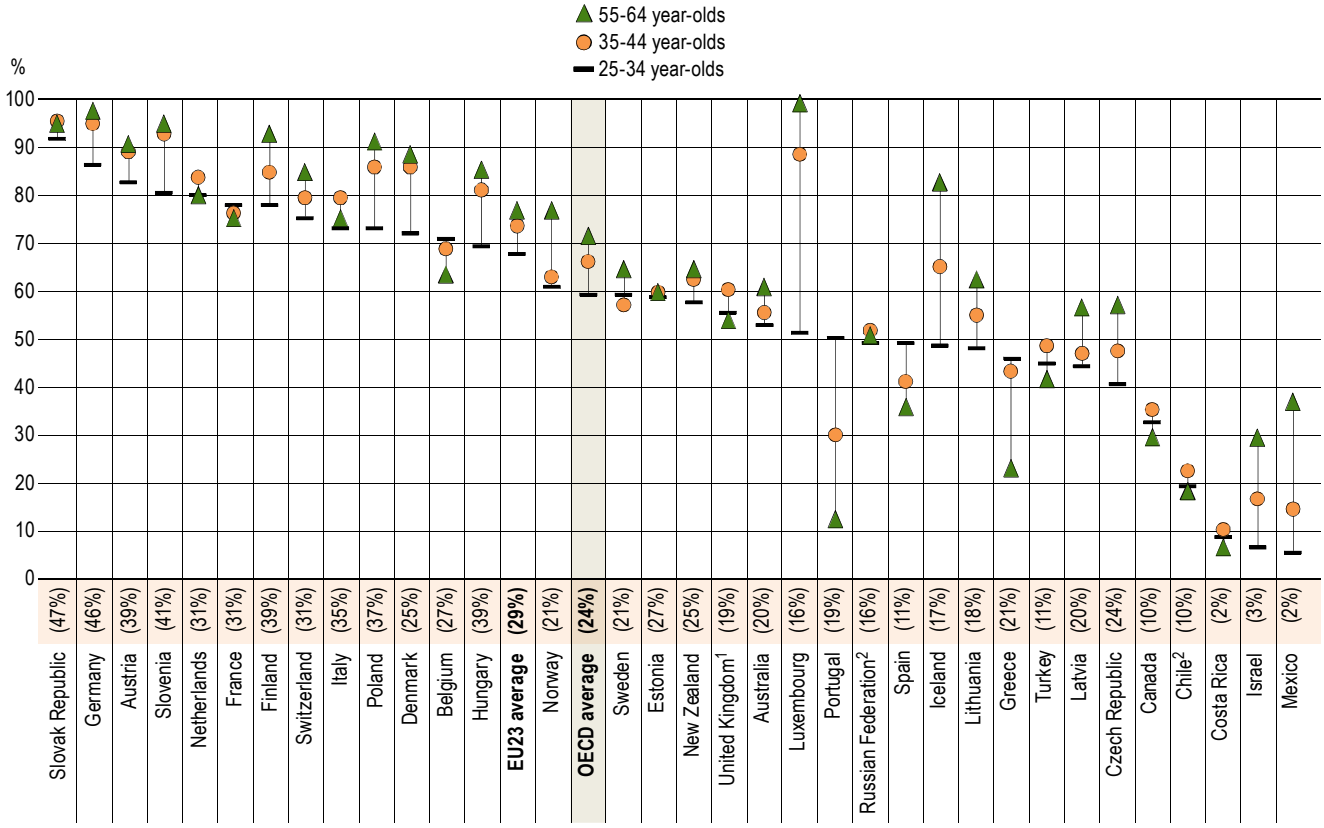
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In most OECD and partner countries, young men are more likely than young women to lack an upper secondary qualification, with an OECD average of 17% for young men and 14% for young women The gender gap is 10 percentage points or higher in Iceland, Portugal and Spain. Indonesia and Turkey are the exceptions where the share of young women with only below upper secondary education is at least 3 percentage points higher than the share of young men with the same educational attainment. In addition, in about one-third of OECD and partner countries with comparable data for 2009 and 2019 – Costa Rica, Iceland, Mexico, Norway and South Africa – the gender gap has increased over the last decade (Table A1.2).

Upper secondary and post-secondary non-tertiary education, by programme orientation

Among OECD countries, the share of 25-34 year-olds with upper secondary or post-secondary non-tertiary education as their highest attainment ranges from 22% in Costa Rica to 60% in the Czech Republic (Figure A1.1). On average across the OECD, this share has fallen from 44% in 2009 to 40% in 2019, as younger adults are more likely to pursue tertiary education than they were a decade ago (Table A1.2). However, upper secondary or post-secondary non-tertiary education still represents the most commonly attained level of education among 25-34 year-olds in 16 OECD countries: Austria, Chile, Colombia, the Czech Republic, Estonia, Finland, Germany, Greece, Hungary, Italy, Latvia, Mexico, Poland, Portugal, the Slovak Republic and Slovenia (Table A1.3).

Figure A1.3. Share of adults with a vocational qualification among those with upper secondary or post-secondary non-tertiary qualifications as their highest attainment, by age group (2019)



Note: Only countries with available data on programme orientation are shown in the figure. The percentage in parentheses represents the share of 25-34 year-olds with a vocational upper secondary or post-secondary non-tertiary qualification.

1. Data for upper secondary attainment include completion of a sufficient volume and standard of programmes that would be classified individually as completion of intermediate upper secondary programmes (12% of adults aged 25-64 are in this group).

2. Year of reference differs from 2019. Refer to the Education at a Glance Database for more details.

Countries are ranked in descending order of the share of 25-34 year-olds with an upper secondary or post-secondary non-tertiary vocational qualification among all adults who attained upper secondary or post-secondary education.

Source: OECD (2020), Education at a Glance Database, http://stats.oecd.org. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934161881

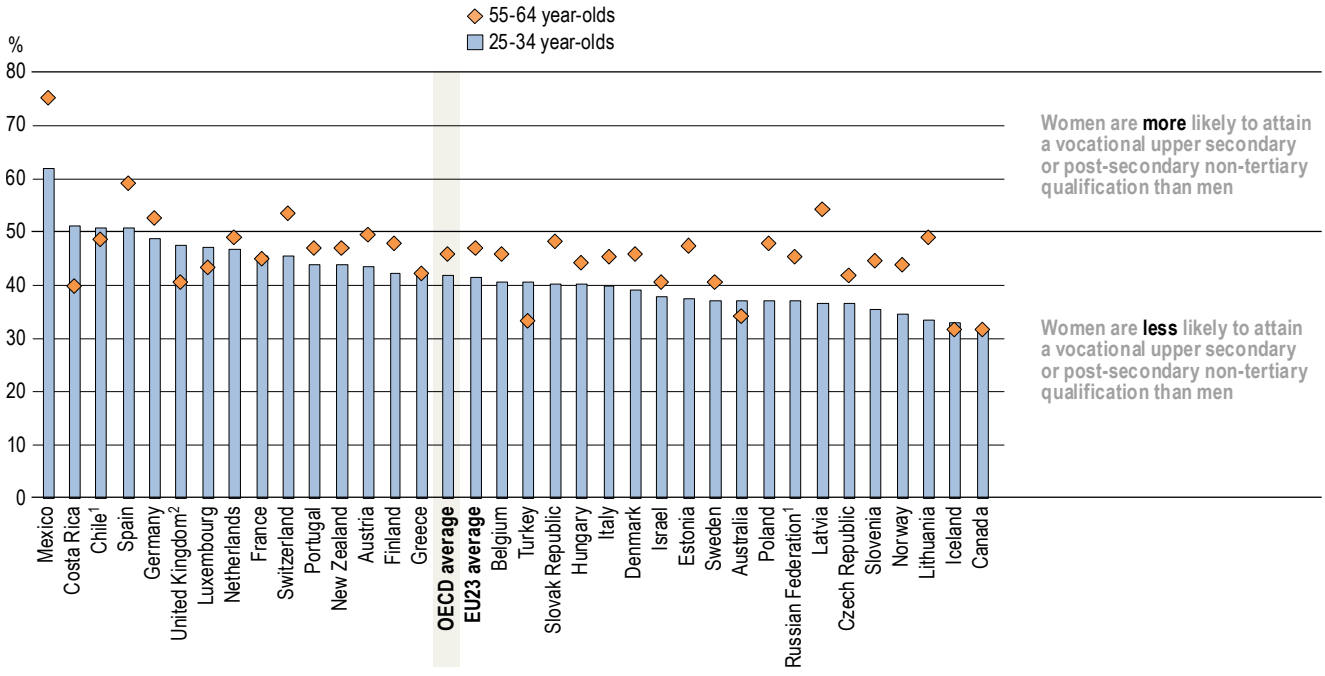
Upper secondary education is often divided into two programmes: general programmes aim to prepare students for tertiary education, while vocational ones are designed to lead directly to the labour market entry. In most countries, post-secondary non-tertiary education is mainly vocationally oriented (Table A1.3).

On average across OECD countries, more adults with upper secondary or post-secondary non-tertiary qualifications as their highest attainment completed vocational programmes than general programmes (27% of all adults compared to 16%). However, in some countries, a higher share of adults with this attainment level have completed a general programme. The difference is more than 10 percentage points in Canada, Chile, Costa Rica, Greece, Israel, Mexico, Portugal, and to a lower extent (less than 5 percentage points) in the Czech Republic, Spain and Turkey (Table A1.1).

In most countries, the share of adults with vocational qualifications has decreased over the generations. On average across OECD countries, among adults with upper secondary or post-secondary non-tertiary education as their highest attainment, 72% of 55-64 year-olds (older adults), 66% of 35-44 year-olds, and 59% of 25-34 year-olds (younger adults) held a vocational qualification. In Luxembourg, Iceland and Mexico, the difference between older and younger adults exceeds 30 percentage points (Figure A1.3). Technological innovations and economic integration have pushed many industries to upgrade their required skills or qualifications. Young adults may have more interest than their older peers in pursuing general upper secondary education and continuing their studies at tertiary level.

However, not all countries have followed the same trend. In Greece, Portugal and Spain, the share of vocational qualifications has increased by more than 10 percentage points between the two extreme age groups, though these countries still lag behind the OECD average. In France, Italy, the Netherlands and the Slovak Republic, the share has remained mainly stable across generations and higher than the OECD average (Figure A1.3).

Figure A1.4. Share of women among those with vocational upper secondary or post-secondary non-tertiary qualifications as their highest attainment, by age group (2019)



1. Year of reference differs from 2019. Refer to the Education at a Glance Database for more details.
2. Data for upper secondary attainment include completion of a sufficient volume and standard of programmes that would be classified individually as completion of intermediate upper secondary programmes (12% of adults aged 25-64 are in this group).

Countries are ranked in descending order of the share of women among 25-34 year-olds with an upper seconday or post-secondary non-tertiary vocational qualification.

Source: OECD (2020), Education at a Glance Database, http://stats.oecd.org. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934161900

Gender differences in vocational upper secondary and post-secondary non-tertiary education

In most OECD and partner countries, women are under-represented among adults who attained vocational upper secondary or post-secondary non-tertiary education. In Canada, Iceland and Lithuania, women make up less than 35% of the 25-34 year-olds with this level of attainment. Chile, Costa Rica, Spain and Mexico are the only countries where women are more likely than men to attain vocational upper secondary or post-secondary non-tertiary education (Figure A1.4).

The under-representation of women in vocational upper secondary or post-secondary non-tertiary education level is related to fields of study and their minimum entry level. Women generally dominate in the field of health and welfare, reflecting their supposed aptitutde for caring poisitions. On average across OECD countries, women make up more than 80% of vocatioanl upper secondary or post-secondary non-tertiary graduates with a specialisation in health and welfare (OECD, 2019[1]). In addition, this field of study often requires degrees beyond upper secondary level. Across OECD conuntries, only 13% of upper secondary vocational graduates held a qualification in health and welfare (see Indicator B7). However, adults who attained upper secondary or post-secondary non-tertiary education are predominated by those who only attained upper secondary education. On average across the OECD, 36% of adults attained upper secondary education, while only 6% attained post-secondary non-tertiary education (Table A1.1).

In most OECD and partner countries, the gender gap in vocational upper secondary or post-secondary non-tertiary education has widened over the generations. On average across OECD countries, women make up 46% of 55-64 year-olds with vocational qualifications, while the share falls to 42% among 25-34 year-olds. In Australia, Chile, Costa Rica, Iceland, Luxembourg, Turkey and the United Kingdom younger women are more likely to have a vocational qualification than older women. Moreover, in Mexico and Spain, younger men and women are more equally attained vocational upper secondary or post-secondary non-tertiary education than the older generation, though the gender gap is always in favour of women. (Figure A1.4).

Box A1.1. Work experience during vocational upper secondary and post-secondary non-tertiary education

Despite the expansion of tertiary education, upper secondary and post-secondary non-tertiary education remain commonly attained levels of education in most countries. Secondary education today needs not only to provide basic knowledge for students to continue studying, but also to enable graduates to enter the labour market (Musset, 2019[2]).

Vocational education and training can improve the school-to-work transition and the employment rate for young people (OECD, 2017[3]) (see textbox in indicator A3). Over the past decade, many countries have launched initiatives to combine formal study with work experience within the framework of vocational education. Despite their growing relevance in public policy discourse, internationally comparable indicators fail to highlight the outcomes of such work-study programmes or even to measure their prevalence.

In 2016, Eurostat included an ad-hoc module on young people on the labour market in its Labour Force Survey (EU-LFS). The data, recently released, filled this gap for younger adults by identifying the labour-market status of young adults and their work experience during their highest level of education. The ad-hoc module considers six types of work experience the person might have had:

Apprenticeship: working experience which was a mandatory part of the curriculum, the work lasted at least 6 months and was paid.

Mandatory traineeship: working experience which was a mandatory part of the curriculum and the work was not paid.

Other mandatory work-based training: working experience which was a mandatory part of the curriculum, but with no further information on its duration or if it was paid or not.

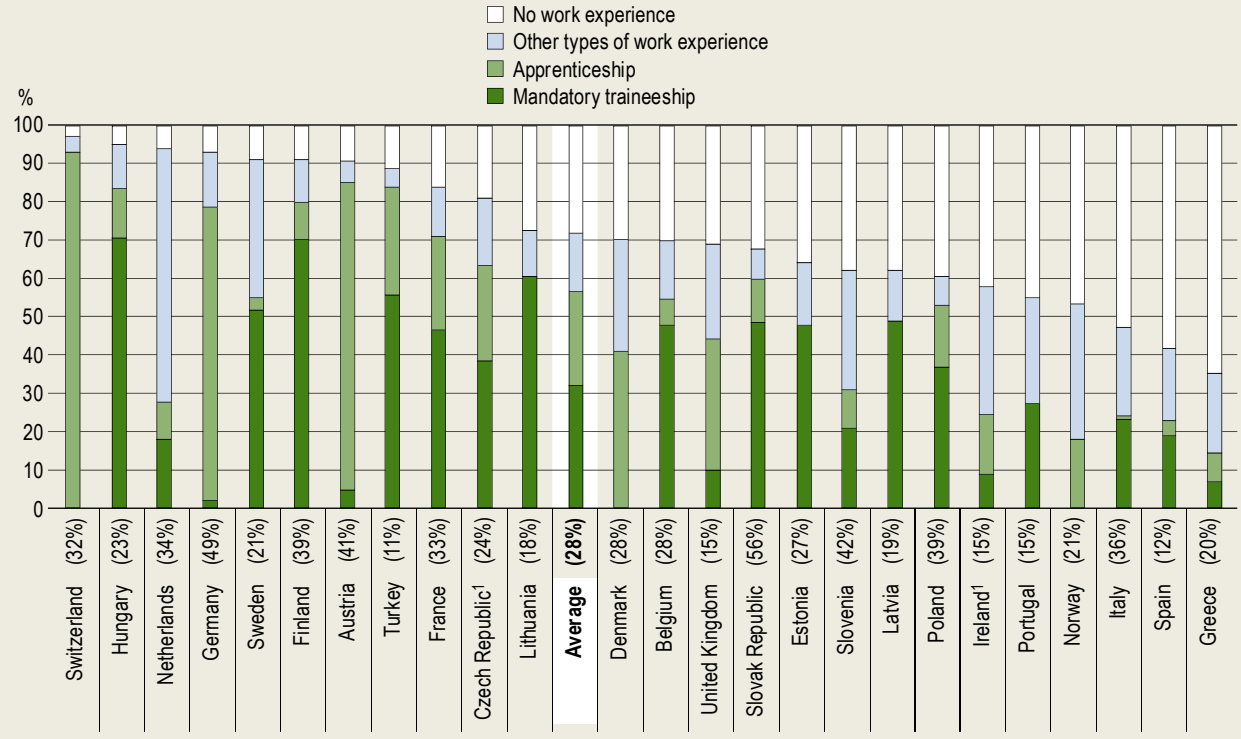
Optional traineeship: working experience which was an optional part of the curriculum, but with no further information on its duration, or if it was paid or not.

Work outside the curriculum: carried out work while being a student, but the work was not connected to the ongoing studies.

No work experience: did not carry out any form of work (paid or unpaid) while being a student or pupil.

Figure A1.5 shows some results from 2016 EU LFS ad-hoc module. Among 25-34 year-olds who attained vocational upper secondary or post-secondary non-tertiary education, 28% of them did not have any work experience while completing their highest level of education. There are, however, significant variations across countries, with the share ranging from 3% in Switzerland to 65% in Greece.

Figure A1.5. Distribution of 25-34 year-olds with vocational upper secondary or post-secondary non-tertiary education as their highest level of attainment by type of work experience while studying (2016)



Note: Data for "Other types of work experience" are calculated as 100% minus the share of the other three categories shown in the chart (Mandatory traineeship, Apprenticeship and No work experience). Refer to Table A1.4., available on line, for more information. The percentage in parentheses represents the share of 25-34 year-olds who attained vocational upper secondary or post-secondary non-tertiary education.

1. Year of reference for the share of 25-34 year-olds who attained vocational upper secondary or post-secondary non-tertiary education differs from 2016. See Annex 3 for more information.

Countries are ranked in ascending order of the share of 25-34 year-olds with vocational upper secondary or post-secondary non-tertiary qualifications who had no work experience during their highest level of education.

Source: OECD/Eurostat (2020), Table A1.4, available on line. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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On average, roughly 80% of younger adults who did work experience while completing vocational upper secondary or post-secondary non-tertiary education had mandatory work-based training of some kind, but there are significant differences across countries as to which type was most common. For some countries, such as Belgium, Estonia, Finland, France, Hungary, Latvia, Lithuania, the Slovak Republic, Sweden and Turkey, mandatory traineeships were the most common form among all types of work experience, whereas in Austria, Denmark, Germany, Switzerland and the United Kingdom, apprenticeships were the most prevalent form (Figure A1.5). (Table A1.4, available on line).

Tertiary education

In all OECD and partner countries, except South Africa, tertiary attainment is higher among younger adults than older adults. On average across OECD countries, 45% of 25-34 year-olds have a tertiary education, compared to 28% of 55-64 year-olds. In more than half of OECD countries, tertiary education is the most common attainment level reached by all 25-34 year-olds (Table A1.3). However, the share of tertiary-educated younger adults varies substantially across OECD countries, ranging from 24% in Mexico to 70% in Korea (Figure A1.1).

The share of 25-34 year-olds with a tertiary degree has also increased between 2009 and 2019 in all OECD and partner countries. This rising share implies a falling share of younger adults without one. In most countries, there has been a reduction in the shares of younger adults with either below upper secondary or upper secondary or post-secondary non-tertiary education as their highest attainment. However, in Brazil, Costa Rica, Indonesia, Mexico, Portugal and South Africa, the share of younger adults with tertiary education has increased alongside a rise in the share of those with upper secondary or post-secondary non-tertiary education as their highest attainment (Figure A1.2). In these countries, educational expansion started relatively late, and the share of younger adults lacking upper secondary education is still large compared to other countries (Figure A1.1).

From the gender perspective, younger women are more likely than younger men to achieve tertiary education in all OECD countries. On average in the OECD, 51% of younger women have a tertiary degree, compared to 39% of younger men, and the average gender gap in favour of women has widened between 2009 and 2019. Among countries with comparable data between 2009 and 2019, only in Finland, Norway and the United States has the gender gap narrowed over the last decade (Table A1.2). However, the aggregate data mask important gender disparities in fields of study: in most countries, women dominate in health and welfare, but they are under-represented in the broad field of science, technology, engineering and mathematics (OECD, 2019[1]).

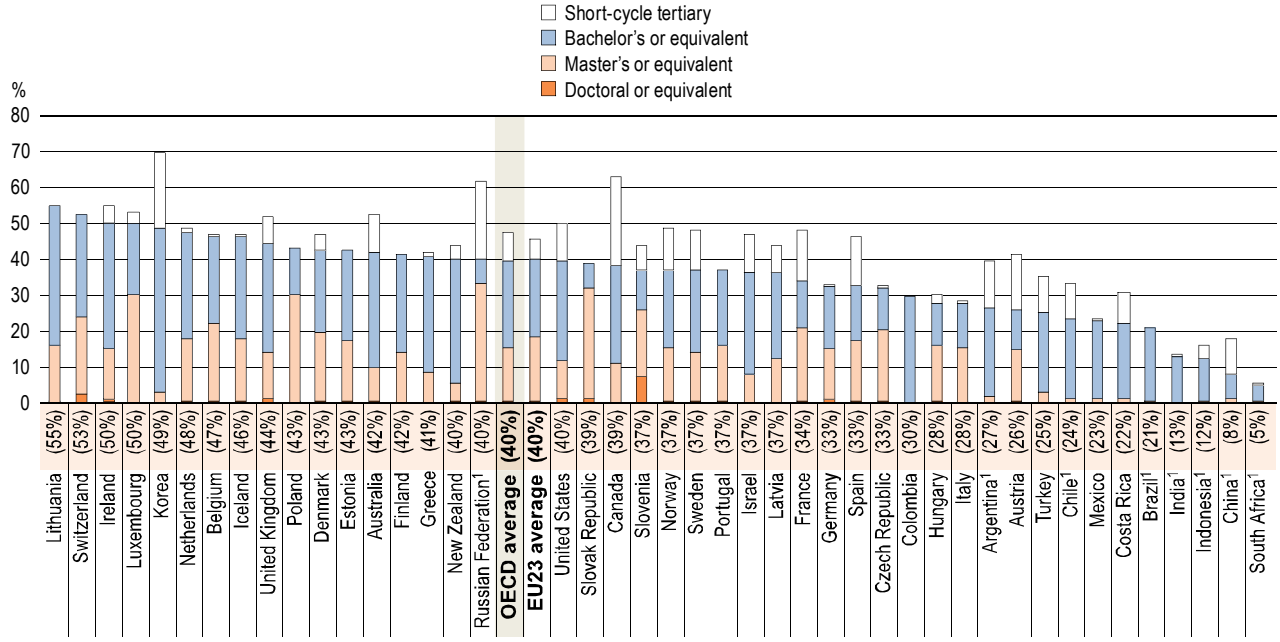
In most OECD and partner countries, the largest share of tertiary-educated 25-34 year-olds have attained a bachelor's or equivalent degree, though the share varies substantially across countries. In the Czech Republic, France, Hungary, Italy, Luxembourg, Poland, the Russian Federation, the Slovak Republic, Slovenia and Spain, those with a master's degree represent the largest share (Figure A1.6). For some countries, this might be related to their strong tradition of long first degree programmes that lead directly to a master's degree (OECD, 2019[1]). While for the Russian Federation, it is related to the fact that implementation of programmes leading to a university bachelor's degree is relatively recent.

On average across OECD countries, 8% of 25-34 year-olds have a short-cycle tertiary degree as their highest attainment, but the share varies widely across countries. In the Czech Republic, Germany and Italy, less than 1% of younger adults have this level of educational attainment while the share exceeds 20% in Canada and Korea. In Austria,, the most common attainment among tertiary-educated 25-34 year-olds is a short-cycle degree. (Figure A1.6).

For most countries where short-cycle tertiary education exists, vocational programmes are more common than general ones. However, in some countries, such as Canada, Norway and the United States, short-cycle tertiary degrees combine general and vocational programmes. Argentina and Turkey only have general short-cycle tertiary programmes (Table A1.3).

Short-cycle tertiary education could have strong influence on tertiary attainment across countries. For example, 37% of younger adults have a bachelor's, master's or doctoral or equivalent degree in both Portugal and in Sweden. However, as younger adults in Portugal do not tend to attain short-cycle tertiary degrees, Portugal has much smaller share of tertiary-educated younger adults than Sweden does (Figure A1.6).

Figure A1.6. Share of 25-34 year-olds with tertiary education, by level of tertiary education (2019)



Note: Some categories might be included in other categories. Refer to Table A1.1 for more information. The percentage in parentheses represents the share of 25-34 year-olds adults with a bachelor's, master's or doctoral or equivalent degree.

1. Year of reference differs from 2019. Refer to the source table for more details.

Countries are ranked in descending order of the percentage of 25-34 year-olds with a bachelor's, master's or doctoral or equivalent degree, which is included in the parentheses in the country data labels.

Source: OECD (2020), Table A1.1. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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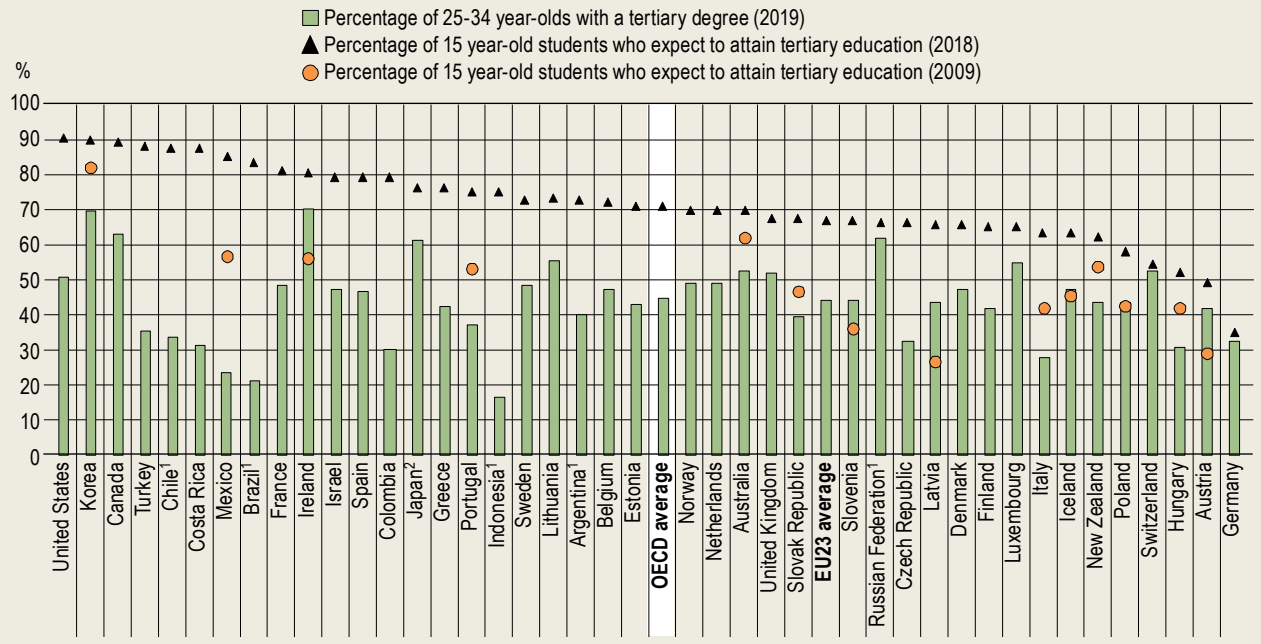
Box A1.2. Educational expectations and attainment among young people

Technological progress and globalisation mean in many countries deteriorating labour-market conditions for young people without tertiary education or for those lacking the skills needed for the world of tomorrow (OECD, 2019[4]). Results from the Programme for International Student Assessment (PISA) show that, on average across OECD countries, in 2018, 7 out of 10 15-year-old students expected to complete tertiary education. Furthermore, the share increased from 2009 to 2018 in all countries with available trend data. Notably, in Latvia and Slovenia, it increased by more than 30 percentage points (Figure A1.7).

However, not all 15-year-old students are likely to have achieved their expectations by the time they become 25-34 year-olds. In less than half of countries with available data for PISA 2009 did the share of tertiary-educated 25-34 year-olds in 2019 exceed the share of 15-year-old students who expected to complete a tertiary degree in 2009 (Figure A1.7).

On average in the OECD, the gap between the share of tertiary-educated 25-34 year-olds in 2019 and the share of 15-year-old students who expect in 2018 to become tertiary educated is about 26 percentage points. The difference is over 50 percentage points in Brazil, Chile, Costa Rica, Indonesia, Mexico and Turkey. Given the current rate of increase in tertiary attainment, it is unlikely that, in most countries, all the students expecting to earn a tertiary degree will be able to do so within the next decade or so. Students may rely largely on their test scores received at school to form their expectations about their future attainment. In some countries, teachers use marks as an important lever to motivate students to put more effort into learning, and so students' marks could be therefore higher than their real performance. The difference between students' ability to learn and the marks received could be one factor explaining the gap between their expectations and their peer group's eventual educational attainment (OECD, 2012[5]).

Figure A1.7. Percentage of 15-year-old students who expect to attain tertiary education (2009 and 2018) and percentage of 25-34 year-olds with a tertiary degree (2019)



1. Year of reference differs from 2019. See *Source* section for more details.
2. Data for tertiary education include upper secondary or post-secondary non-tertiary programmes (less than 5% of adults are in this group).
Countries are ranked in descending order of the percentage of 15-year-old students who expect to attain tertiary education (2018).
Source: OECD (2010), PISA 2009 Results: What Makes a School Successful?: Resources, Polices and Practices (Volume IV), https://doi.org/10.1787/9789264091559-en; OECD (2019), PISA 2018 Results (Volume I): What Students Know and Can Do, https://doi.org/10.1787/5f07c754-en; and OECD/ILO/UIS (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934161957

Definitions

Age groups: Adults refer to 25-64 year-olds; **younger adults** refer to 25-34 year-olds; and **older adults** refer to 55-64 year-olds.

Completion of intermediate programmes for educational attainment (ISCED 2011) corresponds to a recognised qualification from an ISCED 2011 level programme that is not considered sufficient for ISCED 2011 level completion and is classified at a lower ISCED 2011 level. In addition, this recognised qualification does not give direct access to an upper ISCED 2011 level programme.

Educational attainment refers to the highest level of education reached by a person.

Levels of education: See the *Reader's Guide* at the beginning of this publication for a presentation of all ISCED 2011 levels.

Vocational programmes: The international Standard Classification of Education (ISCED 2011) defines vocational programmes as education programmes that are designed for learners to acquire the knowledge, skills and competencies specific to a particular occupation, trade, or class of occupations or trades. Such programmes may have work-based components (e.g. apprenticeships and dual-system education programmes). Suceessful completion of such programmes leads to vocational qualifications relevant to the labour market and acknowledged as occupationally oriented by the relevant national authorities and/or the labour market.

Methodology

Educational attainment profiles are based on annual data on the percentage of the adult population (25-64 year-olds) in specific age groups who have successfully completed a specified level of education.

In OECD statistics, recognised qualifications from ISCED 2011 level 3 programmes that are not of sufficient duration for ISCED 2011 level 3 completion are classified at ISCED 2011 level 2 (see the *Reader's Guide*). Where countries have been able to demonstrate equivalencies in the labour-market value of attainment formally classified as the "completion of intermediate upper secondary programmes" (e.g. achieving five good GCSEs or equivalent in the United Kingdom) and "full upper secondary attainment", attainment of these programmes is reported as ISCED 2011 level 3 completion in the tables that show three aggregate levels of educational attainment (UNESCO Institute for Statistics, 2012[6]).

Most OECD countries include people without formal education under the international classification ISCED 2011 level 0. Therefore, averages for the category "less than primary educational attainment" are likely to be influenced by this inclusion.

Please see the *OECD Handbook for Internationally Comparative Education Statistics* (OECD, 2018[7]) for more information and Annex 3 for country-specific notes (https://doi.org/10.1787/69096873-en).

Source

Data on population and educational attainment for most countries are taken from OECD and Eurostat databases, which are compiled from National Labour Force Surveys by the OECD Labour Market, Economic and Social Outcomes of Learning (LSO) Network. Data on educational attainment for Indonesia and Saudi Arabia are taken from the International Labour Organization (ILO) database, and data for China are from the UNESCO Institute of Statistics (UIS) database.

Data on subnational regions for selected indicators are available in the OECD Regional Statistics Database (OECD, 2020[8]).

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Indicator A1 Tables

Table A1.1	Educational attainment of 25-64 year-olds (2019)
Table A1.2	Trends in educational attainment of 25-34 year-olds, by gender (2009 and 2019)
Table A1.3	Educational attainment of 25-34 year-olds and 55-64 year-olds, by programme orientation (2019)
WEB Table A1.4	Distribution of 25-34 year-olds with vocational upper secondary or post-secondary non-tertiary education as their highest level of attainment by type of work experience while studying (2016)

Cut-off date for the data: 19 July 2020. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en. More breakdowns can also be found at http://stats.oecd.org/, Education at a Glance Database.

StatLink: https://doi.org/10.1787/888934161767

Table A1.1. Educational attainment of 25-64 year-olds (2019)

Percentage of adults with a given level of education as the highest level attained

		Below upper secondary					Upper secondary or post-secondary non-tertiary					Tertiary				All levels of education
							By level of education		By programme orientation							
		Less than primary	Primary	Completion of intermediate lower secondary programmes	Lower secondary	Completion of intermediate upper secondary programmes	Upper secondary	Post-secondary non-tertiary	General	Vocational	No distinction	Short-cycle tertiary	Bachelor's or equivalent	Master's or equivalent	Doctoral or equivalent	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD	**Countries**															
	Australia	0	4	a	13	a	30	5	15	20	0	12	27	8	1	100
	Austria	x(2)	1 d	a	13	a	49	3	6	46	0	16	4	13	1	100
	Belgium	3	5	a	14	a	37	2	12	26	0	1	22	17	1	100
	Canada	x(2)	2 d	a	6	a	22	10	22	10	0	26	22	11 d	x(13)	100
	Chile[1]	7	5	a	21	a	42	a	34	9	0	9	15	2 d	x(13)	100
	Colombia	x(4)	x(4)	a	38 d	5	33 d	x(6)	x(10)	x(10)	33	x(12)	24 d	x(12)	x(12)	100
	Costa Rica	11	27	8	8	3	17	0	16	2	0	6	16	3	0	100
	Czech Republic	0	0	a	6	a	70 d	x(6)	35	34	0	0	6	17	1	100
	Denmark	x(2)	2 d	a	16	a	41	0	7	35	0	5	20	14	1	100
	Estonia	0	0	a	9	a	39	10	19	30	0	6	13	21	1	100
	Finland	x(2)	1 d	a	8	a	43	1	6	38	0	10	18	16	1	100
	France	2	5	a	13	a	42	0	10	32	0	15	11	12	1	100
	Germany	x(2)	4 d	a	10	a	44	13	3	53	0	1	16	12	1	100
	Greece	1	12	0	10	3	32	10	27	15	0	2	23	7	1	100
	Hungary	x(2)	0	1	14	a	51	8	12	47	0	1	13	11	1	100
	Iceland	x(2)	0 d	a	21	a	26	7	11	22	0	2	24	18	1	100
	Ireland	0	6	a	14	a	2	19	x(10)	x(10)	20	8	35	15	2	100
	Israel	3	4	a	7	a	37	a	30	6	0	13	24	13	1	100
	Italy	1	4	a	33	a	42	1	10	33	0	0	5	14	1	100
	Japan	x(6)	x(6)	a	x(6)	a	47 d	x(11)	x(10)	x(10)	47 d	21 d	31 d	x(12)	x(12)	100
	Korea	x(2)	4 d	a	7	a	39	a	39 d	x(8)	0	14	32	5 d	x(13)	100
	Latvia	0	0	a	8	3	39	13	25	28	0	3	16	16	0	100
	Lithuania	0	0	0	4	2	32	18	20	30	0	a	28	15	1	100
	Luxembourg	c	7	a	17	a	21	2	5	18	0	5	17	28	2	100
	Mexico	11	16	2	27	4	22	a	18	4	0	0	16	2	0	100
	Netherlands	1	5	a	14	a	39	0	7	32	0	2	24	14	1	100
	New Zealand	x(4)	x(4)	a	19 d	a	28	14	16	25	0	4	29	5	1	100
	Norway	0	1	a	17	a	37	2	12	26	0	11	20	12	1	100
	Poland	0	6	a	1	a	58	3	9	52	0	0	7	24	1	100
	Portugal	2	26	a	20	a	25	1	18	8	0	c	7	18	1	100
	Slovak Republic	0	1	0	7	0	63	2	4	62	0	0	3	22	1	100
	Slovenia	0	1	a	10	a	56	a	5	51	0	7	7	15	5	100
	Spain	2	7	a	30	a	23	0	13	9	0	12	11	16	1	100
	Sweden	x(2)	3 d	a	11	2	32	7	15	25	0	10	18	14	2	100
	Switzerland	0	2	a	9	a	45 d	x(6)	8	36	0	x(12, 13, 14)	22 d	19 d	3 d	100
	Turkey	5	38	a	15	a	20	a	11	9	0	6	13	2	0	100
	United Kingdom[2]	0	0	a	20	12	21	a	15	18	0	10	24	12	1	100
	United States	1	3	a	6	a	42 d	x(6)	42 d	x(8)	0	11	24	12	2	100
	OECD average	2	6	m	14	m	36	6	16	27	3	7	18	13	1	100
	EU23 average	1	4	m	13	m	39	6	13	33	1	5	15	16	1	100
Partners	**Argentina**[3]	5	17	7	5	3	28	a	28	a	0	14	20	1 d	x(13)	100
	Brazil[3]	14	20	a	14	a	35	a	35 d	x(8)	0	x(12)	17 d	1	0	100
	China[4]	3	25	a	47	a	15 d	x(6)	x(10)	x(10)	15	6	3	0 d	x(13)	100
	India[5]	46	14	a	11	a	18	0	x(10)	x(10)	18	1	10 d	x(12)	x(12)	100
	Indonesia[1]	17	27	a	18	a	26	0	x(10)	x(10)	26	3	8	1	0	100
	Russian Federation[3]	x(2)	1 d	a	4	a	19	20	19	20	0	25	3	28	1	100
	Saudi Arabia[6]	12	14	a	18	a	27	6	x(10)	x(10)	33	0	24 d	0	x(12)	100
	South Africa[3]	x(2)	14 d	a	12	a	59	8	x(10)	x(10)	67	1	5	1 d	x(13)	100
	G20 average	9	12	m	16	m	31	m	m	m	11	9	16	7	m	100

Note: In most countries, data refer to ISCED 2011. For Indonesia and Saudi Arabia, data refer to ISCED-97. See *Definitions* and *Methodology* sections for more information. Data and more breakdowns are available at http://stats.oecd.org/, Education at a Glance Database.

1. Year of reference 2017.
2. Data for upper secondary attainment by programme orientation include completion of a sufficient volume and standard of programmes that would be classified individually as completion of intermediate upper secondary programmes (12% of adults aged 25-64 are in this group).
3. Year of reference 2018.
4. Year of reference 2010.
5. Year of reference 2011.
6. Year of reference 2016.

Source: OECD/ILO/UIS (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934161786

Table A1.2. Trends in educational attainment of 25-34 year-olds, by gender (2009 and 2019)

Percentage of 25-34 year-olds with a given level of education as the highest level attained

		Below upper secondary						Upper secondary or post-secondary non-tertiary						Tertiary					
		Men		Women		Total		Men		Women		Total		Men		Women		Total	
		2009	2019	2009	2019	2009	2019	2009	2019	2009	2019	2009	2019	2009	2019	2009	2019	2009	2019
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
OECD	**Countries**																		
	Australia	19 b	10	15 b	9	17 b	9	43 b	44	33 b	32	38 b	38	38 b	46	52 b	59	45 b	52
	Austria	10	10	13	11	12	11	59	52	51	43	55	48	31	37	36	46	33	42
	Belgium	18 b	16	16 b	13	17 b	15	46 b	44	36 b	32	41 b	38	36 b	40	49 b	55	42 b	47
	Canada	10	7	7	5	8	6	42	38	30	24	36	31	49	55	63	71	56	63
	Chile[1]	26 b	16	25 b	13	26 b	15	54 b	53	52 b	50	53 b	51	20 b	30	23 b	37	22 b	34
	Colombia	m	31	m	24	m	28	m	43	m	42	m	42	m	26	m	34	m	30
	Costa Rica	58	51	54	42	56	46	14	21	15	23	15	22	27	28	31	35	29	31
	Czech Republic	5 b	7	7 b	7	6 b	7	77 b	67	71 b	53	74 b	60	18 b	26	22 b	39	20 b	33
	Denmark	22	20	16	15	19	18	47	42	39	29	43	35	30	39	45	56	37	47
	Estonia	18	15	10	8	14	11	55	55	43	36	49	46	27	30	46	56	37	43
	Finland	12	10	7	7	10	9	58	56	44	43	51	50	30	34	49	50	39	42
	France	17	14	15	11	16	13	44	42	38	37	41	39	39	44	48	52	43	48
	Germany	14 b	14	14 b	13	14 b	13	62 b	54	59 b	53	60 b	54	24 b	32	27 b	34	26 b	33
	Greece	30 b	14	19 b	11	25 b	13	45 b	51	47 b	39	46 b	45	25 b	35	34 b	50	30 b	42
	Hungary	14	13	14	13	14	13	65	62	56	51	61	57	20	25	30	37	25	31
	Iceland	33	24	24	13	28	19	37	37	34	31	36	34	30	39	42	56	36	47
	Ireland	17 b	12	12 b	7	15 b	9	42 b	21	34 b	20	38 b	21	41 b	68	54 b	72	48 b	70
	Israel	16 b	10	10 b	7	13 b	9	49 b	53	40 b	36	44 b	44	35 b	37	51 b	57	43 b	47
	Italy	33 b	27	26 b	21	30 b	24	51 b	51	50 b	45	50 b	48	16 b	22	25 b	34	20 b	28
	Japan[2]	m	m	m	m	m	m	m	m	m	m	m	m	52 bd	59 d	59 bd	64 d	56 bd	62 d
	Korea	3 b	2	2 b	2	2 b	2	39 b	34	35 b	21	37 b	28	58 b	64	63 b	76	61 b	70
	Latvia	25	15	14	8	19	11	53	52	45	37	49	45	22	34	41	55	32	44
	Lithuania	15 b	9	10 b	5	12 b	7	49 b	46	39 b	29	44 b	38	36 b	45	51 b	66	44 b	55
	Luxembourg	17 b	17	16 b	9	16 b	13	41 b	34	37 b	30	39 b	32	42 b	49	47 b	61	44 b	55
	Mexico	63	49	63	48	63	49	20	28	20	28	20	28	17	23	17	24	17	24
	Netherlands	20 b	14	15 b	11	18 b	12	43 b	42	41 b	35	42 b	39	37 b	44	43 b	54	40 b	49
	New Zealand	22	14	19	13	21	13	m	47	m	39	m	43	m	39	m	48	m	44
	Norway	19	20	14	15	16	17	44	40	29	27	37	34	38	40	56	58	47	49
	Poland	8 b	7	6 b	5	7 b	6	64 b	59	52 b	42	58 b	51	28 b	34	43 b	54	35 b	43
	Portugal	57	30	46	20	52	25	25	41	25	35	25	38	18	29	29	45	23	37
	Slovak Republic	5 b	9	5 b	9	5 b	9	77 b	60	71 b	43	74 b	51	17 b	31	24 b	48	21 b	39
	Slovenia	8 b	6	5 b	4	7 b	5	71 b	60	55 b	41	63 b	51	22 b	34	40 b	55	30 b	44
	Spain	41	36	30	25	35	30	25	24	25	23	25	23	34	41	45	52	39	47
	Sweden	10 b	18	8 b	14	9 b	16	53 b	41	44 b	29	49 b	35	37 b	41	48 b	56	42 b	48
	Switzerland	8 b	7	12 b	6	10 b	6	49 b	43	51 b	39	50 b	41	43 b	51	37 b	55	40 b	53
	Turkey	53 b	39	64 b	43	58 b	41	30 b	26	20 b	21	25 b	24	17 b	35	16 b	36	17 b	35
	United Kingdom[3]	18 b	16	18 b	13	18 b	15	38 b	35	34 b	32	36 b	34	43 b	49	47 b	55	45 b	52
	United States	13	8	10	6	12	7	51	46	44	39	47	42	36	46	46	55	41	50
	OECD average	22	17	18	14	20	15	47	44	41	35	44	40	32	39	41	51	36	45
	EU23 average	19	15	15	11	17	13	52	47	45	37	48	42	29	38	40	51	35	44
Partners	Argentina[4]	m	32	m	24	m	28	m	33	m	31	m	32	m	34	m	45	m	40
	Brazil[4]	51 b	37	44 b	28	47 b	33	39 b	45	43 b	47	41 b	46	10 b	18	13 b	25	12 b	21
	China[5]	63	m	66	m	64	m	19	m	16	m	18	m	18	m	18	m	18	m
	India[6]	58	m	70	m	64	m	26	m	18	m	22	m	16	m	12	m	14	m
	Indonesia[1]	60 b	48	65 b	51	62 b	50	32 b	37	25 b	31	28 b	34	8 b	14	10 b	18	9 b	16
	Russian Federation[4]	m	6	m	4	m	5	m	39	m	27	m	33	m	55	m	69	m	62
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa[4]	27	21	23	15	25	18	70	74	73	79	72	77	3	5	4	6	3	6
	G20 average	m	27	m	25	m	26	m	40	m	34	m	37	m	35	m	42	m	39

Note: In most countries there is a break in the time series, represented by the code "b", as data for 2019 refer to ISCED 2011 while data for 2009 refer to ISCED-97. For Indonesia and Saudi Arabia, data refer to ISCED-97. See *Definitions* and *Methodology* sections for more information. Data and more breakdowns are available at http://stats.oecd.org/, Education at a Glance Database.

1. Year of reference 2017 instead of 2019.
2. Data for tertiary education include upper secondary or post-secondary non-tertiary programmes (less than 5% of adults are in this group).
3. Data for upper secondary attainment include completion of a sufficient volume and standard of programmes that would be classified individually as completion of intermediate upper secondary programmes (12% of adults aged 25-64 are in this group).
4. Year of reference 2018 instead of 2019.
5. Year of reference 2010 instead of 2009.
6. Year of reference 2011 instead of 2009.

Source: OECD/ILO/UIS (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934161805

Table A1.3. Educational attainment of 25-34 year-olds and 55-64 year-olds, by programme orientation (2019)

Percentage of 25-34 year-olds and 55-64 year-olds with a given level of education as the highest level attained

		Below upper secondary		Upper secondary				Post-secondary non-tertiary				Upper secondary or post-secondary non-tertiary		Tertiary		of which: Short-cycle tertiary			
				General		Vocational		General		Vocational						General		Vocational	
		25-34 year-olds	55-64 year-olds	25-34 year-olds	55-64 year-olds	25-34 year-olds	55-64 year-olds	25-34 year-olds	55-64 year-olds	25-34 year-olds	55-64 year-olds	25-34 year-olds	55-64 year-olds	25-34 year-olds	55-64 year-olds	25-34 year-olds	55-64 year-olds	25-34 year-olds	55-64 year-olds
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
OECD	Countries																		
	Australia	9	30	18	14	15	16	a	a	5	5	38	35	52	35	c	0	10	10
	Austria	11	20	8	5	37	48	a	a	3	2	48	55	42	25	a	a	15	14
	Belgium	15	33	11	13	25	22	a	a	2	1	38	36	47	31	a	a	x(13)	x(14)
	Canada	6	13	21	26	a	a	a	a	10	11	31	38	63	50	2	3	22	23
	Chile[1]	15	54	42	25	10	5	a	a	a	a	51	30	34	16	a	a	10	6
	Colombia	28	64	x(11)	x(12)	x(11)	x(12)	x(11)	x(12)	x(11)	x(12)	42	20	30	16	x(13)	x(14)	x(13)	x(14)
	Costa Rica	46	64	20	14	1	1	a	a	1	c	22	16	31	20	a	a	2	2
	Czech Republic	7	9	36 d	31 d	24 d	42 d	x(3)	x(4)	x(5)	x(6)	60	74	33	18	x(13)	x(14)	x(13)	x(14)
	Denmark	18	24	10	5	25	39	a	a	0	0	35	45	47	31	0	0	0	0
	Estonia	11	8	19	21	17	21	a	a	10	10	46	52	43	40	a	a	c	13
	Finland	9	15	11	3	38	40	a	a	1	2	50	44	42	41	a	a	c	20
	France	13	31	9	11	31	34	0	0	a	a	39	45	48	24	0	1	14	10
	Germany	13	13	8	2	30	49	a	a	16	9	54	60	33	27	a	a	0	1
	Greece	13	44	24	25	8	2	a	a	12	5	45	33	42	23	a	a	1	3
	Hungary	13	19	17	9	23	49	a	a	16	3	57	62	31	19	a	a	3	0
	Iceland	19	30	17	6	13	21	0	0	3	10	34	38	47	33	x(13)	x(14)	x(13)	x(14)
	Ireland	9	41	x(11)	x(12)	x(11)	x(12)	x(11)	x(12)	x(11)	x(12)	21	18	70	41	x(13)	x(14)	x(13)	x(14)
	Israel	9	19	41	24	3	10	a	a	a	a	44	34	47	47	a	a	10	15
	Italy	24	50	13	9	35	28	a	a	1	0	48	38	28	13	a	a	0	c
	Japan[2]	m	m	m	m	m	m	x(13)	x(14)	x(13)	x(14)	m	m	62 d	44 d	m	m	m	m
	Korea	2	33	28 d	43 d	x(3)	x(4)	a	a	a	a	28	43	70	24	a	a	21	5
	Latvia	11	9	25	27	13	15	a	a	7	21	45	63	44	28	a	a	7	1
	Lithuania	7	5	20	24	10	11	a	a	8	29	38	64	55	30	a	a	a	a
	Luxembourg	13	42	15	c	14	19	m	m	2	3	32	22	55	36	3 d	5 d	x(15)	x(16)
	Mexico	49	71	26	10	2	6	a	a	a	a	28	15	24	14	a	a	1	0
	Netherlands	12	31	8	8	31	30	a	a	0	0	39	38	49	31	a	a	1	2
	New Zealand	13	28	18	15	10	13	a	a	15	14	43	42	44	30	a	a	3	5
	Norway	17	22	13	10	19	31	a	a	1	2	34	44	49	34	10	6	2	5
	Poland	6	11	14	7	34	63	0	0	3	4	51	73	43	16	0	0	c	0
	Portugal	25	69	19	14	17	2	a	a	2	0	38	15	37	15	a	a	c	c
	Slovak Republic	9	12	4	4	46	66	a	a	2	2	51	72	39	16	a	a	c	0
	Slovenia	5	19	10	3	41	57	a	a	a	a	51	60	44	22	a	a	7	8
	Spain	30	52	12	14	11	7	a	a	0	0	23	21	47	27	a	a	14	7
	Sweden	16	19	7	15	19	26	7	3	2	5	35	49	48	32	0	0	4	2
	Switzerland	6	15	10 d	8 d	31 d	44 d	x(3)	x(4)	x(5)	x(6)	41	52	53	34	x(13)	x(14)	x(13)	x(14)
	Turkey	41	75	13	8	11	6	a	a	a	a	24	14	35	11	10	4	a	a
	United Kingdom[3]	15	27	15	16	19	18	a	a	a	a	34	34	52	39	a	a	7	12
	United States	7	10	42 d	46 d	a	a	a	a	x(3)	x(4)	42	46	50	43	6	6	4	5
	OECD average	15	31	18	15	21	26	m	m	5	6	40	42	45	28	m	m	7	7
	EU23 average	13	26	14	13	25	31	m	m	5	5	42	47	44	27	m	m	m	6
Partners	Argentina[4]	28	47	32	23	a	a	a	a	a	a	32	23	40	29	13	12	a	a
	Brazil[4]	33	63	46 d	22 d	x(3)	x(4)	a	a	a	a	46	22	21	14	x(13)	x(14)	x(13)	x(14)
	China[5]	64	88	x(11)	x(12)	x(11)	x(12)	x(11)	x(12)	x(11)	x(12)	18	8	18	4	x(13)	x(14)	x(13)	x(14)
	India[6]	64	81	x(11)	x(12)	x(11)	x(12)	x(11)	x(12)	x(11)	x(12)	22	12	14	7	x(13)	x(14)	x(13)	x(14)
	Indonesia[1]	50	81	x(11)	x(12)	x(11)	x(12)	x(11)	x(12)	x(11)	x(12)	34	12	16	7	x(13)	x(14)	x(13)	x(14)
	Russian Federation[4]	5	5	17	22	a	a	a	a	16	22	33	44	62	50	a	a	22	28
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa[4]	18	48	x(11)	x(12)	x(11)	x(12)	x(11)	x(12)	x(11)	x(12)	77	43	6	9	x(13)	x(14)	x(13)	x(14)
	G20 average	26	45	m	m	m	m	m	m	m	m	37	31	39	25	m	m	m	m

Note: In most countries data refer to ISCED 2011. For Indonesia and Saudi Arabia, data refer to ISCED-97. See *Definitions* and *Methodology* sections for more information. Data and more breakdowns are available at http://stats.oecd.org/, Education at a Glance Database.

1. Year of reference 2017.
2. Data for tertiary education include upper secondary or post-secondary non-tertiary programmes (less than 5% of adults are in this group).
3. Data for upper secondary attainment include completion of a sufficient volume and standard of programmes that would be classified individually as completion of intermediate upper secondary programmes (12% of adults aged 25-64 are in this group).
4. Year of reference 2018.
5. Year of reference 2010.
6. Year of reference 2011.

Source: OECD/ILO/UIS (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

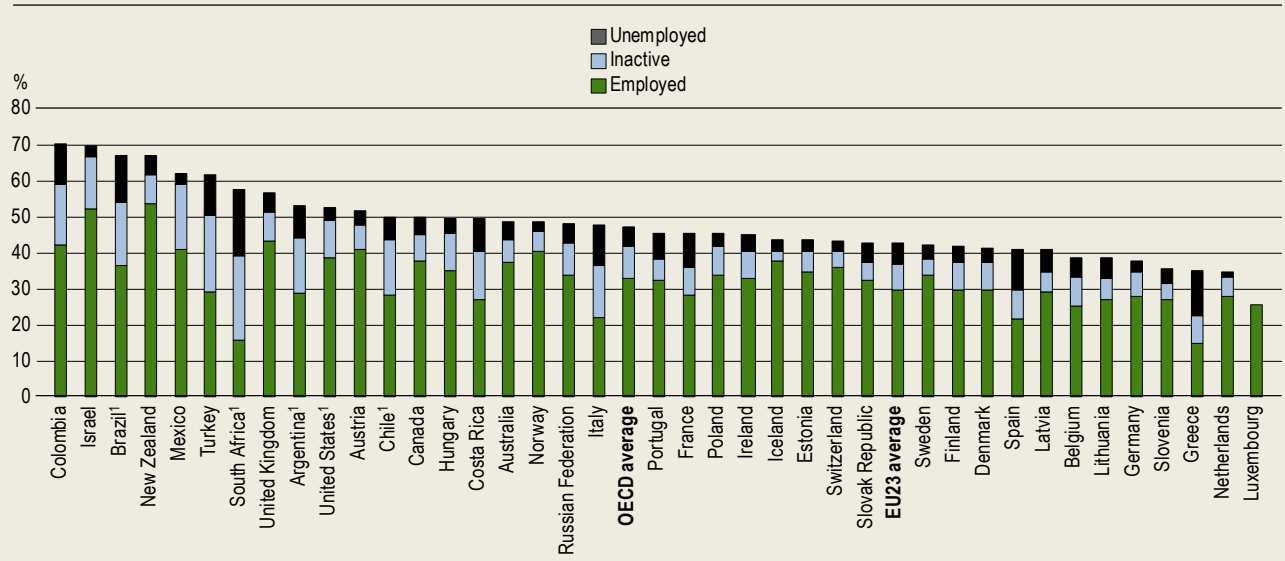
StatLink https://doi.org/10.1787/888934161824

Indicator A2. Transition from education to work: Where are today's youth?

Highlights

- On average across OECD countries, one in two (53%) 18-24 year-olds are still in education. In Greece, the Netherlands and Slovenia, two out of three young adults this age are still students, the highest share in education. In contrast, in Colombia at most 30% of young adults are still in education.
- On average across OECD countries, 14% of young adults aged 18-24 years old are neither employed nor in education or training (NEET). In Argentina, Brazil, Chile, Colombia, Costa Rica, Greece, Italy, Mexico, South Africa and Turkey at least 20% or more young adults are NEET.
- In 2018, one in seven (14%) young adults with upper secondary attainment who had completed their education up to two years earlier were NEET, on average across OECD countries. The share falls two years after graduation from upper secondary education, but increases slightly in the longer run. Among young adults who had completed their education two to three years earlier the share of NEETs was 10%, while among those who had finished four to five years earlier the share was 12%.

Figure A2.1. Percentage of 18-24 year-olds not in education, by labour-market status (2019)



Note: NEET refers to young people neither employed nor in education or training.
1. Year of reference differs from 2019. Refer to the source table for more details.
Countries are ranked in descending order of the total percentage of 18-24 year-olds not in education.
Source: OECD (2020), Table A2.1. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).
StatLink https://doi.org/10.1787/888934162052

Context

The length and the quality of the schooling that individuals receive have an impact on their transition from education to work, as do labour-market conditions, the economic environment and the cultural context. In some countries, young people traditionally complete education before they look for work, while in other countries education and employment are concurrent. In some countries, there is little difference between how young women and young men experience the transition from education to work, while in other countries significant proportions of young women go on to raise a family full time after leaving education and do not enter the labour force. When labour-market conditions are unfavourable, young people often tend to stay in education longer, because high unemployment rates drive down the opportunity costs of education, and they can develop their skills for when the situation improves.

To improve the transition from education to work, regardless of the economic climate, education systems should aim to ensure that individuals have the skills the labour-market needs. Public investment in education can be a sensible way to counterbalance unemployment and invest in future economic growth, by building the necessary skills. In addition, public investment could be directed towards potential employers, through the creation of incentives to hire young people.

Being left out of employment can have long-lasting consequences, especially when people experience long spells of unemployment and become discouraged. Young people who are NEET are a current policy concern, with significant future consequences for individuals and society if insufficient action is taken to address this issue.

Other findings

- In general, the larger a country's share of low-performing 15-year-old students in the Programme for International Student Assessment (PISA), the larger the share of NEETs among young adults. For instance, the share of NEETs is lowest in countries with only a small share of young adults with low skills in reading, mathematics and science (below PISA Level 2) – such as in Canada and Denmark– while it is highest in countries with the highest share of low-skilled students, such as Brazil and Costa Rica.
- In 2019, the share of young adults who were neither employed nor in education or training was one of the lowest since 2000. On average across OECD countries, 15.2% of 20-24 year-olds were NEET, while a decade earlier the share of NEETs was about 4 percentage points higher (18.7%). Only Brazil, Denmark, Greece and Italy have seen an increase in the share of NEETs since 2009.
- More education reduces the risk of becoming NEET. Across OECD countries, 25-29 year-olds with below upper secondary education are four times more likely to be NEET than those with a tertiary education.

Note

This indicator analyses the situation of young people in transition from education to work: those in education, those who are employed, and those who are neither employed nor in education or training (NEET). The latter group includes not only those who have not managed to find a job (unemployed NEETs), but also those who are not actively seeking employment (inactive NEETs). Part of the analysis focuses on 18-24 year-olds, as this age group are no longer in compulsory education but a significant proportion of them will still be continuing their studies. However, due to the limited availabilty of historical data on NEETs for 18-24 year-olds in the majority of countries, the analysis of trends focuses on 20-24 year-olds.

Analysis

Labour-market outcomes of young adults once they leave education

Many young people leave education between the ages of 18 and 24. On average across OECD countries, almost half (47%) of 18-24 year-olds have left the education system. In Brazil, Colombia, Israel and New Zealand, more than 65% of these young adults are no longer in education, while the pattern is reversed in Greece, the Netherlands and Slovenia where two out of three young adults are still in education (Figure A2.1).

Among 25-29 year-olds, only 16% are still in education on average across OECD countries, and the share is less than 10% in Belgium, France, Hungary, Mexico, Poland, the Slovak Republic, South Africa and the Russian Federation. However, in Denmark, Finland, Iceland and Israel, over 25% of 25-29 year-olds remain in education. Compulsory military service for both men and women of at least two years explain why the proportion of 18-24 year-olds in education in Israel is relatively low while the opposite is true among its 25-29 year-olds (OECD, 2020[1]).

Young adults no longer in education may be employed, unemployed or inactive. Among the 47% of young adults aged 18-24 years who are not in education, 70% are employed and 30% are inactive or unemployed. However, the proportion of young adults who are employed varies considerably from country to country. Among all 18-24 year-olds not in education, 80% or more are employed in Iceland, the Netherlands, New Zealand, Norway, Sweden and Switzerland. In other countries, young people have experienced more difficulty entering the labour market when they leave the education system. For instance, in Greece, Italy, Turkey and South Africa, less than half of 18-24 year-olds who are not in education are employed (Figure A2.1).

Young adults who have not found employment upon leaving education are often referred to as NEETs: young people neither employed nor in education or training. On average across OECD countries, 14.3% of 18-24 year-olds are NEET. In Estonia, Germany, Iceland, the Netherlands, Norway, Slovenia, Sweden and Switzerland the share of NEETs is below 10%, while it is 20% or more in Argentina, Chile, Colombia, Costa Rica, Greece, Italy, Mexico, and more than 30% in Brazil, South Africa and Turkey. In most countries, inactivity is more common than unemployment: on average across OECD countries, 8.6% of 18-24 year-olds are inactive NEETs and 5.7% are unemployed NEETs. However, in France, Greece, Iceland, Latvia, Portugal, the Slovak Republic, Slovenia and Spain the share of unemployed NEETs exceeds that of inactive NEETs (Figure A2.1).

Trends in the transition from education to work

In 2019, the share of young adults neither employed nor in education or training was one of the lowest since 2000. On average across OECD countries, 15.2% of 20-24 year-olds were NEET, while a decade earlier in 2009 the share of NEETs was about 3 percentage points higher (18.7%). This trend decline is largely explained by the negative effects on youth employment of the 2008 financial crisis. 2009 was the first year after the onset of the financial and economic crisis in many countries, which explains why the share of NEETs increased significantly in 2009 going on to reach its peak in many countries in 2010-11. On average across OECD countries, the share of NEETs among 20-24 year-olds reached 19.2% in 2010 and gradually decreased each year after that date (Table A2.2 and (OECD, 2020[1])).

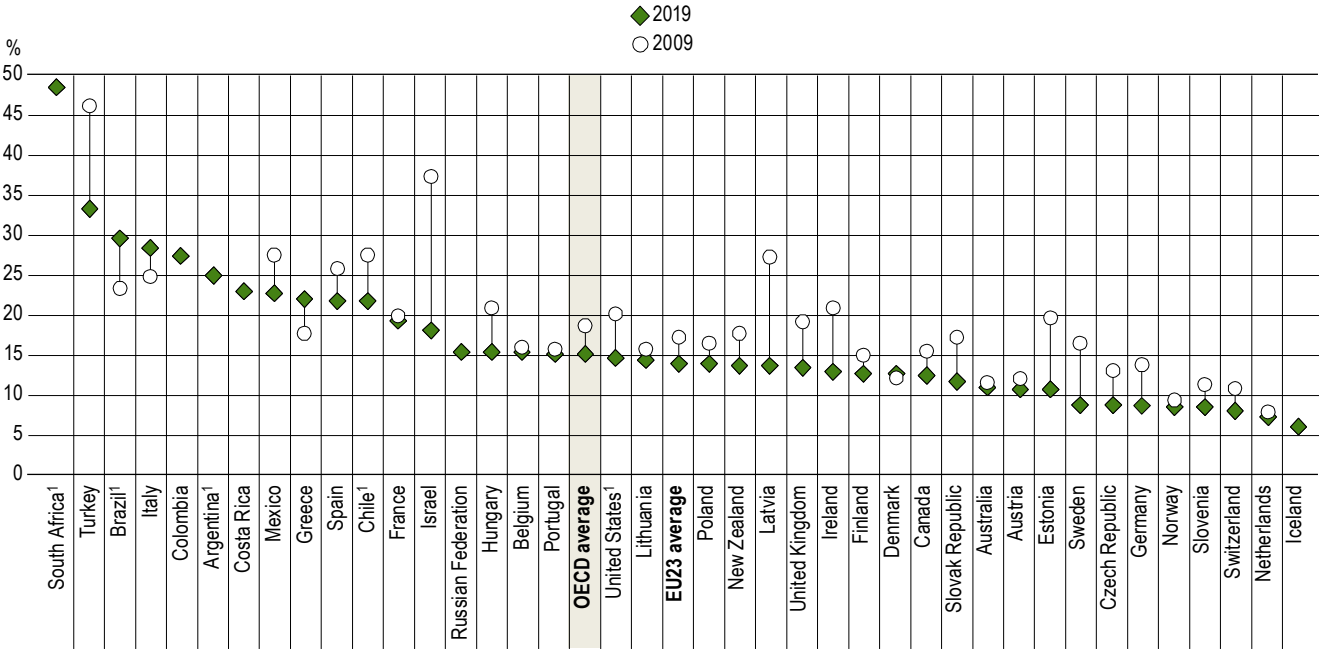
Among the countries with comparable data for both 2009 and 2019, the relative decrease was the largest in Latvia and Turkey where the share of NEETs among 20-24 year-olds fell by more than 10 percentage points. In a number of other countries including Chile, Estonia, Germany, Hungary, Ireland, Mexico, the Slovak Republic, Sweden, the United Kingdom and the United States, the share of NEETs still decreased by more than 5 percentage points over this period. In contrast, in a few countries including Brazil, Denmark, Greece and Italy, the share of NEETs increased between 2009 and 2019 (Figure A2.2).

Part of the decline in the share of NEETs over the past decade is due to a growing number of young people continuing their education. On average across OECD countries the percentage of 20-24 year-olds in education has increased from 42% in 2009 to 45% in 2019, while the increase exceeded 10 percentage points in some countries. This is the case in Greece, Ireland, Latvia, Spain, Sweden and Turkey. Some of these countries have put policies in place to reduce early school leaving and/or increase access to tertiary education (OECD, 2018[2]). Further education comprises different types of programmes, including short-cycle vocational training combined with practical training to equip young adults with the necessary skills needed in the labour market, and higher educational programmes leading to bachelor's, master's or equivalent degrees (Figure A2.2).

In most countries, the fact that young people are staying in education longer has not just resulted in a decline in the proportion of NEETs between 2009 and 2019. Another direct consequence has been the decline in the share of young adults not in

education and in employment. Among OECD countries with comparable data for 2009 and 2019, the decrease in the share of 20-24 year-olds not in education and in employment over this period was at least 5 percentage points in Australia, Belgium, Italy, the Netherlands, Norway and Portugal, and over 10 percentage points in Brazil, Greece and Spain. Some countries show the opposite trend: in Estonia, Hungary, New Zealand, Poland and Slovenia, the share of employed adults aged 20-24 not in education increased between 2009 and 2019 while the share of young adults in education has fallen over the same period (Table A2.2).

Figure A2.2. Trends in the percentage of NEETs among 20-24 year-olds (2009 and 2019)



1. Year of reference differs from 2019. Refer to Table A2.2 for more details.
Countries are ranked in descending order of the percentage of NEETs in 2019.
Source: OECD (2020), Table A2.2. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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The diversity of the NEET population

Various dimensions such as gender, age, educational attainment and migration status affect the risk of becoming NEET.

Young women are more likely to be NEET than young men. Across OECD countries, 15.4% of 18-24 year-old women are NEET while the share among men of the same age is slightly lower (13.2%). Although women are more likely to be NEET, the reasons are not the same as for men. Some 10.7% of young women are inactive and not in education, compared to only 8.6% of men, while only 4.8% of women are unemployed and not in education, compared to 6.6% of men (OECD, 2020[1]). The main reasons for inactivity among women are childcare responsibilities, while health and other factors are more prevalent among men (OECD, 2016[3]). When interpreting the figures for inactive NEETs, it should be noted that some are only temporarily inactive and may soon re-enter employment, education or training. Nevertheless, a small share may also have become discouraged and stopped looking for work because they believe that there are no job opportunities for them (Eurofound, 2016[4]).

In Argentina, Brazil, Colombia, Costa Rica, the Czech Republic, Mexico and Turkey, the gender gap in inactivity rates is at least 10 percentage points among 18-24 year-olds. Mexico and Turkey are the only two OECD countries where the gender gap is over 20 percentage points. In these two countries, as in many others, the overall high share of NEETs can mainly be attributed to the high share of inactive female NEETs (OECD, 2020[1]).

Young adults in their upper twenties are more likely to be NEET than their younger peers. This is particularly true for women. Among women, the share of inactive NEETs increases with age, while it is more or less stable among men. On average across OECD countries, among 18-24 year-olds, 10.4% of women and 6.5% of men are inactive NEETs, a gender gap of 4 percentage points. Among 25-29 year-olds the share increases to 22.4% for women and to 11.8% for men, a gender gap of more than 10 percentage points. At the same time, the differences in the share of unemployed NEETs by gender and age are small, with shares all at about 5-7% (OECD, 2020[1]).

More education reduces the risk of becoming NEET. Across OECD countries 10.7% of tertiary-educated young adults aged 25-29 are NEET, compared to 16.7% of those with an upper secondary or post-secondary non-tertiary education and 39.2% of those without upper secondary education. In other words, across OECD countries, young adults aged 25-29 without upper secondary education are four times more likely to be NEET than those with tertiary education. The situation is especially severe for 25-29 year-olds with below upper secondary education in the Czech Republic, France, Greece, Ireland, Italy, the Slovak Republic, Slovenia, South Africa and Poland, where half or more of these young adults are NEET (OECD, 2020[1]).

Attaining at least upper secondary education considerably reduces the risk of becoming NEET. The positive impact of upper secondary attainment is especially great in Austria, Germany, the Slovak Republic, Slovenia, and Switzerland. In all these countries, the share of NEETs among 25-29 year-olds with an upper secondary or post-secondary non-tertiary education is about one-quarter the share among those with below upper secondary education (OECD, 2020[1]). All of these countries have a well-developed vocational education and training (VET) system at upper secondary level. VET programmes in Austria, Germany and Switzerland also have a strong work-based component, which generally offer the best labour-market outcomes to their graduates (see Indicators A3 and B7).

In most OECD and partner countries, foreign-born young adults are also more likely to be NEET. On average across OECD countries, 18% of foreign-born 15-29 year-olds are NEET, compared to 13% of their native-born peers. The differences are largest in Austria and Germany, where the percentage is about 25% among foreign-born 15-29 year-olds and below 10% among native-born 15-29 year-olds. Early arrival in the country can reduce the risk of being NEET. For instance, among foreign-born young adults who arrived in Germany at the age of 16 or older, one-third (32%) are NEET, compared with only 11% of those who arrived by the age of 15. This underlines the importance of education in helping young people acquire sufficient literacy skills to participate in society and other key skills required by the labour market. (OECD, 2018[5]).

Transition from education to work among recent upper secondary graduates

Young adults are generally about 17-18 years old when they graduate from upper secondary education (see Table X1.1a). From there, they can pursue different pathways. Typically, some will continue education, mostly at the tertiary level, but also at the same level or in post-secondary non-tertiary programmes. Others leave education to seek employment or become inactive for various reasons. The use of data from the European Labour Force Survey (EU-LFS) complemented by data from administrative sources and graduate or non-graduate surveys for non-EU-LFS countries allows a more in-depth analysis of the transition from school to work.

The share of NEETs by years since completing education is typically used to assess how smoothly young adults make the school-to-work transition. In 2018, one in seven (14%) young adults with an upper secondary education who completed their education up to two years earlier were NEET, on average in OECD countries. The share of NEETs falls at first following graduation from upper secondary education, but increases slightly in the longer run: 10% of those who graduated two to three years earlier are NEET, but this rises to 12% among those who graduated four to five years earlier (Figure A2.3).

The share of NEETs among recent upper secondary graduates varies considerably across countries. Among young adults who completed upper secondary education less than two years ago, the percentage of NEETs is less than 5% in the Czech Republic, the Netherlands and New Zealand and exceeds 30% in Greece and Turkey (Figure A2.3).

In most countries, the percentage of NEETs decreases during the first years following graduation from upper secondary education. In Turkey, the share was 57% among graduates who graduated less than two years earlier, falling to 25% among those who graduated between two and three years earlier, a difference of 32 percentage points. Similarly, in Greece the difference between the two graduation cohorts is 21 percentage points. In Denmark, Finland, Italy, Latvia, Poland, Portugal and Switzerland, even though the overall share of NEETs is lower, the difference between the two cohorts still exceeds 5 percentage points (Figure A2.3).

In many countries, the share of NEETs among upper secondary graduates tends to stabilise three or more years after leaving education. The difference in the share of NEETS between those who completed upper secondary education two to three

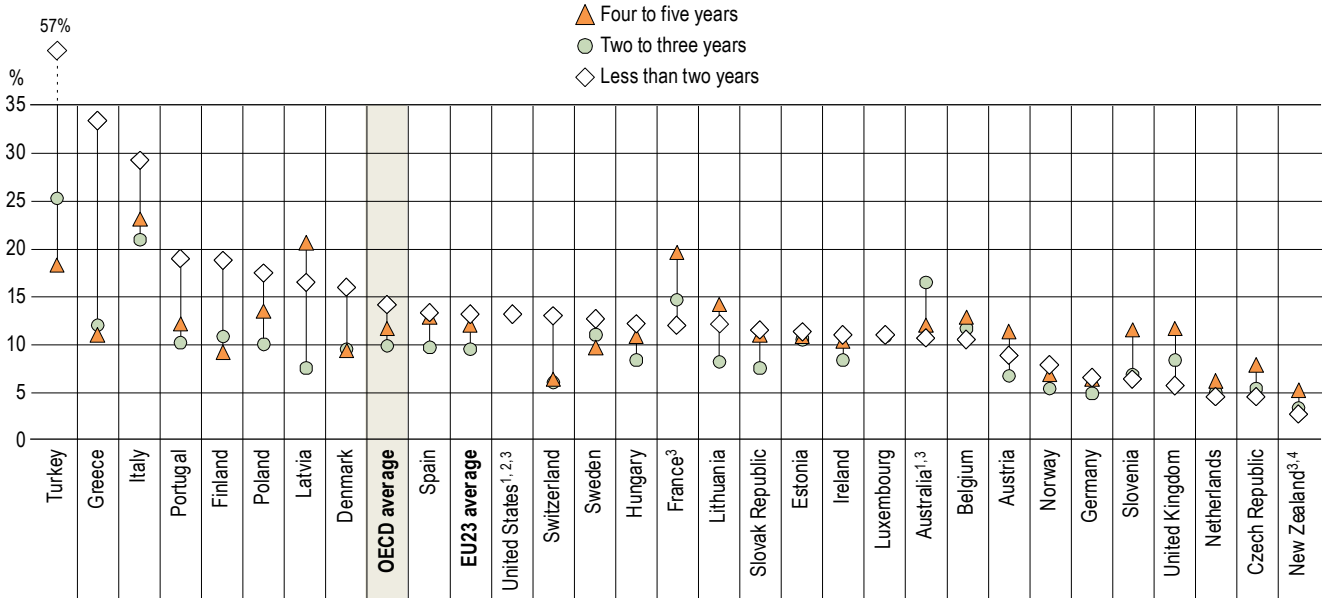
years before and those who did so four to five years earlier is small in many countries. However, in some countries, the share of NEETs rises among those who graduated four to five years earlier. For instance, in Latvia the difference is 13 percentage points (8% of those who graduated two to three years ago and 21% of those who graduated earlier) while in Lithuania it is 6 percentage points (8% of the more recent cohort and 14% of the earlier one) (Figure A2.3).

In a few countries including Belgium, the Czech Republic, France, the Netherlands, New Zealand, Slovenia and the United Kingdom, the share of NEETs increases steadily in the years after graduation from upper secondary. For instance in France, the share of NEETs is 12% of young adults with upper secondary attainment who completed education less than two years earlier, 15% of those who graduated two to three years earlier and 20% of those who graduated four to five years earlier (Figure A2.3).

There are various reasons which may explain the increase in the share of NEETs over time. One reason may be the role of active labour-market policies in the school-to-work transition. Many countries have adopted such policies to facilitate the transition from education to work. Programmes promoting initial work experience, such as employment subsidy programmes, may provide first-time work experience, but may not necessarily lead to permanent employment (Crépon and van den Berg, 2016[6]). Another reason may the higher risk for women of becoming NEET when starting a family. Care-giving and family responsibilities may force young women to abandon their jobs after some years of professional experience and to become inactive (OECD, 2016[3]).

Figure A2.3. Percentage of young adults with upper secondary education who are NEET, by years since graduation (2018)

Adults aged 15-34 at graduation



Note: NEET refers to young people neither employed nor in education or training. The time periods of "less than two years", "two to three years" and "four to five years" since graduation refer to 0-23 months, 24-47 months and 48-71 months since graduation respectively.

1. Year of reference differs from 2018. Refer to the source table for more details.
2. Data refer to 15-29 year-olds. Data reported under the category "Less than two years" refer to "One year" since graduation.
3. The source is different from EU-LFS.
4. General programmes only.

Countries are ranked in descending order of the percentage of young adults with upper secondary attainment who are NEET less than two years after completion.

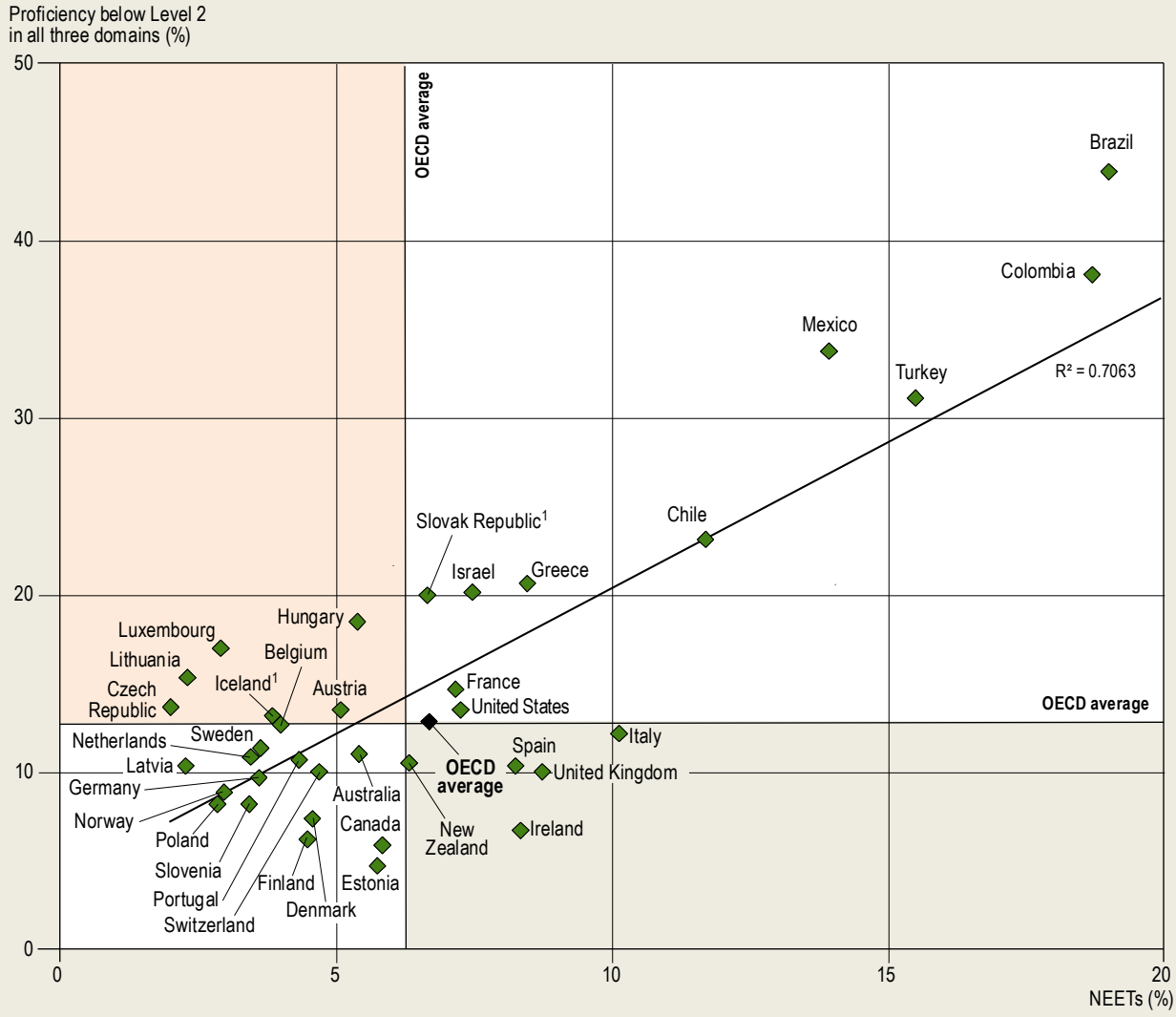
Source: OECD (2020), Table A2.3. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Box A2.1. Basic skills and future labour-market outcomes among 15-19 year-olds

In most OECD countries compulsory education lasts until at least the age of 16 (see Indicator B1 and Table X1.3). In most countries, the majority of students continue education well beyond this age. On average across OECD countries 86% of 15-19 year-olds are still in education.

Figure A2.4. Relationship between the percentage of 15-year-old students who were low performers in PISA (2015) and the share of NEETs among 15-19 year-olds (2017)



Note: NEET refers to young people neither in employment nor in education or training. Low-skilled students refers to 15-year-old students who were below Level 2 in mathematics, reading and science proficiency in PISA 2015.

1. Year of reference 2018 for the share of NEETs.

Source: NEETs: OECD (2020), Education at a Glance Database. PISA 2015 proficiency levels: OECD, PISA 2015 Database, Tables I.2.4a, I.2.6, I.2.7, I.4.4a and I.5.4a (http://dx.doi.org/10.1787/888933431961). See Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934162109

Young adults, who have left education at an early age often have difficulty finding employment. On average in OECD countries, 6.6% of 15-19 year-olds are neither employed nor in education or training (NEET) which amounts to almost half of the young adults of this age who are not in education. The share of NEETs among 15-19 year-olds is at least 15%

in Brazil, Colombia, Costa Rica, and Turkey, while it is lowest (3% or less) in the Czech Republic, Latvia, Lithuania, Luxembourg and Norway (OECD, 2020[1]).

To what extent are NEET rates related to skill levels among young people? The OECD Programme for International Student Assessment (PISA) measures the proficiency in literacy, mathematics and science of 15-year-old students. PISA results show that in many countries a large share of students have not even reached Level 2 on the six-level PISA scale. Such students lack the elementary skills required to read and understand simple texts, or to master basic mathematical and scientific concepts and procedures (OECD, 2016[7]).

The literature shows that low skills among 15-year-old students have a negative impact on the economy as a whole, as well as on the labour-market outcomes of individuals (Hanushek and Woessmann, 2015[8]). Moreover, a Canadian study has shown that 15-year-old students with higher PISA scores stay longer in education and attain higher qualifications (OECD, 2010[9]).

Figure A2.4 compares the share of 15-year-old students with a proficiency level below Level 2 in reading, mathematics and science with the share of NEETs among 15-19 year-olds. Data suggest that there is a relationship between the share of low-skilled 15-year-old students and the percentage of NEETs among 15-19 year-olds (R^2 = 0.71). In general, the higher the percentage of low-skilled 15-year-old students in PISA, the higher the percentage of NEETs among 15-19 year-olds. The share of NEETs is lowest in countries with a small share of low performers in all three domains, such as Canada, Estonia, Finland and Ireland, and highest in countries with the highest share of low-skilled students, such as Brazil, Colombia, Mexico and Turkey (Figure A2.4).

On average across OECD countries, 20% of 15-year-old students have low skills in reading, measured as having a reading proficiency below Level 2. Some 23% of students have low skills in mathematics and 21% of students in science, while 13% perform below Level 2 in all three domains. The percentage of low performers in all three domains is about 5% in Canada, Estonia and Finland, but is at least 30% in Brazil, Colombia, Cost Rica, Mexico and Turkey. The share is highest in Brazil (44%) ((OECD, 2016[7]) and Figure A2.4).

Definitions

Educational attainment refers to the highest level of education attained by a person.

Employed, inactive and unemployed individuals*:* See *Definitions* section in Indicator A3.

Individuals in education are those who had received formal education and/or training in the regular educational system in the four weeks prior to being surveyed.

Levels of education: See the *Reader's Guide* at the beginning of this publication for a presentation of all ISCED 2011 levels.

NEET*:* Neither employed nor in education or training.

Methodology

Data from the national labour force surveys usually refer to the second quarter of studies, as this is the most relevant period for knowing if the young person is really studying or has left education for the labour force. This second quarter corresponds in most countries to the first three months of the calendar year, but in some countries to the second three months (i.e. April, May and June).

Education or training corresponds to formal education; therefore, someone not working but following non-formal studies is considered NEET.

Data on the education and labour-market status of recent graduates by years since graduates are from the EU-LFS for all countries participating in this survey. Different graduation cohorts have been combined (cross-cohort analysis) for the retrospective analysis of the school-to-work transitions over a period of five years following their graduation. The most important drawback of the data source is that it does not allow the changes in the education and labour force status to be tracked between the assessment points in time. The data from the EU-LFS have been complemented by data from

administrative source and graduate or non-graduate surveys for non-EU-LFS countries. The recent graduate cohorts have been restricted to adults who were 15-34 years old at the time of graduation.

Please see the *OECD Handbook for Internationally Comparative Education Statistics 2018* (OECD, 2018[10]) for more information and Annex 3 for country-specific notes (https://doi.org/10.1787/69096873-en).

Source

For information on the sources, see Indicator A1.

Data on subnational regions for selected indicators are available in the OECD Regional database (http://stats.oecd.org/Index.aspx?datasetcode=REGION_EDUCAT).

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Indicator A2 Tables

Table A2.1 Percentage of 18-24 year-olds in education/not in education, by work status (2019)

Table A2.2 Trends in the percentage of young adults in education/not in education, by age group and work status (2009 and 2019)

Table A2.3 Young adults with upper-secondary education in education/not in education, employed or not, by years since graduation (2018)

Cut-off date for the data: 19 July 2020. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en. More breakdowns can also be found at http://stats.oecd.org/, Education at a Glance Database.

StatLink: https://doi.org/10.1787/888934161976

Table A2.1. Percentage of 18-24 year-olds in education/not in education, by work status (2019)

		In education						Not in education					
		Employed			Unemployed	Inactive	Total	Employed	NEET			Total	Total
		Students in work-study programmes	Other employed	Total					Unemployed	Inactive	Total		
		(1)	(2)	(3) = (1) + (2)	(4)	(5)	(6) = (3) + (4) + (5)	(7)	(8)	(9)	(10) = (8) + (9)	(11) = (7) + (10)	(12) = (6) + (11)
OECD	Countries												
	Australia	5	27	33	3.4	15	51	37	5.0	6	11.4	49	100
	Austria	9	13	21	0.9	26	48	41	4.2	7	10.8	52	100
	Belgium	0	7	8	0.6	53	61	25	5.4	8	13.5	39	100
	Canada	x(2)	23 d	23	2.2	25	50	38	5.0	7	11.8	50	100
	Chile[1]	x(2)	9 d	9	3.0	38	50	28	6.6	15	21.9	50	100
	Colombia	a	10	10	2.8	17	30	43	11.2	16	27.6	70	100
	Costa Rica	a	16	16	8.4	26	50	27	9.3	13	22.8	50	100
	Czech Republic	m	m	m	m	m	m	m	m	m	m	m	m
	Denmark	x(2)	32 d	32	3.3	23	59	30	3.9	8	11.7	41	100
	Estonia	m	21	21	2.6	33	56	35	3.2	6	9.3	44	100
	Finland	x(2)	22 d	22	5.9	30	58	30	4.7	8	12.3	42	100
	France	7	5	13	0.9	41	54	28	9.5	8	17.3	46	100
	Germany	17	16	33	1.0	29	63	29	2.8	5	8.1	37	100
	Greece	a	5	5	1.1	58	65	15	12.7	8	20.7	35	100
	Hungary	a	3	3	0.3	46	50	35	4.4	10	14.5	50	100
	Iceland	a	39	39	2.8	15	56	38	3.4	3	6.1	44	100
	Ireland	a	22	22	1.6	32	55	33	4.5	8	12.0	45	100
	Israel	x(2)	11 d	11	0.7	19	30	52	2.9	15	17.5	70	100
	Italy	a	2	2	0.8	49	52	22	11.1	14	25.5	48	100
	Japan	m	m	m	m	m	m	m	m	m	m	m	m
	Korea	m	m	m	m	m	m	m	m	m	m	m	m
	Latvia	a	18	18	c	40	59	29	6.2	5	11.4	41	100
	Lithuania	a	17	17	0.3	44	61	27	5.7	6	12.0	39	100
	Luxembourg	a	c	c	c	52	68	26	c	c	c	32	100
	Mexico	a	10	10	0.7	26	38	41	3.4	18	21.5	62	100
	Netherlands	x(2)	42 d	42	2.6	21	65	28	1.6	5	6.9	35	100
	New Zealand	a	17	17	1.5	15	33	54	5.5	8	13.4	67	100
	Norway	1	20	21	3.6	27	51	40	2.4	6	8.1	49	100
	Poland	a	10	10	0.9	44	54	34	3.8	8	11.9	46	100
	Portugal	a	6	6	1.2	47	54	32	7.2	6	13.3	46	100
	Slovak Republic	c	2	2	c	55	57	32	5.7	5	10.6	43	100
	Slovenia	x(2)	17 d	17	0.5	47	64	27	4.3	4	8.5	36	100
	Spain	x(2)	8 d	8	3.8	47	59	21	11.3	8	19.7	41	100
	Sweden	a	18	18	7.9	31	58	34	3.8	5	8.4	42	100
	Switzerland	16	18	34	1.6	21	57	36	2.9	4	7.3	43	100
	Turkey	a	13	13	4.4	21	38	29	11.1	21	32.2	62	100
	United Kingdom	5	14	19	1.4	23	43	43	5.2	8	13.3	57	100
	United States[2]	x(2)	20 d	20	1.3	26	47	39	3.9	10	14.2	53	100
	OECD average	m	16	17	2.3	33	53	33	5.7	9	14.3	47	100
	EU23 average	m	14	16	2.0	40	57	30	5.8	7	12.9	43	100
Partners	Argentina[2]	a	12	12	4.3	31	47	29	8.8	15	24.1	53	100
	Brazil[2]	a	14	14	5.2	14	33	37	13.1	18	30.6	67	100
	China	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	m	7	7	2.1	42	52	34	5.4	9	14.3	48	100
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa[2]	a	1	1	0.8	41	42	16	18.3	24	41.9	58	100
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m

Note: NEET refers to young people neither employed nor in education or training. See Definitions and Methodology sections for more information. Data and more breakdowns are available at http://stats.oecd.org/, Education at a Glance Database.

1. Year of reference 2017.

2. Year of reference 2018.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table A2.2. Trends in the percentage of young adults in education/not in education, by age group and work status (2009 and 2019)

		20-24 year-olds						15-29 year-olds					
		2009			2019			2009			2019		
		In education	Not in education		In education	Not in education		In education	Not in education		In education	Not in education	
			Employed	NEET		Employed	NEET		Employed	NEET		Employed	NEET
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD	Countries												
	Australia	40	49	11.6	47	42	11.0	44	44	12.3	47	42	10.4
	Austria	35	53	12.0	40	49	10.9	44	44	11.4	45	45	10.4
	Belgium	45	39	16.1	51	33	15.4	47	40	12.7	49	39	12.6
	Canada	38	47	15.5	43	44	12.6	43	43	13.4	43	45	11.3
	Chile[1]	36	36	27.5	44	34	21.8	44	32	23.6	46	35	18.4
	Colombia	m	m	m	24	49	27.5	m	m	m	33	43	23.7
	Costa Rica	m	m	m	45	32	23.0	m	m	m	47	32	20.2
	Czech Republic	46	41	13.1	48	43	8.9	47	40	12.8	46	45	9.8
	Denmark	51	37	12.1	53	35	12.7	58	33	8.8	55	33	11.6
	Estonia	47	33	19.8	45	44	10.8	47	34	19.0	47	42	10.4
	Finland	49	36	15.1	51	36	12.9	54	34	12.0	55	34	11.0
	France	40	40	20.0	43	38	19.5	45	40	15.6	49	36	15.4
	Germany	48	38	13.7	55	36	8.8	52	36	11.6	54	38	8.2
	Greece	48	34	17.8	59	19	22.0	44	39	16.6	55	26	19.6
	Hungary	49	30	20.9	41	43	15.5	48	34	17.7	42	44	13.3
	Iceland	c	c	c	51	43	6.1	51	38	11.2	49	45	6.3
	Ireland	34	45	20.8	45	42	13.0	38	44	18.6	50	39	11.0
	Israel	29[b]	34[b]	37.5[b]	29	53	18.2	42[b]	29[b]	28.7[b]	44	43	12.9
	Italy	42	33	24.8	43	28	28.5	45	34	21.2	48	29	23.7
	Japan	33	55	12.6	m	m	m	40	48	12.2	m	m	m
	Korea	m	m	m	m	m	m	m	m	m	m	m	m
	Latvia	38	35	27.3	48	39	13.9	46	34	20.2	47	43	10.0
	Lithuania	51	33	15.9	51	34	14.5	56	33	11.4	50	39	11.3
	Luxembourg	c	c	c	64	29	c	54	39	7.9	57	38	5.5
	Mexico	26	47	27.4	31	46	22.9	34	41	24.4	38	42	20.7
	Netherlands	53	40	7.9	59	34	7.4	54	39	7.0	56	37	6.9
	New Zealand	39	43	17.6	27	59	13.9	45	40	14.8	37	52	11.8
	Norway	42	49	9.4	47	44	8.7	46	46	8.0	46	46	7.9
	Poland	54	29	16.4	42	44	14.0	51	35	14.2	42	45	12.5
	Portugal	38	46	15.7	43	42	15.3	42	45	12.8	49	40	11.5
	Slovak Republic	45	38	17.1	47	41	11.8	46	38	16.1	43	44	13.3
	Slovenia	63	26	11.4	56	35	8.7	58	33	9.0	53	38	9.4
	Spain	35	39	25.9	51	27	21.9	37	41	22.6	51	30	18.3
	Sweden	39	44	16.5	50	41	9.0	51	38	11.0	53	40	7.0
	Switzerland	45	44	10.9	48	44	8.1	47	43	10.7	49	43	7.3
	Turkey	24	30	46.1	34	33	33.3	30	31	39.6	41	31	28.8
	United Kingdom	32	49	19.1	35	52	13.6	40	44	15.7	36	51	12.3
	United States[2]	39	41	20.1	39	47	14.8	46	37	16.9	44	43	12.7
	OECD average	42	40	18.7	45	40	15.2	46	38	15.5	47	40	13.0
	EU23 average	45	38	17.2	49	38	14.0	48	38	14.2	49	39	12.0
Partners	Argentina[2]	m	m	m	41	34	25.0	m	m	m	48	32	20.4
	Brazil[2]	24[b]	53[b]	23.3[b]	28	42	29.8	36[b]	45[b]	19.6[b]	38	37	24.9
	China	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	m	m	m	43	41	15.5	m	m	m	39	48	12.6
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa[2]	m	m	m	31	20	48.6	m	m	m	41	22	37.7
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m

Note: NEET refers to young people neither employed nor in education or training. See Definitions and Methodology sections for more information. Data and more breakdowns are available at http://stats.oecd.org/, Education at a Glance Database.

1. Year of reference 2017 instead of 2019.
2. Year of reference 2018 instead of 2019.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table A2.3. Young adults with upper secondary education in education/not in education, employed or not, by years since graduation (2018)

Adults aged 15-34 at graduation

		Less than two years			Two to three years			Four to five years		
			Not in education			Not in education			Not in education	
		In education	Employed	NEET	In education	Employed	NEET	In education	Employed	NEET
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD	Countries									
	Australia[1, 2]	32	57	11	24	59	16	21	67	12
	Austria	53	38	9	52	42	7	31	57	11
	Belgium	75	14	11	69	19	12	39	48	13
	Canada	m	m	m	m	m	m	m	m	m
	Chile	m	m	m	m	m	m	m	m	m
	Colombia	m	m	m	m	m	m	m	m	m
	Costa Rica	m	m	m	m	m	m	m	m	m
	Czech Republic	69	26	5	58	37	5	32	60	8
	Denmark	19	65	16	52	39	10	49	42	9
	Estonia	66	23	11 r	58	32	10 r	39	50	11 r
	Finland	30	51	19	45	44	11	47	44	9
	France[3]	73	14	12	57	28	15	37	44	20
	Germany	53	40	7	60	35	5	49	45	7
	Greece	61	5	33	80	9	12	75	13	11
	Hungary	67	20	12	63	29	8	43	46	11
	Iceland	45	51	c	48	49	c	48	49	c
	Ireland	73	16	11	72	20	8	52	37	11
	Israel	m	m	m	m	m	m	m	m	m
	Italy	55	15	29	55	23	21	42	34	23
	Japan	m	m	m	m	m	m	m	m	m
	Korea	m	m	m	m	m	m	m	m	m
	Latvia	55	28	17	63	30	8 r	36	44	21
	Lithuania	68	20	12	67	25	8	54	32	14
	Luxembourg	66	23	11 r	48	41	11 r	30	61	c
	Mexico	m	m	m	m	m	m	m	m	m
	Netherlands	65	30	5	63	32	5	49	45	6
	New Zealand[1, 4]	61	36	3	57	40	3	42	52	5
	Norway	53	39	8 r	57	37	5 r	43	50	7 r
	Poland	56	27	18	50	40	10	27	60	14
	Portugal	58	23	19	60	30	10	39	49	12
	Slovak Republic	57	31	12	49	44	8	27	62	11
	Slovenia	80	14	7 r	62	31	7 r	45	43	12 r
	Spain	74	12	13	73	17	10	66	21	13
	Sweden	33	54	13	26	62	11	17	73	10
	Switzerland	39	47	13	47	46	6	37	56	7
	Turkey	19	24	57	53	22	25	57	25	18
	United Kingdom	73	21	6	60	31	8	33	55	12
	United States[1, 5]	68	19	13	m	m	m	m	m	m
	OECD average	57	29	14	56	34	10	42	47	12
	EU23 average	60	27	13	58	32	9	42	46	12
Partners	Argentina	m	m	m	m	m	m	m	m	m
	Brazil	m	m	m	m	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m	m	m	m
	Saudi Arabia	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m

Note: NEET refers to young people neither employed nor in education or training. The time periods of "less than two years", "two to three years" and "four to five years" since graduation refer to 0-23 months, 24-47 months and 48-71 months since graduation respectively. See Definitions and Methodology sections for more information.

1. Source different from the EU-LFS.
2. Year of reference 2019.
3. Data from national LFS.
4. General programmes only.
5. Year of reference 2017 and 2018 combined. The age group refers to 15-29 year-olds. Data reported under the category "Less than two years" refer to "One year" since graduation.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Indicator A3. How does educational attainment affect participation in the labour market?

Highlights

- Higher educational attainment increases the likelihood of being employed. On average across OECD countries, the employment rate is 61% for 25-34 year-olds without upper secondary education, 78% for those with upper secondary or post-secondary non-tertiary education as their highest attainment and 85% for those with tertiary education.
- On average across OECD countries, among 25-34 year-olds with upper secondary or post-secondary non-tertiary attainment, the employment rate is roughly 10 percentage points higher for younger adults with a vocational qualification (82%) than for those with a general qualification (73%).
- In more than one-third of OECD and partner countries, the employment rates for 25-34 year-olds with vocational upper secondary or post-secondary non-tertiary attainment are equal to or higher than the employment rates for those with tertiary education. Most of these countries have upper secondary or post-secondary vocational programmes with strong and integrated work-based learning or/and vocational programmes designed to offer students direct entry to the labour market.

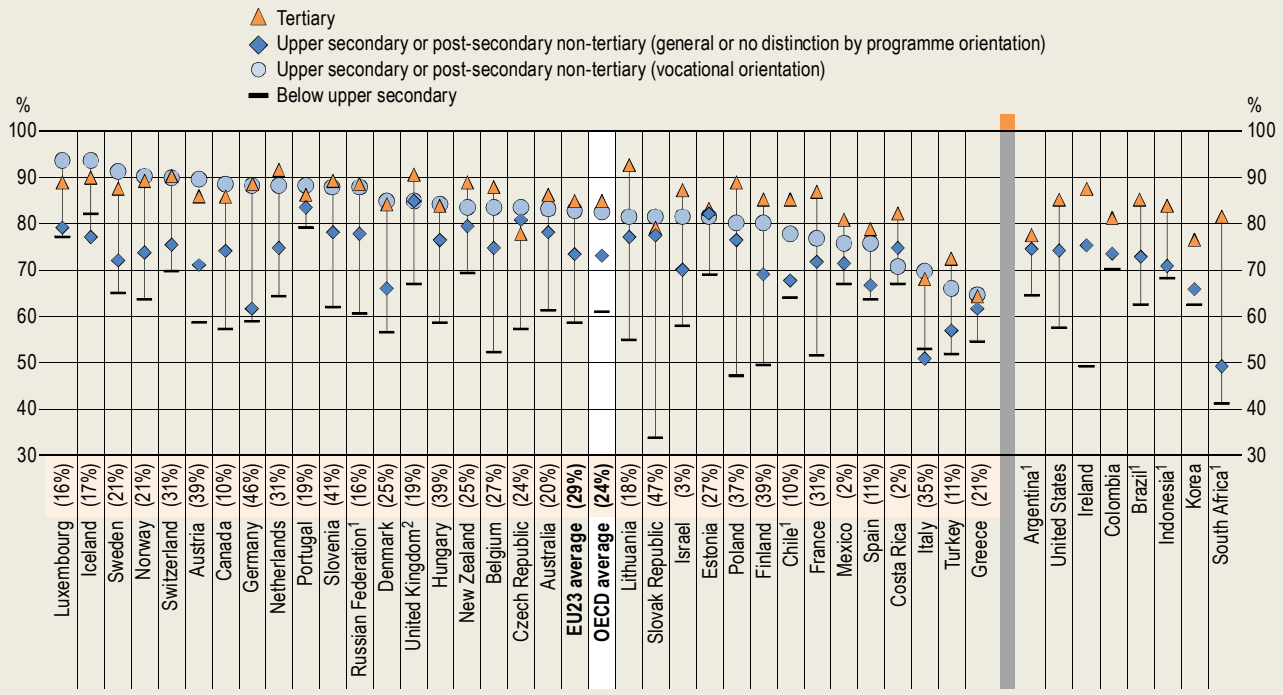
Context

The economies of OECD countries depend upon a supply of highly skilled workers. Expanded education opportunities have increased the pool of skilled people across countries, and those with higher qualifications are more likely to find employment. In contrast, while employment opportunities still exist for those with lower qualifications, their labour-market prospects are relatively challenging. People with the lowest educational qualifications have lower earnings (see Indicator A4) and are often working in routine jobs that are at greater risk of being automated, therefore increasing their likelihood of being unemployed (Arntz, Gregory and Zierahn, 2016[1]). These disparities in labour-market outcomes can exacerbate inequalities in society. The health crisis we are experiencing linked to the spread of COVID-19 will undoubtedly have an impact on unemployment, and those with lower educational attainment might be the most vulnerable. The impact will have to be monitored in the coming years.

Young people often struggle to enter the labour market (see Indicator A2). Many OECD countries are increasingly interested in the development of vocational education and training system to tackle youth unemployment. While vocational education improves the school-to-work transition, it may become a challenge for vocationally trained individuals to learn new skills later on (Hanushek, Woessmann and Zhang, 2011[2]).

Comparing labour-market indicators across countries can help governments to better understand global trends and anticipate how economies may evolve in the coming years. In turn, these insights can inform the design of education policies, which aim to ensure that the students of today can be well prepared for the labour market of tomorrow.

Figure A3.1. Employment rates of 25-34 year-olds, by educational attainment and programme orientation (2019)



Note: The percentage in parentheses represents the percentage of 25-34 year-olds whose highest level of education is vocational upper secondary or post-secondary non-tertiary education.

1. Year of reference differs from 2019. Refer to the source table for more details.

2. Data for upper secondary attainment include completion of a sufficient volume and standard of programmes that would be classified individually as completion of intermediate upper secondary programmes (12% of adults aged 25-64 are in this group).

Countries in the left panel are ranked in descending order of the employment rate of 25-34 year-olds who attained vocational upper secondary or post-secondary non-tertiary education, and those in the right panel are ranked in descending order of the employment rate of 25-34 year-olds who attained upper secondary or post-secondary non-tertiary education (general or no distinction by programme orientation).

Source: OECD (2020), Table A3.3. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Other findings

- Work experience during study is associated with higher employment rates later on in adults' careers. However, rates vary greatly across countries and by the type of work experience acquired while studying.
- Among adults with upper secondary or post-secondary non-tertiary education as their highest attainment, the employment advantage for those with a vocational qualification as compared to those with a general qualification tends to weaken over their lifetimes. In some countries, such as the Czech Republic, France and Mexico, the initial employment benefit of a vocational qualification turns into a disadvantage for adults age 35 and over.
- In all OECD countries, employment rates increase with time since graduation. In 2018, on average across OECD countries, two out of three (66%) young adults with an upper secondary education were employed within two years of graduation. The employment rate rises to 76% two to three years after graduation and to 79% four to five years after graduation.
- The unemployment rate of women who completed a vocational upper secondary or post-secondary non-tertiary programme is higher than that of men. On average across OECD countries, 9% of young women with a vocational programme as their highest attainment are unemployed, compared to 6% of young men.

Analysis

Educational attainment and employment

Upper secondary education is often considered the minimum requirement for successful labour-market integration. Adults without this level of education are less employed, regardless of their age (Figure A3.2). On average across OECD countries, the employment rate is 59% for adults (25-64 year-olds) without upper secondary education, 77% for those with upper secondary or post-secondary non-tertiary education as their highest attainment, and 86% for tertiary-educated adults Table A3.1).

In all OECD and partner countries, attainment of upper secondary or post-secondary non-tertiary education is associated with higher employment rates. On average across OECD countries, the employment premium for adults with this level of education as their highest attainment is roughly 20 percentage points more than those without upper secondary education. However, the employment premium varies markedly across OECD and partner countries, ranging from 1 percentage point in Indonesia to 40 percentage points in the Slovak Republic (Table A3.1).

Employment rates also tend to increase between upper secondary education and post-secondary non-tertiary education. On average across the OECD, adults with post-secondary non-tertiary education enjoy better employment prospects than those with only upper secondary education (81% compared to 76%). However, in Estonia, Spain and Sweden, the employment rate is slightly lower for adults with post-secondary non-tertiary education than for adults with upper secondary attainment (Table A3.1)

On average across OECD countries, the employment rate for tertiary-educated adults increases by a further 9 percentage points, compared to those with upper secondary or post-secondary non-tertiary education as their highest attainment. Furthermore, employment rates continue to increase with higher levels of tertiary education, from 82% for adults with a short-cycle tertiary degree, to 84% for those with a bachelor's or equivalent degree, 88% for those with a master's or equivalent degree and 93% for those with a doctoral or equivalent degree (Table A3.1).

Adults with the most advanced qualifications (master's and doctoral) generally have the best employment prospects. In most countries with available data, the employment advantage for the additional step of earning a master's qualification is considerable, reaching at least 10 percentage points in Argentina and the Slovak Republic. In all countries except Greece, the Slovak Republic and the Russian Federation, at least 90% of doctorate holders are employed (Table A3.1).

By age group and programme orientation

On average across OECD countries, higher educational attainment increases is associated with higher employment rates for each age group. Among younger adults (25-34 year-olds), the average employment rate is 61% for those without upper secondary education, 78% for those with upper secondary or post-secondary non-tertiary education as their highest attainment, and 85% for those with a tertiary degree. Compared to the other age groups, employment rates are lowest for 55-64 year-olds, regardless of educational attainment level. This is mainly due to retirement, as a large proportion of 60-64 year-olds have already left the labour force (Figure A3.2).

In addition to increasing with educational attainment, employment rates also vary by the type of programme pursued. In the majority of OECD and partner countries, upper secondary and post-secondary non-tertiary education consists of both general and vocational programmes. Across OECD countries, 24% of younger adults attained a vocational upper secondary or post-secondary non-tertiary education and 16% attained a general one (see Indicator A1). This greater prevalence of vocational attainment is associated with strong employability in the labour market. On average in OECD countries, among younger adults with upper secondary or post-secondary non-tertiary education as their highest attainment, the employment rate is about 10 percentage points higher for those with a vocational qualification than for those with a general qualification, at 82% compared to 73% (Figure A3.1).

The difference in employment rates between younger adults with a vocational or a general qualification is 27 percentage points in Germany, but some of those with a general qualification are still enrolled in education. In Germany, younger adults who completed a vocational programme account for more than 80% of all those with upper secondary or post-secondary non-tertiary education as their highest attainment (see Indicator A1). Conversely, in Costa Rica, Estonia and

the United Kingdom, younger adults with a general qualification at this level have better employment prospects than those with a vocational qualification (Figure A3.1).

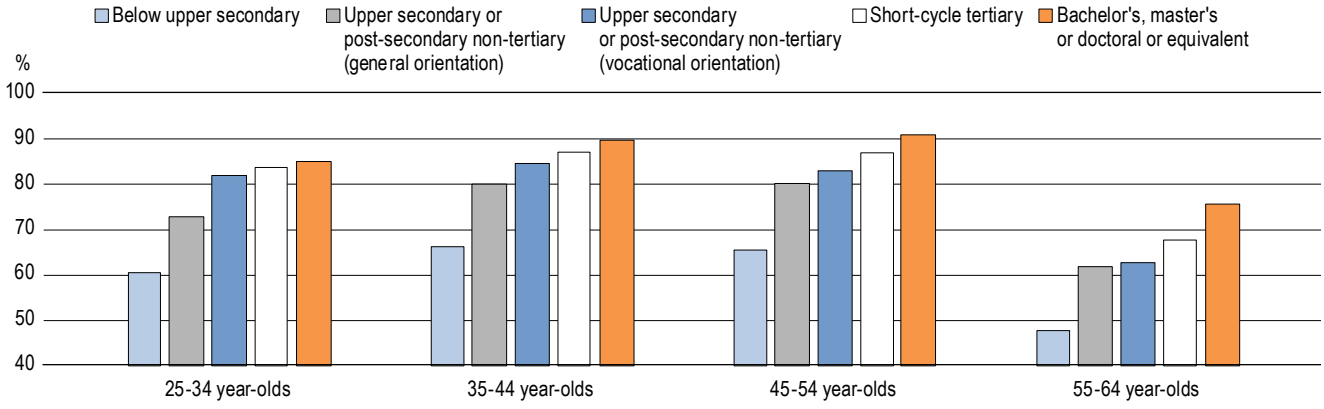
In some countries, such as Hungary, Iceland, Ireland, New Zealand, Norway and Sweden, most upper secondary vocational programmes are not in theory designed to provide access to tertiary education, but rather to offer students direct entry to the labour market or to pursue post-secondary non-tertiary education (see Indicator B7). Interestingly, those who leave education with an upper secondary or post-secondary non-tertiary vocational qualification in most of these countries have excellent employment prospects, significantly higher than those with a general qualification, and also higher than the OECD average. The employment rates of younger adults with an upper secondary or post-secondary non-tertiary vocational qualification are at least 90% in Iceland, Norway and Sweden (Figure A3.1).

Moreover, in more than one-third of OECD and partner countries, the employment rates for younger adults with vocational upper secondary or post-secondary non-tertiary education are equal to or higher than the employment rates for those with tertiary education (Figure A3.1). Some of these countries have vocational programmes with a strong and integrated work-based learning component at upper secondary or post-secondary non-tertiary level. For example, in Austria, Germany, Hungary, Sweden and Switzerland, at least 90% of younger adults with a vocational qualification obtained a work experience while completing upper secondary or post-secondary non-tertiary education (see Box A1.1 in Indicator A1). However, the employment advantage of a vocational qualification as compared to those with a general qulaification tends to weaken over people's lifetimes. On average across OECD countries, among adults with upper secondary or post-secondary non-tertiary qualification as their highest attainment, the employment premium of vocational qualifications is 9 percentage points over a general one for 25-34 year-olds, 5 percentage points for 35-44 year-olds, 3 percentage points for 45-54 year-olds and 1 percentage points for 55-64 year-olds (Figure A3.2). In the Czech Republic, France and Mexico, only 25-34 year-olds enjoy any employment advantage from a vocational qualification. For adults age 35 and over, the employment rates are higher for those with a general qualification than for those with a vocational qualification (Table A3.3 and (OECD, 2020[3])).

At least two factors could explain this phenomenon of declining employment advantages. First, vocational programmes generally aim to provide students with specific skills that are immediately valuable for employers. This occupational specificity may cause some difficulties if they need to adapt to technological and structural changes in the economy (Hanushek, Woessmann and Zhang, 2011[2]). Second, the proportion of younger adults who only have a general upper secondary or post-secondary non-tertiary qualification is small since most of them pursue further education and do not enter the labour market at this stage.

Figure A3.2. Employment rates, by age group, educational attainment and programme orientation (2019)

OECD average



Note: The share of adults with a given educational attainment varies across age groups. See Indicator A1 for more information.
Source: OECD (2020), Education at a Glance Database, https://stats.oecd.org/. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

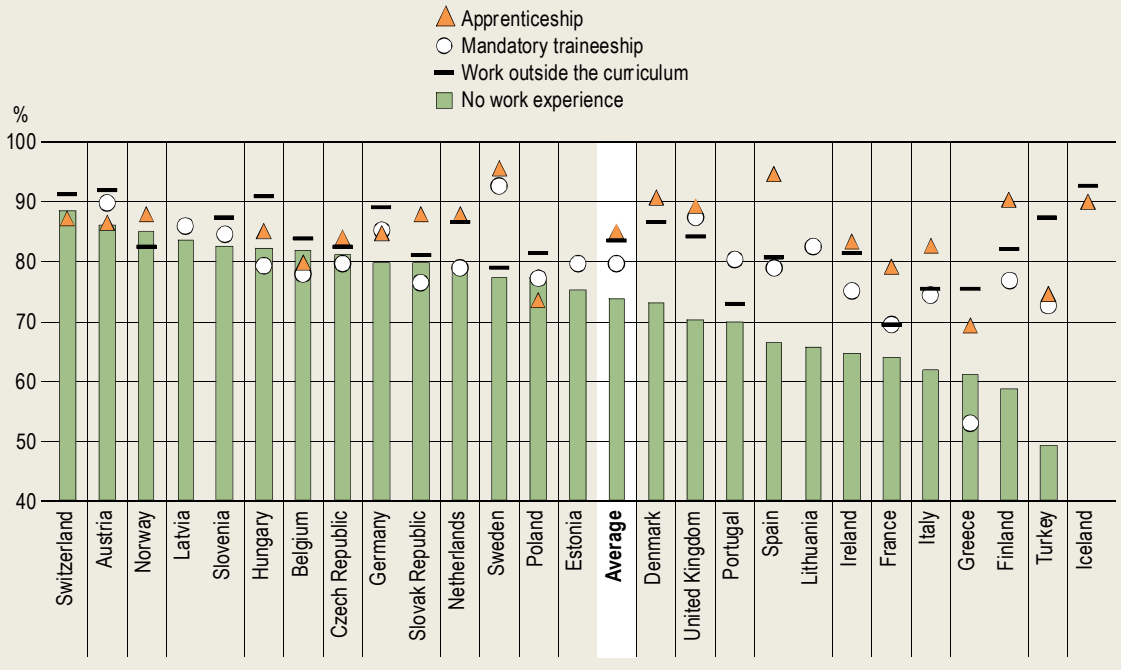
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On average across OECD countries, the employment rates for adults with a short-cycle tertiary degree are lower than those with a bachelor's, master's or doctoral or equivalent degree, and the difference tends to increase with age (Figure A3.2). In some countries, where short-cycle tertiary education is more common than the OECD average, employment rates are relatively high for short-cycle tertiary degree holders at the beginning of their career. For example, in France, 14% of younger adults have attained short-cycle tertiary education, compared to 8% on average across OECD countries. Their employment rate is 88%, compared to 86% for those with at least a bachelor's degree. No such employment premium is observed among older age cohorts. In contrast, Latvia is the only country with a reversed trend: the employment rate for short-cycle tertiary degree holders is higher than for those with a bachelor's, master's or doctoral degree among adults aged 35-64 (Table A3.3 and (OECD, 2020[3])).

Box A3.1.Work experiences during vocational upper secondary and post-secondary non-tertiary education

It has been widely accepted that vocational education can ease the transition from school to work and improve employment outcomes, as it provides opportunities for students to acquire skills relevant to the workplace during their studies. However, vocational programmes at upper secondary or post-secondary non-tertiary level vary by type of work experience. Data from the European Labour Force Survey (EU-LFS) ad-hoc module show that, among 25-34 year-olds with a vocational upper secondary or post-secondary non-tertiary qualification as their highest attainment, apprenticeships, mandatory traineeships and work outside the curriculum are the most common types of work experience among countries that participated in the survey (see Box A1.1 in Indicator A1).

Figure A3.3. Employment rate of 25-34 year-olds who attained vocational upper secondary or post-secondary non-tertiary education, by type of work experience while studying (2016)



Note: For the percentage of the population in each category, please refer to Table A1.4, available on line.
Countries are ranked in descending order of the employment rate of 25-34 year-olds with a vocational upper secondary or post-secondary non-tertiary educational attainment who had no work experience during that period of study.
Source: OECD/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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In about half of countries with available data, the employment rate for 25-34 year-olds who completed an apprenticeship is higher than the rate for those who did a mandatory traineeship, worked outside the curriculum, or did not gain any work experience. This is most evident in Spain, where the employment rate for adults who did an apprenticeship is 14 percentage points higher than those who had work experience outside the curriculum, and 28 percentage points higher than those who did not have any work experience while studying. Younger adults who did a mandatory traineeship enjoy the highest employment rate in Latvia, Lithuania and Portugal, though in these countries the types of work experience for vocational work-study programmes are very limited (Figure A3.3 and Table A3.6, available online).

Having work experience unrelated to their studies can also have a positive impact on younger adults' labour-market outcomes. In about half of countries with available data, the 25-34 year-olds who had work experience outside the curriculum have the highest employment rates among all younger adults with a vocational education. In Turkey, for example, those who worked outside the curriculum have an employment rate at least 10 percentage points higher than those with any other type of work experience (Figure A3.3).

The lack of work experience while studying is associated with lower employment rates later in life: 25-34 year-olds with vocational upper secondary or post-secondary non-tertiary attainment who did not gain any work experience during study have the lowest employment rates in about half of countries, and often by a large margin. However, not all types of work experience are associated with better labour-market outcomes. In Poland, out of all types of work experience, young adults who did an apprenticeship have the lowest employment rate. In Belgium, the Czech Republic, Greece, Hungary and the Slovak Republic, the employment rates for those who did a mandatory traineeship are even lower than for those who did not have any work experience at all (Figure A3.3). This finding is particularly unexpected for Belgium, Hungary and the Slovak Republic, where more than 40% of 25-34 year-olds held a vocational qualification that required a mandatory traineeship (see Box A1.1 in Indicator A1).

By gender

In all OECD and partner countries except Norway and Portugal, young women have lower employment rates than young men, regardless of educational attainment (Table A3.2). Gender disparities in employment rates narrow as educational attainment increases. On average across OECD countries, the gender difference in employment rates among 25-34 year-olds without upper secondary education is 27 percentage points (72% for men and 45% for women). The difference shrinks to 16 percentage points among younger adults with upper secondary or post-secondary non-tertiary education as their highest attainment (85% for men and 69% for women), and 8 percentage points among tertiary-educated younger adults (89% for men and 81% for women). However, in the Czech Republic and the Slovak Republic, gender differences in employment rates are not very sensitive to educational attainment, varying by no more than 5 percentage points across educational attainment levels (Table A3.2).

Educational attainment and part-time or part-year employment

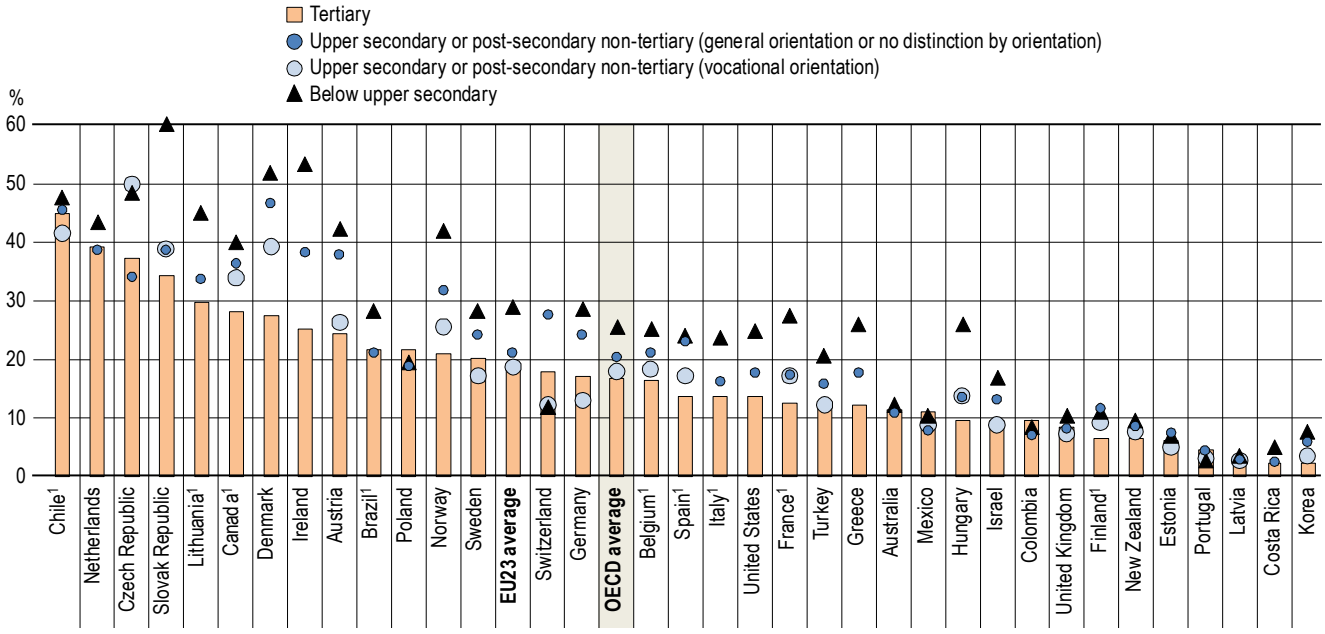
Greater educational attainment can also reduce worker's likelihood of only working part-time or part-year for men and women. On average across OECD countries, 25% of male workers without upper secondary education work part-time or part-year, compared with 19% of those with upper secondary or post-secondary non-tertiary education as their highest attainment and 17% among those with tertiary education. However, it is tertiary-educated male workers who have the highest probability of working part-time or part-year in Colombia (9%), Mexico (11%) and Portugal (5%) (Figure A3.4). In nearly all OECD and partner countries, women are more likely to be in part-time or part-year employment than men. On average across OECD countries, women are about twice as likely to work part-time or part-year than men, regardless of educational attainment (OECD, 2020[4]).

On average across OECD countries, 20% of male workers with a general upper secondary or post-secondary non-tertiary qualification as their highest attainment work part time, compared to 18% of those with a vocational qualification. The difference exceeds 10 percentage points in Austria, Germany and Switzerland. Conversely, in the Czech Republic, Mexico and the Slovak Republic, male workers with a vocational qualification are more likely to have a part-time or part-year job than those with a general qualification (Figure A3.4). A similar situation is observed for female workers in most OECD and partner

countries: female workers with a vocational qualification are more likely to have a part-time or part-year job than those with a general qualification (OECD, 2020[4]).

Figure A3.4. Male workers in part-time or part-year employment as a percentage of all men in employment, by educational attainment and programme orientation (2018)

25-64 year-old men



1. Year of reference differs from 2018. Refer to the Table A4.1 for more details.

Countries are ranked in descending order of the share of tertiary-educated men who are in part-time or part-year employment.

Source: OECD (2020), Data collection on education and earnings. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Educational attainment and unemployment

In many OECD and partner countries, unemployment rates are especially high among younger adults with lower educational attainment levels. On average across OECD countries, the unemployment rate for younger adults lacking upper secondary education is 13%, almost twice as high as for those with upper secondary or post-secondary non-tertiary attainment (7%). The unemployment rate for tertiary-educated younger adults is only 5% (Table A3.4).

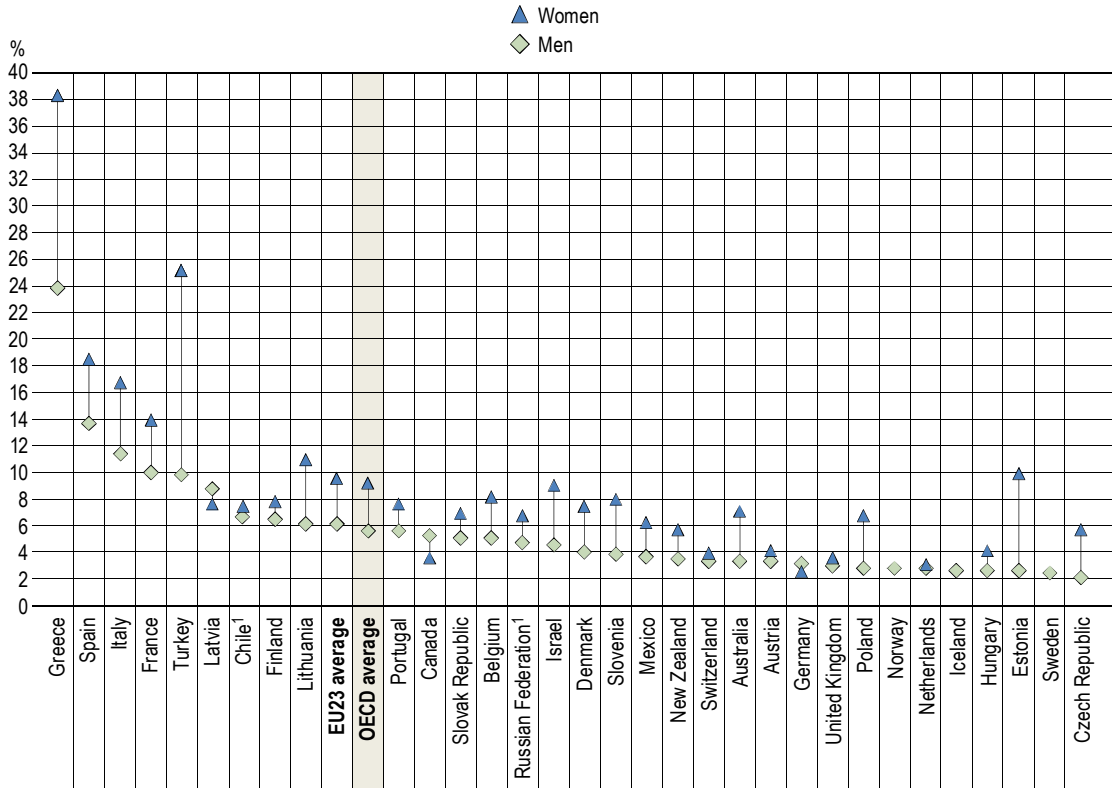
The situation is especially severe for younger adults without upper secondary education in the Slovak Republic and South Africa, where more than 35% of them are unemployed. The unemployment rate is also high in France, Greece, Italy and Spain, where about one-quarter of these younger adults are unemployed (Table A3.4).

Having attained upper secondary education or post-secondary non-tertiary education reduces the risk of unemployment in most OECD and partner countries. In Austria, the Czech Republic, Germany, Hungary, Poland, the Slovak Republic and Sweden, the unemployment rate for younger adults with upper secondary or post-secondary non-tertiary education as their highest attainment is less than one-third the rate of younger adults with below upper secondary education (Table A3.4).

In most OECD and partner countries, among younger adults with upper secondary or post-secondary non-tertiary attainment, those with a vocational qualification have lower risk of unemployment than those with a general one. The difference in employment rates is most pronounced in Austria, Germany, Iceland, Norway, Sweden and Switzerland, where the unemployment rate among those with a vocational qualification is less than half the rate of those with a general qualification

(Table A3.4). In all of these countries, except Iceland, more than 55% of younger adults with upper secondary or post-secondary non-tertiary attainment completed a vocational programme (see Indicator A1).

Figure A3.5. Unemployment rates of 25-34 year-olds with vocational upper secondary or post-secondary non-tertiary educational attainment, by gender (2019)



1. Year of reference differs from 2019. Refer to the Education at a Glance Database for more details.

Countries are ranked in descending order of the unemployment rate of men with vocational upper secondary or post-secondary non-tertiary educational attainment.

Source: OECD (2020), Education at a Glance Database, https://stats.oecd.org/. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934162318

The unemployment rate of 25-34 year-old women who completed a vocational programme is higher than that of 25-34 year-old men. On average across OECD countries, 9% of young women with vocational upper secondary or post-secondary non-tertiary education as their highest attainment are unemployed, compared to 6% of young men. In Australia, the Czech Republic, Estonia, Israel, Poland, Slovenia, and Turkey, the unemployment rate for these young women is at least twice that of their male peers. Only in Canada, Germany and Latvia, do young men with this level of educational attainment experience higher unemployment than young women (Figure A3.5).

In many OECD and partner countries, younger adults with a tertiary degree are less likely to be unemployed compared to those with upper secondary or post-secondary non-tertiary education as their highest attainment. The positive effect of a tertiary education on unemployment rates is particularly high in Ireland, Lithuania, South Africa and the United States. In these countries, the unemployment rate among tertiary-educated younger adults is less than half the rate of younger adults who only have upper secondary or post-secondary non-tertiary attainment (Table A3.4).

Educational attainment and inactivity

On average across OECD countries, 31% of 25-34 year-olds who have not completed upper secondary education are inactive (i.e. not employed and not looking for a job). In Finland, Poland and the Slovak Republic, over 40% of younger adults without upper secondary education are inactive, and at most 50% of this group are employed (Table A3.3 and Table A3.4).

Inactivity rates fall substantially for younger adults with at least upper secondary education. On average across OECD countries, 16% of younger adults with upper secondary or post-secondary non-tertiary education as their highest attainment are inactive, and this falls to 10% for those with a tertiary degree (Table A3.4).

Across OECD countries, among younger adults with upper secondary or post-secondary non-tertiary education as their highest attainment, 12% of those with a vocational qualification are inactive, compared to 21% of those with a general qualification. In Austria, Germany, Iceland and Sweden, the inactivity rates among those with a vocational qualification are about one-third of the rates of those with a general qualification. In most OECD countries, the difference in inactivity rates by programme orientation are higher for 25-34 year-olds than for 25-64 year-olds, as younger adults who only completed general upper secondary or post-secondary non-tertiary education may still enrolled in education and are not seeking for job. Conversely, in Costa Rica and Estonia, younger adults who completed a vocational programme have higher inactivity rates than those from a general pathway (Table A3.4 and (OECD, 2020[3])).

Women have consistently higher inactivity rates than men across all attainment levels, but the rates are especially high among those who have not completed upper secondary education. On average across OECD countries, the gender difference in inactivity rate is 29 percentage points for 25-34 year-olds with below upper secondary education, compared to 16 percentage points among those with upper secondary or post-secondary non-tertiary attainment and 8 percentage points for those with tertiary attainment. These differences in inactivity rates largely explain the differences in employment rates between men and women (OECD, 2020[3])

Employment rates of recent upper secondary graduates

The transition from school to work is a major step in people's lives. Young adults who leave the education system often face different challenges in finding employment. The health crisis we are experiencing linked to the spread of COVID-19 will undoubtedly have an impact on youth employment that will have to be monitored in the coming years. The use of data from the EU-LFS, complemented by data from administrative sources and other surveys for non-EU-LFS countries allows a more in-depth analysis of these school-to-work transitions (see also Indicator A2).

In all OECD countries with available data on recent upper secondary graduates, employment rates increase with time since graduation. In 2018, on average across OECD countries, 66% of young adults who had recently completed upper secondary education and were not studying any further were able to find employment within two years of graduation. Their employment rates increase significantly during the first years following graduation, but then tend to stabilise. Thus, the employment rate among young adults with an upper secondary education who graduated two to three years earlier is 76%, 10 percentage points higher than among those who graduated less than two years earlier. Among young adults who graduated four to five years earlier, 79% are employed, which is only 3 percentage points higher (Figure A1.2).

The differences in employment rates of recent upper secondary graduates across OECD countries are larger than the overall differences in employment rates among the wider population. Among adults who completed upper secondary education less than two years ago, the lowest employment rate is found in Greece (14%) and it is below 50% in Chile, Italy, Spain and Turkey. At the other end of the spectrum, the employment rate of these recent graduates reaches or exceeds 85% in the Czech Republic, Germany, Iceland, the Netherlands and New Zealand. The difference between the countries with the lowest and highest rates is almost 80 percentage points, much larger than the differences observed across countries for all adults with upper secondary attainment. The country with the lowest employment rate for upper secondary educated 25-64 year-olds is Greece (62%) and the country with the highest is Portugal (86%), a difference of 24 percentage points (Figure A1.2 and Table A3.1).

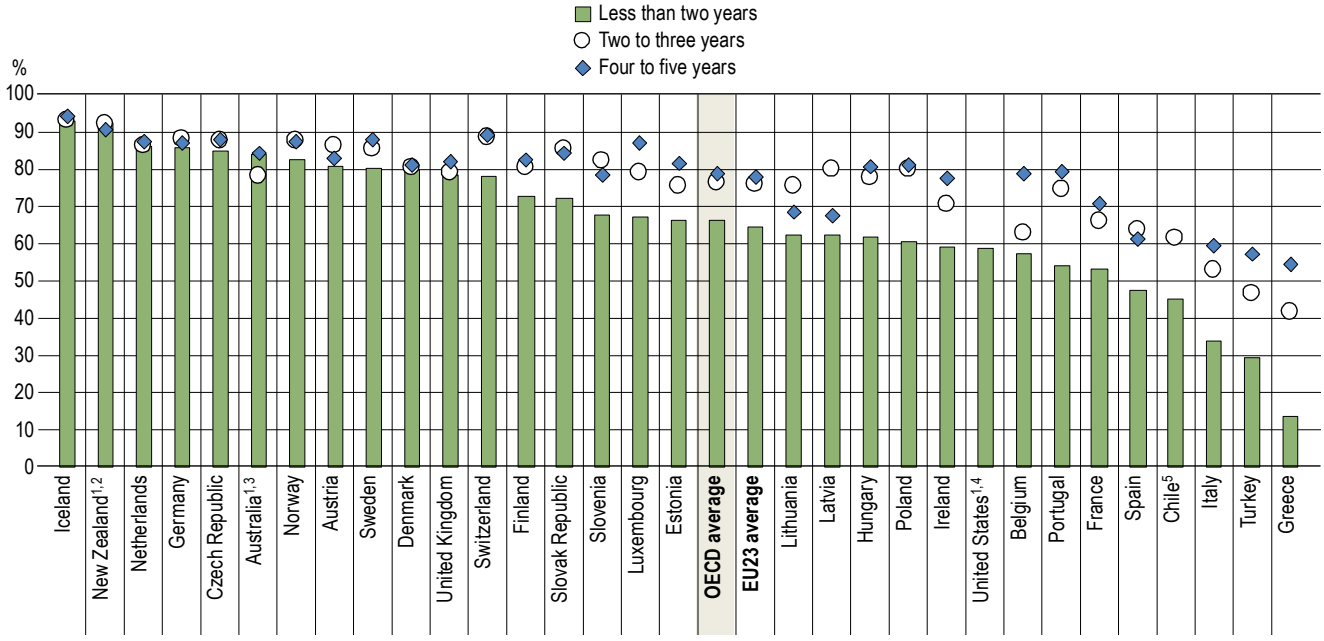
The change in employment rates over time since graduation indicates the smoothness of the school-to-work transition. In some countries, including Denmark, Iceland, Germany, the Netherlands and New Zealand, the difference in employment rates among different graduation cohorts is negligible and the employment rates of recent graduates have already reached

their highest level in the first two years following the graduation. With the exception of Denmark, these countries also belong to the OECD countries with the highest employment rates (Figure A1.2).

In contrast, in other countries, school-to-work transitions are more difficult and labour-market outcomes remain challenging after some years since graduation. For instance, in Greece, Italy and Turkey, less than 35% of recent upper secondary graduates have found employment within two years of graduation, but in the long run more and more recent graduates are able to find a job. Four to five years after completing their education their employment rates are at least 25 percentage points higher than their more recently graduated peers. However, even then their employment rates do not exceed 60%, which is well below the average for OECD countries (79%) (Figure A1.2).

Figure A3.6. Employment rates of recent upper secondary graduates, by years since graduation (2018)

Adults aged 15-34 at graduation, not in education



1. Data source differs from the EU-LFS.
2. Upper secondary general programmes only.
3. Year of reference differs from 2018. Refer to the source table for more details.
4. Year of reference 2017 and 2018 combined. Data reported under the category "Less than two years" refer to one year since completing education. The age group refers to 15-34 year-olds.
5. Data reported under the category "Less than two years" refer to one year since completing education.

Countries are ranked in descending order of the employment rate of young adults less than two years after completion of upper secondary education.

Source: OECD (2020), Table A3.5. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934162337

In some other countries, recent upper secondary graduates face major difficulties in their first years in the labour market, but have relatively good outcomes in the long run. For instance, in Portugal, only 54% of upper secondary graduates were employed within two years of graduation, but 80% of those who completed their education four to five years earlier are in employment, an increase of 25 percentage points. Similarly, in Belgium, Luxembourg and Poland, employment rates increase by about 20 percentage points, meaning that despite the difficulties that recent graduates face at the start of their professional career, their labour-market outcomes in the longer run are very good (Figure A1.2).

Definitions

Active population (labour force) is the total number of employed and unemployed persons, in accordance with the definition in the Labour Force Survey.

Age groups: Adults refer to 25-64 year-olds; **younger adults** refer to 25-34 year-olds.

Educational attainment refers to the highest level of education attained by a person.

Employed individuals are those who, during the survey reference week, were either working for pay or profit for at least one hour or had a job but were temporarily not at work. The **employment rate** refers to the number of persons in employment as a percentage of the population.

EU-LFS countries are all countries for which data on recent graduates from the European Union Labour Force Survey are used. These are the following 27 countries: Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Inactive individuals are those who, during the survey reference week, were neither employed nor unemployed. Individuals enrolled in education are also considered as inactive if they are not looking for a job. The **inactivity rate** refers to inactive persons as a percentage of the population (i.e. the number of inactive people is divided by the number of all working-age people).

Levels of education: See the *Reader's Guide* at the beginning of this publication for a presentation of all ISCED 2011 levels.

Part-time or part-year workers: the population who have had earnings from work, but not worked full-time, full-year, i.e. people who have either worked part-time or worked only a part of the reference period for the earnings data. The scope of the concept of part-time or part-year workers is broader than the concept of part-time employment used in most labour-force surveys which usually refer to a reference period of four weeks prior to the survey. Therefore, the share of individuals working part-time or part-year during the whole year is higher than the respective share of individuals working part-time during a reference period of four weeks.

Unemployed individuals are those who, during the survey reference week, were without work, actively seeking employment, and currently available to start work. The **unemployment rate** refers to unemployed persons as a percentage of the labour force (i.e. the number of unemployed people is divided by the sum of employed and unemployed people).

Methodology

For information on methodology, see Indicator A1.

Data on the education and labour-force status of recent graduates by years since graduates are from the EU-LFS for all countries participating in this survey. The data from the EU-LFS have been complemented by data from administrative source and graduate or non-graduate surveys for non-EU-LFS countries. For information on the methodology, see Indicator A2.

Please see the *OECD Handbook for Internationally Comparative Education Statistics* (OECD, 2018[5]) for more information and Annex 3 for country-specific notes (https://doi.org/10.1787/69096873-en).

Source

For information on sources, see Indicator A1.

Data on subnational regions for selected indicators are available in the OECD Regional Statistics Database (OECD, 2020[6]).

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Indicator A3 Tables

Table A3.1	Employment rates of 25-64 year-olds, by educational attainment (2019)
Table A3.2	Trends in employment rates of 25-34 year-olds, by educational attainment and gender (2009 and 2019)
Table A3.3	Employment rates, by educational attainment and age group (2019)
Table A3.4	Unemployment and inactivity rates of 25-34 year-olds, by educational attainment (2019)
Table A3.5	Employment rates of young adults who have recently completed education, by educational attainment and years since graduation (2018)
WEB Table A3.6	Employment rate of 25-34 year-olds who attained vocational upper secondary or post-secondary non-tertiary education, by type of work experience while studying (2016)

Cut-off date for the data: 19 July 2020. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en. More breakdowns can also be found at http://stats.oecd.org/, Education at a Glance Database.

StatLink: https://doi.org/10.1787/888934162128

Table A3.1. Employment rates of 25-64 year-olds, by educational attainment (2019)

Percentage of employed 25-64 year-olds among all 25-64 year-olds

			Upper secondary or post-secondary non-tertiary					Tertiary					
			By level of education		By programme orientation								
		Below upper secondary	Upper secondary	Post-secondary non-tertiary	General	Vocational	Total	Short-cycle tertiary	Bachelor's or equivalent	Master's or equivalent	Doctoral or equivalent	Total	All levels of education
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD	**Countries**												
	Australia	62	79	81	75	82	79	82	84	87	97	85	79
	Austria	56	78	82	75	78	78	87	79	88	90	86	78
	Belgium	47	74	87	70	77	75	81	85	88	93	86	74
	Canada	56	71	81	71	81	75	82	84	85 d	x(9)	83	78
	Chile[1]	62	72	a	71	77	72	81	85	93 d	x(9)	84	72
	Colombia[2]	69	74 d	x(2)	x(6)	x(6)	74	x(8)	81 d	x(8)	x(8)	81	74
	Costa Rica	66	73	c	73	72	73	73	84	89	c	82	71
	Czech Republic	55	84 d	x(2)	86	82	84	86	83	88	94	87	83
	Denmark	61	82	87	73	84	82	87	85	91	94	88	80
	Estonia	62	81	80	81	81	81	84	85	89	91	87	81
	Finland	55	76	95	73	77	77	84	85	89	97	86	79
	France	53	73	68	75	73	73	84	84	89	92	86	74
	Germany	62	82	87	67	84	83	90	89	89	93	89	82
	Greece	52	62	65	60	67	62	65	75	82	88	76	64
	Hungary	57	79	85	78	80	80	83	84	87	95	86	78
	Iceland	76	85	92	80	89	86	82	89	96	98	92	87
	Ireland[2]	53	73	77	x(6)	x(6)	77	80	85	89	93	86	77
	Israel	51	73	a	72	80	73	83	88	91	92	88	78
	Italy	53	71	75	63	74	71	81	74	83	94	81	66
	Japan[3]	x(2)	81 d	x(7)	m	m	m	82 d	89 d	x(8)	x(8)	86 d	84
	Korea	64	72	a	72 d	x(4)	72	77	77	85 d	x(9)	78	74
	Latvia	65	75	75	74	77	75	89	90	89	98	89	79
	Lithuania	55	73	77	72	77	75	a	91	91	100	91	81
	Luxembourg	62	75	75	80	73	75	83	81	88	91	86	77
	Mexico	66	72	a	73	63	72	75	79	85	91	80	69
	Netherlands	63	82	87	76	84	82	89	88	91	96	90	81
	New Zealand	72	81	86	81	84	83	88	88	87	92	88	83
	Norway	62	81	87	75	83	81	84	91	93	91	89	81
	Poland	45	71	73	71	71	71	73	87	89	98	89	75
	Portugal	70	85	85	84	87	85	c	83	90	95	89	79
	Slovak Republic	38	78	82	76	79	78	91	75	85	85	84	76
	Slovenia	51	77	a	78	77	77	86	90	91	95	90	78
	Spain	59	72	70	71	73	72	79	81	84	90	82	71
	Sweden	67	86	82	80	89	86	85	91	93	93	90	85
	Switzerland	69	82 d	x(2)	77	83	82	x(8, 9, 10)	89 d	89 d	92 d	89	84
	Turkey	50	60	a	57	64	60	65	75	84	92	74	57
	United Kingdom[4]	65	81	a	80	82	81	83	87	88	90	87	81
	United States	56	71 d	x(2)	71 d	x(4)	71	78	82	86	90	83	75
	OECD average	59	76	81	74	78	77	82	84	88	93	86	77
	EU23 average	57	77	80	75	78	77	83	84	88	93	87	77
Partners	Argentina[5]	64	74 d	x(2)	74 d	x(4)	74	79	82	94	m	81	73
	Brazil[5]	59	72	a	72 d	x(4)	72	x(8)	82 d	84	91	83	68
	China	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia[1, 2]	73	74 d	x(2)	x(6)	x(6)	74	78	87	94	98	85	75
	Russian Federation[5]	54	69	77	69	77	73	79	88	87	63	83	78
	Saudi Arabia[2, 6]	62	61	82	x(6)	x(6)	65	x(8)	74 d	x(8)	x(8)	74	66
	South Africa[2, 5]	44	55	75	x(6)	x(6)	57	80	85	88 d	x(8)	85	56
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m

Note: In most countries, data refer to ISCED 2011. For Indonesia and Saudi Arabia, data refer to ISCED-97. See *Definitions* and *Methodology* sections for more information. Data and more breakdowns are available at http://stats.oecd.org/, Education at a Glance Database.

1. Year of reference 2017.
2. There is no distinction by programme orientation at upper secondary or post-secondary non-tertiary level of education.
3. Data for tertiary education include upper secondary or post-secondary non-tertiary programmes (less than 5% of adults are in this group).
4. Data for upper secondary attainment include completion of a sufficient volume and standard of programmes that would be classified individually as completion of intermediate upper secondary programmes (12% of adults aged 25-64 are in this group).
5. Year of reference 2018.
6. Year of reference 2016.

Source: OECD/ILO (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934162147

Table A3.2. Trends in employment rates of 25-34 year-olds, by educational attainment and gender (2009 and 2019)

Percentage of employed 25-34 year-olds among all 25-34 year-olds

		Below upper secondary						Upper secondary or post-secondary non-tertiary						Tertiary					
		Men		Women		Total		Men		Women		Total		Men		Women		Total	
		2009	2019	2009	2019	2009	2019	2009	2019	2009	2019	2009	2019	2009	2019	2009	2019	2009	2019
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
OECD	Countries																		
	Australia	74 b	74	46 b	45	62 b	61	91 b	88	69 b	70	81 b	81	90 b	92	80 b	82	84 b	86
	Austria	72	70	51	46	60	58	87	90	79	82	84	86	90	88	83	84	86	86
	Belgium	65 b	62	39 b	39	53 b	52	86 b	87	75 b	72	81 b	81	91 b	90	89 b	86	90 b	88
	Canada	69	67	44	41	59	57	81	83	71	71	76	79	86	89	83	84	84	86
	Chile[1]	79 b	77	38 b	48	58 b	64	80 b	80	54 b	59	67 b	69	87 b	88	79 b	83	83 b	85
	Colombia	m	88	m	47	m	70	m	87	m	61	m	74	m	88	m	76	m	81
	Costa Rica	89	86	42	42	67	67	92	90	65	60	78	74	90	88	83	77	87	82
	Czech Republic	56 b	70	33 b	43	44 b	57	91 b	95	60 b	64	77 b	82	88 b	93	68 b	67	77 b	78
	Denmark	76	64	58	45	69	56	85	84	79	72	82	79	88	87	88	82	88	84
	Estonia	55	80	47	44	53	69	80	92	65	63	74	81	94	96	70	75	79	83
	Finland	74	59	c	33	65	49	81	82	70	71	76	77	92	90	80	82	85	85
	France	74	63	45	37	61	51	87	83	70	68	79	75	89	89	84	85	86	87
	Germany	65 b	70	43 b	45	54 b	59	82 b	88	73 b	80	77 b	84	92 b	92	84 b	85	88 b	88
	Greece	87 b	68	44 b	35	70 b	54	85 b	71	63 b	52	74 b	63	84 b	80	78 b	68	81 b	73
	Hungary	58	75	32	41	46	58	82	91	59	70	72	82	91	94	72	77	80	84
	Iceland	73	82	60	80	68	82	82	88	70	81	76	85	88	90	83	90	85	90
	Ireland	54 b	61	38 b	33	48 b	49	74 b	85	66 b	64	71 b	74	85 b	91	83 b	84	84 b	88
	Israel	59 b	69	22 b	41	45 b	58	72 b	74	59 b	65	66 b	71	87 b	89	80 b	86	83 b	87
	Italy	76 b	66	40 b	34	61 b	53	80 b	74	62 b	53	71 b	64	72 b	69	67 b	67	69 b	68
	Japan[2]	m	m	m	m	m	m	x(13)	x(14)	x(15)	x(16)	x(17)	x(18)	91 bd	94 d	71 bd	82 d	80 bd	88 d
	Korea	70 b	73	43 b	52	59 b	62	71 b	71	48 b	56	61 b	66	84 b	81	64 b	72	74 b	76
	Latvia	56	74	50	49	54	65	74	85	65	70	70	79	90	92	79	87	83	89
	Lithuania	51 b	67	59 b	30	54 b	55	71 b	84	71 b	71	71 b	79	88 b	95	86 b	90	87 b	92
	Luxembourg	bc	78	bc	75	bc	77	bc	87	bc	85	bc	86	bc	92	bc	86	87 b	89
	Mexico	90	91	40	44	64	67	88	90	57	55	72	72	88	88	76	75	82	81
	Netherlands	85 b	73	58 b	53	73 b	64	92 b	88	85 b	82	89 b	85	95 b	93	92 b	91	94 b	92
	New Zealand	78	77	50	61	64	69	88	90	70	72	80	82	89	93	76	85	82	89
	Norway	72	69	62	55	68	63	90	88	85	77	88	84	91	89	89	90	90	89
	Poland	65 b	61	37 b	23	53 b	47	86 b	92	62 b	60	75 b	79	92 b	95	83 b	85	87 b	89
	Portugal	83	84	69	71	77	79	82	86	78	85	80	86	86	85	87	87	87	86
	Slovak Republic	bc	47	bc	19	27 b	33	86 b	92	62 b	65	75 b	81	90 b	93	72 b	70	80 b	79
	Slovenia	bc	74	bc	44	bc	62	86 b	91	78 b	77	83 b	86	91 b	92	88 b	87	89 b	89
	Spain	66	71	52	52	60	63	75	75	68	66	72	71	83	81	79	76	81	79
	Sweden	69 b	75	51 b	51	61 b	65	85 b	86	76 b	79	81 b	83	87 b	89	84 b	86	86 b	87
	Switzerland	81 b	81	61 b	56	70 b	69	89 b	88	78 b	84	83 b	86	93 b	93	86 b	87	90 b	90
	Turkey	79 b	79	21 b	26	48 b	52	82 b	82	31 b	34	62 b	61	85 b	83	68 b	62	77 b	72
	United Kingdom[3]	71 b	77	42 b	53	56 b	67	86 b	92	70 b	76	79 b	85	90 b	93	84 b	88	87 b	90
	United States	66	72	39	39	55	57	74	81	65	67	70	74	87	89	80	82	83	85
	OECD average	71	72	46	45	58	61	83	85	67	69	76	78	88	89	80	81	84	85
	EU23 average	68	69	47	43	57	58	83	86	70	71	77	80	89	90	81	82	84	85
Partners	Argentina[4]	m	82	m	40	m	64	m	91	m	58	m	75	m	83	m	74	m	78
	Brazil[4]	88 b	76	55 b	45	72 b	62	90 b	84	69 b	63	79 b	73	92 b	89	86 b	82	88 b	85
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia[1]	91 b	91	48 b	47	68 b	68	87 b	90	46 b	49	68 b	71	84 b	91	63 b	79	72 b	84
	Russian Federation	m	68	m	48	m	60	m	90	m	71	m	83	m	95	m	83	m	88
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa[4]	52	49	30	30	42	41	66	56	48	43	57	49	88	83	84	80	86	81
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: In most countries, there is a break in the time series, represented by the code "b", as data for 2019 refer to ISCED 2011 while data for 2009 refer to ISCED-97. See *Definitions* and *Methodology* sections for more information. Data and more breakdowns are available at http://stats.oecd.org/, Education at a Glance Database.

1. Year of reference 2017.
2. Data for tertiary education include upper secondary or post-secondary non-tertiary programmes (less than 5% of the adults are in this group).
3. Data for upper secondary attainment include completion of a sufficient volume and standard of programmes that would be classified individually as completion of intermediate upper secondary programmes (12% of adults aged 25-64 are in this group).
4. Year of reference 2018.

Source: OECD/ILO (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934162166

Table A3.3. Employment rates, by educational attainment and age group (2019)

Percentage of employed adults among all adults in a given age group

		Below upper secondary			Upper secondary or post-secondary non-tertiary									Tertiary					
					General			Vocational			Total			Short-cycle tertiary			Total		
		25-34 year-olds	35-44 year-olds	45-54 year-olds	25-34 year-olds	35-44 year-olds	45-54 year-olds	25-34 year-olds	35-44 year-olds	45-54 year-olds	25-34 year-olds	35-44 year-olds	45-54 year-olds	25-34 year-olds	35-44 year-olds	45-54 year-olds	25-34 year-olds	35-44 year-olds	45-54 year-olds
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
OECD	Countries																		
	Australia	61	64	70	78	78	80	83	87	86	81	83	84	84	85	86	86	87	88
	Austria	58	67	69	71	86	84	89	88	88	86	88	87	89	91	94	86	91	93
	Belgium	52	55	61	74	77	78	83	84	82	81	82	81	85	91	86	88	92	91
	Canada	57	61	63	74	77	79	88	87	85	79	81	81	86	88	87	86	88	88
	Chile[1]	64	67	66	67	76	74	77	77	77	69	76	75	84	85	81	85	88	87
	Colombia[2]	70	75	73	x(10)	x(11)	x(12)	x(10)	x(11)	x(12)	74	78	75	x(16)	x(17)	x(18)	81	85	84
	Costa Rica	67	72	68	75	80	75	70	81	70	74	80	75	71	85	82	82	89	85
	Czech Republic	57	69	66	81	91	95	83	90	92	82	91	94	c	69[r]	c	78	90	97
	Denmark	56	63	68	66	76	79	85	90	87	79	88	86	85	92	91	84	93	93
	Estonia	69	68	60	82	91	85	81	88	84	81	89	85	c	85	92	83	88	94
	Finland	49	60	66	69	78	81	80	84	84	77	83	84	c	92	93	85	90	92
	France	51	60	65	72	83	85	77	81	82	75	82	83	88	90	90	87	90	91
	Germany	59	66	69	61	73	79	88	89	89	84	88	88	92	94	95	88	92	94
	Greece	54	63	62	62	70	67	64	73	71	63	72	68	c	98	72	73	85	84
	Hungary	58	68	69	76	86	89	84	89	89	82	89	89	82	86	94	84	89	95
	Iceland	82	80	77	77	79	88	93	92	91	85	88	90	c	92	88	90	93	93
	Ireland[2]	49	54	59	x(10)	x(11)	x(12)	x(10)	x(11)	x(12)	74	80	80	80	85	83	88	89	88
	Israel	58	57	52	70	76	76	81	84	84	71	77	78	84	87	87	87	91	91
	Italy	53	60	61	51	68	72	69	79	81	64	76	79	93	c	c	68	86	90
	Japan[3]	m	m	m	m	m	m	m	m	m	m	m	m	84[d]	84[d]	85[d]	88[d]	87[d]	89[d]
	Korea	62	64	67	66[d]	74[d]	77[d]	x(4)	x(5)	x(6)	66	74	77	77	76	81	76	78	82
	Latvia	65	76	64	78	78	80	80	86	81	79	82	81	82	95	98	89	93	91
	Lithuania	55	61	56	77	79	77	81	85	83	79	82	81	a	a	a	92	94	94
	Luxembourg	77	84	72	79	c	m	93	83	80	86	84	80	92[r]	88	92	89	89	88
	Mexico	67	70	68	71	77	77	76	73	67	72	77	75	82	77	74	81	85	83
	Netherlands	64	68	70	75	80	83	88	87	86	85	86	86	92	91	93	92	92	92
	New Zealand	69	76	77	79	83	87	83	86	87	82	85	87	89	89	91	89	89	91
	Norway	63	64	64	74	77	76	90	88	86	84	84	83	79	88	88	89	92	91
	Poland	47	56	58	76	79	80	80	83	80	79	82	80	c	c	80[r]	89	92	94
	Portugal	79	83	77	83	90	87	88	91	86	86	90	87	c	c	c	86	92	93
	Slovak Republic	33	47	46	77	88	87	81	86	88	81	86	88	m	m	c	79	88	94
	Slovenia	62	66	70	78	89	87	88	90	89	86	90	89	89	95	97	89	95	97
	Spain	63	69	64	66	78	78	75	79	76	71	78	77	78	85	81	79	87	86
	Sweden	65	72	67	72	87	89	91	93	93	83	91	92	80	90	89	87	93	93
	Switzerland	69	78	76	75	84	81	90	87	87	86	86	86	x(16)	x(17)	x(18)	90	91	91
	Turkey	52	57	53	57	67	55	66	72	64	61	69	59	65	74	73	72	83	77
	United Kingdom[4]	67	69	71	85	85	86	84	85	86	85	85	86	87	90	89	90	91	90
	United States	57	63	60	74[d]	76[d]	75[d]	x(4)	x(5)	x(6)	74	76	75	81	84	82	85	86	86
	OECD average	61	66	66	73	80	80	82	85	83	78	83	82	84	87	87	85	89	90
	EU23 average	58	65	65	73	82	82	82	86	84	80	84	84	86	89	89	85	91	92
Partners	Argentina[5]	64	72	70	75[d]	78[d]	77[d]	x(4)	x(5)	x(6)	75	78	77	78	85	83	78	88	86
	Brazil[5]	62	67	63	73[d]	77[d]	74[d]	x(4)	x(5)	x(6)	73	77	74	x(16)	x(17)	x(18)	85	88	85
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia[1,2]	68	76	77	x(10)	x(11)	x(12)	x(10)	x(11)	x(12)	71	78	79	80	80	82	84	88	91
	Russian Federation[5]	60	66	63	78	83	80	88	90	87	83	87	84	89	93	89	88	93	92
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa[2,5]	41	52	51	x(10)	x(11)	x(12)	x(10)	x(11)	x(12)	49	64	67	75	84	91	81	88	91
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: In most countries, data refer to ISCED 2011. For Indonesia and Saudi Arabia, data refer to ISCED-97. See *Definitions* and *Methodology* sections for more information. Data and more breakdowns are available at http://stats.oecd.org/, Education at a Glance Database.

1. Year of reference 2017.
2. There is no distinction by programme orientation at upper secondary or post-secondary non-tertiary level of education.
3. Data for tertiary education include upper secondary or post-secondary non-tertiary programmes (less than 5% of adults are in this group).
4. Data for upper secondary attainment include completion of a sufficient volume and standard of programmes that would be classified individually as completion of intermediate upper secondary programmes (12% of adults aged 25-64 are in this group).
5. Year of reference 2018.

Source: OECD/ILO (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934162185

Table A3.4. Unemployment and inactivity rates of 25-34 year-olds, by educational attainment (2019)

Inactivity rates are measured as a percentage of all 25-34 year-olds; unemployment rates as a percentage of 25-34 year-olds in the labour force

		Unemployment rate						Inactivity rate					
			Upper secondary or post-secondary non-tertiary			Tertiary			Upper secondary or post-secondary non-tertiary			Tertiary	
		Below upper secondary	General	Vocational	Total	Short-cycle tertiary	Total	Below upper secondary	General	Vocational	Total	Short-cycle tertiary	Total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD	**Countries**												
	Australia	10	6	4	5	4	3	32	17	13	15	13	11
	Austria	15	8	4	4	3	4	31	23	7	10	8	11
	Belgium	17	7	6	6	c	4	38	20	11	14	10	9
	Canada	12	8	5	7	5	5	36	19	7	16	10	10
	Chile[1]	11	10	7	10	7	8	29	25	17	23	10	8
	Colombia[2]	10	x(4)	x(4)	12	x(6)	12	22	x(10)	x(10)	16	x(12)	8
	Costa Rica	14	12	14	12	14	9	22	15	18	16	17	10
	Czech Republic	13	2	3	2	x(6)	1	34	18	14	16	x(12)	21
	Denmark	10	7	5	6	6	7	37	29	11	16	10	9
	Estonia	7	5	5	5	x(6)	3	26	14	15	14	x(12)	14
	Finland	17	9	7	7	x(6)	5	41	25	14	17	x(12)	11
	France	24	11	12	11	5	6	33	19	13	15	8	8
	Germany	12	6	3	3	c	3	33	35	9	13	c	9
	Greece	30	21	30	26	x(6)	19	23	22	9	16	x(12)	10
	Hungary	11	3	3	3	5	2	34	21	13	16	14	14
	Iceland	6	7	3	4	x(6)	4	13	17	4	11	c	6
	Ireland[2]	11	x(4)	x(4)	8	6	4	45	x(10)	x(10)	19	15	9
	Israel	4	5	6	5	5	4	40	27	14	26	12	9
	Italy	21	16	13	14	c	12	33	40	20	25	c	23
	Japan[3]	m	m	m	x(5, 6)	3 [d]	3 [d]	m	m	m	x(11, 12)	13 [d]	10 [d]
	Korea	6	7 [d]	x(2)	7	5	6	34	29 [d]	x(8)	29	19	19
	Latvia	14	7	8	7	10	4	24	16	13	14	9	7
	Lithuania	19	9	8	8	a	3	33	16	12	14	a	4
	Luxembourg	c	c	c	c	c	4	c	c	c	8	c	7
	Mexico	3	4	5	4	3	6	31	26	20	25	15	14
	Netherlands	7	5	3	3	c	2	31	21	10	12	c	6
	New Zealand	7	4	4	4	2	2	26	18	13	15	9	9
	Norway	8	5	2	3	6	3	31	22	8	13	16	8
	Poland	13	4	4	4	x(6)	3	46	20	17	18	x(12)	9
	Portugal	9	6	6	6	c	7	14	11	6	9	c	7
	Slovak Republic	37	c	6	6	x(6)	3	47	18	14	14	m	18
	Slovenia	13	8	5	6	6	5	29	15	8	9	6	6
	Spain	23	17	16	17	14	12	17	20	10	15	10	11
	Sweden	17	8	3	5	8	4	22	22	7	13	13	9
	Switzerland	10	9	4	5	x(6)	4	23	17	7	9	x(12)	6
	Turkey	16	17	13	15	17	15	38	32	24	28	21	15
	United Kingdom[4]	7	3	3	3	4	2	28	12	13	13	9	7
	United States	10	6 [d]	x(2)	6	3	2	37	21 [d]	x(8)	21	16	13
	OECD average	13	8	7	7	6	5	31	21	12	16	12	10
	EU23 average	16	8	7	7	m	5	32	21	12	14	m	10
Partners	Argentina[5]	12	9 [d]	x(2)	9	9	7	27	18 [d]	x(8)	18	14	17
	Brazil[5]	14	13 [d]	x(2)	13	x(6)	8	27	16 [d]	x(8)	16	x(12)	8
	China	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia[1, 2]	3	x(4)	x(4)	5	5	5	30	x(10)	x(10)	25	16	11
	Russian Federation[5]	14	8	5	7	4	4	30	16	7	12	8	8
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa[2, 5]	37	x(4)	x(4)	35	12	10	35	x(10)	x(10)	24	15	10
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m

Note: In most countries, data refer to ISCED 2011. For Indonesia and Saudi Arabia, data refer to ISCED-97. See *Definitions* and *Methodology* sections for more information. Data and more breakdowns are available at http://stats.oecd.org/, Education at a Glance Database.

1. Year of reference 2017.
2. There is no distinction by programme orientation at upper secondary or post-secondary non-tertiary level of education.
3. Data for tertiary education include upper secondary or post-secondary non-tertiary programmes (less than 5% of adults are in this group).
4. Data for upper secondary attainment include completion of a sufficient volume and standard of programmes that would be classified individually as completion of intermediate upper secondary programmes (12% of adults aged 25-64 are in this group).
5. Year of reference 2018.

Source: OECD/ILO (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table A3.5. Employment rates of young adults who have recently completed education, by educational attainment and years since graduation (2018)

Adults aged 15-34 at graduation, not in education

		Upper secondary			Short-cycle tertiary			Bachelor's or equivalent			Master's or equivalent		
		Less than two years	Two to three years	Four to five years	Less than two years	Two to three years	Four to five years	Less than two years	Two to three years	Four to five years	Less than two years	Two to three years	Four to five years
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD	Countries												
	Australia[1, 2]	84	78	85	88	91	87	92	91	91	89	89	84
	Austria	81	86	83	81	91	93	88	88	86	84	95	90
	Belgium	58	63	79	c	c	c	82	89	92	87	89	91
	Canada[1, 3]	m	m	m	87	88	88	81	80	81	81	82	81
	Chile[1]	45	61	m	74	79	m	74	78	m	89	90	m
	Colombia	m	m	m	m	m	m	m	m	m	m	m	m
	Costa Rica[1, 4]	m	m	m	m	m	m	m	m	89	m	m	m
	Czech Republic	85	87	88	m	m	m	89	87	79	92	94	85
	Denmark	80	80	81	73	80	96	81	89	87	71	91	91
	Estonia	67	75	82	m	m	m	90	87	82	93	93	88
	Finland	73	80	83	m	c	c	93	88	90	96	85	86
	France[5]	54	66	69	69	83	89	75	85	87	80	89	91
	Germany	86	88	87	c	90	100	94	94	93	91	94	91
	Greece	14	42	55	m	m	m	43	63	67	58	76	81
	Hungary	62	78	81	94 r	94	83	83	92	86	86	91	93
	Iceland	93	93	95	c	c	c	91	96	95	96	95	96
	Ireland	59	70	78	88	85	91	86	91	88	87	94	91
	Israel	m	m	m	m	m	m	m	m	m	m	m	m
	Italy	34	53	60	c	59 r	87 r	51	66	80	51	68	78
	Japan	m	m	m	m	m	m	m	m	m	m	m	m
	Korea	m	m	m	m	m	m	m	m	m	m	m	m
	Latvia	63	80	68	c	94	88	89	97	78	c	74	95
	Lithuania	63	75	69	m	m	m	80	91	95	85 r	97	95
	Luxembourg	68	79	87	c	c	c	80	97	89	92	93	91
	Mexico	m	m	m	m	m	m	m	m	m	m	m	m
	Netherlands	87	86	88	94	96	93	91	96	92	88	96	97
	New Zealand[1, 6]	93	92	91	95	94	92	96	97	96	98	97	95
	Norway	83	87	88	89	93	93	90	99	92	91 r	95	96
	Poland	61	80	81	c	m	c	80	90	88	85	91	90
	Portugal	54	74	80	c	c	m	64	89	86	69	91	95
	Slovak Republic	73	85	85	m	m	c	82 r	85	73	78	81	77
	Slovenia	68	82	79	75 r	87 r	90 r	78 r	87	88	73 r	88	87
	Spain	48	64	62	64	76	78	62	72	75	74	79	83
	Sweden	81	85	88	86	95	91	92	96	96	97	96	93
	Switzerland	78	89	89	m	m	m	90	94	94	89	96	92
	Turkey	29	47	57	48	60	62	47	66	75	78	84	83
	United Kingdom	79	79	82	92	89	91	78	89	93	79	92	97
	United States[1, 7]	59	m	m	83	m	m	82	m	m	79	m	m
	OECD average	66	76	79	m	m	m	80	87	87	83	89	89
	EU23 average	65	76	78	m	m	m	80	87	86	82	89	89
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	m	m	m	m	m	m	m	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m	m	m	m	m	m	m
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m

Note: The time periods of "less than two years", "two to three years" and "four to five years" refer to 0-23 months, 24-47 months and 48-71 months since completion respectively. See *Definitions* and *Methodology* sections for more information. Data and more breakdowns are available at http://stats.oecd.org/, Education at a Glance Database.

1. Data source differs from the EU-LFS.
2. Year of reference 2019.
3. Year of reference 2017.
4. Year of reference 2016. Data reported for the category "Four to five years" refer to five years since completion.
3. Data from national LFS.
6. Upper secondary general programmes only.
7. Year of reference 2017 and 2018 combined. The age group refers to 15-29 year-olds. Data reported under the category "Less than two years" refer to "One year" since graduation.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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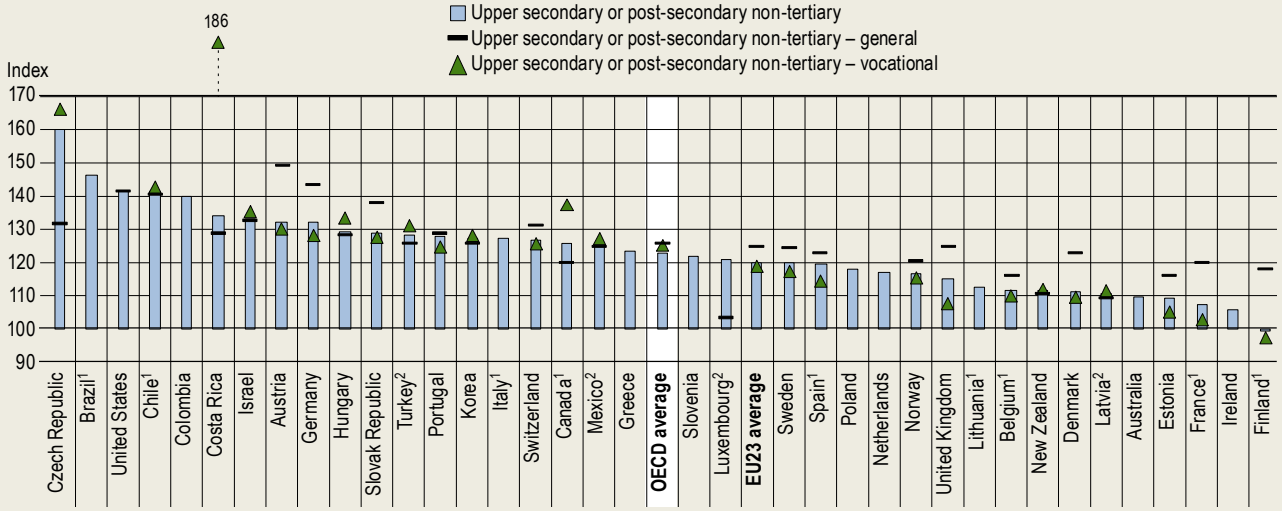
Indicator A4. What are the earnings advantages from education?

Highlights

- Greater educational attainment brings increasing rewards. On average across OECD countries, full-time workers with upper secondary or post-secondary non-tertiary education earn 23% more than those without, while those with a tertiary degree earn 54% more than those with an upper secondary education. However, these averages mask significant variation depending on the fields studied.
- Among adults with upper secondary or post-secondary non-tertiary attainment, those with a general qualification and those with a vocational qualification have similar relative earnings. The difference in relative earnings between adults with a general and vocational qualification is 5 or less percentage points in about one third of the countries with data. However, in a small group of countries, Austria, Finland, France, Germany and the United Kingdom, the difference in the earnings advantage is between 15 and 20 percentage points in favour of a general qualification.
- Three years after graduation, young graduates with a bachelor's or equivalent degree earn 62% more than those with an upper secondary qualification who completed their education at the same time. The earnings advantage varies from less than 25% in Norway and Sweden to about 100% or more in Chile, Lithuania and Turkey.

Figure A4.1. Relative earnings of adults with an upper secondary or post-secondary non-tertiary education compared to earnings of adults with below upper secondary education, by programme orientation (2018)

25-64 year-old workers (full-time full-year workers); below upper secondary education = 100



1. Year of reference differs from 2018. Refer to Table A4.1 for details.
2. Earnings net of income tax.

Countries are ranked in descending order of the relative earnings of 25-64 year-olds with an upper secondary or post-secondary non-tertiary education as the highest educational attainment level.

Source: OECD (2020). Education at a Glance Database, http://stats.oecd.org/. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934162451

Context

Higher levels of education usually translate into better employment opportunities (see Indicator A3) and higher earnings. The potential to earn more and see those earnings increase over time, along with other social benefits, is an important incentive for individuals to pursue education and training.

The earnings advantage with higher educational attainment levels can vary according to age, gender, level of tertiary education, programme orientation and field of study. Individuals with higher qualifications and more experience are more likely to earn higher wages. However, in all countries, gender gaps in earnings persist regardless of age, level of education, programme orientation or field of study.

A number of factors beyond education play a role in individuals' earnings, including the demand for skills in the labour market, the supply of workers and their skills, the minimum wage and other labour-market laws, and structures and practices (such as the strength of labour unions, the coverage of collective-bargaining agreements and the quality of working environments). These factors also contribute to differences in the distribution of earnings.

Other findings

- The earnings advantage of educational attainment generally widens as peoples' careers progress. On average across OECD countries, 25-34 year-olds with tertiary education can expect to be earning nearly 50% more when they reach 45-54 years old. Those with an upper secondary or post-secondary non-tertiary education will earn about 20% more on average and those with below upper secondary education earn about 10% more. On average, salaries rise faster for those with a general upper secondary or post-secondary non-tertiary qualification than for those who with a vocational one. However, the differences between the two streams remain small in most countries.
- Across all levels of attainment, the gender gap in earnings persists. Women in OECD countries with below upper secondary education who work full time earn 77% of the earnings of their male peers. The gender gap is similar for women with an upper secondary or post-secondary non-tertiary education and for women with tertiary education.
- Three years after graduation, young adults with a master's or equivalent degree earn more than their peers with a bachelor's or equivalent degree as well as those who only attained upper secondary education. In half of countries with available data, the earnings of recent master's graduates are more than double the earnings of recent graduates from upper secondary programmes, and the earnings advantage varies from about 50% in Latvia, Norway and Sweden to almost 200% in Chile.

Note

This indicator presents three types of relative earnings. The first uses the earnings of adults with below upper secondary education as a baseline. The results reflect the difference in earnings between adults without upper secondary education and those with upper secondary or post-secondary non-tertiary education. The second uses the earnings of adults whose highest level of educational attainment is upper secondary education as a baseline. The results reflect the difference in earnings between adults with upper secondary or post-secondary non-tertiary education and those with different levels of attainment. The third,on gender disparities in earnings, uses men's earnings as a baseline. In all cases, given the focus on relative earnings, any increase or decrease in the results could reflect a change in the interest group (numerator) or in the baseline group (denominator). For example, higher relative earnings for tertiary-educated individuals may reflect higher earnings among tertiary-educated individuals and/or lower earnings among those with upper secondary education.

Analysis

Relative earnings of workers without tertiary education, by programme orientation

Upper secondary education is commonly considered the minimum educational attainment level for successful labour-market participation. Adults who did not attain upper secondary education not only have the lowest employment rate (see Indicator A3), but also the lowest earnings. The level of earnings increases with increased educational attainment.

On average across OECD countries, 25-64 year-olds in full-time employment with upper secondary or post-secondary non-tertiary education earn 23% more than those who have not attained upper secondary education. The relative earnings for these workers are highest in Brazil, Chile, Colombia, the Czech Republic and the United States, where adults with an upper secondary or post-secondary non-tertiary education earn at least 40% more than those with below upper secondary education (Figure A4.1).

In contrast, in a few countries, the earnings advantage of an upper secondary or post-secondary qualification is minor or negligible compared to someone with below upper secondary education. This is the case in Australia, Estonia, France and Ireland, where the earnings advantage does not exceed 10%. Interestingly, adults who have attained upper secondary or post-secondary education in these countries have still much better labour-market outcomes than those with below upper secondary education, indicated by a difference in employment rates of about 20 percentage points (see Indicator A3).

On average across OECD countries, adults with general and vocational qualifications at the upper secondary education or post-secondary non-tertiary attainment level have similar earnings levels. Their earnings are about 25% higher than that of their peers with below upper secondary education (Figure A4.1).

In about one third of OECD and partner countries, the difference in relative earnings of adults with a general and vocational upper secondary or post-secondary non-tertiary qualification is 5 or less percentage points. However, in some countries such as Austria, Finland, France, Germany or the United Kingdom, the difference in the earnings advantage is between 15 and 20 percentage points in favour of a general qualification. In some countries, a vocational qualification has a comparative earnings advantage over a general one. In Canada, Costa Rica and the Czech Republic the difference is about 20 percentage points or more in favour of a vocational qualification (Figure A4.1).

Relative earnings of tertiary-educated workers, by levels of tertiary education

In all OECD countries, earning differentials are generally wider between tertiary and upper secondary education than between upper secondary or post-secondary non-tertiary education and below upper secondary education. On average across OECD countries, 25-64 year-olds with a tertiary degree earn on average 54% more for full-time employment than those with upper secondary attainment (Figure A4.2).

Indeed, having a tertiary degree carries a considerable earnings advantage in most OECD and partner countries. Relative earnings for full-time workers are highest in Brazil, Chile, Colombia and Costa Rica, where adults with a tertiary education earn over twice as much as those with upper secondary education. In all of these countries, the share of adults with tertiary education is among the lowest in OECD and partner countries (less than 25%), which may partially explain the large earnings advantage of tertiary-educated workers (see Indicator A1; Figure A4.2).

The earnings advantage for tertiary-educated workers varies considerably by level of tertiary attainment, however. In most OECD member and partner countries, workers with a master's or doctoral degree or equivalent earn more than those with a bachelor's degree or equivalent, who in turn earn more than those with a short-cycle tertiary degree. On average across OECD countries, adults with a short-cycle tertiary degree earn about 20% more than those with an upper secondary education. The earnings advantage increases to 43% for those with a bachelor's degree and to nearly 90% for those with a master's or doctoral degree.

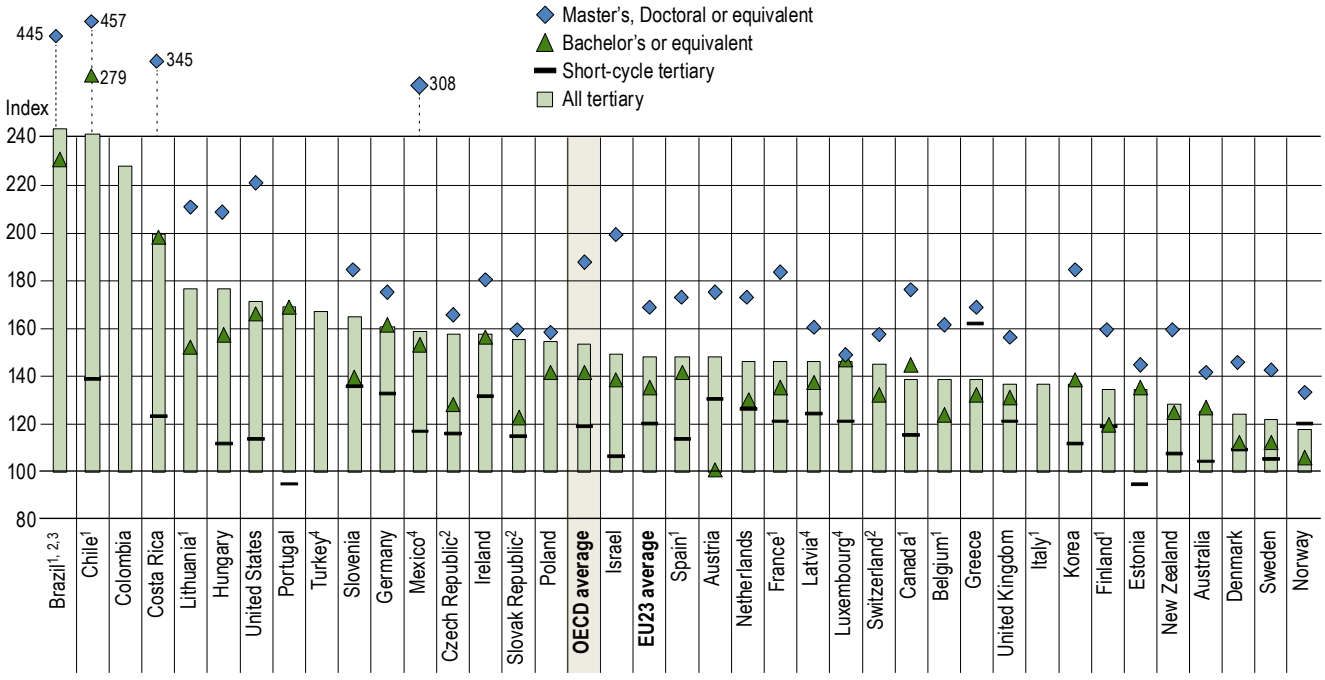
There are some important exceptions to this general pattern. In Estonia and Portugal, adults with a short-cycle tertiary degree earn less than those with an upper secondary education. In both cases, however, these groups represent relatively small shares of the tertiary-educated population.

Moreover, the earnings of workers with a short-cycle tertiary degree are higher than those of workers with a bachelor's degree in Austria, Greece and Norway. With the exception of Greece, which is one of the countries with the highest short-cycle tertiary attainment rates, with at least 10% of adults having attained this level (see Indicator A1).

According to the analysis of data on recent graduates, available for 12 countries, relative earnings advantages are also substantial for young graduates who recently earned a bachelor's, master's or equivalent degree compared to those who recently completed their upper secondary qualification (Box A4.1).

Figure A4.2. Relative earnings of tertiary-educated adults compared to earnings of adults with an upper secondary education (2018)

25-64 year-old workers (full-time full-year workers); upper secondary education = 100



1. Year of reference differs from 2018. Refer to the source table for details.
2. Index 100 refers to the combined ISCED levels 3 and 4 of the educational attainment levels in the ISCED 2011 classification.
3. Bachelor's or equivalent includes short-cycle tertiary.
4. Earnings net of income tax.

Countries are ranked in descending order of the relative earnings of workers with any tertiary level of education.

Source: OECD (2020). Education at a Glance Database, http://stats.oecd.org/. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934162470

Earnings increases over time, by educational attainment

Higher educational attainment is associated with faster increases in earnings throughout a person's working life, meaning the wage differentials across educational attainment levels tend to widen with age. On average across OECD countries, 45-54 year-olds without upper secondary education earn 10% more than their 25-34 year-old peers. Among adults with an upper secondary or post-secondary non-tertiary education, 45-54 year-olds earn 20% more and tertiary-educated older adults earn about 50% more than their younger peers (Figure A4.3).

Higher earnings among older age groups could mean either that earnings increase with experience or that earnings have fallen for younger generations (or a combination of both effects). In most OECD countries, increases over the course of a career is mainly determined by seniority-based pay schemes (where wages rise with seniority) and wage progression from growing work experience and responsibilities (OECD, 2019[1]). Despite the rapid rise in the share of adults who have attained tertiary education, the difference in earnings between older and younger tertiary-educated workers has changed only slightly over the last decade. In most countries, the relative earnings advantage by age has slightly increased but the change is less than 10 percentage points (OECD, 2020[2]). Therefore, the differences in earnings between older and younger adults are

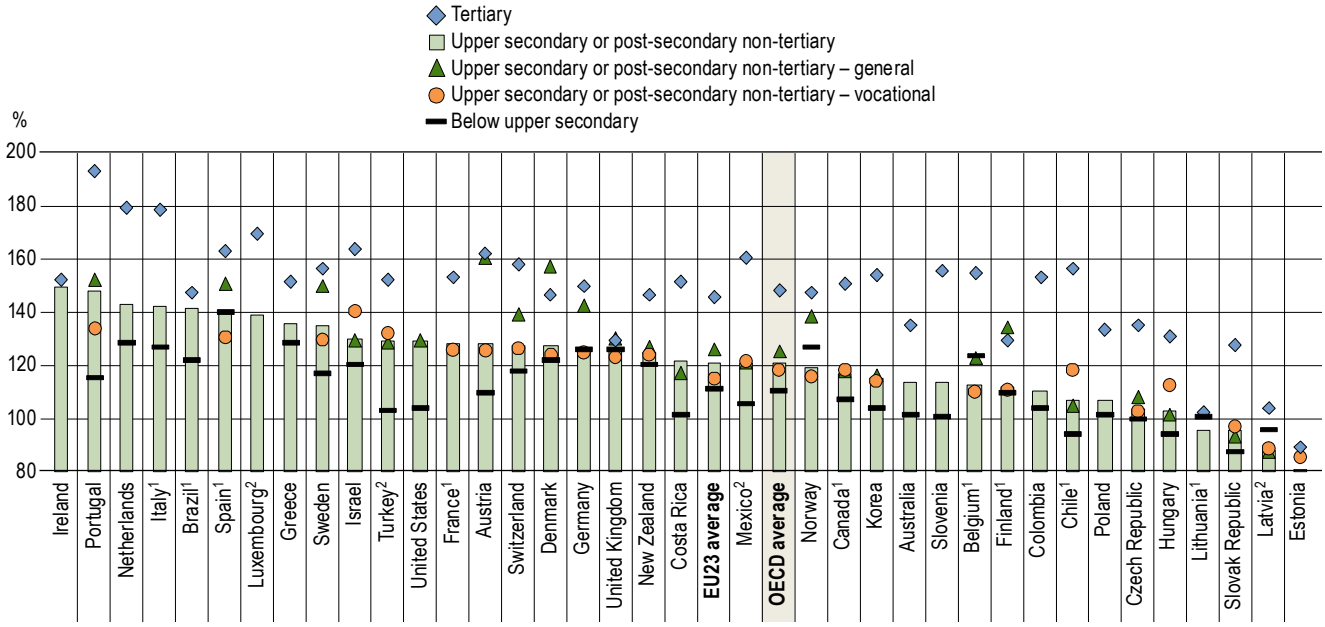
mostly the result of a positive relationship between the level of earnings and work experience. The differences can be interpreted as a proxy for the expected earnings development over the career.

The size of age-related earnings increases varies considerably across OECD and partner countries. In more than half of countries, the difference in the average earnings of 45-54 year-old and 25-34 year-old workers with below upper secondary education is less than 10%. This narrow gap may be due to greater work experience among 25-34 year-olds without upper secondary education, in contrast with young tertiary-educated adults who would only have left education recently. However, in Germany, Greece, Italy, the Netherlands, Norway, Spain and the United Kingdom the earnings difference between these workers amounts to 25% or more (Figure A4.3).

In most OECD and partner countries, the difference in earnings between 45-54 year-olds and 25-34 year-olds is larger for those with upper secondary or post-secondary non-tertiary education than for those with below upper secondary education. The size of the difference varies from about 40% or more in Brazil, Italy, Ireland, the Netherlands, Portugal and Spain to less than 10% in Chile, the Czech Republic, Hungary and Poland. In a few countries, however, young workers with an upper secondary or post-secondary non-tertiary education earn more than older workers. This is the case in Estonia, Latvia, Lithuania and the Slovak Republic (Figure A4.3).

Figure A4.3. Earnings of 45-54 year-olds relative to earnings of 25-34 year-olds, by educational attainment and programme orientation (2018)

Full-time full-year workers; earnings of 25-34 year-olds = 100



1. Year of reference differs from 2018. Refer to Table A4.1 for details.
2. Earnings net of income tax.
Countries are ranked in descending order of the share of 25-64 year-olds with upper secondary or post-secondary non-tertiary education.
Source: OECD (2020). Education at a Glance Database, http://stats.oecd.org/. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/f8d7880d-en).

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In contrast, in about half of OECD and partner countries with available data, older adults with tertiary education earn at least 50% more than their younger peers. The difference in earnings between older and younger tertiary-educated adults is below 10 percentage points only in Estonia, Latvia and Lithuania, while it exceeds 60% in Austria, Israel, Italy, Luxembourg, the Netherlands, Portugal and Spain. A possible explanation for the increase in the earnings advantage of tertiary workers as they progress in their careers is that people with higher levels of education are more likely to be and remain employed, and may have more opportunities to gain experience on the job (Figure A4.3).

The earnings gap between older and younger workers with upper secondary or post-secondary non-tertiary education is wider for those who attended a general programme rather than a vocational one in most OECD and partner countries. In Austria, Denmark, Finland, Norway, Spain and Sweden the difference in earnings is over 20 percentage points more for those with a general qualification, while in Chile, Hungary and Israel, the earnings increase is larger for those with a vocational one (about 10 percentage points in all three countries).

The observed difference in earnings between older and younger adults with general or vocational qualifications seems to be consistent with the observation made by some researchers that vocational graduates have a comparative employment and earnings advantage at the beginning of their careers that diminishes over time and turns into an employment and earnings disadvantage compared with general graduates in the long term (Hanushek et al., 2017[3]; Brunello and Rocco, 2017[4]).

Box A4.1. Relative earnings of recent graduates

Some countries have longitudinally linked administrative data for students, combining study information with post-study employment information. Along with existing sample-based graduate and non-graduate surveys available in other countries, these data can provide further insights into the education-related growth in earnings of recent graduates aged 15-34 at the time of graduation.

In the 12 countries with available data, young adults with a bachelor's or equivalent degree earn 62% more 3 years after graduation than those who completed their upper secondary education in the same year and are no longer in education. This earnings advantage for part-time and full-time young workers with a bachelor's degree varies considerably across countries, from about 100% or more in Chile, Lithuania and Turkey to less than 25% in Norway and Sweden (Figure A4.4 – Panel A).

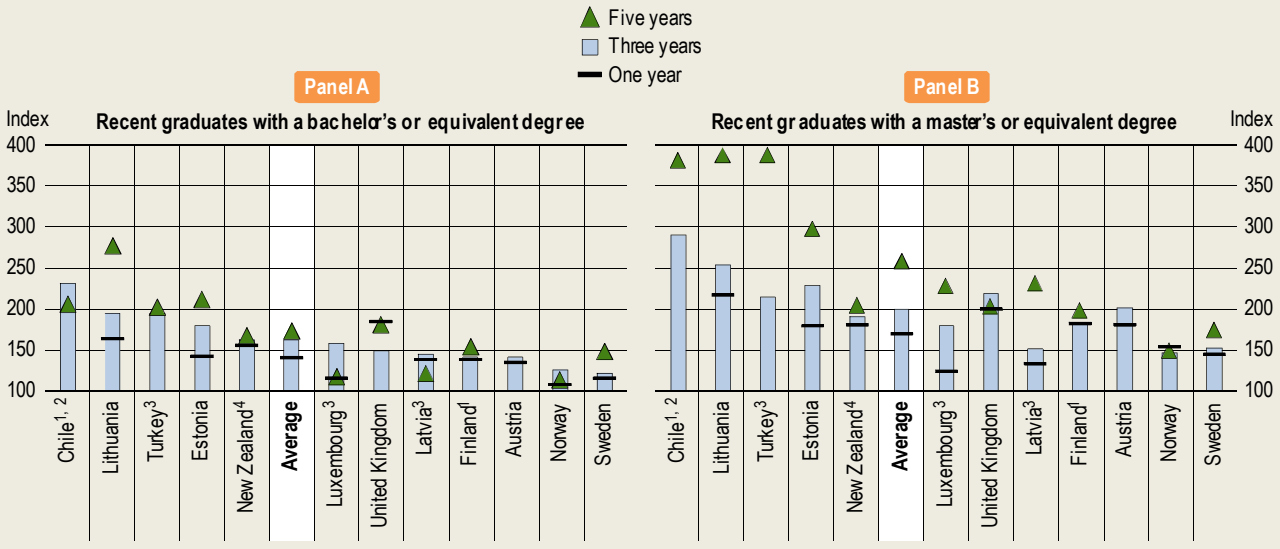
In all countries, the earnings advantage of recent bachelor's graduates over those with upper secondary education is lower when comparing those in the same age group instead of the same number of years after graduation. For instance in Norway or Sweden – the two countries with the lowest earnings advantage three years after graduation – the earnings advantage vanishes when looking at 25-34 year-olds as a group. This shows that the earnings disadvantage of young upper secondary graduates has been partly compensated for by their additional years of professional experience at 25-34 years old. However, in the long run the comparative advantage of tertiary-educated graduates increases five years after graduation (Table A4.4 and Figure A4.4 – Panel A).

Among countries with available data, three years after graduation, those with a master's or equivalent degree earn more than their peers with a bachelor's or equivalent degree and those who only attained upper secondary education. In about half of countries, the earnings of recent graduates with a master's degree are more than double the earnings of those with an upper secondary qualification and the earnings advantage ranges from about 50% in Latvia, Norway and Sweden to almost 200% in Chile (Figure A4.4 – Panel B).

The evolution of the salaries of young master's graduates follows the same trend in most countries with data. Their earnings advantage over their peers with an upper secondary education decreases during the first five years after graduation. In Lithuania, for example, one year after graduation, master's degree holders earn about three times more than upper secondary school graduates. Three years on, the wage premium is only 150%, while five years after graduation it has fallen to 100%. On the other hand, in some countries, most notably Finland, New Zealand, Norway and Sweden, the variations over time in the relative earnings advantage of a master's degree compared to an upper secondary qualification are much smaller (Figure A4.4 – Panel B).

Figure A4.4. Relative earnings of recent bachelor's and master's or equivalent graduates compared to those with an upper secondary education, by years since graduation (2018)

Full- and part-time workers aged 15-34 years, not in education, upper secondary education = 100



1. Year of reference 2017.
2. The category "three years" since graduation refers to two years.
3. Earnings net of income tax.
4. Upper secondary general graduates only.

Countries are ranked in descending order of the relative earnings of workers with a bachelor's or equivalent degree three years after graduation.

Source: OECD (2020), Data collection on labour-market outcomes of recent graduates.

StatLink https://doi.org/10.1787/888934162508

Differences in earnings between women and men, by educational attainment

Women do not earn as much as men in any OECD or partner country. Across OECD countries, women with below upper secondary education who work full time earn 77% of the earnings of their male peers, a gender gap of 23%. A similar gender gap in earnings is observed for women with an upper secondary or post-secondary non-tertiary education (22%), or women with tertiary education (24%) (Table A1.3).

As women are more likely to work part-time than men, the gender gap in the average earnings of all workers (including full-time and part-time earners) is even wider. On average across OECD countries, women with below upper secondary education in full-time or part-time work earn only 69% of the earnings of similarly educated men and women with secondary or post-secondary non-tertiary education and tertiary-educated women earn only 70% of the earnings of similarly educated men (OECD, 2020[2]).

The reasons for the gender gap in earnings include gender stereotyping, social conventions and discrimination against women, but also differences between men and women in their choice of fields of study. Gender stereotypes and social conventions may also contribute to the observed differences in fields of study between men and women. Men are more likely than women to study in fields associated with higher earnings, such as engineering, manufacturing and construction, and information and communication technologies (ICT), while a larger share of women enrol in fields associated with lower earnings, including education, and arts and humanities (OECD, 2019[5]).

In recent years, awareness of the differences in pay between men and women has risen. Many countries have introduced new national policies to reduce disparities in earnings between men and women. Some countries have put in place concrete measures, such as pay transparency, to foster equity in pay between men and women (OECD, 2017[6]). In most of the

countries with available data, the gender gap between the earnings of tertiary-educated men and women narrowed between 2010 and 2018. On average across the 18 OECD countries with data for both years, the gap fell by about 3 percentage points, reaching over 5 percentage points in Australia, Estonia, Korea, Luxembourg, the Netherlands and Norway (OECD, 2020[2]).

Box A4.2. Choice of field of studies and expected earnings

Data on education and earnings by field of study have been collected for Education at a Glance 2019 and are available for 12 countries: Austria, Chile, Denmark, Estonia, Finland, Germany, Latvia, Norway, Portugal, Sweden, Switzerland and the United Kingdom. The data combined with the data collected in the annual UOE data collection on new entrants by field of study allow to gain more insights in the students' choice of fields of study and the earnings levels in these fields.

The earnings advantage for tertiary-educated adults also varies by their field of study. The two broad fields of study most commonly associated with the highest earnings are engineering, manufacturing and construction, and information and communication technologies (ICT). While tertiary-educated adults earned 56% more for part-time and full-time work in 2017 than adults with upper secondary education, regardless of their field of study, on average in the 12 OECD countries with available data, the earnings advantage for the best-paid fields is about 80%. The two broad fields of studies associated with the lowest earnings are arts and humanities, and education. Adults who graduated from these fields earn about 25% more than their peers with an upper secondary education do (Figure A4.5).

From an economic point of view, one might expect the choice of field of study of young students to be strongly determined by the expected employment and earnings outcomes. In other words, the field of study with the highest expected earnings level should also attract the largest share of new entrants into tertiary education. A comparison of the earnings advantage by field of study with the share of new entrants into each field, using the average across the 12 OECD countries with available data, shows that the correlation between them is only weak.

Only half of the broad fields shown in Figure A4.5 support the hypothesis that students' preferences in field of study are related to relative earnings. For arts and humanities (earnings advantage of 17%), and education (25%) the low level of relative earnings correspond to low shares of new entrants (10% for arts and humanities, and 8% for education). Conversely, the high relative earnings for graduates in engineering, manufacturing and construction, and business, administration and law correspond to high shares of new entrants (16% for engineering, manufacturing and construction, and 23% for business, administration and law). In contrast, the relative earnings advantage for ICT graduates is 78% but the share of new entrants is 5%, while the earnings advantage for natural sciences, mathematics and statistics is 66% but only 7% of new entrants chose this broad field. However, in some countries access to some fields of study is limited to the number of places available and students have to pass successfully the selection process (see Indicator D6 in (OECD, 2019[5]) and Figure A4.5).

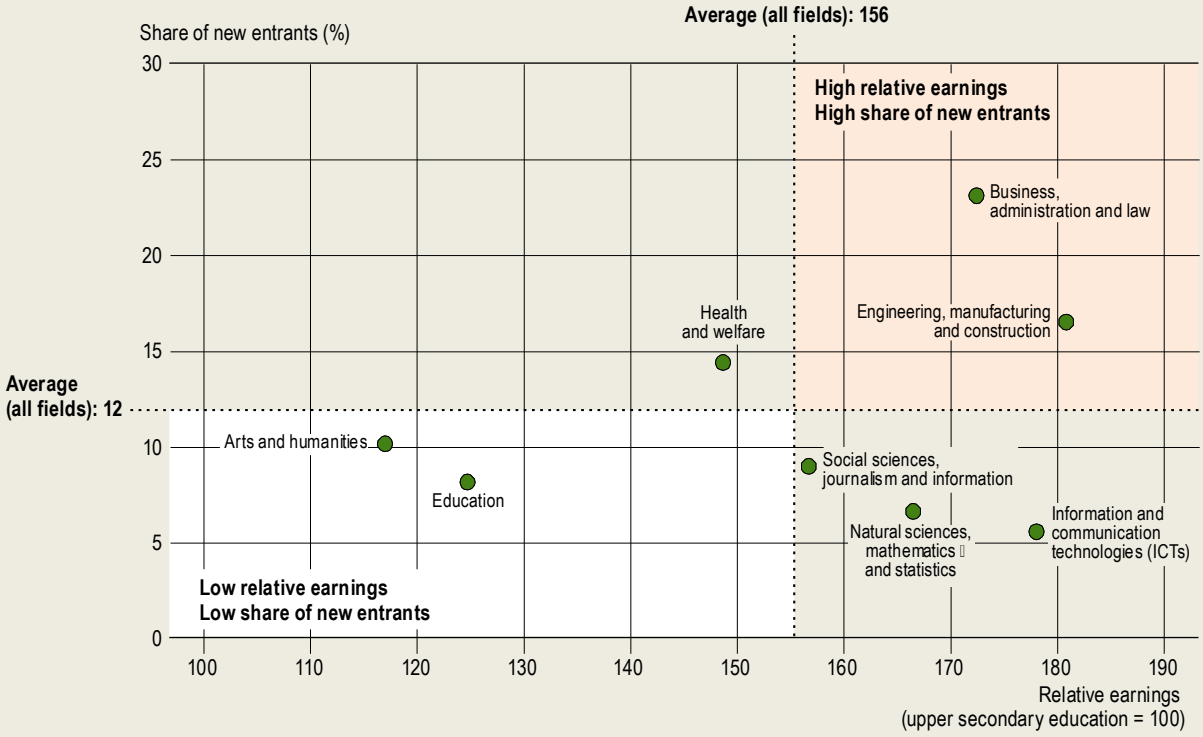
Although not shown in the figure, the conclusion remains the same when analysing countries individually, except for Chile, Portugal and Sweden, where the fields of study with the highest relative earnings are also the most popular (see Table A4.4 and (OECD, 2019[5]; OECD, 2020[7])).

A number of reasons explain the weak effect of wages on enrolment. These include limitations in the number of admissions of students in some fields of study, the corresponding labour markets, lack of information on expected earnings in different fields, and students' personal interests and motivation.

Moreover, using higher earnings as a proxy for market demand, these figures also suggest a potential imbalance in some countries between the fields most in demand by the labour market and the current supply of graduates (see also *Education at a Glance 2017* (OECD, 2017[8]), Indicator A6). Therefore, understanding students' choice of fields is critical for policy makers, as the distribution of new tertiary entrants in different fields of study may predict a lack of qualified workers in some fields.

Figure A4.5. Relationship between the share of tertiary new entrants and relative earnings, by field of study (2017)

Average across OECD countries with available data



Source: OECD (2020). Education at a Glance Database, http://stats.oecd.org/. See Source section for more information and Annex 3 for notes (https://doi.org/10.1787/f8d7880d-en).

StatLink https://doi.org/10.1787/888934162527

Definitions

Adults refer to 25-64 year-olds.

Educational attainment refers to the highest level of education attained by a person.

Fields of study are categorised according to the ISCED Fields of Education and Training (ISCED-F 2013).

Levels of education: See the *Reader's Guide* at the beginning of this publication for a presentation of all ISCED 2011 levels.

Methodology

The analysis of relative earnings of the population with specific educational attainment and of the distribution of earnings includes full-time and part-time workers. It does not control for hours worked, although the number of hours worked is likely to influence earnings in general and the distribution in particular. The analysis of differences in earnings between men and women include full-time workers only. For the definition of full-time earnings, countries were asked whether they had applied a self-designated full-time status or a threshold value for the typical number of hours worked per week.

Earnings data are based on an annual, monthly or weekly reference period, depending on the country. The length of the reference period for earnings also differs. Data on earnings are before income tax for most countries. Earnings of self-employed people are excluded for many countries and, in general, there is no simple and comparable method to separate earnings from employment and returns to capital invested in a business.

This indicator does not take into consideration the impact of effective income from free government services. Therefore, although incomes could be lower in some countries than in others, the state could be providing both free healthcare and free schooling, for example.

Data presented at the country level are average earnings, but there can be significant variations for individuals. Data shown in Table A4.2 "Level of earnings relative to median earnings, by educational attainment (2018)" illustrate the earnings variations among individuals.

The total average for earnings (men plus women) is not the simple average of the earnings figures for men and women. Instead, it is the average based on earnings of the total population. This overall average weights the average earnings separately for men and women by the share of men and women with different levels of educational attainment.

Please see the *OECD Handbook for Internationally Comparative Education Statistics 2018* (OECD, 2018[9]) for more information and Annex 3 for country-specific notes (https://doi.org/10.1787/69096873-en).

Source

The indicator is based on the data collection on education and earnings by the OECD Labour Market and Social Outcomes of Learning Network (LSO Network). The data collection takes account of earnings for individuals working full time and full year, as well as part time or part year, during the reference period. This database contains data on dispersion of earnings from work and on student earnings versus non-student earnings. The source for most countries is national household surveys such as Labour Force Surveys (LFS), the European Union Statistics on Income and Living Conditions (EU-SILC) or other dedicated surveys collecting data on earnings. About one-quarter of countries use data from tax or other registers. Please see Annex 3 for country-specific notes on the national sources (https://doi.org/10.1787/69096873-en).

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Indicator A4 Tables

Table A4.1 Relative earnings of workers, by educational attainment (2018)

Table A4.2 Level of earnings relative to median earnings, by educational attainment (2018)

Table A4.3 Women's earnings as a percentage of men's earnings, by educational attainment and age group (2018)

Table A4.4 Relative earnings of workers, by educational attainment and age (2018)

Cut-off date for the data: 19 July 2020. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en. More breakdowns can also be found at http://stats.oecd.org/, Education at a Glance Database.

StatLink: https://doi.org/10.1787/888934162356

Table A4.1. Relative earnings of workers, by educational attainment (2018)

25-64 year-olds with income from employment (full-time full-year workers)

		Baseline: Upper secondary education = 100						*Baseline: Below upper secondary education = 100*		
				Tertiary				Upper secondary or post-secondary non-tertiary		
		Below upper secondary	Post-secondary non-tertiary	Short-cycle tertiary	Bachelor's or equivalent	Master's, doctoral or equivalent	Total	Total	General programmes	Vocational programmes
		(1)	(3)	(4)	(5)	(6)	(7)	(11)	(12)	(13)
OECD	**Countries**									
	Australia	91	101	104	127	142	125	110	x(11)	x(11)
	Austria	76	106	131	101	175	148	132	149	130
	Belgium [1]	90	c	c	124	162	139	112	116	110
	Canada [1]	83	115	115	145	177	139	126	120	138
	Chile [1]	71	a	138	279	457	241	141	141	143
	Colombia [2]	72	m	x(7)	x(7)	x(7)	228	140	x(11)	x(11)
	Costa Rica	74	c	123	199	345	200	134	129	186
	Czech Republic [2]	63	m	116	128	166	158	160	132	166
	Denmark	90	122	110	113	147	124	111	123	109
	Estonia	90	91	95	135	145	135	109	116	105
	Finland [1]	101	114	119	120	159	135	99	118	97
	France [3]	93	m	121	136	184	146	107	120	103
	Germany	78	113	132	162	175	161	132	143	128
	Greece	81	102	162	132	170	138	124	x(11)	x(11)
	Hungary	77	101	111	158	209	177	129	128	134
	Iceland	m	m	m	m	m	m	m	m	m
	Ireland	96	104	132	157	181	157	106	x(11)	x(11)
	Israel	75	a	106	139	200	149	133	133	136
	Italy [3]	79	m	x(7)	x(7)	x(7)	137	127	x(11)	x(11)
	Japan	m	m	m	m	m	m	m	m	m
	Korea	79	a	111	139	185	136	127	126	128
	Latvia [4]	91	103	124	138	161	146	111	109	112
	Lithuania [5]	94	108	a	152	211	177	112	x(11)	x(11)
	Luxembourg [4]	83	c	121	147	149	146	121	103	c
	Mexico [4]	80	a	117	153	308	158	125	125	127
	Netherlands	86	117	126	130	173	147	117	x(11)	x(11)
	New Zealand	89	99	107	125	160	129	112	111	112
	Norway	86	101	120	106	134	118	117	121	115
	Poland	85	100	m	141	159	155	118	x(11)	x(11)
	Portugal	78	107	95	169 [d]	x(5)	169	128	129	125
	Slovak Republic [2]	78	m	114	123	160	155	129	138	128
	Slovenia	82	a	136	140	185	165	122	x(11)	x(11)
	Spain [1]	84	89r	113	142	174	148	120	123	115
	Sweden	85	114	105	112	143	122	120	124	117
	Switzerland [2]	79	m	x(5, 6)	132 [d]	158 [d]	145	127	131	126
	Turkey [4]	78	a	x(7)	x(7)	x(7)	167	128	126	131
	United Kingdom	87	a	121	132	157	137	115	125	108
	United States	71	m	113	166	221	171	141	141	m
	OECD average	83	m	119	143	189	154	123	126	125
	EU23 average	85	106	120	136	169	149	120	125	119
Partners	Argentina	m	m	m	m	m	m	m	m	m
	Brazil [6]	68	m	x(5)	231 [d]	445	244	146	m	m
	China	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m	m	m	m
	Saudi Arabia	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m

Note: See *Definitions* and *Methodology* sections for more information. Additional columns showing data for additional educational attainment levels are available for consultation on line. Data and more breakdowns are available at http://stats.oecd.org/, Education at a Glance Database.

1. Year of reference 2017.
2. Index 100 refers to the combined ISCED levels 3 and 4 in the ISCED 2011 classification.
3. Year of reference 2016.
4. Earnings net of income tax.
5. Year of reference 2014.
6. Year of reference 2015.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table A4.2. Level of earnings relative to median earnings, by educational attainment (2018)

Median earnings from work for 25-64 year-olds with earnings (full- and part-time workers) for all levels of education

		Below upper secondary					Upper secondary or post-secondary non-tertiary					Tertiary				
		At or below half of the median	More than half the median but at or below the median	More than the median but at or below 1.5 times the median	More than 1.5 times the median but at or below twice the median	More than twice the median	At or below half of the median	More than half the median but at or below the median	More than the median but at or below 1.5 times the median	More than 1.5 times the median but at or below twice the median	More than twice the median	At or below half of the median	More than half the median but at or below the median	More than the median but at or below 1.5 times the median	More than 1.5 times the median but at or below twice the median	More than twice the median
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD	**Countries**															
	Australia	20	47	21	7	5	15	42	25	10	8	12	30	28	15	16
	Austria	32	45	18	4	2	17	32	30	12	8	13	16	20	19	32
	Belgium [1]	9	66	23	1	c	5	59	32	3	c	2	28	50	15	5
	Canada [2]	39	31	17	7	5	29	29	21	11	11	22	22	20	15	21
	Chile [2]	25	50	18	4	3	13	41	26	10	10	4	16	18	14	48
	Colombia	36	37	20	4	3	19	30	33	9	8	7	13	22	14	44
	Costa Rica	20	50	23	4	3	10	39	29	12	11	4	12	19	15	50
	Czech Republic	29	58	12	1	0	5	49	34	8	3	3	20	39	18	21
	Denmark	30	40	24	4	2	17	38	34	8	4	14	24	38	13	11
	Estonia	27	41	12	11	9	20	41	12	13	13	12	25	17	20	26
	Finland [2]	29	36	25	6	3	22	38	29	7	3	13	23	33	17	15
	France [3]	31	40	20	5	3	21	37	28	8	5	10	21	31	18	19
	Germany	42	37	16	3	c	22	36	27	10	5	12	18	26	20	24
	Greece	33	38	21	5	3	18	34	34	10	5	10	21	35	19	14
	Hungary	1	80	15	3	1	0	60	26	8	5	c	18	33	19	30
	Iceland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Ireland	41	26	20	6	7	25	30	23	12	9	14	20	18	19	29
	Israel	27	49	16	5	3	19	44	21	8	9	10	27	23	15	26
	Italy [3]	30	34	26	7	4	18	30	30	12	10	15	20	28	14	24
	Japan	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Korea	23	58	15	3	c	10	48	26	10	5	5	26	29	20	20
	Latvia [1]	5	67	21	4	2	5	61	25	5	4	2	35	33	10	20
	Lithuania [4]	31	44	13	8	3	20	43	19	11	7	15	22	20	17	27
	Luxembourg [1]	20	59	15	5	c	10	51	27	8	3	3	28	30	21	17
	Mexico [1]	32	31	21	8	8	16	21	25	15	24	6	10	15	16	53
	Netherlands [5]	33	36	24	5	2	23	35	27	10	5	15	21	26	18	21
	New Zealand	21	43	25	7	5	19	36	27	10	8	13	27	27	15	17
	Norway	51	30	14	3	2	24	35	29	8	4	17	22	37	13	11
	Poland	0	72	21	5	2	0	59	28	8	5	0	30	35	16	19
	Portugal	9	54	25	7	5	5	36	29	12	17	3	12	17	18	50
	Slovak Republic	36	44	15	4	2	17	35	29	12	7	12	17	27	19	24
	Slovenia	0	83	15	1	0	0	63	28	6	2	0	23	34	22	20
	Spain [2]	37	31	21	6	5	25	29	22	13	10	14	20	20	16	30
	Sweden	25	45	25	4	1	15	36	35	9	4	14	25	37	14	10
	Switzerland	30	51	17	1	c	22	40	30	6	2	10	23	34	19	14
	Turkey [1]	32	43	19	4	2	18	34	29	12	7	12	14	17	27	30
	United Kingdom	26	42	19	7	6	20	38	26	11	6	10	24	27	19	20
	United States	44	40	11	3	2	25	40	20	9	7	13	24	22	16	25
	OECD average	27	46	19	5	3	16	40	27	10	7	10	22	27	17	25
	EU23 average	24	49	19	5	3	14	42	28	9	6	9	22	29	17	22
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil [6]	29	42	15	6	7	9	40	22	12	18	2	12	13	13	60
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See *Definitions* and *Methodology* sections for more information. Data and more breakdowns are available at http://stats.oecd.org/, Education at a Glance Database.

1. Earnings net of income tax.
2. Year of reference 2017.
3. Year of reference 2016.
4. Year of reference 2014.
5. Data refer to full-time, full-year earners only.
6. Year of reference 2015.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table A4.3. Women's earnings as a percentage of men's earnings, by educational attainment and age group (2018)

Average earnings of adults with income from employment (full-time full-year workers)

		Below upper secondary			Upper secondary or post-secondary non-tertiary			Tertiary		
		25-64 year-olds	35-44 year-olds	55-64 year-olds	25-64 year-olds	35-44 year-olds	55-64 year-olds	25-64 year-olds	35-44 year-olds	55-64 year-olds
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD	Countries									
	Australia	78	80	74	77	75	75	81	86	72
	Austria	81	83	76	84	79	87	72	74	68
	Belgium [1]	83	c	c	88	84r	c	82	85	85
	Canada [1]	67	72	63	69	64	75	72	77	66
	Chile [1]	81	89	74	76	76	71	68	71	68
	Colombia	85	82	80	81	76	77	82	81	77
	Costa Rica	84	88	78	80	83	c	97	88	125
	Czech Republic	86	86	87	81	75	89	73	69	84
	Denmark	83	82	82	80	79	81	76	78	71
	Estonia	56	54	70	63	60	71	75	76	79
	Finland [1]	81	81	80	78	76	78	77	76	74
	France [2]	75	c	c	78	81	83	72	75	54
	Germany	71	c	c	84	87	84	74	71	82
	Greece	72	64	70	83	85	78	78	80	81
	Hungary	87	87	84	90	86	94	69	64	77
	Iceland	m	m	m	m	m	m	m	m	m
	Ireland	72	c	c	81	77	82	69	78	55
	Israel	67	63	77	67	62	65	69	69	70
	Italy [2]	80	81	85	77	76	75	68	72	68
	Japan	m	m	m	m	m	m	m	m	m
	Korea	73	71	72	69	71	63	73	77	80
	Latvia [3]	80	82	76r	75	75	78	75	69	82
	Lithuania [4]	79	76	73	79	76	85	75	70	80
	Luxembourg [3]	80	c	c	87	91	c	86	87	c
	Mexico [3]	66	66	68	72	72	78	75	77	71
	Netherlands	87	90	88	83	89	79	77	87	76
	New Zealand	79	78	75	78	77	74	76	77	77
	Norway	82	80	81	79	77	79	75	76	72
	Poland	75	73	76	79	73	86	71	69	73
	Portugal	78	78	75	75	76	69	73	76	71
	Slovak Republic	77	81	73	76	72	83	70	65	76
	Slovenia	83	81	83	85	81	92	82	80	86
	Spain [1]	79	81	85	75	76	80	81	79	82
	Sweden	84	82	85	82	82	82	78	79	75
	Switzerland	74	73	67	84	88	83	79	87	80
	Turkey [3]	71	73	c	80	78	c	84	87	c
	United Kingdom	78	73	76	72	76	75	77	78	74
	United States	69	65	72	71	71	70	72	76	m
	OECD average	77	77	77	78	77	79	76	77	76
	EU23 average	79	79	79	80	79	82	75	75	75
Partners	Argentina	m	m	m	m	m	m	m	m	m
	Brazil [5]	69	69	68	65	66	60	65	66	63
	China	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m	m	m	m
	Saudi Arabia	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m

Note: See *Definitions* and *Methodology* sections for more information. Data and more breakdowns are available at http://stats.oecd.org/, Education at a Glance Database.
1. Year of reference 2017.
2. Year of reference 2016.
3. Earnings net of income tax.
4. Year of reference 2014.
5. Year of reference 2015.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table A4.4. Relative earnings of workers, by educational attainment and age (2018)

25-64 year-olds with income from employment (full-time full-year workers); upper secondary education = 100

		Below upper secondary			Post-secondary non-tertiary			Tertiary											
								Short-cycle tertiary			Bachelor's or equivalent			Master's, doctoral or equivalent			Total		
		25-34 year-olds	35-44 year-olds	55-64 year-olds	25-34 year-olds	35-44 year-olds	55-64 year-olds	25-34 year-olds	35-44 year-olds	55-64 year-olds	25-34 year-olds	35-44 year-olds	55-64 year-olds	25-34 year-olds	35-44 year-olds	55-64 year-olds	25-34 year-olds	35-44 year-olds	55-64 year-olds
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
OECD	**Countries**																		
	Australia	97	93	86	100	100	96	94	105	100	116	131	137	120	136	170	113	126	134
	Austria	86	77	68	111	107	c	118	130	137	104	121	110	146	175	208	126	153	166
	Belgium[1]	86[r]	86	83	c	c	c	c	c	c	109	121	135	124	162	182	114	138	153
	Canada[1]	92	78	80	117	119	108	105	110	127	128	150	162	134	165	222	121	136	157
	Chile[1]	78	69	70	a	a	a	123	135	143	214	291	298	345	432	602	190	252	262
	Colombia[2]	74	73	60	m	m	m	x(16)	x(17)	x(18)	x(16)	x(17)	x(18)	x(16)	x(17)	x(18)	188	241	268
	Costa Rica	85	72	67	c	c	m	117	117	c	179	207	224	c	290	c	170	205	232
	Czech Republic[2]	63	61	68	m	m	m	c	107	117	116	134	137	137	178	170	130	166	168
	Denmark	93	90	89	c	117	113	104	112	109	108	112	118	128	144	168	115	124	131
	Estonia	89	83	79	90	91	87	c	112	102	119	126	154	131	150	150	124	137	138
	Finland[1]	102	102	100	113	112	112	106	112	119	110	118	142	137	150	181	120	132	144
	France[3]	c	97	91	m	m	m	122	118	c	119	138	c	152	195	c	133	146	184
	Germany	82	71	87	113	111	118	123	135	129	143	165	161	148	184	191	142	169	166
	Greece	80	89	74	100	110	100	c	167	c	113	135	154	186	166	196	123	142	159
	Hungary	83	79	74	100	104	m	108	118	m	142	164	159	161	219	235	148	183	189
	Iceland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Ireland	c	88[r]	88	131	100	111	118	118	114[r]	185	160	196	199	167	263[r]	180	153	184
	Israel	81	66	71	a	a	a	100	109	103	131	140	150	164	178	196	129	145	153
	Italy[3]	84	78	72	m	m	m	x(16)	x(17)	x(18)	x(16)	x(17)	x(18)	x(16)	x(17)	x(18)	111	132	159
	Japan	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Korea	86	86	76	a	a	a	106	116	134	120	145	173	137	174	220	117	140	176
	Latvia[4]	87	84	93	107	110	105	114	126	120[r]	121	145	125	158	165	150	130	151	140
	Lithuania[5]	85	98	93	101	108	115	a	a	a	147	154	141	191	241	218	158	180	189
	Luxembourg[4]	c	82	c	c	c	c	c	c	c	133	155	c	134	156	c	132	152	159
	Mexico[4]	86	79	72	a	a	a	109	103	181	139	147	179	209	274	391	139	151	195
	Netherlands	92	84	79	c	c	c	125	124	117	120	137	135	145	185	183	130	155	151
	New Zealand	94	89	84	108	98	95	119	105	102	122	134	124	124	154	168	122	135	129
	Norway	83	86	89	101	97	109	101	116	131	97	107	114	114	134	159	104	118	132
	Poland	88	86	81	96	98	103	m	m	m	129	149	152	137	162	170	135	160	167
	Portugal	86	79	62	112	114	97	105	105	c	150[d]	174[d]	214[d]	x(10)	x(11)	x(12)	150	174	214
	Slovak Republic[2]	83	79	78	m	m	m	100	113	121	113	127	125	127	163	173	125	158	169
	Slovenia	90	84	77	a	a	a	111	127	145	123	143	167	144	174	217	132	159	189
	Spain[1]	82	86	80	c	c	c	114	108	142	148	130	156	148	172	187	136	144	167
	Sweden	91	85	87	87	100	132	97	104	110	99	110	134	123	138	163	106	121	137
	Switzerland[2]	83	77	75	m	m	m	x(10, 13)	x(11, 14)	x(12, 15)	125[d]	137[d]	136[d]	132[d]	158[d]	168[d]	128	148	152
	Turkey[4]	85	77	c	a	a	a	x(16)	x(17)	x(18)	x(16)	x(17)	x(18)	x(16)	x(17)	x(18)	152	178	c
	United Kingdom	83	97	81	a	a	a	111	132	123	125	142	142	154	161	170	131	146	143
	United States	81	72	65	m	m	m	110	115	110	157	171	170	194	225	216	157	178	m
	OECD average	86	82	79	m	m	m	110	118	123	130	146	156	154	185	210	135	156	169
	EU23 average	86	84	81	m	m	m	112	120	122	126	139	148	148	172	188	132	151	164
Partners	**Argentina**	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See *Definitions* and *Methodology* sections for more information. Data and more breakdowns are available at http://stats.oecd.org/, Education at a Glance Database.
1. Year of reference 2017.
2. Index 100 refers to the combined ISCED levels 3 and 4 of the educational attainment levels in the ISCED 2011 classification.
3. Year of reference 2016.
4. Earnings net of income tax.
5. Year of reference 2014.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934162432

Indicator A5. What are the financial incentives to invest in education?

Highlights

- Despite the rising share of tertiary-educated adults over recent decades, investing in upper secondary attainment continues to pay off in the long run for both individuals and society, compared to not completing upper secondary.
- On average across OECD countries, for each USD invested in upper secondary education, men can expect to receive USD 9 over the course of their working-age life, while women can expect to receive USD 11.6. The gender difference is related to the fact that women's foregone earnings while they continue their education are much lower than men's, even though women receive a smaller net financial return from upper secondary attainment than men.
- Individuals' net financial returns from tertiary education are generally higher than from upper secondary education. On average across OECD countries, the net financial return for tertiary-educated men or women is around 1.5 times as much as for those with upper secondary education as their highest attainment.

Context

Investing time and money in education is an investment in human capital. Better chances of employment (see Indicator A3) and higher earnings (see Indicator A4) are strong incentives for adults to invest in education and postpone employment. Although women currently have higher levels of education than men on average (see Indicator A1), men enjoy better employment and earning outcomes from education, on average.

Countries benefit from having more highly educated individuals through higher revenues from the taxes and social contributions paid by those individuals once they enter the labour market. As both individuals and governments benefit from higher levels of educational attainment, it is important to consider the financial returns to education alongside other indicators, such as access to and completion of higher education (see Indicator B5).

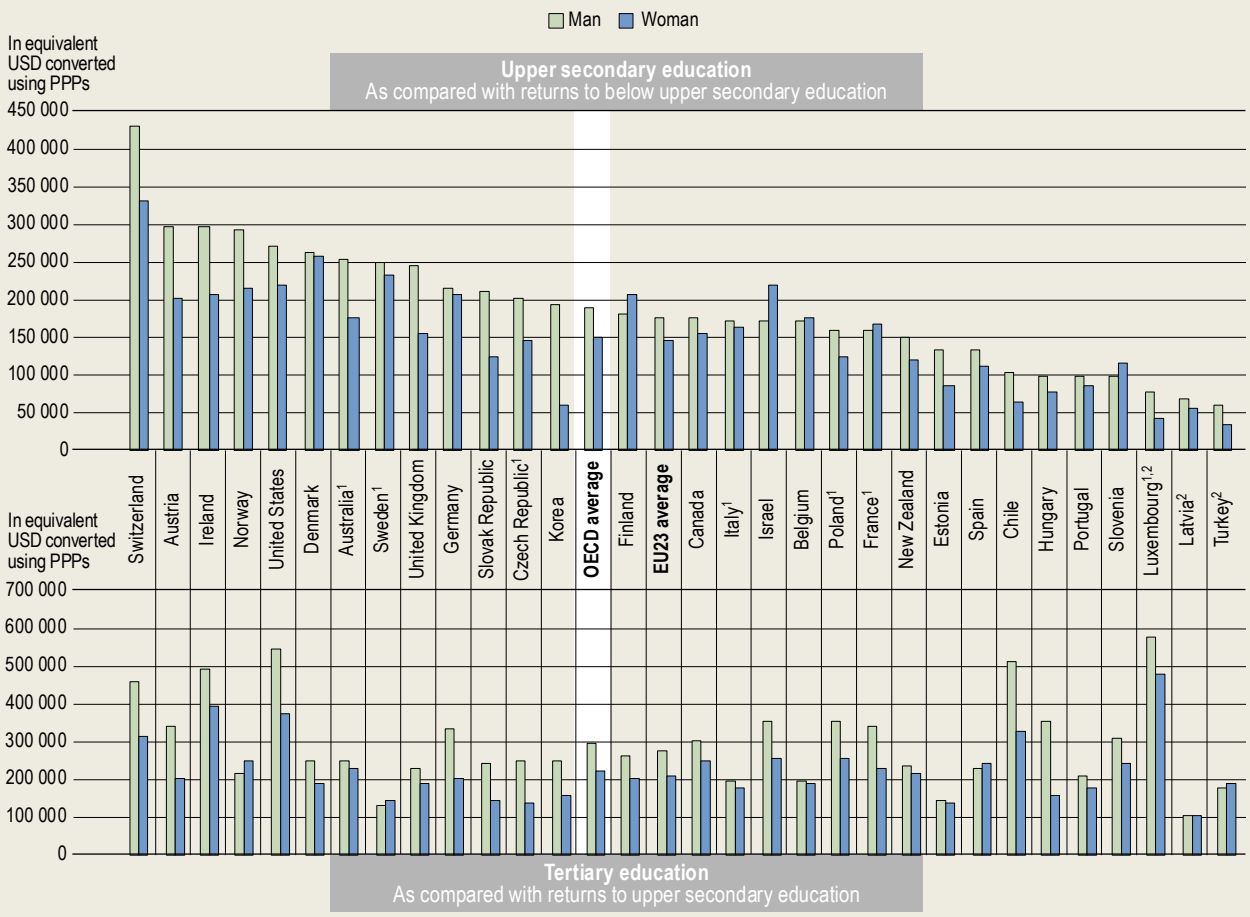
Other factors not reflected in this indicator also affect the returns to education. Financial returns may be affected by the field of study and by the specific economic, labour-market and institutional context in each country, as well as by social and cultural factors. Furthermore, returns to education are not limited to financial returns, but also include other economic outcomes, such as increased productivity, and social outcomes, such as greater participation in cultural or sporting activities (see Indicator A6).

Other findings

- For nearly all countries with available data, the private and public net financial returns from obtaining a bachelor's, master's or doctoral or equivalent degree are greater than from obtaining a short-cycle tertiary degree.
- The public benefits of education outweigh the costs, through greater tax revenues and social contribution from higher-paid workers. For instance, on average across OECD countries, the internal rate of return to governments from upper secondary education is 6% for a man and 3% for a woman.
- In most OECD countries, the main cost of education for individuals are not direct payments, such as tuition fees and living expenses, but the earnings that individuals forego while they are in education. These vary substantially by gender and across countries, depending on the length of education, overall earning levels, differences in earnings across levels of educational attainment and students' earnings.
- For governments, direct costs (such as public expenditure on educational institutions and student grants) represent the largest share of the total public costs of education (composed of these direct costs and foregone taxes on earnings). Since the direct costs are the same for men as for women, total public costs are also quite similar for men and women.

Figure A5.1. Private net financial returns to education for a man or a woman, by educational attainment (2017)

In equivalent USD converted using PPPs for GDP; future costs and benefits are discounted at a rate of 2%



1. Year of reference differs from 2017. Refer to the source tables for details.
2. Only net earnings are available and the calculations are using these values as if they were gross earnings.

Countries are ranked in descending order of the private net financial returns of upper secondary education for a man.

Source: OECD (2020), Tables A5.1 and A5.2, and Tables A5.5 and A5.6, available on line. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Note

This indicator provides information on the incentives to invest in further education by considering its costs and benefits, including net financial returns and internal rates of return. It examines the choice between pursuing higher levels of education and entering the labour market, focusing on two scenarios: 1) investing in upper secondary education versus entering the labour market without an upper secondary qualification; 2) investing in tertiary education versus entering the labour market with an upper secondary qualification.

It considers two types of investors: 1) individuals (referred to here as "private") who choose to pursue higher levels of education and the additional net earnings and costs they can expect; and 2) governments (referred to here as "public") that decide to invest in education and the additional revenue they receive (e.g. as tax revenues) and the costs involved.

This indicator estimates the financial returns on investment in education only up to a theoretical retirement age of 64 and therefore does not take pensions into account. The direct costs of education presented in this indicator do not take into account student loans. The results presented in the tables and figures of this indicator are calculated using a discount rate of 2%, based on the average real interest on government bonds across OECD countries.

Analysis

Financial incentives to invest in upper secondary education

Financial incentives for individuals

Private net financial returns are the difference between the costs and benefits associated with attaining an additional level of education. In this analysis, the costs include the direct costs of attaining education and foregone earnings, while the benefits correspond to earnings from employment after paying income taxes and social contributions (see *Definitions* section). Another way to analyse returns to education is through the internal rate of return, which is the real interest rate that would equalise the costs and benefits, leading an investment to break even. It can be interpreted as the interest rate on the investment made on a higher level of education that an individual can expect to receive every year during their working-age life. The financial incentives to invest in education can also be expressed as total benefits relative to total costs (benefit-cost ratio). This is expressed as the financial benefit of attaining an additional level of education for each USD invested in it. Depending on which measure is used, the relative incentives to invest in additional educational attainment differ between men and women.

In all OECD countries, investing in upper secondary education pays off in the long run for both men and women. The gains associated with this level of education that individuals can expect to receive over their career exceed the costs they bear during their studies. On average across OECD countries, the private net financial return for each individual attaining upper secondary education, compared to an individual with below upper secondary education, is USD 186 100 for a man and USD 150 400 for a woman (Figure A5.1).

The private financial returns from upper secondary education are higher for men than for women in most OECD countries with available data. In Korea, the private financial return from upper secondary education is more than three times higher for men than for women. The only countries where women have higher private financial returns than men are Belgium, Finland, France, Israel and Slovenia (Figure A5.1).

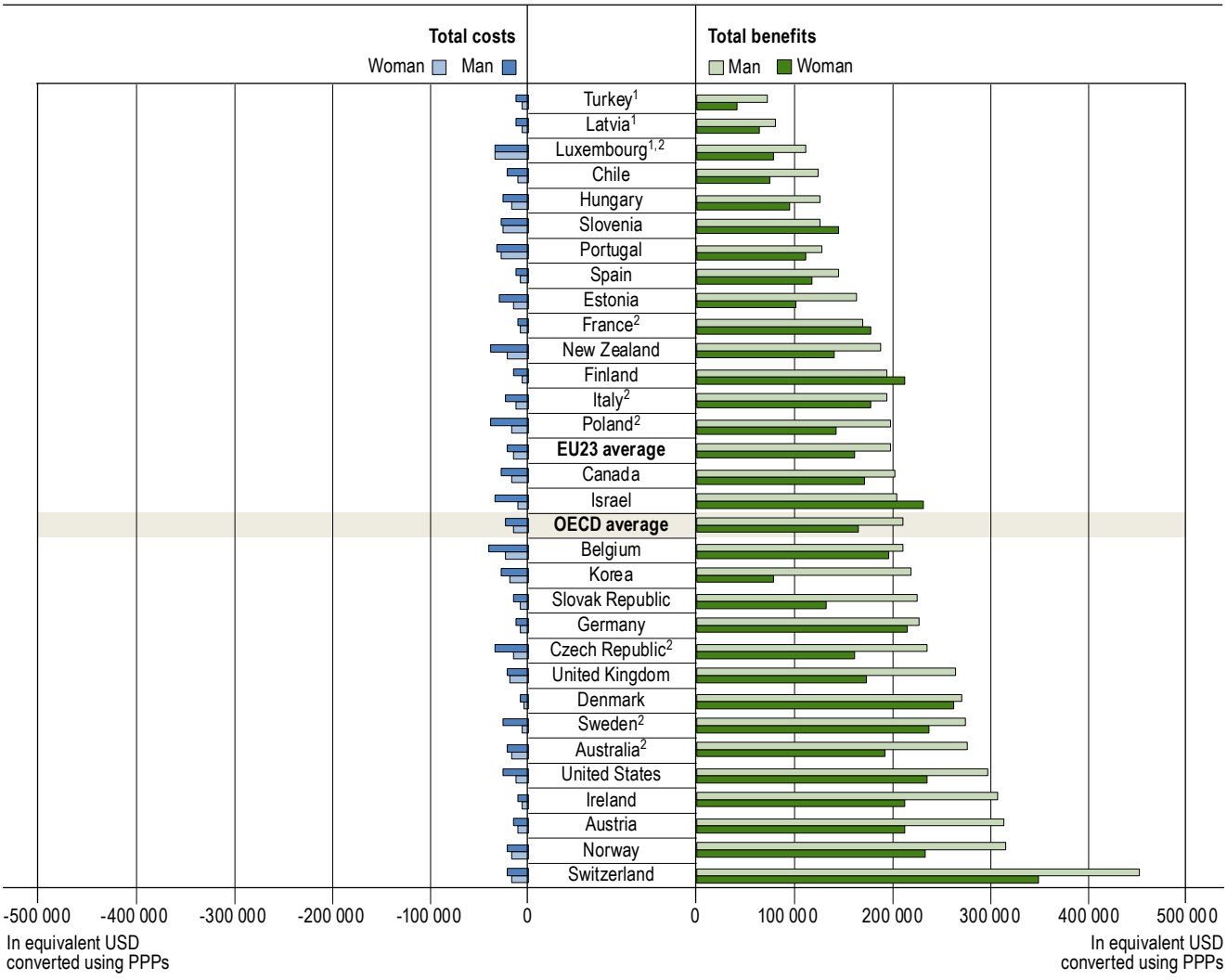
Direct costs refer to the total expenditure on education, which are the same for men and women. On average across OECD countries, the direct costs for both men and women of attaining upper secondary education are USD 2 700. While direct costs are the most obvious element, in most countries the main costs are foregone earnings, i.e. the earnings individuals could expect to receive if they decide not to pursue further education. Foregone earnings depend on the length of education, earnings levels, employment rates and the difference in earnings and employment between levels of educational attainment. The current model also takes into account the fact that, in many countries, it is common for students to work while studying, thus reducing their foregone earnings and the total cost of education (OECD, 2017[1]). On average across OECD countries, the foregone earnings of attaining upper secondary education are about USD 20 500 for a man and USD 11 500 for a woman (Table A5.1 and Table A5.2). When direct costs and foregone earnings are combined, the average total costs of attaining upper secondary education, compared to not continuing in education, are USD 14 200 for women, representing about 60% of the total costs for men (USD 23 200). In Sweden, men can expect their total costs to be nearly four times those of women. Luxembourg is the only country where women face higher total costs than men (Figure A5.2).

Differences in labour-market outcomes lead to a wide variation in the private total benefits associated with investment in upper secondary education for men and women. On average across OECD countries, the total benefits of attaining upper secondary education are USD 209 300 for men and USD 164 600 for women. This is mainly due to gender gaps in earnings, but is also related to lower employment levels for women with an upper secondary education than for men (see Indicators A3 and A4 and Figure A5.2).

While further education yields higher earnings over the course of a working life, the private benefits from investing in education also depend on countries' tax and social contribution systems (Brys and Torres, 2013[2]). For instance, in Chile, Estonia, Korea and Switzerland, income taxes and social contributions amount to less than one-fifth of the gross earnings benefits for a man attaining upper secondary education, while in Belgium they add up to more than 40% of the gross earnings benefits. As women tend to have lower earnings, they often fall into lower income tax brackets. For example, in Ireland and Korea, the income tax and social contributions for a woman who attained upper secondary education are less than one-third those of a man with the same level of attainment (Table A5.1 and Table A5.2). Note that taxes and social contributions also relate to pensions and retirement programmes, which are not considered in this indicator.

Figure A5.2. Private costs and benefits for a man or a woman attaining upper secondary education (2017)

As compared with returns to below upper secondary education, in equivalent USD converted using PPPs for GDP; future costs and benefits are discounted at a rate of 2%



1. Only net earnings are available and the calculations are using these values as if they were gross earnings.
2. Year of reference differs from 2017. Refer to the source tables for details.

Countries are ranked in ascending order of the total private benefits for a man.

Source: OECD (2020), Tables A5.1 and A5.2. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Across OECD countries, the average internal rate of return to upper secondary education is 25% for men and 32% for women. However, there are wide variations across countries, particularly for women. The internal rate of return to upper secondary education for women ranges from 7% in Luxembourg to more than 70% in Denmark and Ireland (Table A5.1 and Table A5.2).

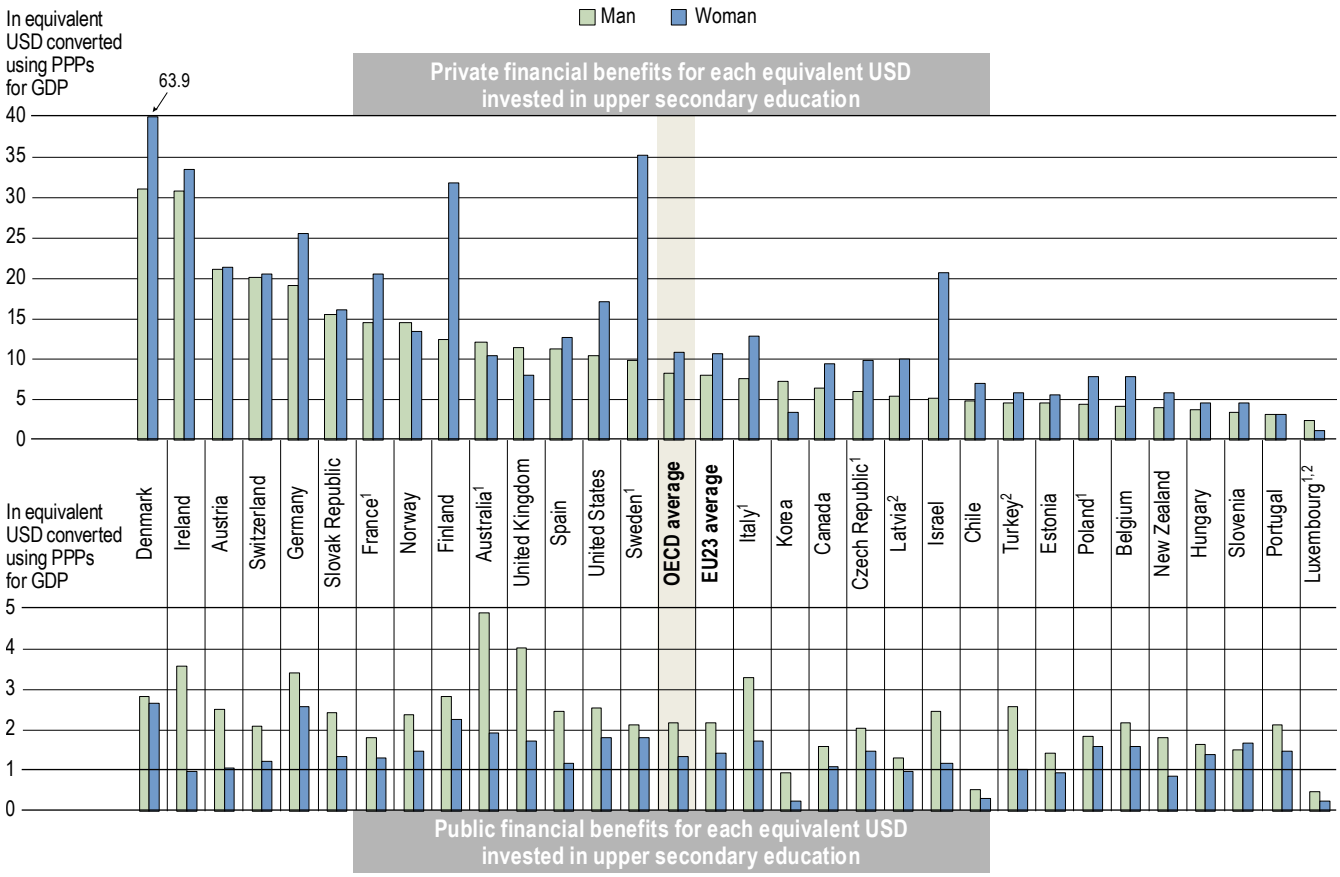
Looking at the benefit-cost ratio, on average across OECD countries, for each USD invested in upper secondary education, men can expect to receive USD 9 over the course of their working-age life, while women can expect to receive USD 11.6 The private benefits for each USD invested in upper secondary education is the lowest in Luxembourg (USD 3.3 for a man and USD 2.2 for a woman) and the highest in Denmark (USD 31.2 for a man and USD 63.9 for a woman). In Luxembourg, women face the highest total costs of pursuing upper secondary education among OECD countries, and the fifth lowest total benefits.

In contrast, women in Denmark pay the lowest costs for upper secondary education and can expect to receive the second highest total benefits from it (Figure A5.3).

In most OECD countries with available data, women enjoy higher financial benefits than men for each USD invested in upper secondary education, even though their private net financial returns from upper secondary education are lower. This is due to the fact that, compared to the difference in total benefits, total costs are disproportionally lower for women than for men. For instance in Sweden, although women's total benefits from upper secondary education are about 85% of the total benefits for men, their total costs are just one-quarter of the total for men. However, in Australia, Korea, Luxembourg, Norway and the United Kingdom, men receive greater financial benefits for each USD they invest in upper secondary education than women do (Figure A5.2 and Figure A5.3).

Figure A5.3. Financial benefits for each equivalent USD invested in upper secondary education, by gender (2017)

As compared with returns to below upper secondary education, in equivalent USD converted using PPPs for GDP; future costs and benefits are discounted at a rate of 2%



Note: Private financial benefits are net of income taxes and social contributions. The financial benefits for each equivalent USD invested in education are sensitive to the total costs of education. Readers would need to combine Figure A5.2 and Figure A5.3 to interpret the results. For example, in Denmark, the private total benefits from upper secondary education are similar for men and for women (USD 268 400 and USD 262 000), but the private total costs of upper secondary education are twice as high for men as for women (USD 8 600 compared with USD 4 100) (see Figure A5.2, and Tables A5.1 and A5.2).

1. Year of reference differs from 2017. Refer to the source tables for details.

2. Only net earnings are available and the calculations are using these values as if they were gross earnings.

Countries are ranked in descending order of the private financial benefits for each dollar invested in upper secondary education for a man.

Source: OECD (2020), Tables A5.1, A5.2, A5.3 and A5.4. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Box A5.1. The effect of the discount rate on the net financial returns to education

The calculation of the financial returns, or the net present value (NPV), of education corresponds to a cost-benefit analysis that converts future expected flows into a present value by using a discount rate. The discount rate takes into account the fact that money tomorrow is worth less than money today, and must therefore be "discounted" at a specific rate to find its current worth. The choice of the discount rate is challenging, and it will make a considerable difference when analysing the returns to long-term investments, as is the case with investment in education.

Table A5.a. Net financial returns for a man attaining upper secondary education, by discount rate (2017)

As compared with a man attaining below upper secondary education, in equivalent USD converted using PPPs for GDP

		Discount rate		
		2%	3.75%	8%
OECD	Countries			
	Australia[1]	252 900	174 300	82 300
	Austria	297 400	195 900	83 200
	Belgium[2]	169 000	101 600	28 700
	Canada	173 400	109 700	38 400
	Chile	102 100	59 500	15 300
	Czech Republic[2,3]	200 100	128 400	47 200
	Denmark	259 800	177 800	82 000
	Estonia	132 300	87 800	36 500
	Finland[2]	177 700	126 300	63 100
	France[1,2]	157 300	106 300	47 000
	Germany	214 100	145 700	67 000
	Hungary[2]	98 500	59 000	16 000
	Ireland[2]	296 200	208 200	102 800
	Israel[2]	169 600	103 600	33 800
	Italy[1]	170 100	97 900	26 900
	Korea	190 600	117 200	38 700
	Latvia[4]	66 100	44 400	19 200
	Luxembourg[1,2,4]	77 700	45 900	9 800
	New Zealand	147 900	88 800	25 700
	Norway	293 700	198 200	87 100
	Poland[1,2]	158 600	100 600	34 100
	Portugal[2]	96 500	50 500	5 200
	Slovak Republic[2]	209 700	140 700	60 900
	Slovenia[2]	96 400	64 600	25 600
	Spain	131 700	76 800	21 300
	Sweden[1]	247 900	168 900	75 600
	Switzerland	428 000	295 500	145 300
	Turkey[2,4]	59 000	31 900	4 600
	United Kingdom	242 100	154 100	57 500
	United States	268 900	175 500	72 500
	OECD average	186 100	121 200	48 400
	EU23 average	174 900	114 100	45 500

Note: Values are based on the difference between men who attained an upper secondary education compared with those who have attained a below upper secondary education. Values have been rounded up to the nearest hundred. Direct costs to education do not include student loans.

1. Year of reference 2016.
2. The probability of students having earnings refers to the employment rate from the LSO TRANS questionnaire instead of the share of earners from the LSO Earnings questionnaire.
3. Year of reference 2015.
4. Only net earnings are available and the calculations are using these values as if they were gross earnings.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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The results presented in the tables and figures of this indicator are calculated using a discount rate of 2%, based on the average real interest on government bonds across OECD countries. However, it can be argued that education is not a risk-free investment, and that the discount rate should therefore be higher. The OECD countries that perform similar cost-benefit analysis use higher discount rates than 2%, but the rate used varies across countries (OECD, 2018[3]).

In order to assess the size of the impact of the discount rate it is helpful to perform a sensitivity analysis. Table A5.1 shows how the private financial returns for a man attaining upper secondary education changes when three different discount rates are used. Changing from a discount rate of 2% to a rate of 3.75% reduces the NPV by at least 29% in all countries with available data. If a discount rate of 8% is used, the NPV falls by over 50% in all countries. These comparisons highlight the sensitivity of the NPV results to changes in the discount rate.

Financial incentives for governments

Governments are major investors in education, especially at non-tertiary levels of education (see Indicator C3). From a budgetary point of view, it is important to analyse whether these investments will be recovered, particularly in an era of substantial fiscal constraints. Higher levels of educational attainment tend to translate into higher earnings (see Indicator A4), which in turn generate higher income taxes and social contributions for governments. On average across OECD countries, the public net financial returns from upper secondary education are about USD 44 600 for a man and USD 13 700 for a woman. The internal rate of return from upper secondary education to governments is 6% for a man and 3% for a woman (Table A5.4, and Table A5.5 available on line).

Public net financial returns are based on the difference between the costs and the benefits associated with an individual attaining an additional level of education. In this analysis, the costs include the direct public costs of supporting education and foregone taxes on earnings, while the benefits are calculated using income tax and social contributions (see *Definitions* section).

On average across OECD countries, the total public costs for an individual to attain upper secondary education are USD 38 400 for a man and USD 35 900 for a woman. For governments, direct costs (including student grants) represent the largest share of total public costs for upper secondary education, even though student loans are not taken into account in this indicator. On average across the OECD, direct costs account for roughly 90% of total government costs of upper secondary education for men and women. Since the direct costs are the same for men as for women, the total public costs are quite similar for men and women. The countries with high direct costs are also the countries with the largest total public costs. Luxembourg has the highest direct costs (USD 80 200) and total public costs for men (USD 86 700) and for women (USD 85 900). In contrast, Turkey has the lowest direct costs (USD 11 900) and total public cost for men (USD 13 700) and women (USD 12 400) of all OECD countries with available data (Table A5.3 and Table A5.4).

Governments offset the costs associated with education through the additional tax revenues and social contributions from higher-paid workers, who often have greater educational attainment. On average, the total public benefits amount to USD 83 000 for a man with upper secondary education as his highest attainment. The total can be broken down into income tax effects (USD 54 600) and social contribution effects (USD 28 400). For a women with upper secondary attainment, the total public benefits are USD 49 600 on average, composed of income tax effects of USD 29 100 and social contribution effects of USD 20 500. Across OECD countries, Austria and Denmark gain the largest total public benefits of upper secondary education for men (over USD 150 000) and Denmark and Germany gain the largest benefits for women (over USD 100 000) (Table A5.3 and Table A5.4).

In relative terms, the public benefits for each USD invested in upper secondary education are generally much lower than private ones, as the total costs are greater for governments than for individuals. On average across OECD countries, each USD that governments invest in upper secondary education generates a public benefit of USD 2.2 for a man, and USD 1.4 for a woman. In Chile, Korea and Luxembourg, the public benefits from investment in upper secondary education do not cover the total public costs for both men and women. In Estonia, Ireland and New Zealand, the public benefit-cost ratio is below one for women, but not for men (Figure A5.3). The gender difference is mainly due to the fact that, while the public costs are similar for men and women, the public benefits for men are greater than for women (Table A5.3 and Table A5.4). This suggests that governments have a role to play in improving the integration and participation of women in the labour market.

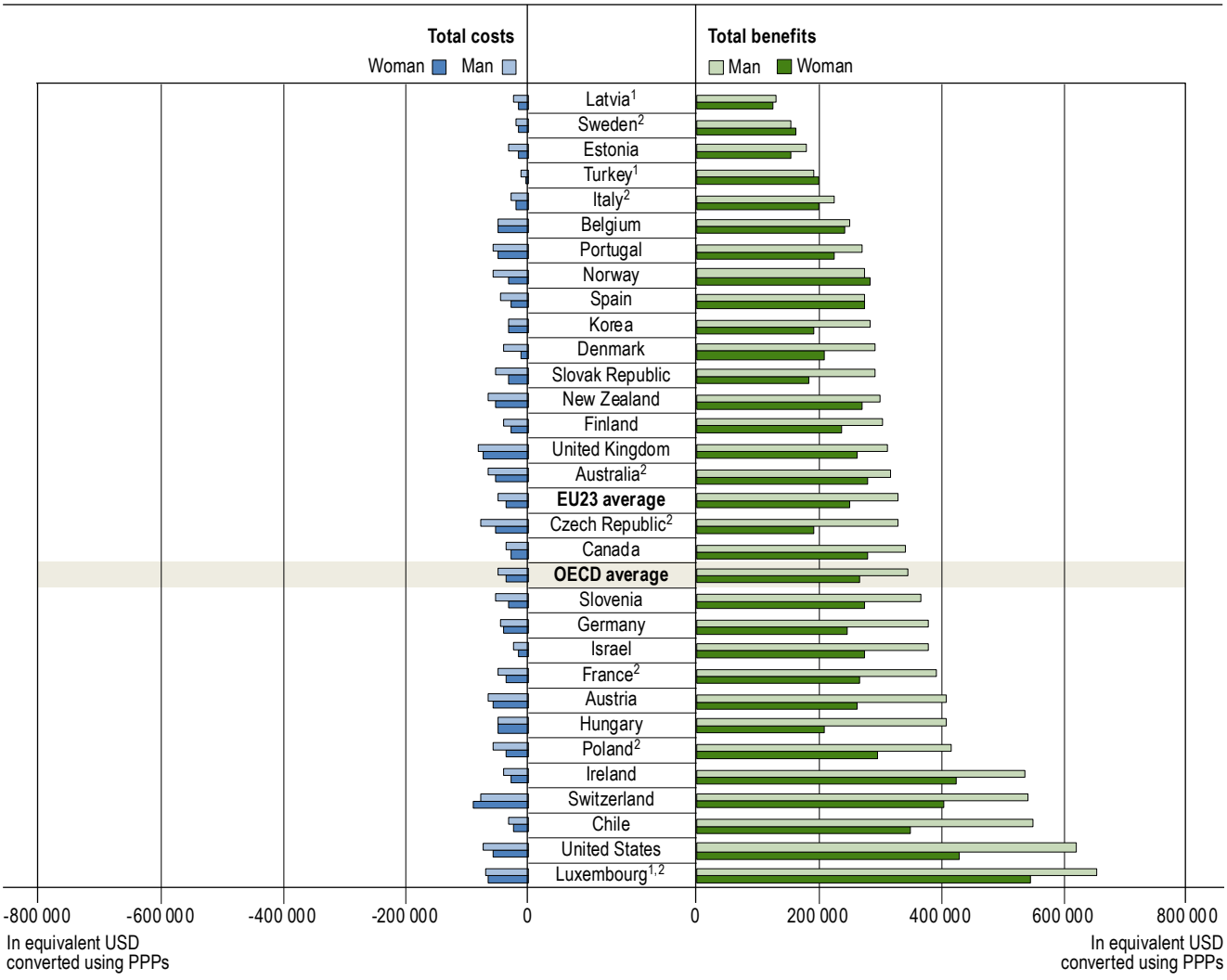
Financial incentives to invest in tertiary education

Financial incentives for individuals

As with upper secondary education, adults completing tertiary education benefit from positive financial returns over their working-age life. On average across OECD countries, the financial returns from tertiary education are about 1.5 times higher than the returns from upper secondary education for both men and women. In Chile and Luxembourg, the financial returns from tertiary education are at least five times higher than those from upper secondary education for both men and women. However, the returns from upper secondary education is higher than from tertiary education in Australia (for men), the Czech Republic (for women), Denmark (for men and women), Finland (for women), Germany (for women), Norway (for men), Sweden (for men and women), Switzerland (for women) and the United Kingdom (for men) (Figure A5.1).

Figure A5.4. Private costs and benefits for a man or a woman attaining tertiary education (2017)

As compared with returns to upper secondary education, in equivalent USD converted using PPPs for GDP; future costs and benefits are discounted at a rate of 2%



1. Only net earnings are available and the calculations are using these values as if they were gross earnings.
2. Year of reference differs from 2017. Refer to the source tables for details.

Countries are ranked in ascending order of the total private benefits for a man.

Source: OECD (2020), Tables A5.5 and A5.6, available on line. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Although young women are more likely to complete tertiary education than young men (see Indicator A1), women generally receive lower returns than men from tertiary education. Across OECD countries, the average private financial return from tertiary education is USD 295 400 for a man and USD 225 400 for a woman. In the Czech Republic and Hungary, the financial returns for women are only about half of the returns for men. The only countries where women have higher private financial returns than men are Latvia, Norway, Spain, Sweden and Turkey. Moreover, the gender difference in net financial returns to education tends to increase with the level of educational attainment (Figure A5.1).

Across OECD countries, the average internal rate of return to tertiary education is 16% for men and 19% for women. The lower internal rate of return from tertiary education compared to upper secondary education is due to the higher total costs of attaining tertiary education (Table A5.1, Table A5.2, and Tables A5.5 and A5.6, available on line).

On average across OECD countries, the direct costs of tertiary education amount to USD 9 100 for both men and women, which is more than three times the direct costs of upper secondary education. The direct costs are particularly high in the United Kingdom and the United States: tuition fees and living expenses during tertiary education amount to more than USD 30 000 and exceed foregone earnings, although even in these countries the earnings advantage associated with tertiary education compensates for the costs. In most OECD countries, however, the main costs of tertiary education are still foregone earnings. The average foregone earnings for attaining tertiary education are about USD 38 900 for a man and USD 28 500 for a woman (Table A5.1, Table A5.2, and Tables A5.5 and A5.6, available on line). When direct costs and foregone earnings are combined, Turkey has the lowest total costs for both men and women (USD 12 400 for men and USD 5 800 for women), while Switzerland has the highest total costs for women (USD 87 100) and the United Kingdom the highest for men (USD 79 300) across all OECD countries with available data (Figure A5.4).

Further education yields higher gross earnings benefits over an individual's career. Across OECD countries, the average gross earnings benefits are USD 543 300 for a tertiary-educated man and USD 388 200 for a tertiary-educated woman compared with their peers with upper secondary attainment. Countries' tax and social benefit systems also have an impact on the benefits of attaining tertiary education. Income taxes and social contributions account for the lowest share of the benefits in Chile and Korea (less than one-fifth of the gross earnings benefits), while in Belgium and Italy (for men only) they account for more than half (Tables A5.5 and A5.6, available on line). On average across OECD countries, the total benefits net of income taxes and social contributions are about USD 343 400 for a tertiary-educated man and USD 263 000 for a tertiary-educated woman. Norway, Sweden and Turkey are the only OECD countries where women enjoy higher total benefits from tertiary education than men (Figure A5.4).

In two-thirds of OECD countries, the gender difference in the private financial benefits for each USD invested in tertiary education is less than USD 2. On average across OECD countries, the private financial benefits for each USD invested in tertiary education are very close for men and women (around USD 7), although women receive lower private net financial returns than men from tertiary education. This is due to the fact that, on average, women's total costs and total benefits represent a similar proportion of men's total costs and total benefits, around 77%. (Figure A5.1, Figure A5.4 and Figure A5.5).

Financial incentives for governments

Higher levels of educational attainment also lead to higher returns for the public sector. On average across OECD countries, the net public return for an individual attaining tertiary education is about USD 137 700 for a man and USD 67 900 for a woman. The internal rate of return from tertiary education to governments is 8% for a man and 6% for a woman (Tables A5.7 and A5.8, available on line).

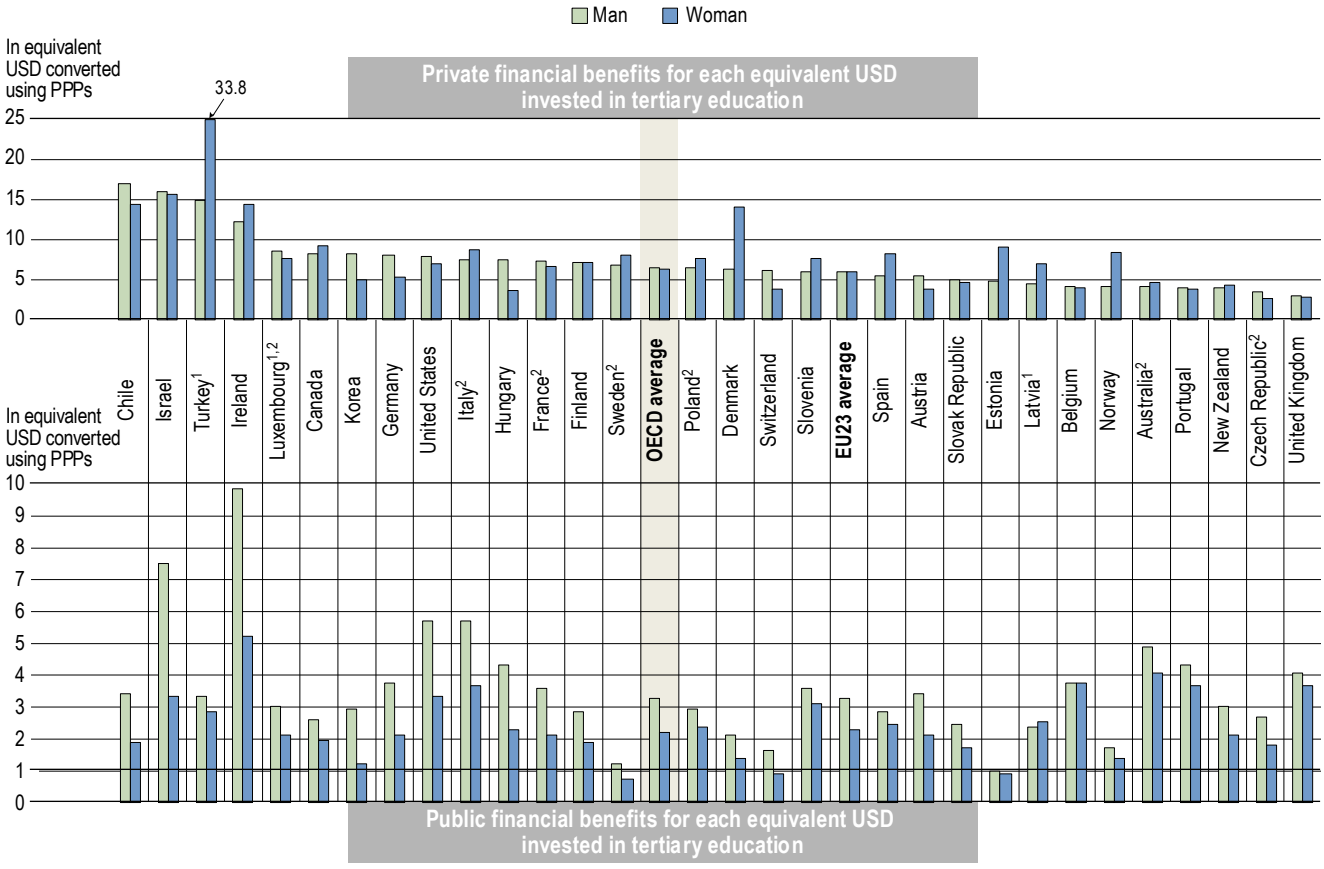
Across OECD countries, the average total costs of tertiary education for governments amount to USD 62 200 for a man and USD 57 300 for a woman. As with upper secondary education, direct costs (including student grants) represent the largest share of the total public cost of tertiary education, even though student loans are not taken into account in this indicator. This is particularly true in countries such as Denmark, Finland and Norway, where students pay no tuition fees and have access to generous public subsidies for higher education (see Indicator C5). Countries with high direct public costs (more than USD 80 000 and up to USD 175 600 for both men and women), such as Denmark, Luxembourg, Norway, Sweden and Switzerland, also tend to have large total public costs. In contrast, Chile has the lowest total public costs (around USD 16 000) across all OECD countries with available data (Tables A5.7 and A5.8, available on line).

On average, the total public benefits are USD 199 900 for a tertiary-educated man, broken down into income tax effects (USD 144 300) and social contribution effects (USD 55 600). For a tertiary-educated women, the total public benefits are USD 125 200, composed of income tax effects (USD 83 900) and social contribution effects (USD 41 300). Among OECD countries, Ireland and Luxembourg have the largest total public benefits for tertiary-educated men (over USD 400 000) and

Belgium and Luxembourg have the largest public benefits for tertiary-educated women (over USD 240 000) (Tables A5.7 and A5.8, available on line).

Figure A5.5. Financial benefits for each equivalent USD invested in tertiary education, by gender (2017)

As compared with returns to upper secondary education, in equivalent USD converted using PPPs for GDP; future costs and benefits are discounted at a rate of 2%



Note: Private financial benefits are net of income taxes and social contributions. The financial benefits for each equivalent USD invested in tertiary education are sensitive to the total costs of education. Readers would need to combine Figure A5.4 and Figure A5.5 to interpret the results. For example, in Spain, the private total benefits from tertiary education are similar for men and for women (USD 273 400 and USD 271 900), but the private total costs of tertiary education are roughly 1.5 times higher for men than for women (USD 43 500 compared with USD 30 400) (see Figure A5.4 and Tables A5.5 and A5.6, available on line).

1. Only net earnings are available and the calculations are using these values as if they were gross earnings.

2. Year of reference differs from 2017. Refer to the source tables for details.

Countries are ranked in descending order of the private financial benefits for each equivalent USD invested in tertiary education for a man.

Source: OECD (2020), Tables A5.5, A5.6, A5.7 and A5.8, available on line. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934162717

In relative terms, the public benefit from each USD invested in tertiary education are generally much lower than the private benefit, as the total costs are higher for governments than for individuals. On average across OECD countries, each USD that governments invest in tertiary education generates a public benefit of USD 3.2 for a man, and USD 2.2 for a woman. In Estonia, Sweden (only for women) and Switzerland (only for women), the total public benefits do not cover the total public costs of tertiary education. In all countries except Belgium and Latvia, governments receive more benefit from each USD invested in tertiary education for a man than for a woman (Figure A5.5). The difference by gender is mainly due to the fact that the public benefits for men are greater than the public benefits for women (Tables A5.7 and A5.8, available on line). As

with upper secondary education, this suggests that governments have a role to play in improving women's integration into the labour market.

Financial incentives by level of tertiary education

The returns for tertiary education are divided into two categories for analysis: short-cycle tertiary attainment and attainment of a bachelor's, master's and doctoral or equivalent degree. The share of the population with qualifications at each tertiary level differs across countries (see Indicator A1), and the mix of qualifications can impact the financial returns to education for tertiary education overall.

For all countries with available data, the private and public net financial returns from obtaining a bachelor's, master's or doctoral degree are greater than from obtaining a short-cycle tertiary degree. Although the total costs of a bachelor's, master's or doctoral degree tend to be higher, the total benefits accrued during individuals' working lives compensate for the higher initial costs (Tables A5.9 and A5.10, available online). Private financial returns for tertiary education overall would therefore underestimate the value of investing in bachelor's, master's and doctoral degrees, especially in countries with a relatively large share of adults whose highest level of attainment is short-cycle tertiary (see Indicator A1).

Definitions

Adults refer to 15-64 year-olds.

The **benefit-cost ratio** is total benefits relative to total costs, representing the financial benefits of attaining an additional level of education for each USD invested in it.

Direct costs are the direct expenditure on education per student during the time spent in school. Direct costs of education do not include student loans.

- **Private direct costs** are the total expenditure by households on education. They include net payments to educational institutions as well as payments for educational goods and services outside of educational institutions (school supplies, tutoring, etc.).
- **Public direct costs** are the spending by government on a student's education. They include direct public expenditure on educational institutions, government scholarships and other grants to students and households, and transfers and payments to other private entities for educational purposes. They do not include student loans.

Foregone earnings are the net earnings an individual not in education (a non-student) can expect, minus the net earnings an individual can expect to receive while studying.

Foregone taxes are the additional tax revenues the government would have received if the individual had chosen to enter the labour force as a non-student instead of pursuing further studies.

Gross earnings benefits are the discounted sum of earnings premiums over the course of a working-age life associated with a higher level of education.

The **income tax effect** is the discounted sum of additional levels of income tax paid by the private individual or earned by the government over the course of a working-age life associated with a higher level of education.

The **internal rate of return** is the (hypothetical) real interest rate equalising the costs and benefits related to the educational investment. It can be interpreted as the interest rate an individual can expect to receive every year during a working-age life on the investment made on a higher level of education.

Levels of education: See the *Reader's Guide* at the beginning of this publication for a presentation of all ISCED 2011 levels.

Net financial returns are the net present value of the financial investment in education, the difference between the discounted financial benefits and the discounted financial cost of education, representing the additional value that education produces over and above the 2% real interest that is charged on these cash flows.

Methodology

This indicator estimates the financial returns on investment in education from the age of 15 to a theoretical retirement age of 64. The effective retirement age could be slightly above the theoretical retirement age of 64 in some OECD countries (OECD, 2019[4]). Returns to education are studied from the perspective of financial investment.

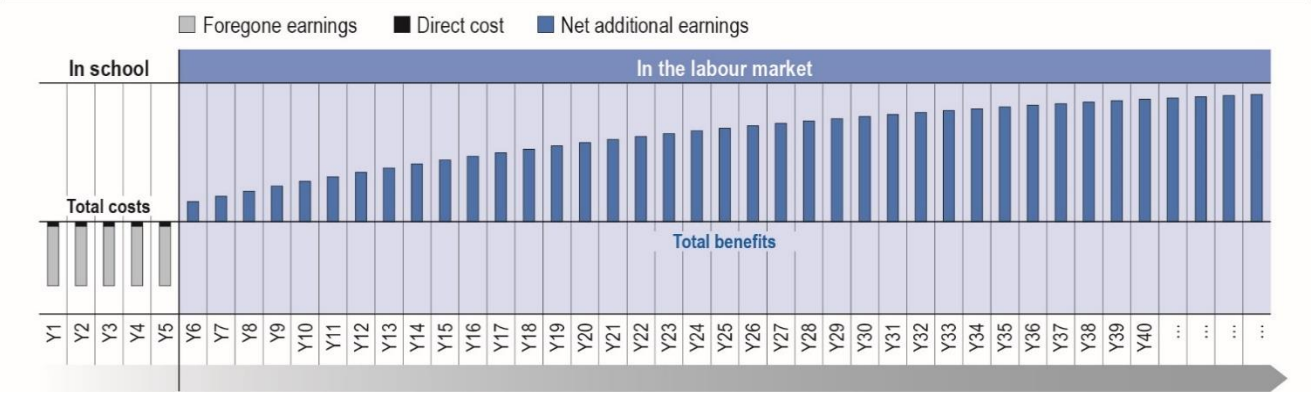
Two periods are considered (Diagram 1):

time spent in education during which the private individual and the government pay the cost of education

time spent after leaving formal education (or "not studying") during which the individual and the government receive the added payments associated with further education.

In calculating the returns to education, the approach taken here is the net present value of the investment. To allow direct comparisons of costs and benefits, the NPV expresses present value for cash transfers happening at different times. In this framework, costs and benefits during a working-age life are transferred back to the start of the investment. This is done by discounting all cash flows back to the beginning of the investment with a fixed interest rate (discount rate).

Diagram A5.1. Financial returns on investment in education over a lifetime for a representative individual



To set a value for the discount rate, long-term government bonds have been used as a benchmark. The choice of discount rate is challenging, as it should reflect not only the overall time horizon of the investment, but also the cost of borrowing or the perceived risk of the investment (Box A5.1). To allow for comparability and to facilitate the interpretation of results, the same discount rate (2%) is applied across all OECD countries. All values presented in the tables in this indicator are in NPV equivalent USD using purchasing power parities (PPPs).

Source

The source for the direct costs of education is the UOE data collection on finance (year of reference 2017 unless otherwise specified in the tables).

The data on gross earnings are based on the OECD Network on Labour Market and Social Outcomes earnings data collection, which compiles data from national Labour Force Surveys, EU Statistics on Incomes and Living Conditions, Structure of Earnings Surveys, and other national registers and surveys. Earnings are age-, gender- and attainment-level specific. For the calculation of this indicator, data on earnings have been pooled from three different years (2015-17).

Income tax data are computed using the OECD Taxing Wages model, which determines the level of taxes based on a given level of income. This model computes the level of the tax wedge on income for several household composition scenarios. For this indicator, a single worker with no children is used. For country-specific details on income tax in this model, see *Taxing Wages 2018* (OECD, 2018[5]).

Employee social contributions are computed using the OECD Taxing Wages model's scenario of a single worker aged 40 with no children. For country-specific details on employee social contributions in this model, see *Taxing Wages 2018* (OECD, 2018[5]).

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Indicator A5 Tables

Table A5.1	Private costs and benefits for a man attaining upper secondary education (2017)
Table A5.2	Private costs and benefits for a woman attaining upper secondary education (2017)
Table A5.3	Public costs and benefits for a man attaining upper secondary education (2017)
Table A5.4	Public costs and benefits for a woman attaining upper secondary education (2017)
WEB Table A5.5	Private costs and benefits for a man attaining tertiary education (2017)
WEB Table A5.6	Private costs and benefits for a woman attaining tertiary education (2017)
WEB Table A5.7	Public costs and benefits for a man attaining tertiary education (2017)
WEB Table A5.8	Public costs and benefits for a woman attaining tertiary education (2017)
WEB Table A5.9	Private/public costs and benefits for a man attaining tertiary education, by level of tertiary education (2017)
WEB Table A5.10	Private/public costs and benefits for a woman attaining tertiary education, by level of tertiary education (2017)

Cut-off date for the data: 19 July 2020. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en. More breakdowns can also be found at http://stats.oecd.org/, Education at a Glance Database.

StatLink: https://doi.org/10.1787/888934162546

Table A5.1. Private costs and benefits for a man attaining upper secondary education (2017)

As compared with a man attaining below upper secondary education, in equivalent USD converted using PPPs for GDP; future costs and benefits are discounted at a rate of 2%

		Direct costs	Foregone earnings	Total costs	Earnings benefits decomposition (taking into account the employment effect)			Total benefits	Net financial returns	Internal rate of return	Benefit-cost ratio
					Gross earnings benefits	Income tax effect	Social contribution effect				
		(1)	(2)	(3) = (1) + (2)	(4)	(5)	(6)	(7) = (4) + (5) + (6)	(8) = (7) + (3)	(9)	(10) = (7)/(3)
OECD	**Countries**										
	Australia[1]	- 4 300	- 17 400	**- 21 700**	365 500	- 90 900	0	**274 600**	**252 900**	38%	12.7
	Austria	0	- 14 500	**- 14 500**	478 800	- 78 800	- 88 100	**311 900**	**297 400**	36%	21.5
	Belgium[2]	- 1 400	- 40 100	**- 41 500**	359 700	- 93 800	- 55 400	**210 500**	**169 000**	13%	5.1
	Canada	- 1 400	- 26 900	**- 28 300**	271 000	- 49 000	- 20 300	**201 700**	**173 400**	17%	7.1
	Chile	- 2 700	- 18 900	**- 21 600**	133 000	0	- 9 300	**123 700**	**102 100**	13%	5.7
	Colombia	m	m	**m**	m	m	m	**m**	**m**	m	m
	Costa Rica	m	m	**m**	m	m	m	**m**	**m**	m	m
	Czech Republic[2, 3]	- 2 500	- 32 000	**- 34 500**	313 500	- 44 400	- 34 500	**234 600**	**200 100**	18%	6.8
	Denmark	0	- 8 600	**- 8 600**	431 800	- 163 400	0	**268 400**	**259 800**	51%	31.2
	Estonia	0	- 29 600	**- 29 600**	200 400	- 35 300	- 3 200	**161 900**	**132 300**	20%	5.5
	Finland[2]	0	- 14 700	**- 14 700**	269 600	- 52 000	- 25 200	**192 400**	**177 700**	41%	13.1
	France[1, 2]	- 2 900	- 8 200	**- 11 100**	242 300	- 39 300	- 34 600	**168 400**	**157 300**	32%	15.2
	Germany	- 6 600	- 4 900	**- 11 500**	369 400	- 67 100	- 76 700	**225 600**	**214 100**	42%	19.6
	Greece[2]	m	m	**m**	m	m	m	**m**	**m**	m	m
	Hungary[2]	- 5 500	- 20 900	**- 26 400**	187 900	- 28 200	- 34 800	**124 900**	**98 500**	13%	4.7
	Iceland	m	m	**m**	m	m	m	**m**	**m**	m	m
	Ireland[2]	0	- 9 900	**- 9 900**	413 600	- 90 800	- 16 700	**306 100**	**296 200**	68%	30.9
	Israel[2]	- 4 500	- 28 700	**- 33 200**	259 600	- 32 300	- 24 500	**202 800**	**169 600**	16%	6.1
	Italy[1]	- 6 400	- 16 300	**- 22 700**	315 000	- 92 300	- 29 900	**192 800**	**170 100**	15%	8.5
	Japan	m	m	**m**	m	m	m	**m**	**m**	m	m
	Korea	- 8 100	- 18 900	**- 27 000**	250 500	- 11 800	- 21 100	**217 600**	**190 600**	17%	8.1
	Latvia[4]	- 1 700	- 11 100	**- 12 800**	111 500	- 20 900	- 11 700	**78 900**	**66 100**	23%	6.2
	Lithuania	m	m	**m**	m	m	m	**m**	**m**	m	m
	Luxembourg[1, 2, 4]	- 1 600	- 31 500	**- 33 100**	156 000	- 25 200	- 20 000	**110 800**	**77 700**	11%	3.3
	Mexico	m	m	**m**	m	m	m	**m**	**m**	m	m
	Netherlands	m	m	**m**	m	m	m	**m**	**m**	m	m
	New Zealand	- 6 300	- 32 300	**- 38 600**	245 900	- 59 400	0	**186 500**	**147 900**	14%	4.8
	Norway	0	- 20 800	**- 20 800**	450 100	- 98 700	- 36 900	**314 500**	**293 700**	32%	15.1
	Poland[1, 2]	- 3 600	- 34 500	**- 38 100**	263 600	- 19 900	- 47 000	**196 700**	**158 600**	15%	5.2
	Portugal[2]	- 4 500	- 26 700	**- 31 200**	197 500	- 48 100	- 21 700	**127 700**	**96 500**	9%	4.1
	Slovak Republic[2]	- 2 200	- 11 800	**- 14 000**	297 900	- 33 700	- 40 500	**223 700**	**209 700**	31%	16.0
	Slovenia[2]	0	- 28 600	**- 28 600**	193 300	- 25 600	- 42 700	**125 000**	**96 400**	17%	4.4
	Spain	- 2 400	- 9 700	**- 12 100**	193 100	- 37 000	- 12 300	**143 800**	**131 700**	15%	11.9
	Sweden[1]	0	- 26 000	**- 26 000**	368 100	- 68 400	- 25 800	**273 900**	**247 900**	29%	10.5
	Switzerland	- 500	- 21 400	**- 21 900**	553 100	- 68 800	- 34 400	**449 900**	**428 000**	54%	20.5
	Turkey[2, 4]	- 3 400	- 9 600	**- 13 000**	107 300	- 19 200	- 16 100	**72 000**	**59 000**	10%	5.5
	United Kingdom	- 4 200	- 17 400	**- 21 600**	359 200	- 58 300	- 37 200	**263 700**	**242 100**	21%	12.2
	United States	- 4 200	- 22 200	**- 26 400**	411 100	- 84 300	- 31 500	**295 300**	**268 900**	27%	11.2
	OECD average	- 2 700	- 20 500	**- 23 200**	292 300	- 54 600	- 28 400	**209 300**	**186 100**	25%	9.0
	EU23 average	- 2 300	- 19 900	**- 22 200**	286 100	- 56 100	- 32 900	**197 100**	**174 900**	26%	8.9

Note: Values are based on the difference between men who attained an upper secondary education compared with those who have attained a below upper secondary education. Values have been rounded up to the nearest hundred. Direct costs to education do not include student loans.

Due to changes in the methodology, values in this edition of *Education at a Glance* cannot be compared to results from previous editions. See *Definitions* and *Methodology* sections for more information.

1. Year of reference 2016.

2. The probability of students having earnings refers to the employment rate from the LSO TRANS questionnaire instead of the share of earners from the LSO Earnings questionnaire.

3. Year of reference 2015.

4. Only net earnings are available and the calculations are using these values as if they were gross earnings.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934162565

Table A5.2. Private costs and benefits for a woman attaining upper secondary education (2017)

As compared with a woman attaining below upper secondary education, in equivalent USD converted using PPPs for GDP; future costs and benefits are discounted at a rate of 2%

		Direct costs	Foregone earnings	Total costs	Earnings benefits decomposition (taking into account the employment effect)			Total benefits	Net financial returns	Internal rate of return	Benefit-cost ratio
					Gross earnings benefits	Income tax effect	Social contribution effect				
		(1)	(2)	(3) = (1) + (2)	(4)	(5)	(6)	(7) = (4) + (5) + (6)	(8) = (7) + (3)	(9)	(10) = (7)/(3)
OECD	**Countries**										
	Australia[1]	- 4 300	- 12 800	**- 17 100**	225 100	- 34 100	0	**191 000**	**173 900**	43%	11.2
	Austria	0	- 9 700	**- 9 700**	284 500	- 21 100	- 51 900	**211 500**	**201 800**	40%	21.8
	Belgium[2]	- 1 400	- 21 200	**- 22 600**	290 200	- 54 300	- 40 200	**195 700**	**173 100**	18%	8.7
	Canada	- 1 400	- 15 300	**- 16 700**	214 200	- 28 200	- 15 200	**170 800**	**154 100**	22%	10.2
	Chile	- 2 700	- 6 800	**- 9 500**	79 600	0	- 5 600	**74 000**	**64 500**	17%	7.8
	Colombia	m	m	**m**	m	m	m	**m**	**m**	m	m
	Costa Rica	m	m	**m**	m	m	m	**m**	**m**	m	m
	Czech Republic[2, 3]	- 2 500	- 12 700	**- 15 200**	208 200	- 25 700	- 22 900	**159 600**	**144 400**	24%	10.5
	Denmark	0	- 4 100	**- 4 100**	405 100	- 143 100	0	**262 000**	**257 900**	71%	63.9
	Estonia	0	- 15 600	**- 15 600**	122 400	- 19 900	- 2 000	**100 500**	**84 900**	23%	6.4
	Finland[2]	0	- 6 600	**- 6 600**	269 000	- 33 000	- 25 100	**210 900**	**204 300**	63%	32.0
	France[1, 2]	- 2 900	- 5 500	**- 8 400**	228 400	- 20 000	- 32 700	**175 700**	**167 300**	34%	20.9
	Germany	- 6 600	- 1 700	**- 8 300**	319 600	- 38 800	- 66 600	**214 200**	**205 900**	49%	25.8
	Greece[2]	m	m	**m**	m	m	m	**m**	**m**	m	m
	Hungary[2]	- 5 500	- 11 900	**- 17 400**	143 000	- 21 500	- 26 500	**95 000**	**77 600**	14%	5.5
	Iceland	m	m	**m**	m	m	m	**m**	**m**	m	m
	Ireland[2]	0	- 6 300	**- 6 300**	240 500	- 20 200	- 9 200	**211 100**	**204 800**	80%	33.5
	Israel[2]	- 4 500	- 6 400	**- 10 900**	256 700	- 12 100	- 14 200	**230 400**	**219 500**	38%	21.1
	Italy[1]	- 6 400	- 6 600	**- 13 000**	237 800	- 39 700	- 22 600	**175 500**	**162 500**	19%	13.5
	Japan	m	m	**m**	m	m	m	**m**	**m**	m	m
	Korea	- 8 100	- 10 200	**- 18 300**	84 800	- 1 100	- 7 100	**76 600**	**58 300**	17%	4.2
	Latvia[4]	- 1 700	- 4 100	**- 5 800**	84 700	- 13 500	- 8 900	**62 300**	**56 500**	36%	10.7
	Lithuania	m	m	**m**	m	m	m	**m**	**m**	m	m
	Luxembourg[1, 2, 4]	- 1 600	- 33 500	**- 35 100**	98 500	- 9 200	- 12 500	**76 800**	**41 700**	7%	2.2
	Mexico	m	m	**m**	m	m	m	**m**	**m**	m	m
	Netherlands	m	m	**m**	m	m	m	**m**	**m**	m	m
	New Zealand	- 6 300	- 14 900	**- 21 200**	164 900	- 25 300	0	**139 600**	**118 400**	21%	6.6
	Norway	0	- 16 400	**- 16 400**	315 400	- 57 500	- 25 900	**232 000**	**215 600**	29%	14.1
	Poland[1, 2]	- 3 600	- 12 900	**- 16 500**	187 000	- 13 100	- 33 300	**140 600**	**124 100**	21%	8.5
	Portugal[2]	- 4 500	- 22 200	**- 26 700**	152 900	- 26 100	- 16 800	**110 000**	**83 300**	10%	4.1
	Slovak Republic[2]	- 2 200	- 5 700	**- 7 900**	170 800	- 14 900	- 24 400	**131 500**	**123 600**	29%	16.6
	Slovenia[2]	0	- 26 400	**- 26 400**	216 100	- 25 400	- 47 800	**142 900**	**116 500**	16%	5.4
	Spain	- 2 400	- 6 400	**- 8 800**	141 000	- 14 700	- 9 000	**117 300**	**108 500**	16%	13.3
	Sweden[1]	0	- 6 700	**- 6 700**	307 100	- 49 700	- 21 500	**235 900**	**229 200**	67%	35.2
	Switzerland	- 500	- 16 100	**- 16 600**	406 800	- 33 000	- 25 300	**348 500**	**331 900**	56%	21.0
	Turkey[2, 4]	- 3 400	- 2 600	**- 6 000**	52 200	- 4 800	- 7 800	**39 600**	**33 600**	17%	6.6
	United Kingdom	- 4 200	- 15 500	**- 19 700**	212 700	- 23 400	- 16 400	**172 900**	**153 200**	19%	8.8
	United States	- 4 200	- 9 100	**- 13 300**	308 000	- 50 900	- 23 600	**233 500**	**220 200**	36%	17.6
	OECD average	- 2 700	- 11 500	**- 14 200**	214 200	- 29 100	- 20 500	**164 600**	**150 400**	32%	11.6
	EU23 average	- 2 300	- 11 800	**- 14 100**	216 000	- 31 400	- 24 500	**160 100**	**146 000**	33%	11.4

Note: Values are based on the difference between men who attained an upper secondary education compared with those who have attained a below upper secondary education. Values have been rounded up to the nearest hundred. Direct costs to education do not include student loans.

Due to changes in the methodology, values in this edition of *Education at a Glance* cannot be compared to results from previous editions. See *Definitions* and *Methodology* sections for more information.

1. Year of reference 2016.

2. The probability of students having earnings refers to the employment rate from the LSO TRANS questionnaire instead of the share of earners from the LSO Earnings questionnaire.

3. Year of reference 2015.

4. Only net earnings are available and the calculations are using these values as if they were gross earnings.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934162584

Table A5.3. Public costs and benefits for a man attaining upper secondary education (2017)

As compared with a man attaining below upper secondary education, in equivalent USD converted using PPPs for GDP; future costs and benefits are discounted at a rate of 2%

		Direct costs	Foregone taxes on earnings	Total costs	Earnings benefits decomposition (taking into account the employment effect)		Total benefits	Net financial returns	Internal rate of return	Benefit-cost ratio
					Income tax effect	Social contribution effect				
		(1)	(2)	(3) = (1) + (2)	(4)	(5)	(6) = (4) + (5)	(7) = (6) + (3)	(8)	(9) = (6)/(3)
OECD	**Countries**									
	Australia[1]	- 16 100	- 2 600	**- 18 700**	90 900	0	**90 900**	**72 200**	13%	4.9
	Austria	- 63 700	- 2 500	**- 66 200**	78 800	88 100	**166 900**	**100 700**	7%	2.5
	Belgium[2]	- 56 400	- 12 000	**- 68 400**	93 800	55 400	**149 200**	**80 800**	6%	2.2
	Canada	- 36 400	- 7 000	**- 43 400**	49 000	20 300	**69 300**	**25 900**	4%	1.6
	Chile	- 16 100	- 1 400	**- 17 500**	0	9 300	**9 300**	**- 8 200**	0%	0.5
	Colombia	m	m	**m**	m	m	**m**	**m**	m	m
	Costa Rica	m	m	**m**	m	m	**m**	**m**	m	m
	Czech Republic[2, 3]	- 29 200	- 9 300	**- 38 500**	44 400	34 500	**78 900**	**40 400**	6%	2.0
	Denmark	- 51 800	- 6 100	**- 57 900**	163 400	0	**163 400**	**105 500**	8%	2.8
	Estonia	- 20 600	- 6 200	**- 26 800**	35 300	3 200	**38 500**	**11 700**	4%	1.4
	Finland[2]	- 25 000	- 2 100	**- 27 100**	52 000	25 200	**77 200**	**50 100**	9%	2.8
	France[1, 2]	- 38 300	- 2 300	**- 40 600**	39 300	34 600	**73 900**	**33 300**	5%	1.8
	Germany	- 39 700	- 2 400	**- 42 100**	67 100	76 700	**143 800**	**101 700**	9%	3.4
	Greece[2]	m	m	**m**	m	m	**m**	**m**	m	m
	Hungary[2]	- 27 800	- 10 500	**- 38 300**	28 200	34 800	**63 000**	**24 700**	5%	1.6
	Iceland	m	m	**m**	m	m	**m**	**m**	m	m
	Ireland[2]	- 30 000	0	**- 30 000**	90 800	16 700	**107 500**	**77 500**	9%	3.6
	Israel[2]	- 21 800	- 1 200	**- 23 000**	32 300	24 500	**56 800**	**33 800**	6%	2.5
	Italy[1]	- 35 300	- 1 700	**- 37 000**	92 300	29 900	**122 200**	**85 200**	7%	3.3
	Japan	m	m	**m**	m	m	**m**	**m**	m	m
	Korea	- 32 600	- 1 700	**- 34 300**	11 800	21 100	**32 900**	**- 1 400**	2%	1.0
	Latvia[4]	- 21 100	- 3 800	**- 24 900**	20 900	11 700	**32 600**	**7 700**	4%	1.3
	Lithuania	m	m	**m**	m	m	**m**	**m**	m	m
	Luxembourg[1, 2, 4]	- 80 200	- 6 500	**- 86 700**	25 200	20 000	**45 200**	**- 41 500**	-1%	0.5
	Mexico	m	m	**m**	m	m	**m**	**m**	m	m
	Netherlands	m	m	**m**	m	m	**m**	**m**	m	m
	New Zealand	- 27 600	- 5 100	**- 32 700**	59 400	0	**59 400**	**26 700**	5%	1.8
	Norway	- 52 100	- 5 000	**- 57 100**	98 700	36 900	**135 600**	**78 500**	7%	2.4
	Poland[1, 2]	- 25 100	- 11 300	**- 36 400**	19 900	47 000	**66 900**	**30 500**	6%	1.8
	Portugal[2]	- 26 300	- 6 400	**- 32 700**	48 100	21 700	**69 800**	**37 100**	5%	2.1
	Slovak Republic[2]	- 28 100	- 2 500	**- 30 600**	33 700	40 500	**74 200**	**43 600**	7%	2.4
	Slovenia[2]	- 31 600	- 13 200	**- 44 800**	25 600	42 700	**68 300**	**23 500**	5%	1.5
	Spain	- 19 300	- 700	**- 20 000**	37 000	12 300	**49 300**	**29 300**	6%	2.5
	Sweden[1]	- 38 700	- 5 400	**- 44 100**	68 400	25 800	**94 200**	**50 100**	6%	2.1
	Switzerland	- 45 200	- 3 600	**- 48 800**	68 800	34 400	**103 200**	**54 400**	6%	2.1
	Turkey[2, 4]	- 11 900	- 1 800	**- 13 700**	19 200	16 100	**35 300**	**21 600**	6%	2.6
	United Kingdom	- 22 800	- 1 000	**- 23 800**	58 300	37 200	**95 500**	**71 700**	9%	4.0
	United States	- 39 700	- 5 400	**- 45 100**	84 300	31 500	**115 800**	**70 700**	7%	2.6
	OECD average	- 33 700	- 4 700	**- 38 400**	54 600	28 400	**83 000**	**44 600**	6%	2.2
	EU23 average	- 35 600	- 5 300	**- 40 900**	56 100	32 900	**89 000**	**48 100**	6%	2.2

Note: Values are based on the difference between men who attained an upper secondary education compared with those who have attained a below upper secondary education. Values have been rounded up to the nearest hundred. Direct costs to education do not include student loans.

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3. Year of reference 2015.

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Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934162603

Table A5.4. Public costs and benefits for a woman attaining upper secondary education (2017)

As compared with a woman attaining below upper secondary education, in equivalent USD converted using PPPs for GDP; future costs and benefits are discounted at a rate of 2%

		Direct costs	Foregone taxes on earnings	Total costs	Earnings benefits decomposition (taking into account the employment effect)		Total benefits	Net financial returns	Internal rate of return	Benefit-cost ratio
					Income tax effect	Social contribution effect				
		(1)	(2)	(3) = (1) + (2)	(4)	(5)	(6) = (4) + (5)	(7) = (6) + (3)	(8)	(9) = (6)/(3)
OECD	**Countries**									
	Australia[1]	- 16 100	- 1 400	**- 17 500**	34 100	0	**34 100**	**16 600**	6%	1.9
	Austria	- 63 700	- 3 100	**- 66 800**	21 100	51 900	**73 000**	**6 200**	2%	1.1
	Belgium[2]	- 56 400	- 2 900	**- 59 300**	54 300	40 200	**94 500**	**35 200**	4%	1.6
	Canada	- 36 400	- 2 000	**- 38 400**	28 200	15 200	**43 400**	**5 000**	3%	1.1
	Chile	- 16 100	- 500	**- 16 600**	0	5 600	**5 600**	**- 11 000**	-2%	0.3
	Colombia	m	m	**m**	m	m	**m**	**m**	m	m
	Costa Rica	m	m	**m**	m	m	**m**	**m**	m	m
	Czech Republic[2, 3]	- 29 200	- 3 200	**- 32 400**	25 700	22 900	**48 600**	**16 200**	4%	1.5
	Denmark	- 51 800	- 2 000	**- 53 800**	143 100	0	**143 100**	**89 300**	7%	2.7
	Estonia	- 20 600	- 2 900	**- 23 500**	19 900	2 000	**21 900**	**- 1 600**	2%	0.9
	Finland[2]	- 25 000	- 800	**- 25 800**	33 000	25 100	**58 100**	**32 300**	7%	2.3
	France[1,2]	- 38 300	- 1 600	**- 39 900**	20 000	32 700	**52 700**	**12 800**	3%	1.3
	Germany	- 39 700	- 1 200	**- 40 900**	38 800	66 600	**105 400**	**64 500**	7%	2.6
	Greece[2]	m	m	**m**	m	m	**m**	**m**	m	m
	Hungary[2]	- 27 800	- 6 000	**- 33 800**	21 500	26 500	**48 000**	**14 200**	4%	1.4
	Iceland	m	m	**m**	m	m	**m**	**m**	m	m
	Ireland[2]	- 30 000	- 100	**- 30 100**	20 200	9 200	**29 400**	**- 700**	2%	1.0
	Israel[2]	- 21 800	- 200	**- 22 000**	12 100	14 200	**26 300**	**4 300**	3%	1.2
	Italy[1]	- 35 300	- 700	**- 36 000**	39 700	22 600	**62 300**	**26 300**	4%	1.7
	Japan	m	m	**m**	m	m	**m**	**m**	m	m
	Korea	- 32 600	- 900	**- 33 500**	1 100	7 100	**8 200**	**- 25 300**	-4%	0.2
	Latvia[4]	- 21 100	- 1 200	**- 22 300**	13 500	8 900	**22 400**	**100**	2%	1.0
	Lithuania	m	m	**m**	m	m	**m**	**m**	m	m
	Luxembourg[1, 2, 4]	- 80 200	- 5 700	**- 85 900**	9 200	12 500	**21 700**	**- 64 200**	-3%	0.3
	Mexico	m	m	**m**	m	m	**m**	**m**	m	m
	Netherlands	m	m	**m**	m	m	**m**	**m**	m	m
	New Zealand	- 27 600	- 2 000	**- 29 600**	25 300	0	**25 300**	**- 4 300**	1%	0.9
	Norway	- 52 100	- 3 600	**- 55 700**	57 500	25 900	**83 400**	**27 700**	4%	1.5
	Poland[1,2]	- 25 100	- 4 100	**- 29 200**	13 100	33 300	**46 400**	**17 200**	4%	1.6
	Portugal[2]	- 26 300	- 2 700	**- 29 000**	26 100	16 800	**42 900**	**13 900**	3%	1.5
	Slovak Republic[2]	- 28 100	- 1 100	**- 29 200**	14 900	24 400	**39 300**	**10 100**	3%	1.3
	Slovenia[2]	- 31 600	- 11 900	**- 43 500**	25 400	47 800	**73 200**	**29 700**	5%	1.7
	Spain	- 19 300	- 400	**- 19 700**	14 700	9 000	**23 700**	**4 000**	3%	1.2
	Sweden[1]	- 38 700	- 600	**- 39 300**	49 700	21 500	**71 200**	**31 900**	5%	1.8
	Switzerland	- 45 200	- 1 900	**- 47 100**	33 000	25 300	**58 300**	**11 200**	3%	1.2
	Turkey[2,4]	- 11 900	- 500	**- 12 400**	4 800	7 800	**12 600**	**200**	2%	1.0
	United Kingdom	- 22 800	- 300	**- 23 100**	23 400	16 400	**39 800**	**16 700**	4%	1.7
	United States	- 39 700	- 1 600	**- 41 300**	50 900	23 600	**74 500**	**33 200**	5%	1.8
	OECD average	- 33 700	- 2 200	**- 35 900**	29 100	20 500	**49 600**	**13 700**	3%	1.4
	EU23 average	- 35 600	- 2 600	**- 38 200**	31 400	24 500	**55 900**	**17 700**	4%	1.5

Note: Values are based on the difference between men who attained an upper secondary education compared with those who have attained a below upper secondary education. Values have been rounded up to the nearest hundred. Direct costs to education do not include student loans.

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Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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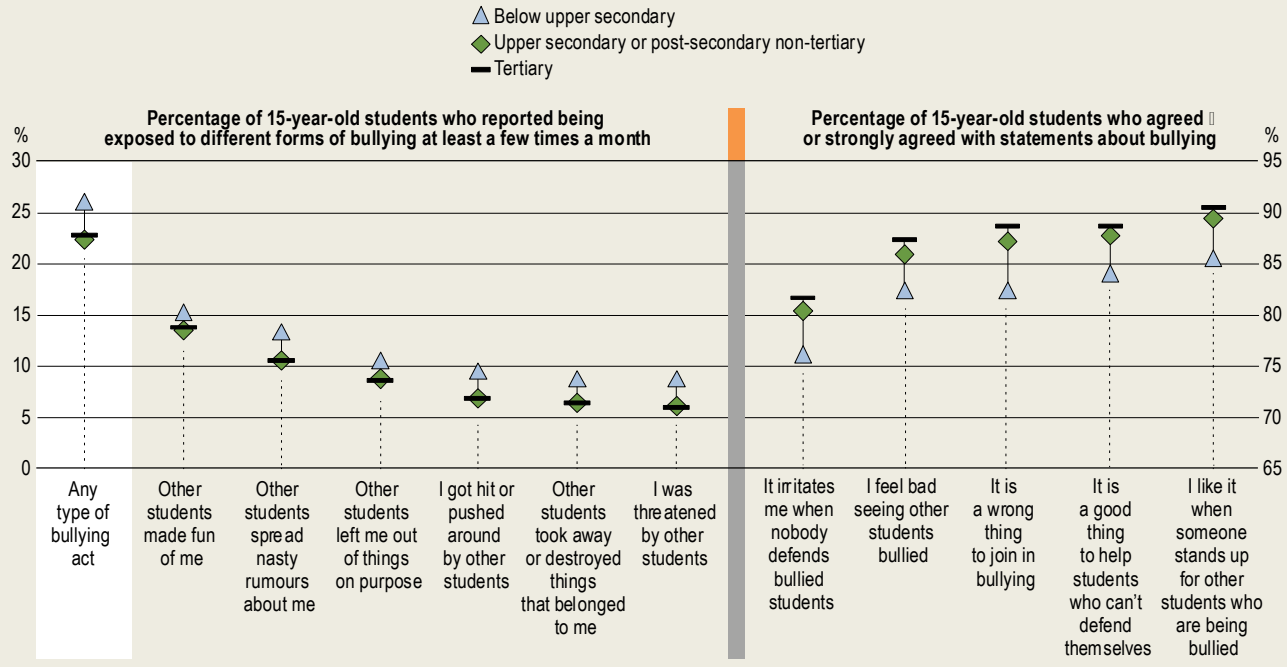
Indicator A6. How are social outcomes related to education?

Highlights

- A larger share of children from low-educated families report being bullied. On average across OECD countries, 26% of 15-year-old students whose parents did not complete upper secondary education report experiencing at least one form of bullying, compared to 22% of students who have at least one parent with upper secondary or post-secondary non-tertiary education, and 23% of students who have at least one tertiary-educated parent.
- Verbal bullying tends to be more common than physical forms of bullying. For example, across OECD countries, 15% of 15-year-old students whose parents did not complete upper secondary education report that other students made fun of them at least a few times a month, compared to 10% who report being hit or pushed around.
- Students with more highly educated parents are also more likely to agree with statements about bullying prevention. This trend is more pronounced than for exposure to bullying; on average across OECD countries the differences are statistically significant between the three aggregated levels of parents' educational attainment.

Figure A6.1. Exposure and attitudes related to bullying, by parents' educational attainment (2018)

Programme for International Student Assessment (PISA), OECD average



Note: All differences are statistically significant, except for those between upper secondary or post-secondary non-tertiary and tertiary education for all items on exposure to bullying (left panel).

Left panel: Items are ranked in descending order of the percentage of 15-year-old students whose parents have not completed upper secondary education. Right panel: Items are ranked in ascending order of the percentage of 15-year-old students whose parents have not completed upper secondary education.

Source: OECD (2020), Tables A6.1 and A6.2. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Context

Personal safety is a core element of well-being and an important indicator of good governance in societies (OECD, 2011[1]; OECD, 2017[2]). Feelings of insecurity have a variety of negative effects and tend to limit people's daily activities. For example, a safe and supportive learning environment maximises educational attendance and the effectiveness of learning time. When students feel safe at school, they tend to have better educational outcomes. In contrast, an environment characterised by disrespect, bullying, victimisation or violence can act as a barrier to learning. Bullying at school can have long-lasting negative consequences for students' psychological well-being and increases the likelihood of dropping out of school (Burns and Gottschalk, 2019[3]; OECD, 2017[4]). Students at schools without supportive norms, structures and relationships are more likely to experience violence and victimisation which is often associated with reduced academic achievement (Astor, Guerra and Van Acker, 2010[5]).

The promotion of social cohesion, often reflected in levels of civic and social engagement, is another policy priority in OECD countries. Civic participation helps maintaining and improving our societies. People are more likely to be politically engaged when they feel they can make a difference in how their country is run and when they understand the political issues facing their country (OECD, 2013[6]). Education can play an important role in ensuring social cohesion by fostering the social and emotional skills that can contribute to enhancing civic engagement.

Other findings

- Data by country show some geographical patterns in exposure to bullying. In the four PISA-participating provinces/municipalities of the People's Republic of China: Beijing, Shanghai, Jiangsu and Zhejiang (hereinafter referred as China), Japan and Korea, only 7% or less of 15-year-old students reported that other students had spread nasty rumours about them at least a few times a month, regardless of parents' educational attainment. In contrast, in the Czech Republic, Hungary, Latvia and the Slovak Republic, at least 19% of students whose parents did not complete upper secondary education reported suffering from this type of bullying.
- Students who expect to leave school before completing an upper secondary education are twice as likely on average across OECD countries to report that other students spread nasty rumours about them (20%) as those who expect to complete tertiary education (10%).
- Data from the European Social Survey (ESS) and the International Social Survey Programme (ISSP) show that political efficacy and interest in politics increases with educational attainment. For example, on average across OECD countries that participated in ESS, 26% of 25-64 year-olds who did not complete upper secondary education feel that their political system allows people like them to have some say in what the government does. This share increases to 35% among those who completed upper secondary or post-secondary non-tertiary education, and to 52% among tertiary-educated adults.
- On average across OECD countries participating in the ESS, 57% of tertiary-educated adults report being quite or very interested in politics. This share falls to 40% among those who completed upper secondary or post-secondary non-tertiary education, and to 30% among those who did not complete upper secondary education.

Note

The differences by educational attainment displayed in this indicator do not account for socio-economic status and other moderating or mediating factors. The educational attainment gradient should therefore be interpreted with caution.

Analysis

Bullying and educational attainment

Societies are increasingly concerned by the effects and the extent of bullying (Nansel et al., 2004[7]; Rigby, 2007[8]; National Academies of Sciences, Engineering, and Medicine, 2016[9]). The potential effect of bullying on psychological well-being and school dropout rates is well documented, but less is known about how people become bullies or the bullied. Traditionally bullying occurs at school, implying that bullied students can escape mistreatment when they leave the school premises. But with the development of technology, cyberbullying is now reaching beyond the school gate (Burns and Gottschalk, 2019[3]). Through instant messaging, social media and other forms of digital communication bullies can now reach their victim anytime, anywhere (National Academies of Sciences, Engineering, and Medicine, 2016[9]). Data from the Programme for International Student Assessment (PISA) do not yet distinguish cyberbullying from traditional bullying, but research show that girls tend to be more involved in this type of bullying than boys, both as victims and perpetrators (OECD, 2019[10]).

PISA data show that low performers, especially boys, and students whose parents are less educated (often the same students), tend to report greater exposure to bullying (OECD, 2017[4]). Tippett and Wolke (2014[11]) found that low socio-economic status is associated with a greater likelihood of being involved in bullying, either as a bully or a victim. Parents' educational attainment is one of the most important predictors of school performance and educational attainment (OECD, 2016[12]; Dubow, Boxer and Huesmann, 2009[13]). It is also a good proxy for socio-economic status. It is therefore interesting to study the association between parents' educational attainment and exposure to bullying to see if the virtuous circle of high educational attainment is also associated with lower exposure to bullying. In other words, do students whose parents are highly educated suffer less from bullying than those coming from a low-educated family?

Exposure to bullying, by parents' educational attainment

The data also show that the share of 15-year-old students who reported being exposed to different forms of bullying is highest among those whose parents did not complete upper secondary education. Students with at least one parent who completed at least upper secondary education are less likely to report being victimised. Surprisingly, the difference in exposure to bullying is not statistically significant when comparing students with parents who completed upper secondary or post-secondary non-tertiary education and those with at least one tertiary-educated parent. This means that, on average across OECD countries, there is no extra advantage to a tertiary education over an upper secondary one in this area (Figure A6.1, left panel).

The OECD average hides important variations across countries. Figure A6.2 shows that in about half of countries, there is no statistically significant difference by parents' educational attainment in the percentage of 15-year-old students who report being bullied at least a few times a month. In Brazil, Indonesia, Mexico, the Russian Federation and Saudi Arabia, it is actually students from tertiary-educated families who are more likely to report being bullied. Across OECD and partner countries, the largest differences by parents' educational attainment are observed in Canada, Hungary, Norway and the Slovak Republic where the share of students from tertiary-educated families reporting experiencing any type of bullying is at least 10 percentage points lower than the share of students whose parents did not complete upper secondary education (Figure A6.2).

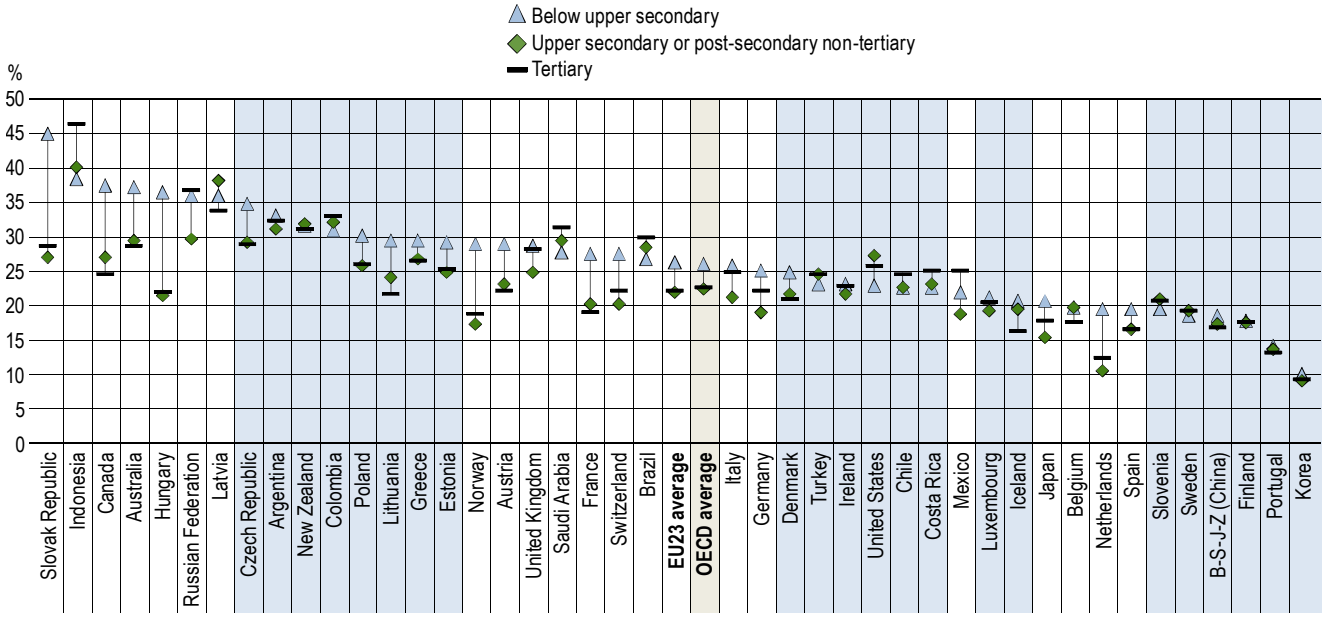
A pattern emerges when analysing the different forms that bullying may take. Data from PISA 2018 show that, on average across OECD countries, students were more likely to report experiencing verbal forms of bullying than physical forms. For example, 15% of 15 year-old students whose parents did not complete upper secondary education reported that other students made fun of them at least a few times a month. The share drops to 10% when they were asked about being hit or pushed around. When reports of all forms of bullying are combined, 26% of these students reported experiencing some form of bullying at least a few times a month (Figure A6.1, left panel).

Figure A6.1 (left panel) shows that the widest gap by parents' educational attainment relates to being the subject of nasty rumours. Data by country show similar pattern in some Asian countries in the likelihood of being exposed to this form of bullying. In China, Japan and Korea, 7% or less of 15-year-old students reported that other students spread nasty rumours about them at least a few times a month, regardless of their parents' educational attainment. This implies that this form of bullying is not common in these Asian countries. In contrast, in some Baltic and East European countries such as the Czech Republic, Hungary, Latvia and the Slovak Republic, at least 19% of students whose parents did not complete upper secondary education reported suffering from the spread of nasty rumours about them. This implies that in these countries,

students from low-educated families are more likely to report that other students are spreading nasty rumours about them (Figure A6.1 and Table A6.1).

Figure A6.2. Percentage of 15-year-old students who reported being exposed to any type of bullying at least a few times a month, by parents' educational attainment (2018)

Programme for International Student Assessment (PISA)



Note: The blue zones denote cases where the differences between any parents' educational attainment levels are not statistically significant. B-S-J-Z (China) refers to the four PISA-participating provinces/municipalities of the People's Republic of China: Beijing, Shanghai, Jiangsu and Zhejiang.
Countries are ranked in descending order of the percentage of 15-year-old students who report being exposed to any type of bullying act at least a few times a month and whose parents have not completed upper secondary education.
Source: OECD (2020), Table A6.1. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Exposure to bullying, by expectations of educational attainment

Differences in reported exposure to bullying are statistically significant in a larger number of countries when considering students' own expectations of educational attainment rather than their parents' attainment. This implies that exposure to bullying is not only higher for students from low-educated families, but it also associated with lower educational aspirations at the age of 15 (Table A6.1 and Table A6.4, available on line).

On average across OECD countries, only 3% of 15-year-old students do not expect to complete upper secondary education, but this group is twice as likely to report that other students spread nasty rumours about them (20%) than those who expect to complete tertiary education (10%). In Greece, Hungary and Norway, they are over three times more likely to suffer from this type of bullying. In contrast, in China, Japan, Korea and the Netherlands, less than 10% of students reported being targeted by the spread nasty rumours, regardless of their educational expectations (Table A6.4, available on line).

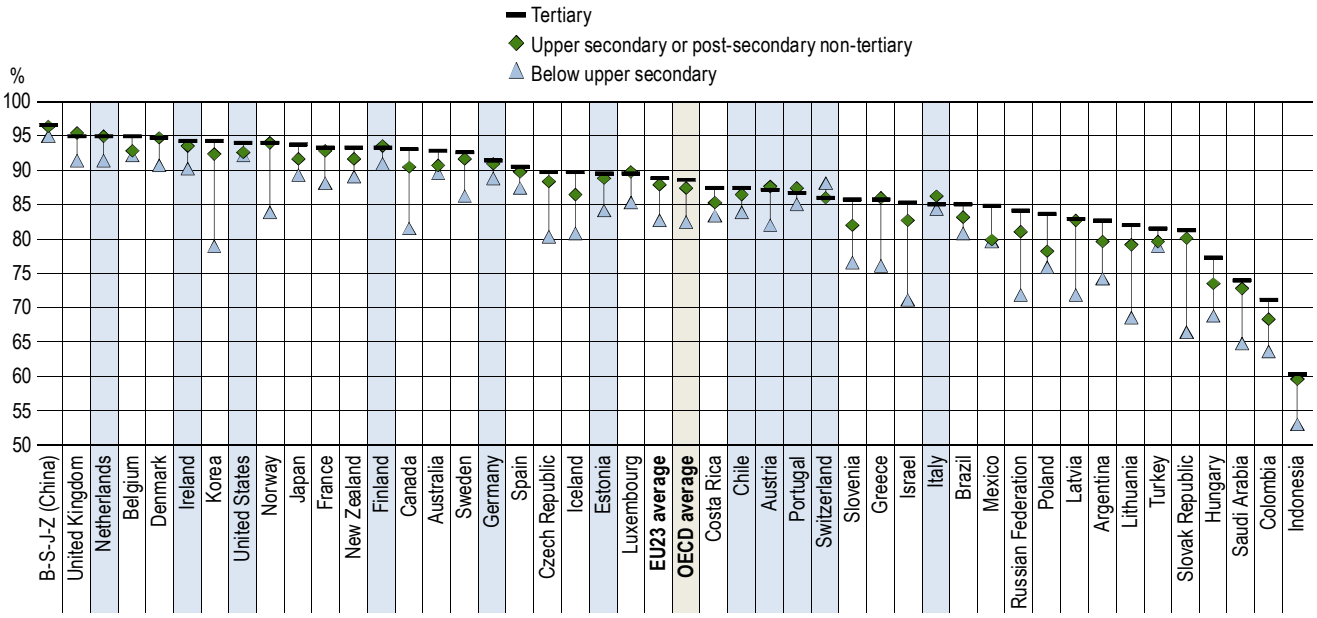
Attitudes towards bullying, by parents' educational attainment

In 2018, PISA included five new questions on attitudes towards bullying in its background questionnaire (Figure A6.1, right panel). These five questions allow the survey to capture 15-year-olds' attitudes towards bullying and weigh their opinions about actions to protect the bullied or discourage bullying. On average across OECD countries, higher parental educational attainment is associated with a higher likelihood of students agreeing or strongly agreeing with statements about bullying prevention. This is true for all five questions on attitudes towards bullying and the differences are statistically significant

between each level of parental educational attainment: below upper secondary education, upper secondary or post-secondary non-tertiary education and tertiary education. The question that gives rise to the largest gaps asks students if they agree that it is a wrong thing to join in bullying. On average, 82% of 15-year-old students whose parents had below upper secondary attainment agreed or strongly agreed with this statement. The share reaches 89% among students with at least one tertiary-educated parent. Among other factors, the higher social desirability among students from highly educated families could partly explain why the differences in attitudes towards bullying by parents' educational attainment are higher than the differences in exposure to bullying. (Figure A6.1, right panel).

Figure A6.3. Percentage of 15-year-old students who think that it is wrong to join in bullying, by parents' educational attainment (2018)

Programme for International Student Assessment (PISA)



Note: The blue zones denote cases where the differences between any parents' educational attainment levels are not statistically significant. B-S-J-Z (China) refers to the four PISA-participating provinces/municipalities of the People's Republic of China: Beijing, Shanghai, Jiangsu and Zhejiang.

Countries are ranked in descending order of the percentage of 15-year-old students who agreed or strongly agreed that it is a wrong thing to join in bullying and whose parents' highest attainment is tertiary education.

Source: OECD (2020), Table A6.2. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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At the country level, the attitude of 15-year-old students towards this specific question on bullying shows a similar association with parents' educational attainment. Figure A6.3 shows that in 3 out of 4 countries, there is a statistically significant difference in the percentage of 15-year-old students who agreed or strongly agreed that it is a wrong thing to join in bullying by parents' educational attainment (Figure A6.3).

Generally, the countries with smaller gaps on this measure also have a high share of students who agreed or strongly agreed that it is a wrong thing to join in bullying. For example, in Belgium, China, Denmark, Finland, Ireland, the Netherlands, the United Kingdom and the United States, at least 90% of students agreed or strongly agreed that it is a wrong thing to join in bullying, regardless of their parents' educational attainment. In contrast, in Israel, Latvia, Lithuania, the Russian Federation and the Slovak Republic, the share of students who agreed or strongly agreed is 85% or less, and the gap by parents' educational attainment is over 10 percentage points. Despite what the list of countries may suggest, there is no strong relationship between the gap in attitudes by parents' educational attainment and PISA performance. For example, the gap is similar in both Indonesia and Sweden but students perform much better in Sweden (OECD, 2019[14]) (Figure A6.3).

Attitude towards bullying, by expectations of educational attainment

On average across OECD countries, 90% of 15-year-old students who expect to attain tertiary education agreed or strongly agreed that it is a wrong thing to join in bullying. This falls to 83% among students who expect to complete upper secondary or post-secondary non-tertiary education, and 73% of those who do not even think they will complete upper secondary education. As with exposure to bullying, differences in attitudes towards preventing bullying are greater when the analysis focuses on students' educational expectations rather than their parents' attainment: the difference between those who expect to attain a below upper secondary and a tertiary education is 17 percentage points, 10 percentage points more than the gap relating to parents' educational attainment (Table A6.2 and Table A6.5, available on line).

In the Czech Republic, Lithuania, Norway and the Slovak Republic, the share of students who agreed or strongly agreed that it is a wrong thing to join in bullying is over 25 percentage points more among those who expect to complete tertiary education than among those who do not expect to complete upper secondary education. The largest gap is observed in the Czech Republic where 91% of students who expect to complete tertiary education agreed or strongly agreed with this statement, but only 57% of students who do not expect to complete upper secondary education. In contrast, the smallest gap was in Belgium where 91-95% of students agreed or strongly agreed, regardless of their educational attainment expectations (Table A6.5, available on line).

Box A6.1. Cyberbullying during the COVID-19 lockdown

During the lockdown, Internet use has increased by 50% in some parts of the world (World Economic Forum, 2020[15]). Children and students are massively turning on line to study, socialise and play. According to the latest PISA survey, on average, 9 out of 10 students have computers at home for homework and are connected to the Internet. While online material represents great learning opportunities, the virtual world also represents threats for children and teenagers. Cyberbullying, online sexual exploitation and harmful content are examples of the potential risks related to Internet use (UNICEF, 2020[16]). This can particularly be the case if security measures are not implemented for distance learning. According to the latest PISA survey, only 35% of schools had an effective platform to support online learning. With the increase in time spent on line, countries are also observing increases of online hacking and abuse. For example, since December 2019, the AI-based start-up L1ght recorded a 70% increase in hate speech among children and teenagers during online chats (L1ght, 2020[17]).

The OECD publication *How's Life in the Digital Age?* (OECD, 2019[10]) evaluates the opportunities and risks associated with digital technologies across 11 key dimensions of well-being, including personal security and civic engagement and governance. Data collected prior to the outbreak show that on average across OECD countries, 9% of 15-year-olds reported experiencing cyberbullying at least once in their life, with a larger share of girls than boys reporting being victimised. With the rise of cyberbullying during the confinement period, these numbers are likely to underestimate the share of children who will suffer from this type of harassment in 2020.

While the Internet may help people overcome loneliness and social exclusion, cyberbullying and online harassment can negatively affect children's social experiences. Parents therefore have an important role to play in providing the skills and information their children need to navigate the online world safely. Setting appropriate parental controls and maintaining an open dialogue with their children can help parents prevent online harm. But parents themselves need to be aware of the risks and have sufficient digital skills to guide their children. The digital generation divide is likely to be smaller for families with highly educated parents.

Some countries have developed policies and guides around cyberbullying. For example, Saskatchewan (Canada) developed a policy guide for school division officials to work with school administrators and teachers to help students build an understanding of safe and appropriate online behaviour (Government of Saskatchewan, 2019[18]; OECD, 2019[19]). France developed a bullying prevention programme aiming at increasing awareness and addressing this issue in schools. Its 2018-19 programme focused on the prevention of cyberbullying and sexting (Ministère de l'éducation nationale et de la jeunesse, 2020[20]). Another example is Chile where the Ministry of Education developed orientations for schools to regulate the safe use of mobile devices in the school, as well to engage with parents and guardians in promoting responsible use. On 14 March 2019, schools organised workshops and documentary screenings to increase awareness for the National Day Against Cyberbullying (Ministry of Education - Chile, 2019[21])

Political efficacy and interest in politics, by educational attainment

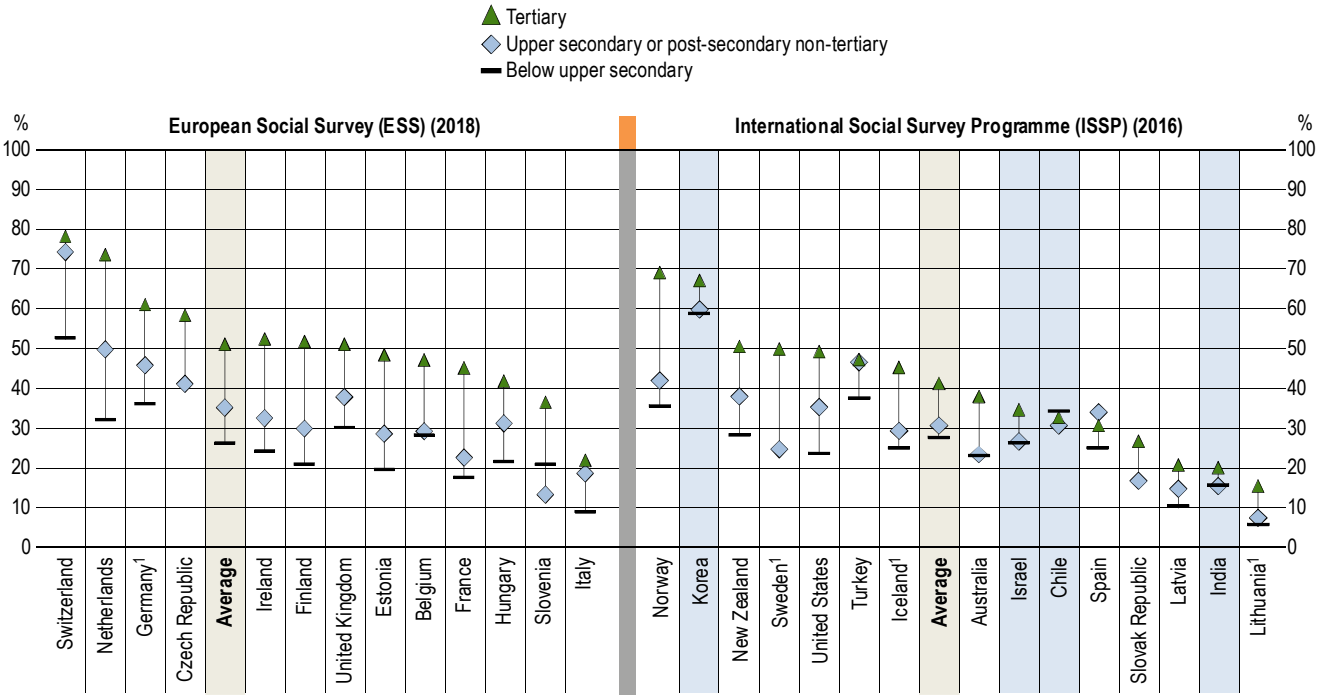
Political efficacy refers to people's feeling that their political views can affect the political process and, therefore, that it is worthwhile for them to perform their civic duties (Acock, Clarke and Stewart, 1985[22]). Political efficacy is related to different elements of citizens' lives. For example, diverse media, the ability to create petitions, the right to protest and fair elections all contribute to increased political efficacy. In contrast, political efficacy will be low when citizens feel powerless in their own country. Personal characteristics, socio-economic background and people's experiences with their political institutions therefore also influence political efficacy (Miller and Listhaug, 1990[23]; OECD, 2017[2]).

Political efficacy is closely related to interest in politics. People with a high level of political efficacy are likely to report being interested in politics. Overall interest in politics is an important factor for social cohesion as it influences behaviour such as voting and other civic engagement. Personal characteristics are also related to interest in politics; for example younger adults generally report a lower level of interest. It is however a policy priority that most citizens feel concerned about politics and actively take part in the political life of society (OECD, 2016[24]).

The European Social Survey (ESS) and the International Social Survey Programme (ISSP) ask respondents about their general interest in politics and if they think that their government allows people like them to have a say in what the government does. Combining these questions with information about educational attainment provides information on how political efficacy and interest in politics vary according to education levels. As for PISA question on attitude towards bullying, it is possible that social desirability influences the answers to these questions. For countries having participated in ISSP and ESS, only data from one of the two sources is kept. Generally the source with the better data on educational attainment is selected.

Figure A6.4. Percentage of adults who feel they have a say in what the government does, by educational attainment (2016 or 2018)

European Social Survey (ESS-2018) and International Social Survey Programme (ISSP-2016), 25-64 year-olds



Note: Refer to the source table and Annex 3 for more information on the questions asked in the two surveys. The blue zones denote cases where the differences between any educational attainment levels are not statistically significant.

1. The distribution of educational attainment varies by 10-15 percentage points compared to data published in Indicator A1. Results by educational attainment are deemed reliable (see Annex 3).

Countries are ranked in descending order of the percentage of tertiary-educated 25-64 year-olds who reported that the government allows people like them to have a say.

Source: OECD (2020), Table A6.3. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Political efficacy, by educational attainment

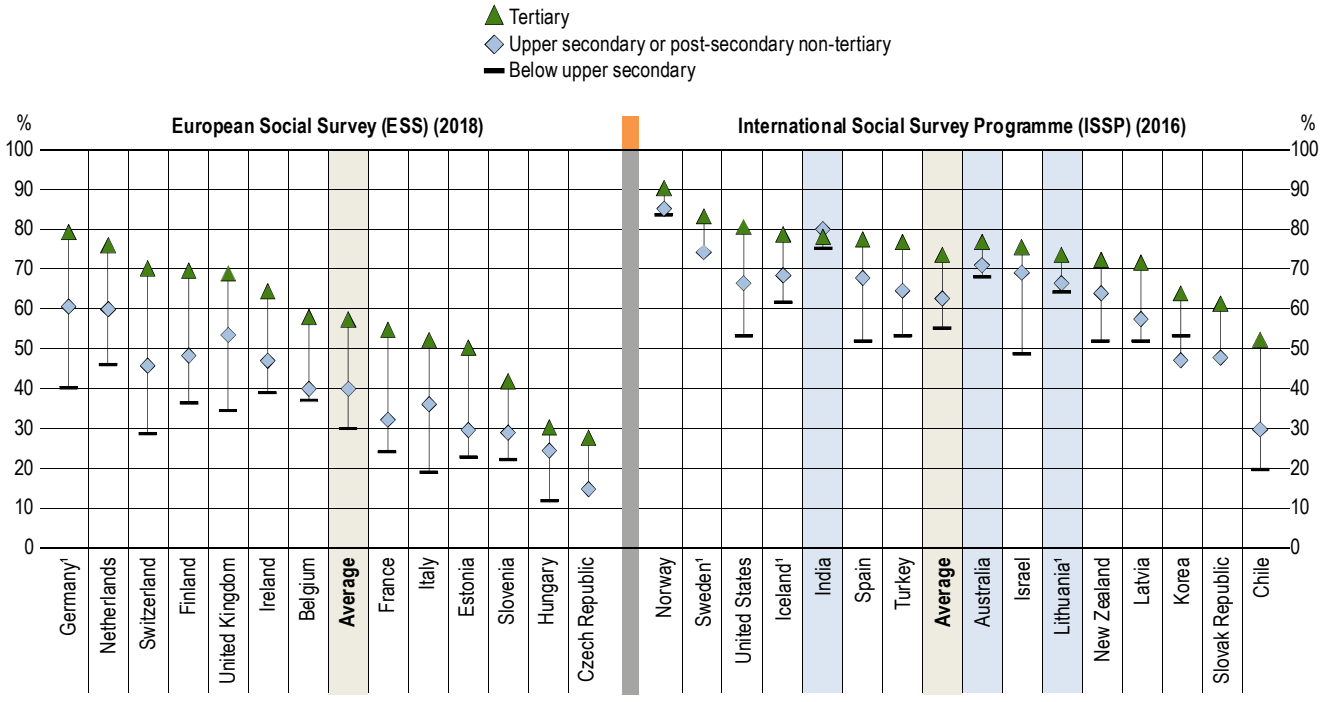
On average, across selected OECD countries participating in the ESS, 52% of tertiary-educated adults report that their political system allows people like them to have some or a great deal of say in what the government does. This share falls to 35% among those who completed upper secondary or post-secondary non-tertiary education, and to 26% among those who did not complete upper secondary education. Similar findings are observed in the selected countries that participated in the ISSP, where educational attainment is positively associated with political efficacy (Figure A6.4).

The Netherlands shows the greatest variation by educational attainment among selected OECD countries participating in the ESS: 74% of tertiary-educated adults feel that their political system allows people like them to have some or a great deal of say in what the government does, but only 32% of adults with below upper secondary education. In contrast, Italy has the smallest difference by educational attainment. Italians also report a low level of political efficacy overall: only 22% of tertiary-educated adults think that their political system allows some or a great deal of say in what the government does, while for adults with below upper secondary education the share is 9% (Figure A6.4).

Data from Korea show high levels of political efficacy regardless of educational attainment. Among the selected OECD countries that participated in the ISSP, Korea has the second highest share of tertiary-educated adults who disagreed or strongly disagreed that people like them don't have any say about what the government does (67%). It scores the highest for adults with upper secondary or post-secondary non-tertiary education (60%) and for adults with below upper secondary education (58%). In contrast, in India, Latvia, Lithuania and the Slovak Republic, less than 30% of adults disagreed or strongly disagreed with this statement, regardless of their educational attainment (Figure A6.4).

Figure A6.5. Percentage of adults who reported being interested in politics, by educational attainment (2016 or 2018)

European Social Survey (ESS-2018) and International Social Survey Programme (ISSP-2016), 25-64 year-olds



Note: Refer to the source table and Annex 3 for more information on the questions asked in the two surveys. The blue zones denote cases where the differences between any educational attainment levels are not statistically significant.

1. The distribution of educational attainment varies by 10-15 percentage points compared to data published in Indicator A1. Results by educational attainment are deemed reliable (see Annex 3).

Countries are ranked in descending order of the percentage of tertiary-educated 25-64 year-olds who reported being interested in politics.

Source: OECD (2020), Table A6.3. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934162907

Interest in politics, by educational attainment

On average across selected OECD countries participating in the ESS, 57% of tertiary-educated adults reported being quite or very interested in politics. The share falls to 40% among those who completed upper secondary or post-secondary non-tertiary education, and to 30% among those who did not complete upper secondary education. Similar findings are observed among selected countries that participated in the ISSP, where educational attainment is also positively associated with interest in politics (Figure A6.5).

Austria shows the greatest variation by educational attainment among selected OECD countries participating in the ESS: 68% of tertiary-educated adults reported being quite or very interested in politics, while the share is only 24% among those with below upper secondary education. In contrast, the Czech Republic and Hungary have the smallest difference by educational attainment. Adults in these countries show little interest in politics, with 30% or less reporting being quite or very interested in politics, regardless of their educational attainment (Figure A6.5).

Data from Norway show that interest in politics is high regardless of educational attainment. Among the selected OECD countries taking part in the ISSP, Norway has the highest share of adults who reported being somewhat to very interested in politics, regardless of educational attainment: 90% among tertiary-educated adults, 85% among those with upper secondary or post-secondary non-tertiary education and 83% among adults with below upper secondary education. In contrast, in Chile less than 52% of tertiary-educated adults report being somewhat to very interested in politics, and it reaches a low of 19% for those who did not complete upper secondary education (Figure A6.5).

Definitions

Age groups: Adults refer to 25-64 year-olds.

Bullying (exposure): PISA measures exposure to bullying by asking 15-year-old students: During the past 12 months, how often have you had the following experiences in school? Some experiences can also happen in social media. / Please select one response: Never or almost never, A few times a year, A few times a month, Once a week or more.

- Other students left me out of things on purpose.
- Other students made fun of me.
- I was threatened by other students.
- Other students took away or destroyed things that belonged to me.
- I got hit or pushed around by other students.
- Other students spread nasty rumours about me.

Bullying (attitudes): PISA measures attitudes associated to bullying by asking 15-year-old students: To what extent do you agree with the following statements? Please select one response: Strongly disagree, Disagree, Agree, Strongly agree.

- It irritates me when nobody defends bullied students.
- It is a good thing to help students who can't defend themselves.
- It is a wrong thing to join in bullying.
- I feel bad seeing other students bullied.
- I like it when someone stands up for other students who are being bullied.

Educational attainment refers to the highest level of education reached by a person.

Expected level of education refers to the level of education 15-year-old students selected when they were asked about the level of education they expect to complete.

Interest in politics is measured by the ESS by asking adults: How interested would you say you are in politics, are you: Very interested, Quite interested, Hardly interested, or Not at all interested? For the ISSP, it is measured by asking adults: How interested would you say you personally are in politics? Please select one response: Very interested, Fairly interested, Somewhat interested, Not very interested, Not at all interested, Can't choose.

Levels of education: See the *Reader's Guide* at the beginning of this publication for a presentation of all ISCED 2011 levels.

Parents' educational attainment: **Below upper secondary** means that both parents have attained ISCED 2011 levels 0 to 2; **upper secondary or post-secondary non-tertiary** means that at least one parent (whether mother or father) has attained ISCED-2011 levels 3 or 4; and **tertiary** means that at least one parent (whether mother or father) has attained ISCED-2011 levels 5 to 8.

Political efficacy is measured by the ESS by asking adults: And how much would you say that the political system in [country] allows people like you to have an influence on politics? Please select one response: Not at all, Very little, Some, A lot, A great deal. For the ISSP, it is measured by asking adults: How much you agree or disagree with the following statement: People like me don't have any say about what the government does. Please select one response: Strongly agree, Agree, Disagree, Neither agree nor disagree, Disagree, Strongly disagree, Can't choose.

Methodology

For the 2018 European Social Survey (ESS) and the 2016 International Social Survey Programme (ISSP), percentages of adults for each educational attainment level were compared at a country level with their respective percentages in Indicator A1. Following consultations with countries, data on educational attainment were recoded to improve compatibility with the levels in Indicator A1 for the following countries participating in the ISSP:

- Chile, France, Hungary, Israel, New Zealand, Norway, the Russian Federation, the Slovak Republic, Slovenia, Sweden, the United Kingdom and the United States.

See Annex 3 (https://doi.org/10.1787/69096873-en) for more information on the discrepancies in the survey sample distribution.

Information regarding the proportion of the PISA sample covered for each variable is included in Annex 3 (https://doi.org/10.1787/69096873-en). For the tables presented in the Annex, no symbol means at least 75% of the population were covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% were covered. The PISA threshold for publication is at least 30 students and 5 schools.

Source

Data from the Programme for International Student Assessment (PISA) 2018 provided evidence on bullying for OECD member and partner countries (OECD, 2019[14]).

Data from the European Social Survey (ESS) (2018) provided evidence on political efficacy and interest in politics for European OECD member countries (ESS, 2019[25]).

Data from the International Social Survey Programme (ISSP) (2016) provided evidence on political efficacy and interest in politics for non-European OECD member and partner countries (ISSP Research Group, 2018[26]).

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Indicator A6 Tables

Table A6.1	Percentage of 15-year-old students who reported being exposed to different forms of bullying at least a few times a month, by parents' educational attainment (2018)
Table A6.2	Percentage of 15-year-old students who agreed or strongly agreed with statements about bullying, by parents' educational attainment (2018)
Table A6.3	Political engagement, by educational attainment (2016 or 2018)
WEB Table A6.4	*Percentage of 15-year-old students who reported being exposed to different forms of bullying at least a few times a month, by students' expected level of educational attainment (2018)*
WEB Table A6.5	*Percentage of 15-year-old students who agreed or strongly agreed with statements about bullying, by students' expected level of educational attainment (2018)*
WEB Table A6.6	*Distribution of parents' educational attainment and expected level of educational attainment of 15-year-old students (2018)*

Cut-off date for the data: 19 July 2020. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en. More breakdowns can also be found at http://stats.oecd.org/, Education at a Glance Database.

StatLink: https://doi.org/10.1787/888934162755

Table A6.1. Percentage of 15-year-old students who reported being exposed to different forms of bullying at least a few times a month, by parents' educational attainment (2018)

Programme for International Student Assessment (PISA)

		Exposure to any type of bullying act								Other students left me out of things on purpose		Other students made fun of me		I was threatened by other students		Other students took away or destroyed things that belonged to me		I got hit or pushed around by other students		Other students spread nasty rumours about me	
				Parents' educational attainment																	
		Total		Below upper secondary		Upper secondary or post-secondary non-tertiary		Tertiary		Upper secondary or post-secondary non-tertiary											
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(13)	(14)	(21)	(22)	(29)	(30)	(37)	(38)	(45)	(46)	(53)	(54)
OECD	**Countries**																				
	Australia	30	(0.5)	37	(2.1)	30	(0.9)	29	(0.7)	14	(0.8)	20	(0.8)	10	(0.6)	7	(0.5)	10	(0.6)	12	(0.8)
	Austria	23	(0.8)	29	(3.1)	23	(1.3)	22	(0.9)	8	(0.6)	14	(1.0)	5	(0.6)	8	(0.8)	7	(0.7)	11	(0.9)
	Belgium	19	(0.5)	20	(2.2)	20	(0.8)	18	(0.6)	7	(0.6)	12	(0.7)	3	(0.4)	3	(0.5)	5	(0.4)	9	(0.7)
	Canada	25	(0.5)	37	(7.6)	27	(0.9)	25	(0.5)	12	(0.8)	18	(0.8)	7	(0.5)	5	(0.4)	8	(0.5)	11	(0.6)
	Chile	24	(0.6)	23	(1.7)	23	(1.1)	25	(0.9)	9	(0.8)	13	(0.8)	6	(0.7)	8	(0.7)	6	(0.7)	13	(0.9)
	Colombia	32	(0.9)	31	(2.1)	32	(1.3)	33	(1.1)	17	(1.0)	18	(1.0)	10	(0.9)	12	(0.9)	10	(0.9)	17	(1.1)
	Costa Rica	24	(0.7)	23	(1.2)	23	(1.2)	25	(0.9)	10	(0.9)	13	(1.0)	7	(0.8)	5	(0.7)	5	(0.6)	14	(0.9)
	Czech Republic	30	(0.8)	35	(3.0)	29	(1.0)	29	(1.2)	11	(0.7)	14	(0.8)	6	(0.5)	10	(0.7)	9	(0.6)	14	(0.7)
	Denmark	21	(0.7)	25	(4.4)	22	(2.2)	21	(0.7)	6	(1.3)	13	(1.6)	3	(0.8)	5	(1.2)	7	(1.2)	7	(1.6)
	Estonia	25	(0.7)	29	(4.9)	25	(1.3)	25	(0.9)	7	(0.7)	17	(1.0)	6	(0.6)	6	(0.7)	6	(0.7)	9	(0.8)
	Finland	18	(0.5)	18	(4.2)	18	(1.3)	18	(0.6)	8	(1.0)	12	(1.1)	3	(0.7)	3	(0.6)	4	(0.7)	8	(0.8)
	France	20	(0.7)	28	(2.5)	20	(1.2)	19	(0.7)	8	(0.8)	13	(1.0)	5	(0.9)	5	(0.7)	5	(0.8)	9	(0.9)
	Germany	23	(0.9)	25	(2.2)	19	(1.9)	22	(1.0)	6	(1.1)	12	(1.4)	4	(0.9)	6	(1.3)	4	(1.0)	9	(1.3)
	Greece	27	(0.8)	30	(2.8)	27	(1.2)	27	(0.9)	7	(0.7)	16	(1.0)	7	(0.8)	9	(0.8)	9	(0.8)	11	(0.9)
	Hungary	23	(0.8)	37	(3.0)	22	(1.1)	22	(1.0)	11	(0.7)	10	(0.7)	6	(0.6)	7	(0.7)	6	(0.7)	13	(0.9)
	Iceland	17	(0.8)	21	(3.8)	20	(2.0)	16	(0.9)	7	(1.1)	12	(1.7)	7	(1.3)	4	(1.0)	5	(1.1)	7	(1.1)
	Ireland	23	(0.7)	23	(3.5)	22	(1.1)	23	(0.9)	9	(0.8)	15	(1.0)	6	(0.6)	5	(0.5)	5	(0.5)	8	(0.7)
	Israel	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Italy	24	(0.7)	26	(1.7)	21	(1.1)	25	(1.0)	8	(0.6)	10	(0.8)	8	(0.8)	10	(0.9)	8	(0.9)	11	(1.1)
	Japan	17	(0.6)	21	(4.4)	15	(0.8)	18	(0.8)	3	(0.4)	12	(0.8)	2	(0.4)	2	(0.3)	5	(0.5)	6	(0.6)
	Korea	9	(0.5)	10	(3.2)	9	(0.8)	9	(0.5)	1	(0.3)	8	(0.7)	1	(0.3)	1	(0.4)	1	(0.4)	2	(0.4)
	Latvia	35	(0.8)	36	(7.2)	38	(1.4)	34	(0.9)	17	(1.1)	18	(1.1)	12	(1.0)	11	(1.0)	13	(1.0)	18	(1.0)
	Lithuania	23	(0.7)	30	(5.8)	24	(1.3)	22	(0.8)	11	(0.9)	13	(1.0)	12	(0.9)	10	(0.8)	13	(0.9)	14	(1.1)
	Luxembourg	21	(0.6)	21	(1.6)	19	(1.3)	21	(0.7)	7	(0.8)	12	(1.1)	6	(0.7)	6	(0.7)	7	(0.8)	10	(1.0)
	Mexico	23	(0.8)	22	(1.3)	19	(1.5)	25	(1.2)	9	(1.1)	10	(1.2)	7	(1.0)	6	(1.1)	8	(1.1)	11	(1.2)
	Netherlands	12	(0.6)	20	(3.5)	11	(1.1)	12	(0.7)	2	(0.5)	5	(0.8)	1	(0.3)	3	(0.7)	2	(0.6)	6	(0.7)
	New Zealand	32	(0.7)	32	(1.4)	32	(1.7)	31	(0.9)	14	(1.1)	24	(1.5)	10	(1.1)	7	(0.9)	8	(0.9)	13	(1.0)
	Norway	19	(0.7)	29	(4.6)	18	(1.4)	19	(0.8)	5	(0.6)	11	(1.0)	3	(0.5)	5	(0.7)	5	(0.8)	7	(0.8)
	Poland	26	(0.8)	30	(3.4)	26	(1.0)	26	(1.2)	9	(0.6)	14	(0.7)	8	(0.6)	9	(0.7)	9	(0.7)	16	(0.9)
	Portugal	14	(0.6)	14	(0.9)	14	(1.1)	13	(0.8)	5	(0.8)	9	(0.9)	3	(0.6)	5	(0.7)	4	(0.6)	7	(0.8)
	Slovak Republic	28	(0.8)	45	(5.3)	27	(1.1)	29	(1.0)	11	(0.7)	12	(0.8)	9	(0.8)	10	(0.8)	11	(0.7)	16	(0.8)
	Slovenia	21	(0.7)	19	(5.3)	21	(1.0)	21	(1.0)	8	(0.8)	10	(0.8)	6	(0.6)	8	(0.7)	9	(0.8)	12	(0.9)
	Spain	17	(0.4)	20	(1.0)	17	(0.9)	17	(0.5)	5	(0.5)	10	(0.6)	4	(0.5)	5	(0.6)	5	(0.5)	8	(0.6)
	Sweden	19	(0.7)	19	(2.3)	19	(1.4)	19	(0.8)	6	(0.9)	12	(1.2)	3	(0.7)	4	(0.8)	6	(0.9)	7	(0.9)
	Switzerland	22	(1.0)	28	(2.8)	20	(1.7)	22	(1.2)	7	(1.1)	13	(1.5)	5	(1.1)	6	(1.1)	7	(1.1)	10	(1.3)
	Turkey	24	(0.7)	23	(0.9)	25	(1.5)	25	(1.0)	11	(0.9)	13	(1.0)	10	(0.9)	10	(0.8)	8	(0.9)	12	(1.0)
	United Kingdom	27	(0.7)	29	(3.6)	25	(1.0)	28	(0.9)	11	(0.8)	19	(0.9)	6	(0.5)	4	(0.6)	6	(0.6)	10	(0.7)
	United States	26	(0.9)	23	(2.2)	27	(1.5)	26	(1.1)	14	(1.2)	18	(1.4)	7	(0.9)	5	(0.7)	6	(0.9)	12	(1.3)
	OECD average	23	(0.1)	26	(0.6)	22	(0.2)	23	(0.1)	9	(0.1)	13	(0.2)	6	(0.1)	6	(0.1)	7	(0.1)	11	(0.2)
	EU22 average	23	(0.1)	26	(0.8)	22	(0.3)	22	(0.2)	8	(0.2)	13	(0.2)	6	(0.1)	7	(0.2)	7	(0.2)	11	(0.2)
Partners	Argentina	32	(0.9)	33	(1.6)	31	(2.3)	32	(1.0)	12	(1.3)	18	(1.4)	9	(1.2)	14	(1.7)	6	(0.9)	14	(1.6)
	Brazil	29	(0.7)	27	(1.2)	29	(1.0)	30	(1.0)	15	(0.8)	18	(1.0)	10	(0.9)	12	(0.9)	10	(0.9)	15	(1.1)
	B-S-J-Z (China)[1]	18	(0.7)	19	(0.8)	17	(1.1)	17	(1.0)	5	(0.5)	9	(0.7)	3	(0.4)	10	(0.8)	3	(0.4)	5	(0.6)
	India[2]	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	41	(1.0)	38	(1.5)	40	(1.2)	47	(1.5)	19	(0.9)	22	(1.0)	13	(1.0)	21	(1.1)	16	(1.1)	20	(1.0)
	Russian Federation	37	(0.7)	36	(5.0)	30	(3.2)	37	(0.7)	21	(2.9)	13	(2.5)	12	(2.5)	10	(2.5)	11	(2.4)	13	(2.3)
	Saudi Arabia	30	(0.7)	28	(1.3)	30	(1.2)	31	(1.2)	8	(0.9)	13	(0.8)	11	(0.8)	13	(1.0)	11	(0.9)	15	(0.8)
	South Africa[2]	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	26	(0.2)	27	(0.7)	24	(0.4)	26	(0.2)	10	(0.3)	15	(0.3)	7	(0.2)	8	(0.3)	7	(0.2)	11	(0.3)

Note: More data on students whose parents have below upper secondary education or tertiary education are available for consultation on line (see *StatLink* below). "Exposure to any type of bullying act" is a measure that combines all six items on bullying. Parents' educational attainment refers to the highest level attained by at least one parent.

1. B-S-J-Z (China) refers to the four PISA-participating provinces/municipalities of the People's Republic of China: Beijing, Shanghai, Jiangsu and Zhejiang.
2. India and South Africa did not participate in PISA (2018).

Source: OECD (2020), PISA 2018 Results (Volume I): What Students Know and Can Do, https://doi.org/10.1787/5f07c754-en. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934162774

Table A6.2. Percentage of 15-year-old students who agreed or strongly agreed with statements about bullying, by parents' educational attainment (2018)

Programme for International Student Assessment (PISA)

		It irritates me when nobody defends bullied students								It is a good thing to help students who can't defend themselves		It is a wrong thing to join in bullying		I feel bad seeing other students bullied		I like it when someone stands up for other students who are being bullied	
		Total		Parents' educational attainment													
				Below upper secondary		Upper secondary or post-secondary non-tertiary		Tertiary		Upper secondary or post-secondary non-tertiary							
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(13)	(14)	(21)	(22)	(29)	(30)	(37)	(38)
OECD	Countries																
	Australia	86	(0.4)	83	(1.5)	85	(0.7)	87	(0.5)	92	(0.5)	91	(0.5)	91	(0.6)	93	(0.5)
	Austria	76	(0.9)	81	(3.2)	76	(1.1)	75	(1.0)	84	(1.0)	88	(0.9)	80	(1.3)	87	(1.0)
	Belgium	80	(0.6)	80	(2.3)	78	(1.2)	80	(0.6)	91	(0.8)	93	(0.8)	85	(1.1)	93	(0.8)
	Canada	85	(0.4)	70	(7.1)	83	(0.9)	86	(0.4)	90	(0.8)	90	(0.7)	88	(0.8)	92	(0.8)
	Chile	84	(0.8)	83	(1.8)	84	(1.1)	85	(1.1)	88	(1.0)	86	(0.9)	87	(1.0)	90	(0.9)
	Colombia	75	(0.9)	70	(1.8)	77	(1.0)	75	(1.3)	85	(1.0)	68	(1.5)	84	(1.0)	87	(0.8)
	Costa Rica	84	(0.6)	82	(1.4)	84	(1.1)	84	(0.7)	89	(0.9)	85	(1.0)	87	(1.0)	90	(0.9)
	Czech Republic	84	(0.6)	75	(2.1)	84	(0.9)	85	(0.9)	89	(0.6)	88	(0.7)	87	(0.7)	90	(0.7)
	Denmark	88	(0.5)	85	(3.0)	86	(2.0)	89	(0.5)	91	(1.4)	95	(1.3)	92	(1.2)	93	(1.3)
	Estonia	81	(0.6)	77	(4.4)	79	(1.2)	82	(0.6)	88	(0.9)	89	(1.1)	85	(1.1)	89	(0.9)
	Finland	82	(0.6)	83	(3.7)	81	(1.3)	82	(0.7)	91	(1.0)	93	(0.8)	88	(1.2)	92	(1.0)
	France	84	(0.7)	76	(3.0)	81	(1.5)	85	(0.7)	89	(1.2)	93	(1.0)	88	(1.1)	92	(0.9)
	Germany	77	(1.1)	73	(2.4)	77	(2.2)	80	(1.3)	86	(1.9)	91	(1.5)	80	(1.8)	91	(1.4)
	Greece	84	(0.7)	75	(2.6)	84	(1.2)	84	(0.8)	85	(1.1)	86	(1.0)	88	(0.9)	88	(0.8)
	Hungary	76	(0.8)	66	(3.1)	75	(1.2)	77	(1.1)	82	(1.0)	73	(1.1)	78	(1.2)	84	(0.9)
	Iceland	79	(0.8)	69	(3.9)	76	(2.1)	80	(0.9)	85	(1.6)	86	(1.6)	84	(1.7)	83	(1.9)
	Ireland	90	(0.5)	84	(2.7)	90	(1.0)	91	(0.6)	93	(0.7)	94	(0.7)	95	(0.7)	96	(0.6)
	Israel	82	(0.6)	74	(3.5)	79	(1.2)	84	(0.7)	85	(1.0)	83	(1.0)	85	(1.0)	87	(0.9)
	Italy	84	(0.7)	83	(1.5)	85	(1.1)	84	(1.0)	88	(0.9)	86	(1.1)	83	(1.0)	90	(0.8)
	Japan	71	(0.8)	67	(5.6)	71	(1.3)	71	(0.9)	80	(1.0)	92	(0.7)	89	(0.8)	83	(1.0)
	Korea	86	(0.5)	71	(5.3)	85	(0.9)	86	(0.6)	93	(0.6)	92	(0.8)	95	(0.6)	94	(0.7)
	Latvia	74	(0.7)	68	(6.9)	74	(1.2)	74	(0.9)	81	(1.0)	83	(1.1)	76	(1.2)	83	(1.0)
	Lithuania	72	(0.6)	55	(6.4)	70	(1.3)	74	(0.7)	77	(1.2)	79	(1.1)	74	(1.2)	80	(1.2)
	Luxembourg	78	(0.6)	76	(1.7)	78	(1.3)	79	(0.8)	87	(1.1)	90	(0.9)	82	(1.2)	89	(1.0)
	Mexico	78	(0.8)	75	(1.5)	77	(1.6)	80	(1.0)	85	(1.6)	80	(1.6)	82	(1.4)	86	(1.3)
	Netherlands	70	(0.8)	74	(3.8)	70	(1.4)	70	(0.9)	90	(0.8)	95	(0.6)	90	(1.0)	95	(0.7)
	New Zealand	88	(0.5)	86	(1.2)	87	(1.2)	89	(0.6)	94	(0.9)	92	(0.9)	91	(0.9)	94	(0.9)
	Norway	89	(0.5)	78	(3.7)	90	(1.0)	89	(0.5)	94	(0.7)	94	(0.8)	91	(1.0)	92	(0.8)
	Poland	76	(0.8)	69	(3.8)	75	(0.9)	78	(1.1)	82	(0.9)	78	(0.8)	78	(0.9)	83	(0.8)
	Portugal	81	(0.6)	80	(1.2)	82	(1.1)	82	(1.0)	94	(0.7)	87	(0.9)	93	(0.9)	93	(1.0)
	Slovak Republic	73	(0.7)	57	(5.9)	73	(1.1)	73	(1.1)	79	(1.0)	80	(0.9)	79	(0.9)	83	(0.9)
	Slovenia	80	(0.6)	82	(5.2)	79	(1.0)	81	(0.8)	86	(0.9)	82	(1.0)	86	(0.8)	86	(0.9)
	Spain	87	(0.4)	86	(0.8)	88	(0.9)	87	(0.4)	92	(0.7)	90	(0.7)	91	(0.7)	94	(0.7)
	Sweden	84	(0.7)	81	(2.6)	84	(1.2)	85	(0.8)	90	(1.2)	92	(0.8)	80	(1.5)	92	(0.9)
	Switzerland	73	(0.9)	75	(2.6)	73	(2.0)	72	(0.9)	84	(1.5)	86	(1.4)	78	(1.4)	87	(1.4)
	Turkey	80	(0.7)	77	(1.1)	81	(1.2)	81	(0.9)	85	(1.0)	80	(1.0)	86	(1.0)	83	(1.1)
	United Kingdom	88	(0.5)	83	(2.9)	89	(0.8)	89	(0.6)	95	(0.5)	95	(0.5)	93	(0.6)	96	(0.4)
	United States	88	(0.6)	88	(1.7)	87	(1.1)	89	(0.7)	93	(0.7)	92	(0.7)	93	(0.8)	94	(0.8)
	OECD average	81	(0.1)	76	(0.6)	80	(0.2)	82	(0.1)	88	(0.2)	87	(0.2)	86	(0.2)	89	(0.2)
	EU23 average	80	(0.1)	76	(0.8)	80	(0.3)	81	(0.2)	88	(0.2)	88	(0.2)	85	(0.2)	90	(0.2)
Partners	Argentina	81	(0.6)	80	(1.4)	81	(1.5)	82	(0.8)	87	(1.2)	79	(1.6)	84	(1.5)	89	(1.2)
	Brazil	71	(0.7)	70	(1.4)	71	(1.4)	72	(0.9)	85	(1.0)	83	(1.0)	86	(1.0)	88	(1.0)
	B-S-J-Z (China)[1]	88	(0.5)	88	(0.8)	88	(0.8)	89	(0.7)	84	(0.8)	96	(0.5)	89	(0.7)	91	(0.6)
	India[2]	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	74	(0.8)	73	(1.2)	76	(1.0)	74	(1.6)	82	(1.1)	59	(1.3)	81	(0.9)	74	(1.1)
	Russian Federation	74	(0.8)	64	(6.8)	74	(2.9)	74	(0.8)	82	(2.4)	81	(2.7)	79	(2.4)	83	(2.5)
	Saudi Arabia	69	(1.0)	64	(1.4)	70	(1.5)	73	(1.5)	75	(1.4)	73	(1.6)	79	(1.2)	79	(1.2)
	South Africa[2]	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	80	(0.2)	76	(0.8)	80	(0.3)	81	(0.2)	86	(0.3)	85	(0.3)	86	(0.3)	88	(0.3)

Note: More data on students whose parents have below upper secondary education or tertiary education are available for consultation on line (see *StatLink* below). Parents' educational attainment refers to the highest level attained by at least one parent.

1. B-S-J-Z (China) refers to the four PISA-participating provinces/municipalities of the People's Republic of China: Beijing, Shanghai, Jiangsu and Zhejiang.
2. India and South Africa did not participate in PISA (2018).

Source: OECD (2020), PISA 2018 Results (Volume I): What Students Know and Can Do, https://doi.org/10.1787/5f07c754-en. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934162793

Table A6.3. Political engagement, by educational attainment (2016 or 2018)

European Social Survey (ESS) or International Social Survey Programme (ISSP), 25-64 year-olds

		European Social Survey (ESS) (2018)															
		Percentage of adults who reported being quite or very interested in politics								Percentage of adults who reported that the political system allows "some" to "a great deal" of say for people like them in what the government does							
		All levels of educational attainment		Below upper secondary		Upper secondary or post-secondary non-tertiary		Tertiary		All levels of educational attainment		Below upper secondary		Upper secondary or post-secondary non-tertiary		Tertiary	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
OECD	Countries																
	Belgium	47	(1.5)	36	(3.4)	39	(2.4)	58	(2.2)	37	(1.4)	28	(3.2)	30	(2.2)	48	(2.2)
	Czech Republic	17	(1.0)	c	c	14	(1.1)	27	(2.6)	45	(1.4)	c	c	42	(1.6)	58	(2.9)
	Estonia	37	(1.4)	22	(4.2)	29	(1.8)	50	(2.3)	36	(1.4)	20	(4.1)	29	(1.8)	49	(2.3)
	Finland	59	(1.5)	36	(5.4)	48	(2.5)	70	(1.9)	41	(1.5)	21	(4.6)	30	(2.3)	52	(2.1)
	France	41	(1.5)	24	(3.8)	32	(2.1)	54	(2.4)	32	(1.5)	18	(3.5)	23	(1.9)	45	(2.4)
	Germany[1]	67	(1.2)	40	(5.4)	60	(1.8)	79	(1.6)	52	(1.3)	36	(5.5)	46	(1.8)	61	(1.9)
	Hungary	24	(1.4)	11	(3.2)	24	(1.6)	30	(3.2)	33	(1.5)	22	(4.3)	31	(1.8)	43	(3.5)
	Ireland	54	(1.5)	38	(3.4)	47	(2.7)	64	(2.0)	42	(1.5)	24	(3.0)	33	(2.6)	53	(2.1)
	Italy	33	(1.2)	18	(1.6)	36	(1.8)	52	(2.7)	16	(0.9)	9	(1.2)	19	(1.5)	22	(2.3)
	Netherlands	64	(1.5)	45	(3.4)	60	(2.6)	75	(2.0)	58	(1.5)	32	(3.3)	50	(2.7)	74	(2.0)
	Slovenia	33	(1.6)	21	(4.5)	29	(2.1)	42	(2.9)	23	(1.5)	21	(4.5)	14	(1.6)	37	(2.8)
	Switzerland	53	(1.6)	28	(3.6)	45	(2.5)	70	(2.2)	73	(1.4)	53	(4.1)	75	(2.2)	79	(2.0)
	United Kingdom	57	(1.5)	34	(3.1)	53	(2.9)	69	(1.9)	44	(1.5)	30	(3.4)	38	(2.9)	52	(2.1)
	Average	45	(1.4)	30	(3.7)	40	(2.1)	57	(2.3)	41	(1.4)	26	(3.7)	35	(2.1)	52	(2.4)

		International Social Survey Programme (ISSP) (2016)															
		Percentage of adults who reported being somewhat to very interested in politics								Percentage of adults who reported that they disagree or strongly disagree that people like them don't have any say about what the government does							
		All levels of education		Below upper secondary		Upper secondary or post-secondary non-tertiary		Tertiary		All levels of education		Below upper secondary		Upper secondary or post-secondary non-tertiary		Tertiary	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
OECD	Countries																
	Australia	72	(2.2)	67	(5.9)	70	(4.1)	76	(2.3)	29	(2.3)	23	(7.2)	24	(4.0)	38	(2.8)
	Chile	32	(1.8)	19	(2.6)	29	(2.6)	52	(3.9)	32	(2.0)	34	(3.6)	31	(3.0)	33	(4.1)
	Iceland[1]	71	(1.5)	61	(3.8)	68	(2.9)	78	(1.9)	36	(1.8)	25	(3.8)	29	(3.2)	45	(2.7)
	Israel	69	(1.6)	48	(5.2)	69	(2.6)	75	(2.1)	31	(1.8)	26	(4.9)	27	(2.9)	35	(2.7)
	Korea	54	(2.1)	52	(6.2)	46	(3.0)	63	(3.1)	63	(2.3)	58	(6.8)	60	(3.5)	67	(3.6)
	Latvia	60	(1.9)	51	(4.6)	57	(2.6)	71	(3.0)	16	(1.4)	10	(2.8)	15	(2.0)	21	(2.9)
	Lithuania[1]	68	(1.8)	63	(4.4)	66	(2.4)	73	(3.2)	9	(1.2)	5	(2.4)	8	(1.5)	16	(3.0)
	New Zealand	64	(1.8)	51	(4.4)	64	(2.8)	71	(2.6)	41	(2.0)	28	(4.6)	38	(3.2)	50	(3.2)
	Norway	87	(1.1)	83	(3.2)	85	(2.1)	90	(1.4)	55	(1.9)	36	(4.6)	42	(3.3)	69	(2.5)
	Slovak Republic	49	(1.9)	c	c	47	(2.2)	61	(4.4)	18	(1.7)	c	c	17	(1.9)	27	(4.6)
	Spain	62	(1.4)	51	(2.1)	67	(2.8)	77	(2.3)	29	(1.4)	25	(1.9)	34	(3.1)	31	(2.7)
	Sweden[1]	77	(1.6)	c	c	73	(2.7)	83	(2.0)	38	(2.2)	c	c	25	(3.1)	50	(3.1)
	Turkey	59	(1.5)	52	(1.9)	64	(2.9)	76	(3.2)	41	(1.7)	37	(2.1)	47	(3.4)	48	(4.3)
	United States	70	(1.6)	52	(5.7)	66	(2.5)	80	(2.2)	41	(2.0)	24	(5.4)	36	(2.9)	49	(3.1)
	Average	64	(0.5)	54	(1.3)	62	(0.7)	73	(0.7)	34	(0.5)	28	(1.3)	31	(0.8)	41	(0.9)
Partner	India	75	(1.6)	74	(1.9)	80	(3.1)	78	(4.3)	16	(1.4)	16	(1.7)	16	(2.8)	20	(3.7)

1. The distribution of educational attainment varies by 10-15 percentage points compared to data published in Indicator A1. Results by educational attainment are deemed reliable (see Annex 3).

Source: OECD (2020), European Social Survey (ESS) (2018) and the International Social Survey Programme (ISSP) (2016). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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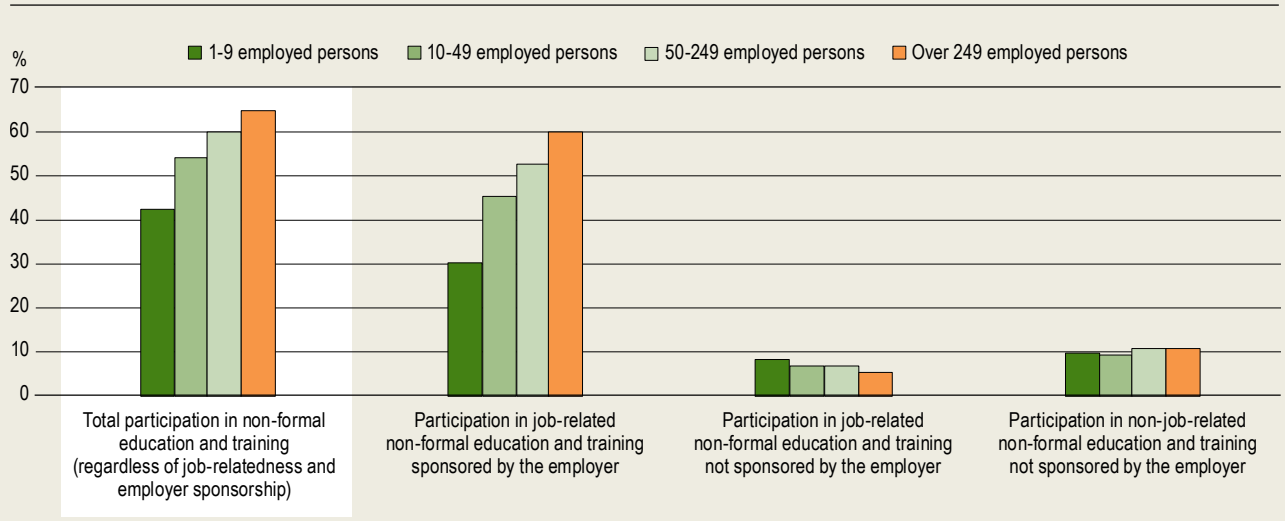
Indicator A7. To what extent do adults participate equally in education and learning?

Highlights

- The most common form of participation in adult learning is non-formal education, and most of the time it is job-related and employer-sponsored. On average across OECD countries taking part in the Adult Education Survey (AES), 44% of working adults had participated in at least one job-related and employer-sponsored non-formal training activity, but only 9% had taken part in one that was neither job-related nor sponsored by their employer.
- Large enterprises provide more training than small ones. On average across OECD countries taking part in AES, 30% of adults employed in enterprises with fewer than 10 employed persons participated in at least one non-formal job-related and employer-sponsored education and training activity. This share is twice as high (60%) among adults working in firms with over 249 employed persons.
- Large enterprises invest more of their total labour costs in training than smaller ones. On average across OECD countries participating in the Continuing Vocational Training Survey (CVTS), training costs in the form of courses represent 2.1% of total labour costs in enterprises with over 249 employed persons, 1.5% in enterprises with 50-249 employed persons, and 1.3% in enterprises with 10-49 employed persons.

Figure A7.1. Share of employed 25-64 year-olds participating in non-formal education and training, by job relatedness, employer sponsorship and size of enterprise (2016)

Adult Education Survey (AES), average for OECD countries participating in AES



Note: Total participation is not equal to the sum of the disaggregated categories because the same person can be included in more than one category.

Source: OECD (2020), Table A7.1. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Context

Adult learning can play an important role in helping adults to develop and maintain key information-processing skills and acquire other knowledge and skills throughout their lives. It is crucial to provide and ensure access to organised learning opportunities for adults beyond initial formal education, especially for workers who need to adapt to changes throughout their careers (OECD, 2013[1]).

The adults already in the workforce may have to continue to fill a significant share of the jobs of the future, requiring them to learn new skills and update existing ones. With the recent COVID-19 crisis, workers in some areas have had to change their working habits, relying more than ever on technology and teleworking and requiring them to be flexible and adaptable, which in some cases has had to be accompanied by additional training.

Adult learning can also contribute to non-economic goals, such as personal fulfilment, improved health, civic participation and social inclusion. For example, during the COVID-19 lockdown, learning to use new technology may help people to stay in contact with friends and family. However, the wide variation in adult learning activities and participation among OECD countries at similar levels of economic development suggests that there are significant differences in learning cultures, in learning opportunities at work and in adult education systems (Borkowsky, 2013[2]).

Other findings

- Enterprise size has a large impact on employees' participation in job-related education and training, but when the training is not sponsored by the employer, then the size of the enterprise no longer affects participation.
- Adults are less likely to participate in formal than in non-formal education and training, but if they do, then the intensity is much higher than for non-formal education. On average across the OECD countries participating in AES, those taking part in formal education and training spend 406 hours per year on average, against only 73 hours for non-formal education and training.
- Working in the public sector is associated with greater participation than in the private sector. On average across OECD countries participating in AES, 57% of adults working in the public sector participated in at least one non-formal job-related and employer-sponsored education and training activity, compared to 40% of adults working in the private sector.
- Adults with higher educational attainment are more likely to participate. On average across OECD countries taking part in AES, 24% of 25-64 year-olds with below upper secondary education participated in at least one non-formal education and training activity in the 12 months preceding the survey. This rose to 41% for those with upper secondary or post-secondary non-tertiary education and 62% for those with a tertiary degree.

Analysis

Participation in adult learning is often motivated by the social context. People choose to invest in what they value and devote energy towards becoming more effective in what they find relevant (Wlodkowski and Ginsberg, 2017[3]). Research show that adults participate in educational and learning activities for both intellectual reasons and for the usefulness of what they learn (Dench and Regan, 2000[4]). Intellectual reasons include wanting to keep the brain active, the enjoyment of the challenge of learning new things and an interest in acquiring knowledge, while the practical reasons are more related to enhancing employment prospects and remaining competitive in the labour market. Participation in high-quality formal and non-formal professional development enables employees to update their skills to be effective workers in the 21st century global economy.

Data from the Adult Education Survey (AES) and from the Survey of Adult Skills, a product of the Programme for the International Assessment of Adult Competencies (PIAAC), show that non-formal education and training is the most common type of adult learning. On average across OECD countries taking part in AES, 44% of 25-64 year-olds participated in at least one non-formal education and training activity in the 12 months preceding the survey, compared to only 7% taking part in formal education and training. Among these countries, participation in non-formal education ranges from less than 30% in Greece, Lithuania, Poland and Turkey to more than 60% in the Netherlands and Switzerland. Among countries that only participated in the Survey of Adult Skills (PIAAC), participation in non-formal education ranges from less than 30% in Mexico and the Russian Federation to 63% in New Zealand (Table A7.5, available on line).

The data also show that most non-formal education and training is job-related and sponsored by the employer. Among employed adults, only 9% participated in any non-formal education activity that was not job-related and not sponsored by the employer while 44% participated in at least one job-related and employer-sponsored training activity (Table A7.1 and Table A7.5, available on line).

Participation of employed adults in non-formal education and training

Participation by size of enterprise

Equity in access to adult learning is a policy concern across OECD countries (OECD, 2019[5]; European Commission, 2019[6]). Low-educated and economically inactive adults are less likely to participate in education and training because they are less exposed to learning opportunities than highly educated and employed adults. But inequalities are not limited to educational attainment and employment status. They arise even among employed adults depending of the size of their enterprise. For example, there is a common pattern across OECD countries: large enterprises provide more training to their employees than small ones (Figure A7.1).

Employers have a key role to play in providing and financing job-related adult learning, but many small and medium-sized enterprises lack the capacity to offer training opportunities to their employees. These employers may therefore benefit less from training effects such as increased productivity, higher employee retention, better engagement and improved management-worker interactions. For their employees this translates into fewer opportunities to participate in adult learning and, in turn, fewer possibilities to benefit from its positive outcomes. They could be missing out on higher incomes and improved employability, improved general well-being and health, and improved engagement in community and civic activities (OECD, 2019[5]; European Commission, 2015[7]).

Figure A7.1 shows that, on average across the 26 OECD countries taking part in AES, 30% of adults employed in enterprises with under 10 employed persons participated in at least one non-formal job-related and employer-sponsored education and training activity. This share is twice as high (60%) among adults working in firms with over 249 employed persons. The largest differences are observed in Ireland, Lithuania and Turkey where the gap is more than 35 percentage points between the participation rates of adults employed in the smallest enterprises and those in enterprises with over 249 employed persons. In contrast, the gap is below 25 percentage points in the Czech Republic, Estonia, Germany, Norway and Slovenia. Across the OECD member and partner countries that only participated in the Survey of Adult Skills (PIAAC), the gap is at least 40 percentage points in Chile, Korea and Mexico and is below 30 percentage points in Japan, New Zealand and the Russian Federation (Table A7.1).

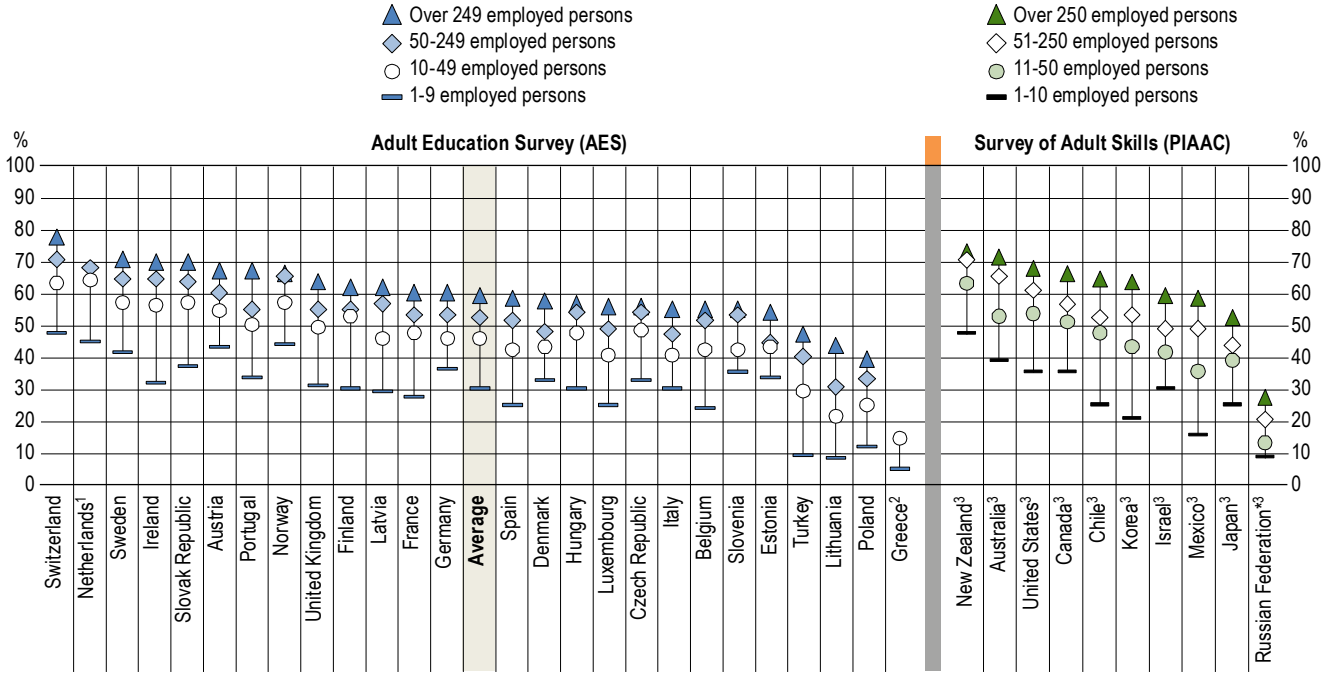
In all OECD countries, those employed in larger enterprises are more likely than those in smaller ones to participate in job-related adult learning sponsored by their employer. In contrast, when training is not sponsored by the employer, participation is much lower, regardless of the size of the enterprise. On average across the 26 OECD countries taking part in AES, about 10% of employed 25-64 year-olds participated in at least one non-job related education or training activity that was not

sponsored by their employers, regardless of the size of the enterprise they work in. This implies that the size of the enterprise has a large impact on training opportunities available to employees, but when training is not sponsored, whether it is job-related or not, then the size of the company makes almost no difference (Figure A7.1).

There is a positive relationship between the size of the enterprise (in terms of number of employees) and participation in job-related employer-sponsored non-formal education and training in all the OECD member and partner countries that participated in AES and the Survey of Adult Skills (PIAAC). However, the extent of participation varies significantly across countries. For example, adults in Switzerland working for firms with under 10 employed persons are more likely to take part in such training than those working for enterprises with over 249 employed persons in Lithuania and Poland. This also holds true in the non-European countries that participated in the Survey of Adult Skills (PIAAC): the participation among employed persons even of the smallest enterprises in New Zealand (47%) is higher than for those in the Russian Federation, even among those working for large firms (28%) (Figure A7.2).

Figure A7.2. Share of employed 25-64 year-olds participating in non-formal job-related and employer-sponsored education and training, by size of enterprise (2016)

Adult Education Survey (AES) or Survey of Adult Skills (PIAAC)



1. The category "50-249 employed persons" should be interpreted as "over 50 employed persons". The category "over 249 employed persons" is therefore missing for the Netherlands.
2. Data for the categories "50-249 employed persons" and "over 249 employed persons" have a low reliability and are therefore not presented.
3. Year of reference differs from 2016. Refer to the source table for more details.
* See note on data for the Russian Federation in the *Source* section.
Countries are ranked in descending order of the percentage of 25-64 year-olds employed in enterprises with over 249 (or 250) employed persons and participating in non-formal job-related and employer-sponsored education and training.
Source: OECD (2020), Table A7.1. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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In all countries participating in AES and the Survey of Adult Skills (PIAAC), except for Estonia, Lithuania, the Russian Federation and Slovenia, the largest difference in participation in job-related and employer-sponsored non-formal education and training occurs between adults working in enterprises with 1-9 employed persons and those working in enterprises with 10-49 employed persons (the categories in the Survey of Adult Skills [PIAAC] are 1-10 and 11-50 employed

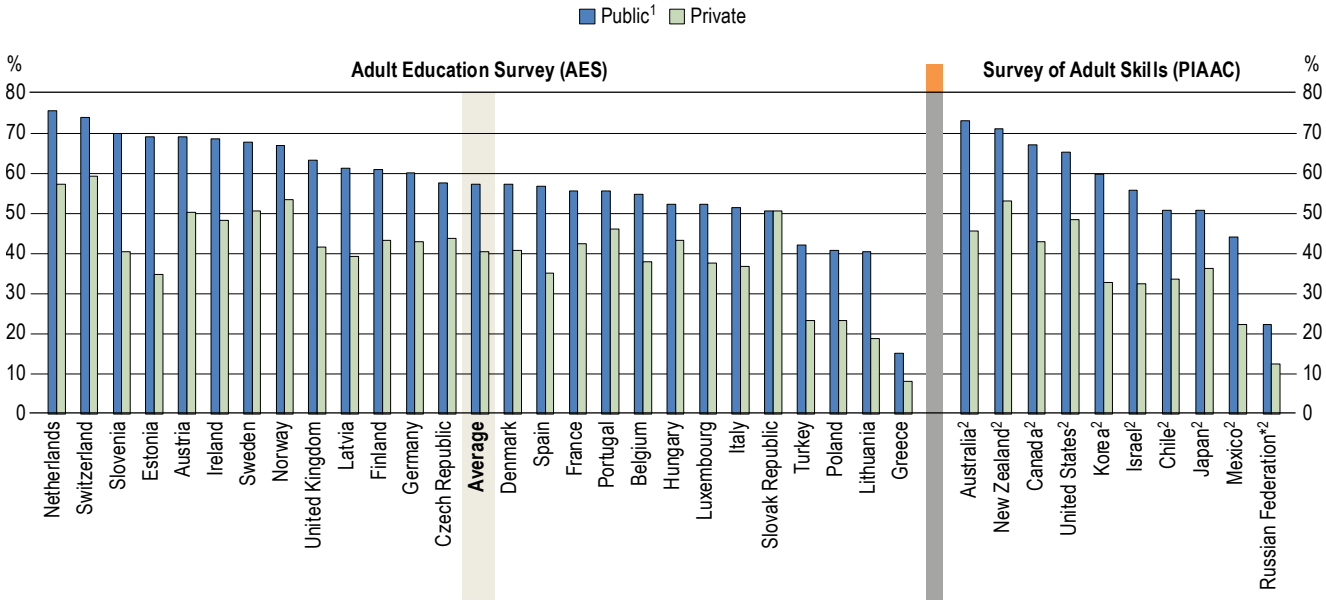
persons). On average, across OECD countries participating in AES, 30% of adults employed in enterprises with fewer than 10 employed persons took part in such activities, but the rate jumped to 45% for enterprises with 10-49 employed persons, 53% for enterprises with 50-249 employed persons, and 60% for those working in enterprises with over 249 employed persons (Figure A7.2).

A similar pattern emerges when enterprises are asked if they provide training to their staff, large firms tend to report providing training more widely than small firms. On average across OECD countries taking part in the Continuing Vocational Training Survey (CVTS), 74% of enterprises with 10-49 employed persons provide training, compared with 96% of enterprises with over 249 employed persons. There are also large differences between countries on this measure, with almost every enterprise in Latvia and Norway providing training but less than 30% of enterprises in Greece doing so (Table A7.4, available on line).

Enterprise size seems to play a more prominent role in the countries where a lower share of firms provide training. For example, in Greece, Hungary and Poland, less than 40% of enterprises with 10-49 employed persons provide training, but the share is at least 40 percentage points higher among enterprises with over 249 employed persons. In contrast, in Latvia, Norway and Sweden, the share of enterprises providing training is very high, regardless of size. In these three countries, even the smallest firms consistently provide training: over 90% of the enterprises with 10-49 employed persons provide training (Table A7.4, available on line).

Figure A7.3. Share of employed 25-64 year-olds participating in non-formal job-related and employer-sponsored education and training, by public / private sector (2016)

Adult Education Survey (AES) or Survey of Adult Skills (PIAAC)



1. For the Survey of Adult Skills (PIAAC): includes non-profit organisations.
2. Year of reference differs from 2016. Refer to the source table for more details.

* See note on data for the Russian Federation in the *Source* section.

Countries are ranked in descending order of the percentage of 25-64 year-olds employed in the public sector and participating in non-formal job-related and employer-sponsored education and training.

Source: OECD (2020), Table A7.1. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Participation in the public and private sector

Working in the public sector is associated with greater participation in non-formal training than in the private sector. This could be related to different culture and governance structures in the two sectors. It could also be associated with the size of enterprises in the private sector compared with public sector employers. In all countries, the public sector employs large

numbers of staff while private firms can vary in size. On average across OECD countries participating in AES, 57% of adults working in the public sector took part at least one non-formal job-related and employer-sponsored education and training activity, compared to 40% of adults working in the private sector. This trend is observed across all OECD and member countries participating in AES and the Survey of Adult Skills (PIAAC), with the exception of the Slovak Republic where 51% of adults participated in such training, regardless of the economic sector (Figure A7.3).

The largest difference across OECD countries participating in AES are observed in Estonia and Slovenia where the participation rate of those working in the public sector is at least 29 percentage points higher than those working in the private sector. In contrast, in Greece, Hungary and the Slovak Republic, the difference is below 10 percentage points (Figure A7.3).

Participation by all adults in non-formal education and training activities by level of education

Adults with higher educational attainment are more likely to participate in non-formal education and training activities. On average across OECD countries taking part in AES, 24% of all 25-64 year-olds – regardless of whether they are working or not – with below upper secondary education participated in at least one non-formal education and training activity in the 12 months preceding the survey. The rate is 41% for those with upper secondary or post-secondary non-tertiary education and reaches 62% for those with a tertiary degree (Table A7.5, available on line).

In Austria, the Czech Republic and Switzerland the difference between adults with and without upper secondary or post-secondary non-tertiary education is at least 25 percentage points. The difference between those with a tertiary degree and those with below upper secondary education is over 20 percentage points in all OECD countries participating in AES, and reaches 50 percentage points or more in Slovenia and Switzerland (Table A7.5, available on line).

Relationship between participation rates and intensity for all adults

Non-formal education and training

Figure A7.4 depicts the association between the participation rate in non-formal education and training and the average number of instruction hours per year, for the OECD countries that participated in AES. On average, 44% of 25-64 year-olds participated in non-formal education and training, and those who did so spent an average of 73 hours on these activities. Both participation rates and the average number of hours devoted to training vary widely across countries. These differences point to different policy choices, which may explain the low correlation between the two variables. Austria is the only country where more than 55% of 25-64 year-olds participate in non-formal education and training and do so for over 80 hours per year on average. In contrast, in Lithuania, less than 30% of adults participate in non-formal education and training and for an annual average of only 42 hours (Figure A7.4).

The distribution of countries in the four quadrants in Figure A7.4 shows that there is no clear correlation between participation rates and intensity. Countries with similar participation rates exhibit large differences in average hours of participation per year. For example, the participation rates in the Czech Republic and the Slovak Republic are similar to Slovenia's, but their intensity of participation is much lower, with both countries averaging around 35 hours compared to 142 hours in Slovenia. This shows that even when countries succeed in engaging a similar share of the population in adult education and training, the amount of training undertaken could be very different (Figure A7.4).

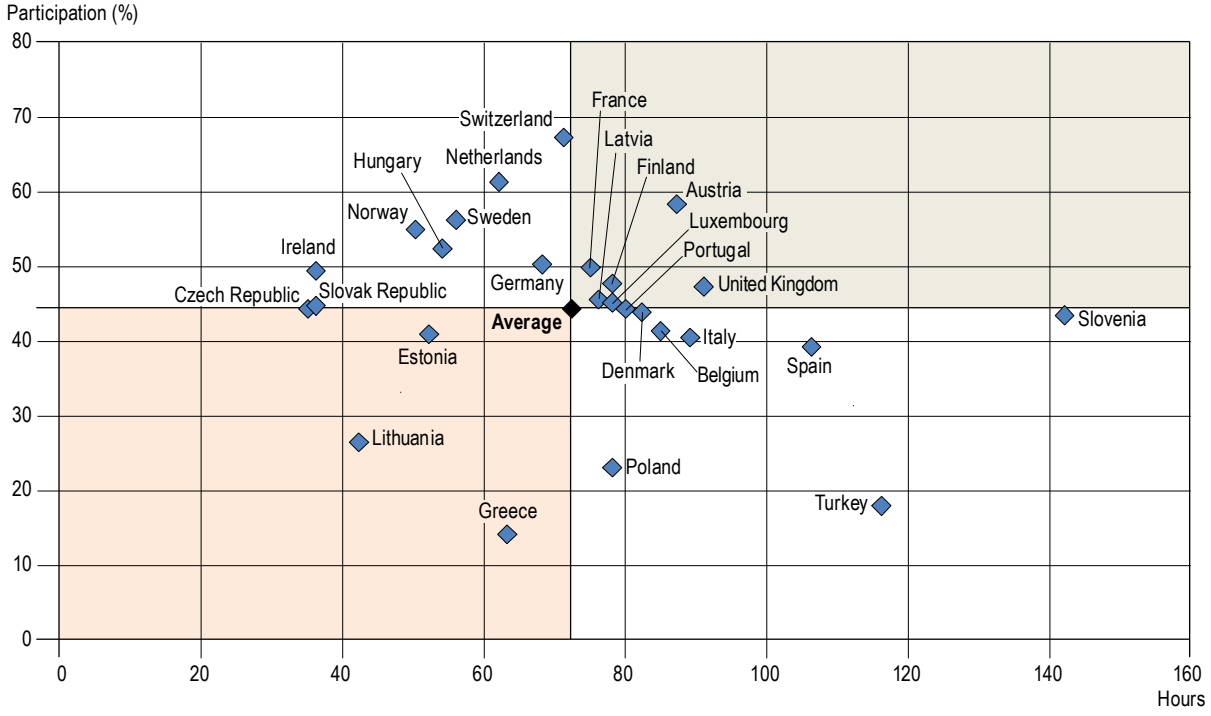
The participation gap according to educational attainment narrows when intensity of participation, in terms of hours of instruction, is considered, rather than the overall participation rate. The longest hours are not always associated with the highest educational attainment. For example, in 9 of the 26 OECD countries participating in AES, it is the adults with below upper secondary education who have the longest average instruction hours in non-formal education and training. In Denmark, the highest intensity is among those with upper secondary or post-secondary non-tertiary education, while in 15 countries the intensity is the highest among tertiary-educated adults. Therefore, for some countries, educational attainment is positively associated with participation in adult learning, but not its intensity (Table A7.2).

It should also be noted that the average number of instruction hours per year is generally much higher among OECD member and partner countries that participated in the Survey of Adult Skills (PIAAC) than among those participating in AES. For countries that participated in the Survey of Adult Skills (PIAAC), the lowest average number of instruction hours per year in non-formal education is found in Australia with 103 hours, while it reaches over 225 hours per year in Korea and Mexico (Table A7.2). In comparison, the lowest value for OECD countries participating in AES is 35 hours in the Czech Republic,

while the highest is 142 hours in Slovenia. The important differences between the two surveys is probably associated with the survey design.

Figure A7.4. Relationship between the intensity of participation (in hours) and the share of 25-64 year-olds participating in non-formal education and training (2016)

Adult Education Survey (AES)



Note: The intensity of participation (in hours) is based on 25-64 year-olds who participated in non-formal education and training activities.
Source: OECD (2020), Tables A7.2 and A7.5, available on line. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Formal education and training

Participation in formal education and training is less widespread among 25-64 year-olds, but when they do participate in formal education, the intensity is much higher than for non-formal education. On average across OECD countries participating in AES, participants in formal education and training devote 406 hours per year to it, against only 73 hours for non-formal education and training (Table A7.2).

Among participating countries, adults in Germany spend the largest number of hours on formal education and training (872 hours per year). Portugal has the second highest intensity at 653 hours per year. In contrast, in Luxembourg, Norway, Spain, Turkey and the United Kingdom, adults spend less than 300 hours on formal learning; the United Kingdom ranks lowest on this measure, at only 169 hours per year (Table A7.2).

Training costs

According to a recent report of the European Commission Working Group on Adult Learning (2019[6]), adult learning has not benefited from the increased financial investment in education over the last decade, despite covering the largest group of learners. During this period, countries have increased their spending in education (see Indicators C2 and C4), but public

expenditure on adult education has lagged behind and it remains the least well-funded sector of education. This implies that providers of adult learning are forced to work with limited financial resources despite the growing need to train adults and provide them with the skills they need to remain employable and competitive in the context of the digitalisation of the economy and the fast-changing labour market.

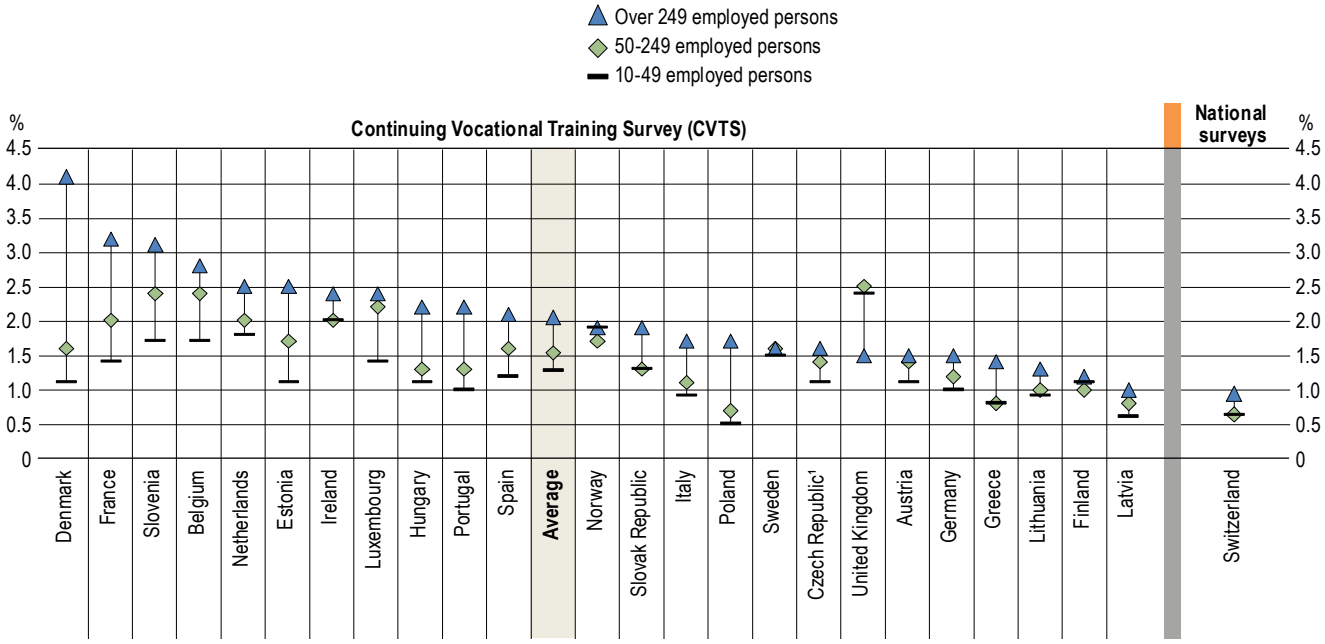
Employers are the main provider of non-formal education and therefore contribute a substantial share of the financial resources invested in adult learning (Eurostat, 2020[8]; European Commission/EACEA/Eurydice, 2015[9]). Providers of adult education can also face barriers in delivering training if they lack the resources. Employers may also be reluctant to invest in their staff if they do not see immediate benefits, or they may not be aware of funding available to train their staff. For example, in some countries, employers can receive financial support to provide training opportunities to staff who usually do not take part in company-funded activities. This could take the form of a reduction in tuition fees when enrolling employees in training courses or they can be reimbursed for education and training costs. Financial support is more widespread when it comes to training low-qualified or low-skilled staff or people who have been out of the labour market (European Commission/EACEA/Eurydice, 2015[9]).

The size of the enterprise plays an important role in the amount devoted to the provision of training. Larger enterprises will be able to spread the costs of training over a greater number of employees. Large firms are more likely to have several workers performing the same job, triggering the need to provide group training (Black, Noel and Wang, 1999[10]). In contrast, smaller enterprises have greater unit costs that may discourage this investment.

Data from the CVTS show a clear trend across European countries: large enterprises with over 249 employed persons invest a greater share of their total labour costs in training than either enterprises with 10-49 employed persons or with 50-249 employed persons. On average across the OECD countries participating in the CVTS, training costs in the form of courses made up 2.1% of the total labour costs of enterprises with over 249 employed persons, 1.5% of costs in enterprises with 50-249 employed persons, and 1.3% in enterprises with 10-49 employed persons (Figure A7.5).

Figure A7.5. Training costs as a share of total labour costs, by size of enterprise (2015)

Continuing Vocational Training Survey (CVTS) or national surveys



1. Data were mainly collected on line and via interactive PDF forms, only small part of questionnaires was distributed in a paper form. See metadata for more information at https://ec.europa.eu/eurostat/cache/metadata/EN/trng_cvt_esqrs_cz.htm.

Countries are ranked in descending order of the training costs of enterprises of over 249 employed persons as a share of their total labour costs.

Source: OECD (2020), Table A7.3. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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The largest difference by size of enterprise is in Denmark where enterprises with over 249 employed persons invest 4.1% of their total labour costs in training courses, compared to only 1.1% for enterprises with 10-49 employed persons. In contrast, in Finland, Norway and Sweden, training costs as a share of labour costs are almost identical, regardless of the size of the firm. The only country where the pattern is reversed is the United Kingdom where firms with fewer than 250 employed persons invest a greater percentage of their total labour costs in training courses than large enterprises (Figure A7.5).

Across most of the OECD countries participating in the CVTS, the largest difference in the share of labour costs invested in courses is between enterprises with 50-249 employed persons and those with over 249 employed persons. Out of the 24 OECD countries taking part, only 8 countries have a larger difference between enterprises with 10-49 employed persons and those with 50-249 employed persons. This supports the idea that larger firms benefit from lower costs associated with the scale of their training activities and are therefore willing to invest a larger share of their labour costs in courses (Figure A7.1).

Box A7.1. Teachers' training and preparedness to support digital learning

Teachers, even more than in many professions, need to renew their skills regularly in order to be able to innovate their teaching practices and adapt to the ultra-rapid transformations inherent in the 21st century. This is even more important in the current context, where the health crisis we are experiencing has led to the closure of schools and the extensive use of online learning to ensure pedagogical continuity. This unprecedented situation has pushed teachers to adapt very quickly, especially in countries where they do not necessarily have the pedagogical and technical skills to integrate digital tools into learning.

Data from the Teaching and Learning International Survey (TALIS) provide an interesting perspective on the training undertaken by teachers before the outbreak. They provide some measure of the frequency and intensity of teachers' continued professional development. The data show that, on average, teachers attended about four different types of continuous professional development activity in the 12 months prior to the survey, and 82% of teachers report that the professional development activities they participated in had an impact on their teaching practices (Reimers and Schleicher, 2020[11]; OECD, 2019[12]).

Most teachers participate in professional development, but not necessary in the most impactful programmes. According to teachers, the professional development programmes that have the most impact are those based on strong subject and curriculum content and which involve collaborative approaches to instruction, as well as the incorporation of active learning (OECD, 2019[12]). Perhaps because of the lack of supply, teachers do not participate that much in training which includes these elements. Teachers are most likely to participate in courses or seminars attended in person, with 76% of lower secondary teachers reporting taking part in such activity on average across OECD countries. Participation is lower for more collaborative forms of professional development, with only 44% of teachers participating in peer and/or self-observation and coaching as part of a formal school arrangement (Figure A7.6).

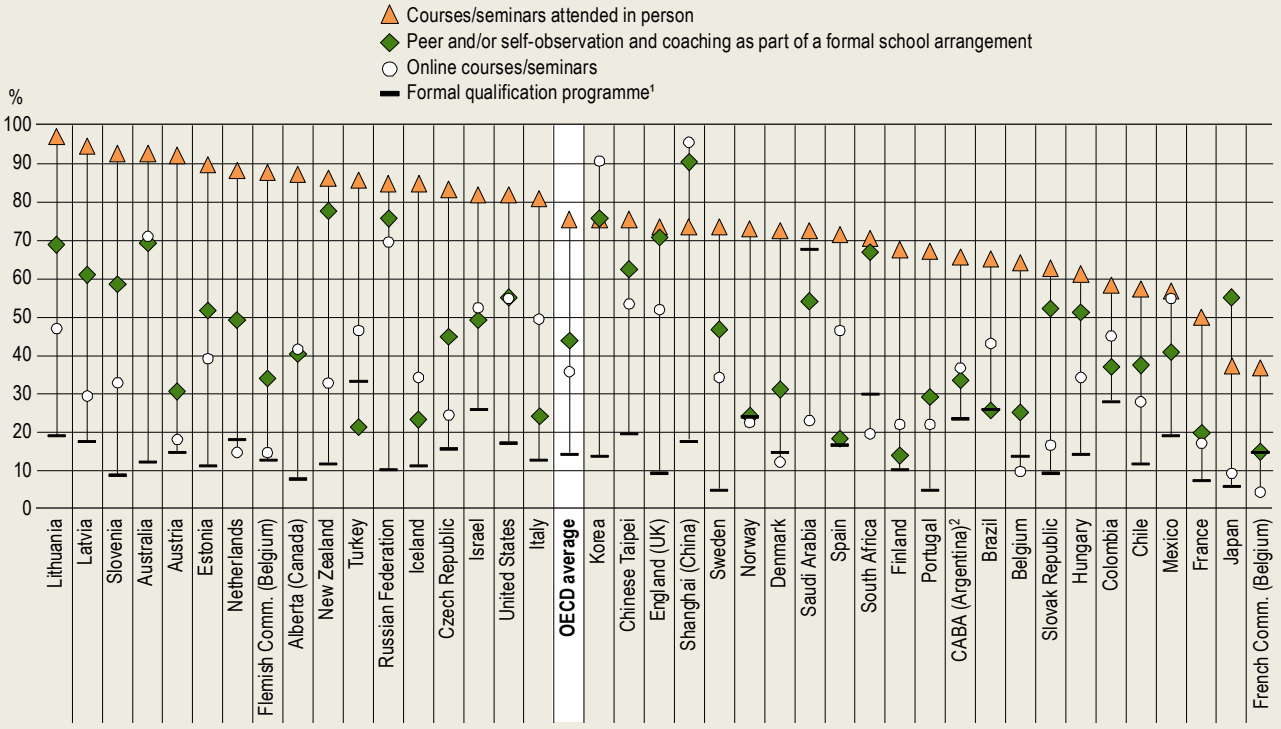
Teachers also report a high need for training in the use of information and communication technologies (ICT) for teaching, with 18% on average across OECD countries identifying this as a high training need (OECD, 2019[12]). This is the second commonest training need teachers identified, just after teaching special needs students. ICT skills are particularly important given the radical shift towards online teaching during the COVID-19 lockdown in many OECD countries. Data on professional development show that on average across OECD countries, 36% of lower secondary teachers reported participating in online courses or seminars, less than half the share participating in courses or seminars in person. This shows that not only are teachers reporting a need for ICT training, but also that they are not relying heavily on distance learning for their own professional development. Although this is the case in most countries, there are some exceptions such as Korea and Shanghai (People's Republic of China) where over 90% of teachers reported undertaking online professional development in the past year. This practice is also widespread in Australia, Chinese Taipei, England (United Kingdom), Israel, Mexico, the Russian Federation and the United States, where the share is over 50% (Figure A7.6).

The frequency with which teachers have students use ICT for projects or class work has risen in almost all countries since 2013, to the point where 53% of teachers across the OECD now report frequently or always using this practice (OECD, 2019[12]). This reflects the broader trend of digitalisation and the spread of ICT across all spheres of society. Younger teachers may be more familiar with new technologies but, surprisingly, they do not report much greater use of ICT for

students' projects than older teachers. This implies that while younger teachers may be more familiar with these tools, more experienced ones may be more at ease with other teaching practices and therefore be more willing to innovate using ICT. Across the OECD, only 56% of teachers had participated in training in the use of ICT for teaching as part of their initial education or training, and only 43% of teachers felt well or very well prepared for this element when they began teaching (Reimers and Schleicher, 2020[11]).

Figure A7.6. Percentage of lower secondary teachers who participated in selected types of professional development (2018)

Teaching and Learning International Survey (TALIS)



Note: The OECD average is the arithmetic average based on lower secondary teacher data across 31 OECD countries and economies with adjudicated data.

1. For example, a degree programme.

2. Refers to the adjudicated region of Ciudad Autónoma de Buenos Aires (CABA).

Countries and economies are ranked in descending order of the percentage of lower secondary teachers who attended courses/seminars in person in the 12 months prior to the survey.

Source: OECD (2018), TALIS 2018 Results (Volume I): Teachers and School Leaders as Lifelong Learners, https://dx.doi.org/10.1787/1d0bc92a-en, Web table 1.5.7. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934163097

Of all the stages of a teacher's career, their first working years are those that merit the greatest support and attention. TALIS data show that teachers in their early careers tend to work in more challenging schools, and 22% of them report that they would like to change to another school if that were possible (OECD, 2019[12]). Novice teachers also have less confidence in their ability to teach, particularly in their classroom management skills and their capacity to use a wide range of effective instructional practices. Induction to teaching and mentoring can support teachers who are new to a school or the profession. But despite empirical evidence showing that teachers' participation in induction and mentoring is beneficial to student learning, and the fact that school principals generally consider mentoring to be important for supporting less experienced teachers, induction and mentoring are not yet commonplace. On average, 51% of novice teachers report not having participated in any formal or informal induction at their current school, and only 22% have an assigned mentor (Reimers and Schleicher, 2020[11]).

Definitions

Adults refer to 25-64 year-olds.

Adult education and learning: **Formal education** is planned education provided in the system of schools, colleges, universities and other formal educational institutions that normally constitutes a continuous "ladder" of full-time education for children and young people. The providers may be public or private. **Non-formal education** is sustained educational activity that does not correspond exactly to the definition of formal education. Non-formal education may take place both within and outside educational institutions and cater to individuals of all ages. Depending on country contexts, it may cover education programmes in adult literacy, basic education for out-of-school children, life skills, work skills and general culture.

Economic sector refers to the distinction between public and private sector. **Public sector** is a constructed measure in Adult Education Survey (AES) while the Survey of Adult Skills (PIAAC) uses three categories in its questionnaire: public sector, private sector and non-profit organisation. The public sector for AES data refer to NACE sectors O, P and Q. The non-profit organisation category was merged with the public sector category for the Survey of Adult Skills (PIAAC). The **private sector** is also a constructed measure in AES while the Survey of Adult Skills (PIAAC) uses this specific term. The private sector for AES data refer to NACE sectors B to N, R and S (for a description of NACE sectors, see https://ec.europa.eu/eurostat/ramon).

Employer-sponsored education: Employer support can be offered in the form of time (i.e. educational activities that take place fully or partly during paid working hours), or financial support (giving grants to employees to participate in educational activities).

Job-related education and training: Taking part in training activity in order to obtain knowledge and/or learn new skills needed for a current or future job, to increase earnings, to improve job and/or career opportunities in a current or another field and generally to improve opportunities for advancement and promotion.

Levels of education: See the *Reader's Guide* at the beginning of this publication for a presentation of all ISCED 2011 levels.

The previous classification, ISCED-97, is used for the analyses based on the Survey of Adult Skills (PIAAC): **Below upper secondary** corresponds to ISCED-97 levels 0, 1, 2 and 3C short programmes; **upper secondary or post-secondary non-tertiary** corresponds to ISCED-97 levels 3A, 3B, 3C long programmes and level 4; and **tertiary** corresponds to ISCED-97 levels 5A, 5B and 6.

Methodology

Calculations for data based Adult Education Survey (AES) can be found at: https://circabc.europa.eu/ui/group/d14c857a-601d-438a-b878-4b4cebd0e10f/library/c28a2e5b-ecdf-4b07-ac2f-f3811d032295/details.

For data from the Survey of Adult Skills (PIAAC), the observations based on a numerator with fewer than 5 observations or on a denominator with fewer than 30 observations times the number of categories have been replaced by "c" in the tables.

Source

Tables A7.1, A7.2 and A7.5 on adult education and training are based on:

- Adult Education Survey (AES) for European OECD member countries.
- The OECD Programme for the International Assessment of Adult Competencies (the Survey of Adult Skills [PIAAC]) for: Australia, Canada, Chile, Israel, Japan, Korea, Mexico, New Zealand, the Russian Federation and the United States.

Table A7.3 and Table A7.4 are based on the Continuing Vocational Training Survey (CVTS) for European countries.

Note regarding data from the Russian Federation in the Survey of Adult Skills (PIAAC)

The sample for the Russian Federation does not include the population of the Moscow municipal area. The data published, therefore, do not represent the entire resident population aged 16-65 in the Russian Federation but rather the population of

the Russian Federation excluding the population residing in the Moscow municipal area. More detailed information regarding the data from the Russian Federation as well as that of other countries can be found in the *Technical Report of the Survey of Adult Skills*, Second Edition (OECD, 2016[13]).

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Indicator A7 Tables

Table A7.1 Share of employed adults participating in non-formal education and training, by size and sector of enterprise, job-relatedness and employer sponsorship (2016)

Table A7.2 Annual hours of participation in formal and/or non-formal education and training, by educational attainment (2016)

Table A7.3 Annual training costs, by size of enterprise (2015)

WEB Table A7.4 *Share of enterprises providing continuing vocational training, by size of enterprise and type of training (2015)*

WEB Table A7.5 *Share of adults participating in formal and/or non-formal education and training, by educational attainment (2016)*

Cut-off date for the data: 19 July 2020. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en. More breakdowns can also be found at http://stats.oecd.org/, Education at a Glance Database.

StatLink: https://doi.org/10.1787/888934162926

Table A7.1. Share of employed adults participating in non-formal education and training, by size and sector of enterprise, job-relatedness and employer sponsorship (2016)

Adult Education Survey (AES) or Survey of Adult Skills (PIAAC), employed 25-64 year-olds

		Adult Education Survey (AES)						
		Total participation in non-formal education and training (regardless of job-relatedness and employer sponsorship)						
			Size of enterprise				Economic sector	
		Total	1-9 employed persons	10-49 employed persons	50-249 employed persons	Over 249 employed persons	Private	Public
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
OECD	Countries							
	Austria	67	60	67	69	77	62	82
	Belgium	51	39	50	58	62	46	66
	Czech Republic	53	43	54	59	60	50	64
	Denmark	51	40	49	53	61	46	61
	Estonia	48	41	50	49	59	41	76
	Finland	56	44	59	61	68	51	70
	France	58	47	59	64	70	56	68
	Germany	56	50	54	60	66	52	69
	Greece	19	15	27	27 r	30 r	18	29
	Hungary	66	50	67	75	76	64	72
	Ireland	59	40	63	69	75	55	76
	Italy	52	45	52	59	62	48	66
	Latvia	54	43	56	63	66	49	75
	Lithuania	33	22	33	42	52	28	56
	Luxembourg	53	41	52	59	64	48	66
	Netherlands[1]	72	59	73	76	m	66	84
	Norway	65	54	64	71	72	61	72
	Poland	31	20	30	39	44	29	48
	Portugal	54	42	56	63	71	52	65
	Slovak Republic	57	46	62	69	72	56	61
	Slovenia	55	49	49	60	61	49	78
	Spain	47	35	50	59	66	43	67
	Sweden	63	51	64	69	77	58	73
	Switzerland	72	64	73	78	84	70	84
	Turkey	28	13	34	45	52	27	47
	United Kingdom	55	41	53	60	68	49	69
	Average	53	42	54	60	65	49	67

		Survey of Adult Skills (PIAAC)						
		Total participation in non-formal education and training (regardless of job-relatedness and employer sponsorship)						
			Size of enterprise				Economic sector	
		Total	1-10 employed persons	11-50 employed persons	51-250 employed persons	Over 250 employed persons	Private	Public[2]
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
OECD	Countries							
	Australia[3]	65	49	59	72	81	54	82
	Canada[3]	64	48	63	67	77	54	80
	Chile[4]	55	38	60	62	76	47	67
	Israel[4]	57	42	56	62	71	44	72
	Japan[3]	49	36	48	53	63	46	63
	Korea[3]	59	39	60	72	84	51	84
	Mexico[5]	42	24	46	57	67	31	57
	New Zealand[4]	74	63	74	81	85	65	85
	United States[5]	68	52	61	75	78	60	79
Partner	Russian Federation*[3]	23	14	19	27	33	17	29

Note: Participation in non-formal education and training during previous 12 months. Additional columns showing data for participation in "job-related non-formal education and training sponsored by the employer", "job-related non-formal education and training not sponsored by the employer", "not job-related non-formal education and training sponsored by the employer", and "not job-related non-formal education and training not sponsored by the employer" are available for consultation on line (see StatLink below). The average differs from the one published by Eurostat as this is an unweighted average and the country coverage is different. For data from AES, total participation is not equal to the sum of the disaggregated categories because the same person can be included in more than one category. This is not the case for data from the Survey of Adult Skills (PIAAC).

1. The category "50-249 employed persons" should be interpreted as "over 50 employed persons". The category "over 249 employed persons" is therefore missing for the Netherlands.
2. Includes non-profit organisations.
3. Year of reference 2012.
4. Year of reference 2015.
5. Year of reference 2017.

* See note on data for the Russian Federation in the *Source* section.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934162945

Table A7.2. Annual hours of participation in formal and/or non-formal education and training, by educational attainment (2016)

Adult Education Survey (AES) or Survey of Adult Skills (PIAAC), 25-64 year-olds who participated in formal and/or non-formal education and training activities

		Adult Education Survey (AES)											
		Total (all levels of educational attainment)			Below upper secondary			Upper secondary or post-secondary non-tertiary			Tertiary		
		Formal and/or non-formal education and training	Formal education and training	Non-formal education and training	Formal and/or non-formal education and training	Formal education and training	Non-formal education and training	Formal and/or non-formal education and training	Formal education and training	Non-formal education and training	Formal and/or non-formal education and training	Formal education and training	Non-formal education and training
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD	**Countries**												
	Austria	132	457	87	81	c	78	103	531	69	175	426	109
	Belgium	112	325	85	142	c	123	137	409	102	94	283	70
	Czech Republic	51	338	35	40	c	34	36	271	29	84	368	47
	Denmark	167	370	82	186	498 r	74	185	446	91	135	259	75
	Estonia	113	507	52	71	c	52	113	534	45	118	489	57
	Finland	156	342	78	281	508 r	139	170	364	72	115	251	70
	France	106	519	75	86	c	81	100	522	75	116	525	75
	Germany	124	872	68	128	c	80	123	978	64	126	747	72
	Greece	141	468	63	169 r	c	56 r	111	519 r	52	161	432	72
	Hungary	89	322	54	65	425 r	23	58	263	34	155	366	101
	Ireland	86	329	36	56	267 r	39	82	384	38	92	314	35
	Italy	115	394	89	60	c	60	120	419	85	142	363	114
	Latvia	109	375	76	130	c	95	90	351	60	121	365	87
	Lithuania	58	414 r	42	c	c	c	54	c	35	60	391 r	45
	Luxembourg	125	298	78	83	197 r	58	114	275	80	138	319	80
	Netherlands	89	328	62	73	c	60	81	360 r	57	95	325	65
	Norway	82	224	50	104	c	64	65	241	41	88	208	52
	Poland	145	464	78	218	c	51 r	129	541	67	154	419	86
	Portugal	133	653	80	88	478	63	147	674	89	171	734	90
	Slovak Republic	49	499 r	36	c	c	c	36	c	29	73	537 r	50
	Slovenia	180	375	142	55	c	45	139	305	111	237	441	185
	Spain	148	284	106	111	280	90	136	290	97	168	283	116
	Sweden	133	462	56	201	600 r	78	98	460	47	149	423	60
	Switzerland	129	532	71	112	c	78	103	518	57	156	538	84
	Turkey	154	229	116	135	106	133	171	286	113	160	274	103
	United Kingdom	121	169	91	51	55 r	48	126	171	94	131	185	98
	Average	117	406	73	114	m	71	109	421	67	131	395	81

		Survey of Adult Skills (PIAAC)											
		Total (all levels of educational attainment)			Below upper secondary			Upper secondary or post-secondary non-tertiary			Tertiary		
		Formal and/or non-formal education and training	Formal education and training	Non-formal education and training	Formal and/or non-formal education and training	Formal education and training	Non-formal education and training	Formal and/or non-formal education and training	Formal education and training	Non-formal education and training	Formal and/or non-formal education and training	Formal education and training	Non-formal education and training
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD	**Countries**												
	Australia[1]	m	m	103	m	m	84	m	m	108	m	m	106
	Canada[1]	m	m	119	m	m	78	m	m	114	m	m	125
	Chile[2]	m	m	121	m	m	77	m	m	112	m	m	145
	Israel[2]	m	m	135	m	m	114	m	m	126	m	m	138
	Japan[1]	m	m	148	m	m	136	m	m	142	m	m	152
	Korea[1]	m	m	248	m	m	177	m	m	226	m	m	271
	Mexico[3]	m	m	226	m	m	187	m	m	236	m	m	260
	New Zealand[2]	m	m	113	m	m	115	m	m	99	m	m	118
	United States[3]	m	m	140	m	m	209	m	m	167	m	m	120
Partner	**Russian Federation***[1]	m	m	117	m	m	132	m	m	137	m	m	113

Note: Participation in formal and/or non-formal education and training during previous 12 months. Note that the average differs from the one published by Eurostat as this is an unweighted average and the country coverage is different.

1. Year of reference 2012.
2. Year of reference 2015.
3. Year of reference 2017.

* See note on data for the Russian Federation in the *Source* section.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934162964

Table A7.3. Annual training costs, by size of enterprise (2015)

Continuing Vocational Training Survey (CVTS) or national surveys, costs as reported by enterprises

		Continuing Vocational Training Survey (CVTS)							
		Training costs per participant in equivalent USD converted using PPP for GDP				Training costs as a share of total labour costs			
		Total	10-49 employed persons	50-249 employed persons	Over 249 employed persons	Total	10-49 employed persons	50-249 employed persons	Over 249 employed persons
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OECD	Countries								
	Austria	1 709	1 515	1 943	1 688	1.3	1.1	1.4	1.5
	Belgium	3 251	2 414	3 201	3 581	2.4	1.7	2.4	2.8
	Czech Republić	600	367	544	743	1.5	1.1	1.4	1.6
	Denmark	4 811	2 266	2 937	6 556	2.7	1.1	1.6	4.1
	Estonia	1 690	1 503	1 965	1 624	1.8	1.1	1.7	2.5
	Finland	1 385	1 419	1 296	1 414	1.1	1.1	1.0	1.2
	France	2 896	2 251	2 573	3 132	2.5	1.4	2.0	3.2
	Germany	2 314	1 359	1 665	2 748	1.4	1.0	1.2	1.5
	Greece	1 724	1 353	1 632	1 803	1.1	0.8	0.8	1.4
	Hungary	2 438	1 251	2 011	2 842	1.8	1.1	1.3	2.2
	Ireland	2 331	2 467	2 204	2 332	2.2	2.0	2.0	2.4
	Italy	1 556	1 337	1 461	1 678	1.3	0.9	1.1	1.7
	Latvia	736	657	754	758	0.8	0.6	0.8	1.0
	Lithuania	936	1 153	938	853	1.1	0.9	1.0	1.3
	Luxembourg	2 086	2 094	2 140	2 056	2.1	1.4	2.2	2.4
	Netherlands	2 660	2 422	2 520	2 785	2.3	1.8	2.0	2.5
	Norway	1 887	1 624	1 581	2 277	1.8	1.9	1.7	1.9
	Poland	1 007	699	786	1 111	1.2	0.5	0.7	1.7
	Portugal	968	807	876	1 115	1.5	1.0	1.3	2.2
	Slovak Republic	918	899	822	965	1.6	1.3	1.3	1.9
	Slovenia	1 983	1 858	1 966	2 042	2.5	1.7	2.4	3.1
	Spain	1 600	1 220	1 630	1 729	1.8	1.2	1.6	2.1
	Sweden	1 771	1 755	1 854	1 739	1.6	1.5	1.6	1.6
	United Kingdom	985	1 201	1 222	843	1.8	2.4	2.5	1.5
	Average	1 843	1 496	1 688	2 017	1.7	1.3	1.5	2.1

		National surveys							
		Training costs per participant in equivalent USD converted using PPP for GDP				Training costs as a share of total labour costs			
		Total	10-49 employed persons	50-249 employed persons	Over 249 employed persons	Total	10-49 employed persons	50-249 employed persons	Over 249 employed persons
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OECD	Countries								
	Switzerland	1 320	1 256	1 357	1 331	0.8	0.6	0.6	0.9

Note: Training costs during previous 12 months. Note that the average differs from the one published by Eurostat as this is an unweighted average and the country coverage is different.

1. Data were mainly collected on line and via interactive PDF forms, only small part of questionnaires was distributed in a paper form. See metadata for more information at https://ec.europa.eu/eurostat/cache/metadata/EN/trng_cvt_esqrs_cz.htm.

* See note on data for the Russian Federation in the *Source* section.

Source: OECD (2020). See Source section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934162983

Chapter B. Access to education, participation and progress

Indicator B1. Who participates in education?

Highlights

- Between 2010 and 2018, policies to increase access to early childhood education and care and participation in upper secondary education have widened the age range of full enrolment (the ages at which at least 90% of the population are enrolled in education) in 10 OECD countries. The largest increases in the duration of full enrolment were observed in Belgium, Korea, Norway and Portugal.
- A small number of countries have significant levels of enrolment in post-secondary non-tertiary and short-cycle tertiary programmes. For example, the enrolment rate for post-secondary non-tertiary education reaches up to 5% among 15-19 year-olds in Germany, Greece and Hungary and 9% among 20-24 year-olds in Germany. Enrolment levels in short-cycle tertiary programmes reach at least 10% among 15-19 year-olds in Austria, Korea and the Russian Federation and among 20-24 year-olds in Chile, Korea, Turkey and the United States.
- The share of upper secondary students enrolled in vocational education and training (VET) averages 37% among 15-19 year-olds, across OECD countries, and increases to 62% of upper secondary students aged 20-24 and 61% among older upper secondary students.

Context

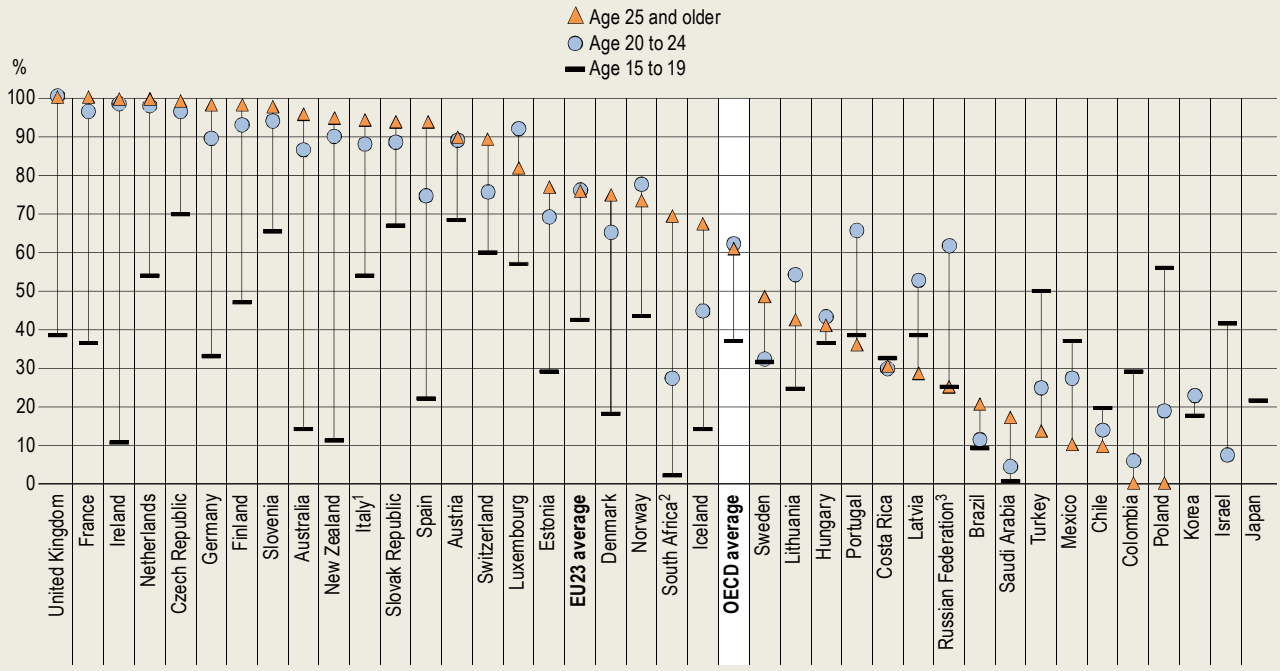
Pathways through education can be diverse, both across countries and for different individuals within the same country. Experiences in primary and secondary education are probably the most similar across countries. Compulsory education is usually relatively homogeneous as pupils progress through primary and lower secondary education, but as people have different abilities, needs and preferences, most education systems try to offer different types of education programmes and modes of participation, especially at the more advanced levels of education, including upper secondary and tertiary education.

Ensuring that people have suitable opportunities to attain adequate levels of education is a critical challenge and depends on their ability to progress through the different levels of an educational system. Developing and strengthening both general and vocational education at upper secondary level can make education more inclusive and appealing to individuals with different preferences and aptitudes. Vocational education and training (VET) programmes are an attractive option for youth who are more interested in practical occupations and for those who want to enter the labour market earlier (OECD, 2019[1]). In many education systems, VET enables some adults to reintegrate into a learning environment and develop skills that will increase their employability.

To some extent, the type of upper secondary programme students attended conditions their educational tracks. Successful completion of upper secondary programmes gives students access to post-secondary non-tertiary education programmes, where available, or to tertiary education. Upper secondary vocational education and post-secondary non-tertiary programmes, which are mostly vocational in nature, can allow students to enter the labour market earlier, but higher levels of education often lead to higher earnings and better employment opportunities (see Indicators A3 and A4). Tertiary education has become a key driver of today's economic and societal development. The deep changes that have occurred in the labour market over the past decades suggest that better-educated individuals have (and will continue to have) an advantage as the labour market becomes increasingly knowledge-based. As a result, ensuring that a large share of the population has access to a high-quality tertiary education capable of adapting to a fast-changing labour market are some of the main challenges tertiary educational institutions, and educational systems more generally, face today.

Figure B1.1. Share of upper secondary students enrolled in vocational education and training programmes, by age group (2018)

Full- and part-time students enrolled in public and private institutions



1. Includes post-secondary non-tertiary programmes.
2. Year of reference 2017.
3. Excludes part of upper secondary vocational programmes.

Countries and economies are ranked in descending order of the highest share of upper secondary enrolment in vocational education and training programmes among students aged 25 years and older.

Source: OECD (2020), Tables B1.2 and B1.3. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934163192

Other findings

- Enrolment rates of 15-19 year-olds in upper secondary general programmes range from 19% in Austria and Colombia to 50% or more in Canada, Chile, Iceland, Ireland, New Zealand, Saudi Arabia and the United States. In contrast, enrolment rates in upper secondary vocational education and training range from 5% or less in Australia, the United States and OECD partner countries like Argentina, Brazil, Saudi Arabia and South Africa (in Argentina and the United States VET programmes are not offered at upper secondary level), to over 50% in the Czech Republic and Slovenia.
- Enrolment in long-cycle tertiary programmes – bachelor's, master's and doctoral or equivalent– is most common in the 20-24 year-old age group. The OECD average enrolment rate at this level reaches 30% among 20-24 year-olds, compared to 9% among 15-19 year-olds and 2.3% among the older population.

Analysis

Compulsory education

In OECD countries, compulsory education typically begins with primary education, starting at the age of 6. However, in about one-third of OECD and partner countries, compulsory education begins earlier while in Estonia, Finland, Indonesia, Lithuania, the Russian Federation andSouth Africa compulsory education does not begin until the age of 7. Compulsory education ends with the completion or partial completion of upper secondary education at the age of 16 on average across OECD countries, ranging from 14 in Korea and Slovenia to 18 in Belgium, Germany and Portugal. In the Netherlands, there is partial compulsory education (i.e. students must attend some form of education for at least two days a week) from the age of 16 until they are 18 or they complete a diploma. However, high enrolment rates extend beyond the end of compulsory education in a number of countries. On average across OECD countries, full enrolment (the age range when at least 90% of the population are enrolled in education) lasts 14 years from the age of 4 to the age of 17. The period of full enrolment lasts for between 11 and 16 years in most countries and reaches 17 years in Norway. It is shorter in Colombia, Costa Rica, Mexico, the Slovak Republic and Turkey, and in partner countries such as Indonesia and Saudi Arabia (Table B1.1).

In almost all OECD countries, the enrolment rate among 4-5 year-olds in education exceeded 90% in 2018. Enrolment at an early age is relatively common in OECD countries, with about one-third achieving full enrolment for 3-year-olds. Iceland, Korea and Norway also have full enrolment for 2-year-olds (see Indicator B2). In other OECD countries, full enrolment is achieved for children at the age of 5, but this rises to the age of 6 in Finland and Turkey and 7 or later in Colombia, the Slovak Republic and, among partner countries, in Saudi Arabia and the Russian Federation (Box B1.1).

In all OECD countries, compulsory education comprises primary and lower secondary programmes. In most countries, compulsory education also covers, at least partially, upper secondary education, depending on the theoretical age range associated with the different levels of education in each country. There is nearly universal coverage of basic education, as enrolment rates among 6-14 year-olds attained or exceeded 95% in all OECD and partner countries except Colombia (88%), Indonesia (93%) and the Slovak Republic (95%) (Table B1.1).

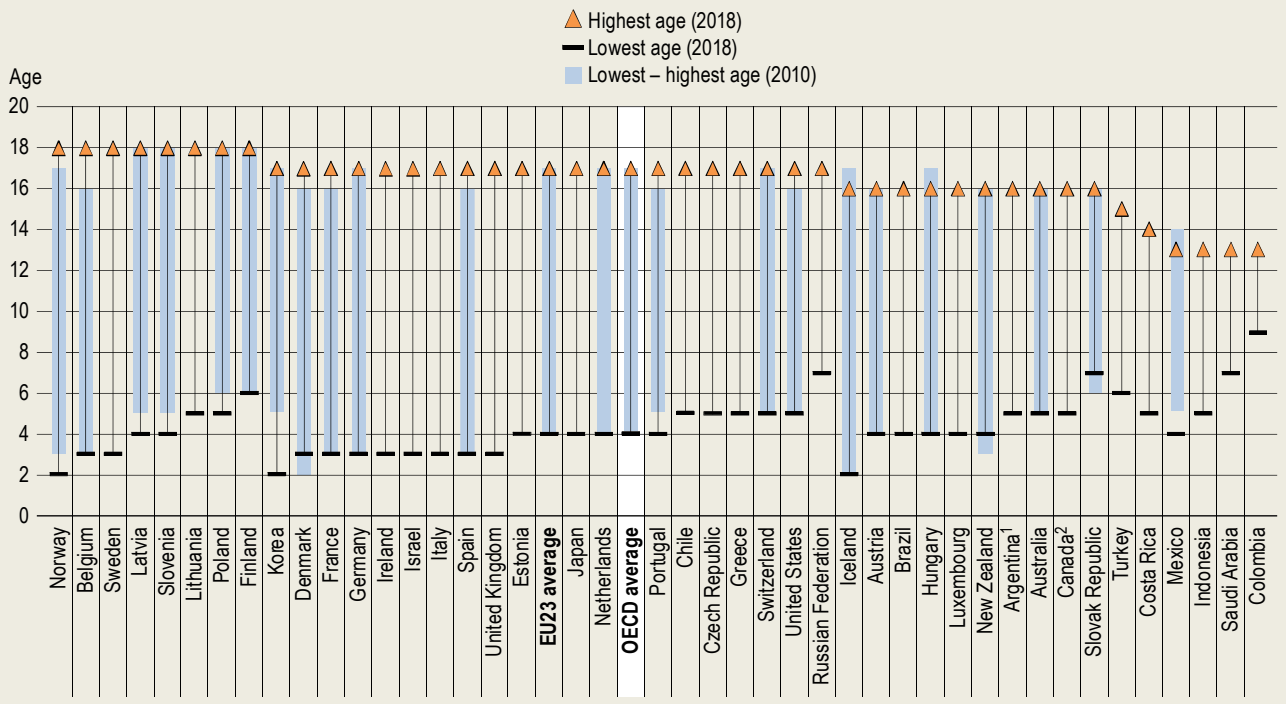
Box B1.1. Evolution of full enrolment between 2010 and 2018

Education systems in all OECD countries have provided universal access to basic education in past decades, and participation is now expanding to upper and lower levels of education. OECD countries have implemented reforms to support full enrolment and increase enrolment rates at all ages. As of 2018, full enrolment covers a 14-year-long period on average across OECD countries. In 10 out of the 23 OECD countries with data available, the age range for full enrolment was longer in 2018 than in 2010 (Figure B1.2), with Belgium, Korea, Norway and Portugal recording the largest increases. Access to upper secondary education is becoming universal in most countries, as is pre-primary education (Figure B1.2).

Countries have focused on expanding access to early childhood education and care by improving equity in the participation of very young children (OECD, 2017[2]); this lowers further the youngest age at which full enrolment begins. More and more, early childhood education and care policies aim to reach high enrolment rates at the age of 2 or 3 (see Indicator B2). Between 2010 and 2018, seven countries succeeded in adding at least one additional year of full enrolment for young children. The largest extension among young children was observed in Korea where the age at which full enrolment began changed from 5 years old to 2 over this period (Figure B1.2).

The expansion of upper secondary education is driven by increasing labour-market demand, more flexible curricula, the promotion and reshaping of vocational education and training programmes (see Indicator B7), and governments' efforts to expand access to education to the entire population. Making sure that young people stay in education, ensuring teenagers have access to and participate in education, and reducing the risk of dropping out were a priority in the last decade in the 7 countries (out of 23 with available data) where the upper age limit for full enrolment was higher in 2018 than in 2010 (Figure B1.2). Among these countries, the upper limit of full enrolment increased to 18 years old from 16 years in Belgium and from 17 years in Norway.

Figure B1.2. Age range in which at least 90% of the population are enrolled (2010 and 2018)



1. Year of reference 2017.
2. Excludes post-secondary non-tertiary education.

Countries and economies are ranked in descending order of the highest age at which at least 90% of the population are enrolled.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934163211

Participation of 15-19 year-olds in education

In recent years, countries have increased the diversity of their upper secondary programmes. This diversification is both a response to the growing demand for upper secondary education and a result of changes in curricula and labour-market needs. Curricula have gradually evolved from separating general and vocational programmes to offering more comprehensive programmes that include both types of learning, leading to more flexible pathways into further education or the labour market.

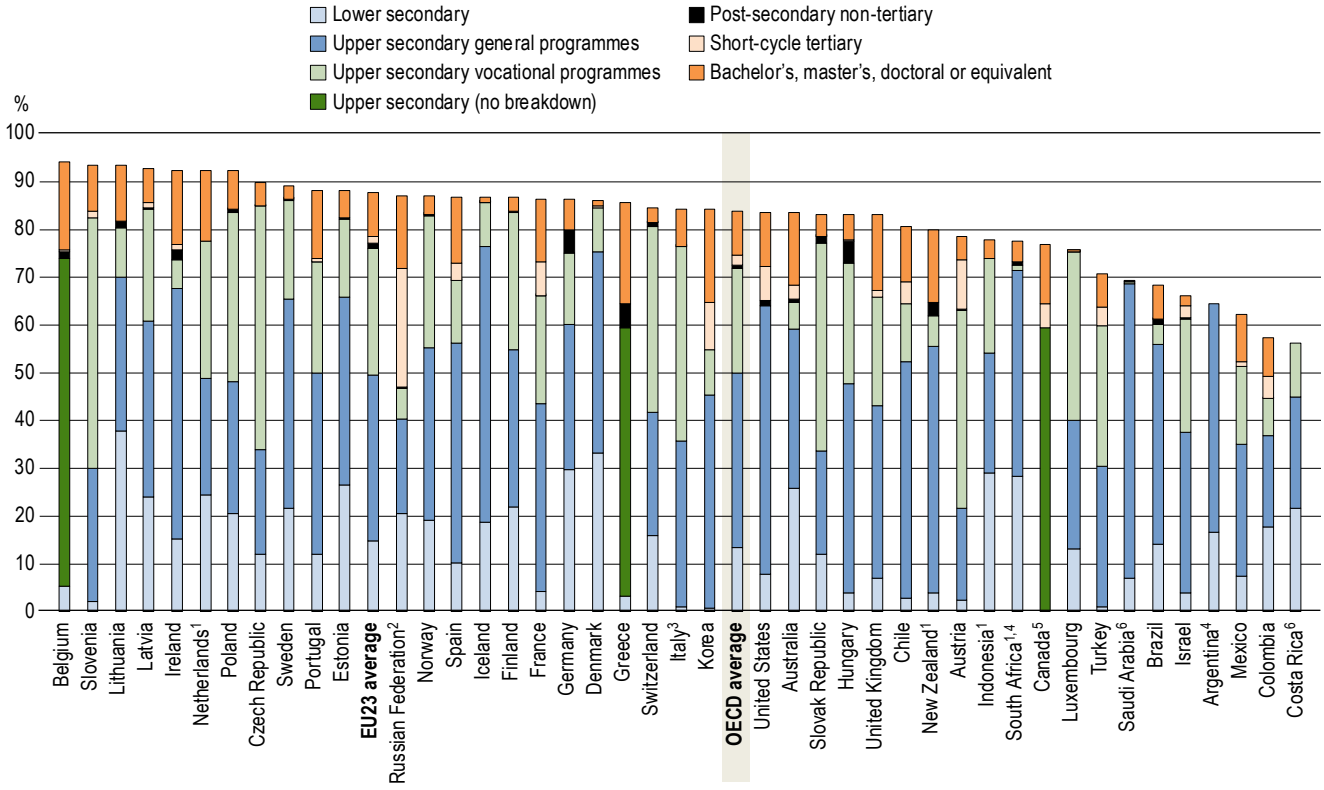
Overall, 84% of the population are enrolled in education between the age of 15 and 19 on average across OECD countries. The share is highest in Belgium, the Czech Republic, Ireland, Latvia, Lithuania, the Netherlands, Poland, Slovenia and Sweden, where the overall enrolment rate reaches at least 90%, and is between 80% and 90% in half of the countries with data available. Enrolment levels for 15-19 year-olds were 1 percentage point higher in 2018 than in 2010, with the largest increases observed in Chile, Mexico, Poland, Spain and the United Kingdom (5 percentage points or more). Enrolment levels did not improve in all OECD countries: for example, they fell by more than 3 percentage points among 15-19 year-olds in Estonia, Hungary and Lithuania (Table B1.1).

The share of students enrolled in each education level and at each age illustrates the different educational systems and pathways in countries. As they get older, students move on to higher educational levels or types of programmes, and the enrolment rate in upper secondary education (both general and vocational) decreases. The main component of enrolment among 15-19 year-olds is related to upper secondary education; none of the OECD and partner countries have greater enrolment in lower secondary education among this age group (OECD average: 14%) than in upper secondary programmes (OECD average: 58%). However, lower secondary education represents a significant share of enrolment for 15-19 year-olds in Denmark, Germany and Lithuania, where enrolment rates at this level reach at least 30% (Figure B1.3). At least 70% of all

15-19 year-olds in the Czech Republic, Italy and Slovenia are enrolled in upper secondary education while the share is as low as 35% in Costa Rica, 27% in Colombia and 26% in the Russian Federation, although this figure excludes some of the Russian students enrolled in upper secondary vocational education (Figure B1.3).

Figure B1.3. Enrolment rates of 15-19 year-olds, by level of education (2018)

Full- and part-time students enrolled in secondary and tertiary programmes in public and private institutions



1. Short-cycle tertiary programmes included with bachelor's, master's and doctoral programmes.
2. Post-secondary non-tertiary and short-cycle tertiary programmes include part of upper secondary vocational programmes.
3. Upper secondary vocational programmes include post-secondary non-tertiary education.
4. Year of reference 2017.
5. Excludes post-secondary non-tertiary education and short-cycle tertiary private institutions.
6. Excludes tertiary programmes.

Countries and economies are ranked in descending order of the enrolment rate of 15-19 year-olds in secondary to short-cycle tertiary programmes.

Source: OECD (2020), Table B1.2. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Depending on the structure of the educational system, students across OECD countries may enrol in general or vocational upper secondary programmes. General education programmes are designed to develop learners' general knowledge, skills and competencies, often to prepare them for other general or vocational education programmes at the same or a higher education level. General education does not prepare people for employment in a particular occupation, trade or class of occupations or trades, while vocational education and training (VET) programmes prepare participants for direct entry into specific occupations without further training (OECD, 2018[3]). On average across OECD countries, the enrolment rates among 15-19 year-olds in upper secondary general education reach 37%, while the rate for upper secondary vocational education and training is 22%. Nearly two-thirds of upper secondary students (63%) across OECD countries are enrolled in general programmes, while the remainder (37%) are enrolled in VET. There are only nine countries where the majority of 15-19 year-old upper secondary students are enrolled in vocational programmes. Among those, 7 out of 10 students are enrolled in VET programmes in the Czech Republic. In the remaining countries general programmes account for the most

significant portion of enrolment in upper secondary education, with 8 or more in every 10 students enrolled in general programmes in 11 of the OECD and partner countries with data available (Figure B1.1).

Enrolment rates in upper secondary general programmes for 15-19 year-olds range from 19% in Austria and Colombia to 50% or more in Canada, Chile, Iceland, Ireland, New Zealand, Saudi Arabia and the United States. This compares to enrolment rates in vocational upper secondary programmes that range from 5% or less in Australia, the United States and OECD partner countries like Argentina, Brazil, Saudi Arabia and South Africa (in Argentina and the United States VET programmes are not offered at upper secondary level) to over 50% in the Czech Republic and Slovenia (Table B1.2). Within the age group of 15-19 year-olds enrolment rates may be higher for some specific ages (or for narrower age groups), especially for countries where vocational programmes have a shorter duration.

Not all OECD and partner countries offer both post-secondary non-tertiary and short-cycle tertiary programmes, but all OECD countries offer programmes in at least one of these two educational levels. Post-secondary non-tertiary programmes provide learning experiences that build on secondary education and prepare for labour-market entry and/or tertiary education. The content is broader than secondary but not as complex as tertiary education. Short-cycle tertiary programmes refer to first tertiary programmes that are typically practically based, occupationally specific and prepare for labour-market entry. These programmes may also provide a pathway to other tertiary programmes (UNESCO-UIS, 2012[4]). Post-secondary non-tertiary and short-cycle tertiary programmes often, but not always, represent shorter vocational or technical alternatives to higher education. Post-secondary non-tertiary enrolment rates among 15-19 year-olds reach up to 5% in Germany, Greece and Hungary and short-cycle tertiary enrolment rates for this age group peak at 10% in Austria and Korea and 25% in the Russian Federation, although this latter figure includes a small share of upper secondary vocational students. However, the average enrolment rate of 15-19 year-olds in these two educational levels combined remains low, at 3% on average across OECD countries (Figure B1.3).

Enrolment in long-cycle tertiary education, which includes bachelor's, master's and doctoral or equivalent programmes, is limited among the 15-19 year-old population: only 9% of young people in this age group on average across OECD countries. However, enrolment rates do vary significantly at this level and range from 1% in Denmark, Iceland and Luxembourg to 16% in Ireland and the United Kingdom, 18% in Belgium, and 20% or more in Greece and Korea, where enrolment in tertiary programmes typically starts at an earlier age (see Indicator B4).

Participation of 20-24 year-olds in education

The transition from secondary to tertiary education is characterised by a drop in enrolment rates on average. The 20-24 year-old age group does not include any years of compulsory education (in contrast to ages 15 to 19) and is the one that most typically corresponds to the ages of enrolment in tertiary education in OECD countries. The average enrolment rate of 20-24 year-olds across OECD countries is about half that of 15-19 year-olds: only 41% of the population aged 20 to 24 are enrolled in education. Enrolment rates among 20-24 year-olds are highest in Greece and Slovenia, where 55% or more are in education. In contrast, the enrolment rate is as low as 21% in Israel (partly related to the compulsory nature of military service at the age of 18) and 20% in Luxembourg (where studying abroad in neighbouring countries is relatively common, see Indicator B6). Enrolment levels overall have not changed between 2010 and 2018 on average across the OECD (remaining at 41%), but enrolment levels have increased significantly in a number of countries, especially in Ireland and Spain, where the enrolment rate was at least 11 percentage points higher in 2018 than in 2010. At the other end of the spectrum, the largest drop in enrolment in the same period was observed in Iceland, Lithuania and New Zealand where rates fell by 8 percentage points or more (Table B1.1).

In general, across OECD countries 20-24 year-old students are most commonly enrolled in tertiary education, typically in long-cycle programmes, but not entirely. On average across OECD countries, 30% of the population in this age group are enrolled in long-cycle tertiary education and this share ranges from 7% in Luxembourg to 40% or more in Greece, Korea, Lithuania, the Netherlands and Poland. Enrolment levels in post-secondary non-tertiary and short-cycle tertiary programmes are generally lower and reach 5% of 20-24 year-olds on average across the OECD for these two levels combined. However, short-cycle tertiary enrolment rates reach 10% or more in Chile, Korea, Turkey and the United States. Enrolment rates in post-secondary non-tertiary programmes are below 10% in all OECD and partner countries and peak at 9% for Germany (Table B1.2).

Only 4% of 20-24 year-olds are enrolled in upper secondary vocational programmes on average across the OECD, compared to 22% of 15-19 year-olds. Enrolment rates of 20-24 year-olds for these programmes exceed 10% only in Denmark, Finland, the Netherlands and Slovenia. Upper secondary general programmes play a smaller role in the education of 20-24 year-olds:

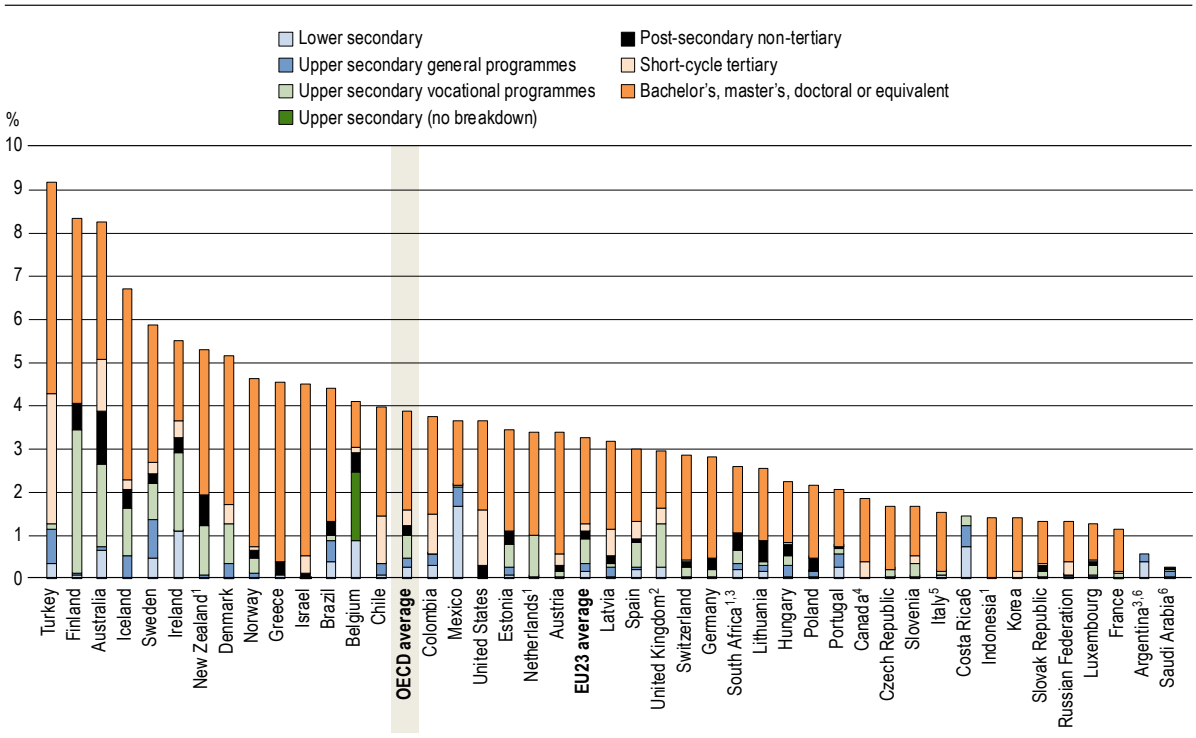
the OECD average enrolment rate reaches only 2% and the highest values are 8% in Iceland and Sweden and 11% in South Africa. Unlike among 15-19 year-olds, vocational programmes are strongly preferred by 20-24 year-old upper secondary students: on average across the OECD, 62%of students in this age group and at this level are enrolled in vocational programmes, compared to 37% among 15-19 year-old students (a 25 percentage-point increase). The largest jumps in the share of vocational upper secondary students between 15-19 year-olds and 20-24 year-olds are observed in Australia, France, Ireland, New Zealand and the United Kingdom; in these countries, VET programmes form an important part of adult education (Figure B1.1).

Participation of adults aged 25 and older in education

Enrolment in education is less common among the older population, as students graduate and transition to the labour market: the OECD average enrolment rates in all levels of education reach 16% among 25-29 year-olds, 6% among 30-39 year-olds and 2% among 40-64 year-olds. The highest enrolment rates among 25-29 year-olds are in Denmark, Finland, Sweden and Turkey, where more than 25% of the population in this age group are still in education. Enrolment levels are lower among 30-39 year-olds and reach at least 10% only in Australia, Finland, Greece, Iceland, Sweden and Turkey. The highest enrolment rate among 40-64 year-olds is 6% and is observed in Australia and Finland (Table B1.1).

Figure B1.4. Enrolment rates of the population aged 25 years or older, by level of education (2018)

Full- and part-time students enrolled in secondary and tertiary programmes in public and private institutions



1. Short-cycle tertiary programmes included with bachelor's, master's and doctoral programmes.
2. Short-cycle tertiary programmes include a small number of bachelor's professional programmes.
3. Year of reference 2017.
4. Excludes post-secondary non-tertiary education and short-cycle tertiary private institutions.
5. Upper secondary vocational programmes include post-secondary non-tertiary education.
6. Excludes tertiary programmes.

Countries and economies are ranked in descending order of the enrolment rate of students aged 25 years and older in secondary to tertiary education programmes.

Source: OECD (2020), Table B1.3. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934163249

Long-cycle tertiary education has the most significant enrolment rates among those aged over 24, even though enrolment levels are much lower compared to younger age groups. On average across OECD countries, 0.5% of the population aged over 24 are enrolled in upper secondary vocational education, 0.2% in post-secondary non-tertiary education, 0.4% in short-cycle tertiary programmes and 2.3% in bachelor's, master's and doctoral or equivalent programmes (Figure B1.4). Enrolment rates in long-cycle tertiary education range from 1% or less in France, Luxembourg, the Slovak Republic and the Russian Federation to 4.5% in Iceland and 4.9% in Turkey. Enrolment of adults aged 25 and older in short-cycle tertiary programmes reaches up to 1.2% in Australia, 1.3% in the United States and 3% in Turkey. Some older students also enrol in post-secondary non-tertiary education, with the highest enrolment rate observed in Australia (1.3%).

The highest upper secondary vocational enrolment rates found among those aged over 24 are 1.9% in Australia and 3.3% in Finland. On average across OECD countries, VET programmes represent the great majority of enrolment among older adults at upper secondary level and accounts for 61% of all upper secondary students over 24 enrolled in general and vocational programmes combined. This share reaches or exceeds 90% in 14 countries and is higher than among 20-24 year-olds in the majority of countries. In Iceland, South Africa and Spain, the share of upper secondary students enrolled in VET programmes is at least 19 percentage points higher among those aged 25 and over than among 20-24 year-olds (Figure B1.1).

Definitions

The data in this indicator cover formal education programmes that represent at least the equivalent of one semester (or half of a school/academic year) of full-time study and take place entirely in educational institutions or are delivered as combined school- and work-based programmes.

Full enrolment, for the purposes of this indicator, is defined as enrolment rates exceeding 90%.

General education programmes are designed to develop learners' general knowledge, skills and competencies, often to prepare them for other general or vocational education programmes at the same or a higher education level. General education does not prepare people for employment in a particular occupation, trade or class of occupations or trades.

Vocational education and training (VET) programmes prepare participants for direct entry into specific occupations without further training. Successful completion of such programmes leads to a vocational or technical qualification that is relevant to the labour market.

Private institutions are those controlled and managed by a non-governmental organisation (e.g. a church, a trade union or a business enterprise, foreign or international agency), or their governing board consists mostly of members not selected by a public agency. Private institutions are considered **government-dependent** if they receive more than 50% of their core funding from government agencies or if their teaching personnel are paid by a government agency. **Independent private** institutions receive less than 50% of their core funding from government agencies and their teaching personnel are not paid by a government agency.

A **full-time student** is someone who is enrolled in an education programme whose intended study load amounts to at least 75% of the normal full-time annual study load. A **part-time student** is one who is enrolled in an education programme whose intended study load is less than 75% of the normal full-time annual study load.

Methodology

Except where otherwise noted, figures are based on head counts, because of the difficulty for some countries to quantify part-time study. Net enrolment rates are calculated by dividing the number of students of a particular age group enrolled in all levels of education by the size of the population of that age group. While enrolment and population figures refer to the same period in most cases, mismatches may occur due to data availability in some countries resulting in enrolment rates exceeding 100%.

For more information, please see the *OECD Handbook for Internationally Comparative Education Statistics 2018: Concepts, Standards, Definitions and Classifications* (OECD, 2018[3]) and Annex 3 for country-specific notes ((https://doi.org/10.1787/69096873-en).

Source

Data refer to the academic year 2016/17 and are based on the UNESCO-UIS/OECD/EUROSTAT data collection on education statistics administered by the OECD in 2018 (for details, see Annex 3 at (https://doi.org/10.1787/69096873-en). Data from Argentina, the People's Republic of China, India, Indonesia, Saudi Arabia and South Africa are from the UNESCO Institute of Statistics (UIS).

Data on subnational regions for selected indicators are available in the OECD Regional database (OECD, 2020[5]).

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Indicator B1 Tables

Table B1.1	Enrolment rates by age group (2005, 2010 and 2018)
Table B1.2	Enrolment rates of 15-19 and 20-24 year-olds in secondary and tertiary education, by level of education (2018)
Table B1.3	Enrolment rates of students aged 25 and older in secondary and tertiary education, by level of education (2018))

Cut-off date for the data: 19 July 2020. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en. More breakdowns can also be found at http://stats.oecd.org/, Education at a Glance Database.

StatLink: https://doi.org/10.1787/888934163116

Table B1.1. Enrolment rates by age group (2005, 2010 and 2018)

Students in full-time and part-time programmes in both public and private institutions

		Number of years for which at least 90% of the population of school age are enrolled	Age range at which at least 90% of the population of school age are enrolled	Students as a percentage of the population of a specific age group											
				6 to 14	15 to 19	20 to 24	25 to 29	30 to 39	40 to 64	15 to 19	20 to 24	25 to 29	15 to 19	20 to 24	25 to 29
		2018								2010			2005		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
OECD	Countries														
	Australia	12	5-16	100	84	50	24	14	6	83	45	19	82	44	21
	Austria	13	4-16	99	79	35	18	6	1	78	33	15	m	m	m
	Belgium	16	3-18	99	94	49	14	7	3	92	52	17	94	42	15
	Canada[1]	12	5-16	100	77	33	10	4	1	76	36	m	m	m	m
	Chile	13	5-17	98	82	44	15	6	1	76	37	13	m	m	m
	Colombia	5	9-13	88	58	25	11	6	2	m	m	m	m	m	m
	Costa Rica	10	5-14	95	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	13	5-17	98	90	41	10	3	1	91	39	m	91	34	m
	Denmark	15	3-17	100	86	53	29	9	2	85	49	27	84	48	27
	Estonia	14	4-17	97	88	38	14	7	2	91	44	12	91	40	12
	Finland	13	6-18	98	87	50	31	17	6	87	53	31	87	55	30
	France	15	3-17	100	87	38	8	2	0	84	34	6	84	32	7
	Germany	15	3-17	99	86	49	21	5	0	89	45	17	88	41	18
	Greece	13	5-17	97	86	55	22	10	3	m	m	m	m	m	m
	Hungary	13	4-16	95	83	35	10	4	1	92	41	11	87	38	13
	Iceland	15	2-16	99	87	43	23	10	4	88	51	26	85	49	25
	Ireland	15	3-17	100	93	45	13	7	5	91	32	9	89	32	10
	Israel	15	3-17	97	66	21	19	6	2	65	24	21	m	m	m
	Italy	15	3-17	98	85	37	13	3	1	85	35	m	82	33	m
	Japan[2]	14	4-17	100	m	m	m	m	m	m	m	m	m	m	m
	Korea	15	2-17	99	84	49	8	2	1	85	54	10	87	46	9
	Latvia	15	4-18	99	93	46	16	6	1	94	44	11	m	m	m
	Lithuania	14	5-18	100	94	46	13	6	1	98	56	16	98	49	17
	Luxembourg	13	4-16	97	76	20	7	2	0	m	m	m	m	m	m
	Mexico	10	4-13	100	62	26	11	4	2	51	19	5	48	17	5
	Netherlands	14	4-17	100	92	53	17	5	2	90	47	12	m	m	m
	New Zealand	13	4-16	99	80	34	13	9	4	80	42	19	74	41	20
	Norway	17	2-18	99	87	46	19	8	3	87	48	19	89	46	19
	Poland	14	5-18	96	93	50	11	3	1	84	m	m	84	m	m
	Portugal	14	4-17	99	89	37	10	4	2	85	37	14	74	35	12
	Slovak Republic	10	7-16	94	84	32	6	2	1	m	m	m	m	m	m
	Slovenia	15	4-18	99	94	58	12	2	1	94	54	16	93	50	17
	Spain	15	3-17	97	87	48	16	6	2	82	37	12	78	34	11
	Sweden	16	3-18	99	90	45	27	16	5	86	44	28	m	m	m
	Switzerland	13	5-17	100	85	40	17	5	1	85	34	14	83	31	13
	Turkey[3]	10	6-15	100	71	52	32	14	3	m	m	m	m	m	m
	United Kingdom	15	3-17	98	83	32	10	6	2	76	27	m	m	m	m
	United States	13	5-17	100	84	36	13	7	2	80	38	15	77	32	13
	OECD average	14	4-17	98	84	41	16	6	2	84	41	16	84	m	m
	Average for countries with available data for all reference years				87	43	16			86	43	16	84	m	m
	EU23 average	14	4-17	98	88	43	15	6	2	88	42	m	m	m	m
Partners	Argentina[4]	12	5-16	100	75	38	20	m	m	m	m	m	m	m	m
	Brazil	13	4-16	99	69	29	15	8	3	m	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	9	5-13	93	78	26	5	2	1	m	m	m	m	m	m
	Russian Federation	11	7-17	98	87	37	6	2	0	m	m	m	82	34	13
	Saudi Arabia	7	7-13	95	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m

1. Excludes post-secondary non-tertiary education.
2. Breakdown by age not available after 15 years old.
3. The 6 to 14 age group includes a number of students aged over 14 who are enrolled in primary education.
4. Year of reference 2017.

Source: OECD/UIS/Eurostat (2020). See Source section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table B1.2. Enrolment rates of 15-19 and 20-24 year-olds in secondary and tertiary education, by level of education (2018)

Students enrolled in full-time and part-time programmes in both public and private institutions

		Enrolment rate														Share of upper secondary students enrolled in vocational programmes	
		Age 15 to 19							Age 20 to 24								
		Lower secondary	Upper secondary			Post-secondary non-tertiary	Short-cycle tertiary	Bachelor's, master's and doctoral or equivalent	Lower secondary	Upper secondary			Post-secondary non-tertiary	Short-cycle tertiary	Bachelor's, master's and doctoral or equivalent	Age 15 to 19	Age 20 to 24
			All programmes	General programmes	Vocational programmes					All programmes	General programmes	Vocational programmes					
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
OECD	**Countries**																
	Australia	26	39	33	5	1	3	15	2	8	1	7	2	4	34	14	86
	Austria	2	61	19	42	1	10	5	0	4	0	4	1	2	27	68	89
	Belgium	5	69	31	m	1	0	18	2	5	2	m	3	1	38	m	m
	Canada[1]	0	59	58	m	m	5	13	0	2	1	m	m	6	24	m	m
	Chile	3	62	50	12	a	5	12	0	2	2	0	a	10	31	20	13
	Colombia	18	27	19	8	0	5	8	1	2	1	0	0	5	17	29	6
	Costa Rica	22	35	23	11	a	m	m	4	6	4	2	a	m	m	32	30
	Czech Republic	12	73	22	51	m	0	5	0	5	0	5	m	0	36	70	96
	Denmark	33	52	42	9	a	0	1	0	15	5	10	a	4	33	18	65
	Estonia	26	56	40	16	0	a	5	0	7	2	4	2	a	30	29	69
	Finland	22	62	33	29	0	a	3	0	14	1	13	0	a	35	47	93
	France	4	62	39	23	0	7	13	0	3	0	3	0	5	30	36	96
	Germany	30	46	30	15	5	0	6	1	9	1	8	9	0	30	33	89
	Greece	3	57	45	m	5	a	21	1	2	0	m	6	a	46	m	m
	Hungary	4	69	44	25	5	0	5	0	4	2	2	6	1	25	36	43
	Iceland	19	67	58	9	0	0	1	0	15	8	7	1	0	26	14	45
	Ireland	15	59	52	6	2	1	16	1	5	0	5	3	1	35	11	98
	Israel	4	57	34	24	0	3	2	0	0	0	0	1	3	16	41	7
	Italy[2]	1	75 [d]	35	41 [d]	x(2, 4)	0	8	0	2 [d]	0	2 [d]	x(9, 11)	0	34	54 [d]	88 [d]
	Japan	0	58	45	13	0	m	m	m	m	m	m	m	m	m	22	m
	Korea	1	54	45	10	a	10	20	0	0	0	0	a	10	40	18	22
	Latvia	24	60	37	23	1	1	7	0	5	2	2	2	5	34	39	53
	Lithuania	38	43	32	10	2	a	12	1	2	1	1	4	a	40	24	54
	Luxembourg	13	62	27	35	0	0	1	1	10	1	9	1	2	7	57	92
	Mexico	7	44	28	16	a	1	10	3	2	1	1	a	1	21	37	27
	Netherlands	24	53	25	29	a	x(7)	15	0	13	0	13	a	x(14)	40 [d]	54	97
	New Zealand	4	58	52	7	3	x(7)	15	0	3	0	3	3	x(14)	28 [d]	11	90
	Norway	19	64	36	28	0	0	4	0	9	2	7	0	1	36	43	77
	Poland	21	63	28	35	1	0	8	0	4	3	1	6	0	40	56	19
	Portugal	12	61	38	23	0	1	14	0	5	2	3	0	1	30	38	65
	Slovak Republic	12	65	22	44	1	0	5	0	2	0	2	1	1	28	67	88
	Slovenia	2	80	28	53	a	1	10	0	13	1	12	a	6	39	65	94
	Spain	10	59	46	13	0	4	14	1	7	2	5	0	8	32	22	74
	Sweden	21	65	44	20	0	0	3	1	12	8	4	1	1	26	32	32
	Switzerland	16	65	26	39	0	0	3	0	11	3	8	1	0	28	60	75
	Turkey	1	59	30	29	a	4	7	0	6	4	1	a	16	30	50	24
	United Kingdom[3]	7	59	36	23	a	1 [d]	16	1	6	0	6	a	2 [d]	23	39	100
	United States	8	56	56	a	1	7	11	0	0	0	a	2	11	23	a	a
	OECD average	14	58	37	22	1	2	9	1	6	2	4	2	3	30	37	62
	EU23 average	15	61	35	27	1	1	9	1	7	2	5	2	2	32	43	76
Partners	Argentina[4]	17	48	48	a	a	m	m	3	3	3	a	a	m	m	a	a
	Brazil	14	46	42	4	1	0	7	2	5	5	1	2	0	21	9	11
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	a	m	m	m	m	m	m	a	m	m	m
	Indonesia	29	45	25	20	a	x(7)	4 [d]	0	3	2	1	a	x(14)	22 [d]	44	37
	Russian Federation[5]	20	26	20	7	0 [d]	25 [d]	15	0	1	0	1	0 [d]	5 [d]	31	25	61
	Saudi Arabia	7	62	62	1	0	m	m	2	4	4	0	0	m	m	1	4
	South Africa[4]	28	44	43	1	1	x(7)	4 [d]	1	15	11	4	5	x(14)	9 [d]	2	27
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

1. Excludes private institutions at short-cycle tertiary level.
2. Upper secondary vocational programmes include post-secondary non-tertiary programmes.
3. Short-cycle tertiary programmes include a small number of bachelor's professional programmes; upper secondary figures are split into general and vocational based on institution type.
4. Year of reference 2017.
5. Post-secondary non-tertiary and short-cycle tertiary programmes include part of upper secondary vocational programmes.

Source: OECD/UIS/Eurostat (2020). See Source section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table B1.3. Enrolment rates of students aged 25 and older in secondary and tertiary education, by level of education (2018)

Students enrolled in full-time and part-time programmes in both public and private institutions

		Enrolment rate							Share of upper secondary students enrolled in vocational programmes
			Upper secondary						
		Lower secondary	All programmes	General programmes	Vocational programmes	Post-secondary non-tertiary	Short-cycle tertiary	Bachelor's, master's and doctoral or equivalent	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OECD	Countries								
	Australia	0.6	2.0	0.1	1.9	1.3	1.2	3.2	96
	Austria	0.0	0.2	0.0	0.2	0.1	0.2	2.8	90
	Belgium	0.8	1.6	0.7	m	0.4	0.1	1.1	m
	Canada[1]	0.0	0.2	0.1	m	m	0.4	1.5	m
	Chile	0.1	0.3	0.3	0.0	a	1.1	2.5	9
	Colombia	0.3	0.2	0.2	0.0	0.0	0.9	2.2	0
	Costa Rica	0.7	0.7	0.5	0.2	a	m	m	30
	Czech Republic	0.0	0.2	0.0	0.2	m	0.0	1.4	99
	Denmark	0.0	1.3	0.3	0.9	a	0.5	3.4	75
	Estonia	0.1	0.7	0.2	0.5	0.3	a	2.3	77
	Finland	0.1	3.4	0.1	3.3	0.6	a	4.3	98
	France	0.0	0.1	0.0	0.1	0.0	0.1	1.0	100
	Germany	0.0	0.2	0.0	0.2	0.2	0.0	2.4	98
	Greece	0.1	0.0	0.0	m	0.3	a	4.2	m
	Hungary	0.0	0.5	0.3	0.2	0.3	0.0	1.4	41
	Iceland	0.0	1.6	0.5	1.1	0.5	0.2	4.5	67
	Ireland	1.1	1.8	0.0	1.8	0.3	0.4	1.9	100
	Israel	0.0	0.0	0.0	0.0	0.1	0.4	4.0	a
	Italy[2]	0.1	0.1 [d]	0.0	0.1 [d]	x(2, 4)	0.0	1.4	94 [d]
	Japan	m	m	m	m	m	m	m	m
	Korea	0.0	0.0	0.0	0.0	a	0.2	1.2	a
	Latvia	0.0	0.3	0.2	0.1	0.1	0.6	2.0	28
	Lithuania	0.2	0.2	0.1	0.1	0.5	a	1.7	42
	Luxembourg	0.0	0.3	0.0	0.2	0.1	0.0	0.8	82
	Mexico	1.6	0.5	0.4	0.1	a	0.0	1.5	10
	Netherlands	0.0	1.0	0.0	1.0	a	x(7)	2.4 [d]	99
	New Zealand	0.0	1.2	0.1	1.2	0.7	x(7)	3.4 [d]	94
	Norway	0.0	0.5	0.1	0.3	0.2	0.1	3.9	73
	Poland	0.0	0.1	0.1	0.0	0.3	0.0	1.7	0
	Portugal	0.2	0.5	0.3	0.2	0.0	0.0	1.3	36
	Slovak Republic	0.0	0.1	0.0	0.1	0.2	0.0	1.0	94
	Slovenia	0.0	0.3	0.0	0.3	a	0.2	1.1	98
	Spain	0.2	0.6	0.0	0.6	0.1	0.4	1.7	94
	Sweden	0.5	1.7	0.9	0.8	0.2	0.3	3.2	49
	Switzerland	0.0	0.3	0.0	0.2	0.1	0.0	2.4	89
	Turkey	0.3	1.0	0.8	0.1	a	3.0	4.9	14
	United Kingdom[3]	0.2	1.0	0.0	1.0	a	0.4 [d]	1.3	100
	United States	0.0	0.0	0.0	a	0.3	1.3	2.1	a
	OECD average	0.2	0.7	0.2	0.5	0.2	0.4	2.3	61
	EU23 average	0.2	0.7	0.2	0.6	0.2	0.1	2.0	76
Partners	Argentina[4]	0.4	0.2	0.2	a	a	m	m	a
	Brazil	0.4	0.6	0.5	0.1	0.3	0.0	3.1	21
	China	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	a	m	m
	Indonesia	0.0	0.0	0.0	0.0	a	x(7)	1.4 [d]	a
	Russian Federation[5]	0.0	0.0	0.0	0.0	0.0 [d]	0.3 [d]	1.0	25
	Saudi Arabia	0.0	0.2	0.1	0.0	0.0	m	m	17
	South Africa[4]	0.2	0.5	0.1	0.3	0.4	x(7)	1.5 [d]	69
	G20 average	m	m	m	m	m	m	m	m

1. Excludes private institutions at short-cycle tertiary level.
2. Upper secondary vocational programmes include post-secondary non-tertiary programmes.
3. Short-cycle tertiary programmes include a small number of bachelor's professional programmes; upper secondary figures are split into general and vocational based on institution type.
4. Year of reference 2017.
5. Post-secondary non-tertiary and short-cycle tertiary programmes include part of upper secondary vocational programmes.

Source: OECD/UIS/Eurostat (2020). See Source section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Indicator B2. How do early childhood education systems differ around the world?

Highlights

- Early childhood education and care (ECEC) has experienced a surge of policy attention in OECD countries in recent decades, with a focus on children under the age of 3. On average across OECD countries in 2018, 26% of children under 3 were enrolled in early childhood education (ISCED 0).
- Universal or near-universal participation in at least one year of ECEC is now the norm in OECD countries, which is significant progress towards one of the education targets of the United Nations' Sustainable Development Goals (SDG 4.2.2). Enrolment rates for 5-year-olds in pre-primary or primary education was at or above 90% in all countries with available data in 2018 except Colombia, Finland, the Russian Federation, Saudi Arabia, the Slovak Republic and Turkey.
- The ECEC workforce is at the heart of high-quality education. On average across OECD countries, there are 7 children for every teacher working in early childhood educational development services (ISCED 01) and 14 in pre-primary education (ISCED 02).

Context

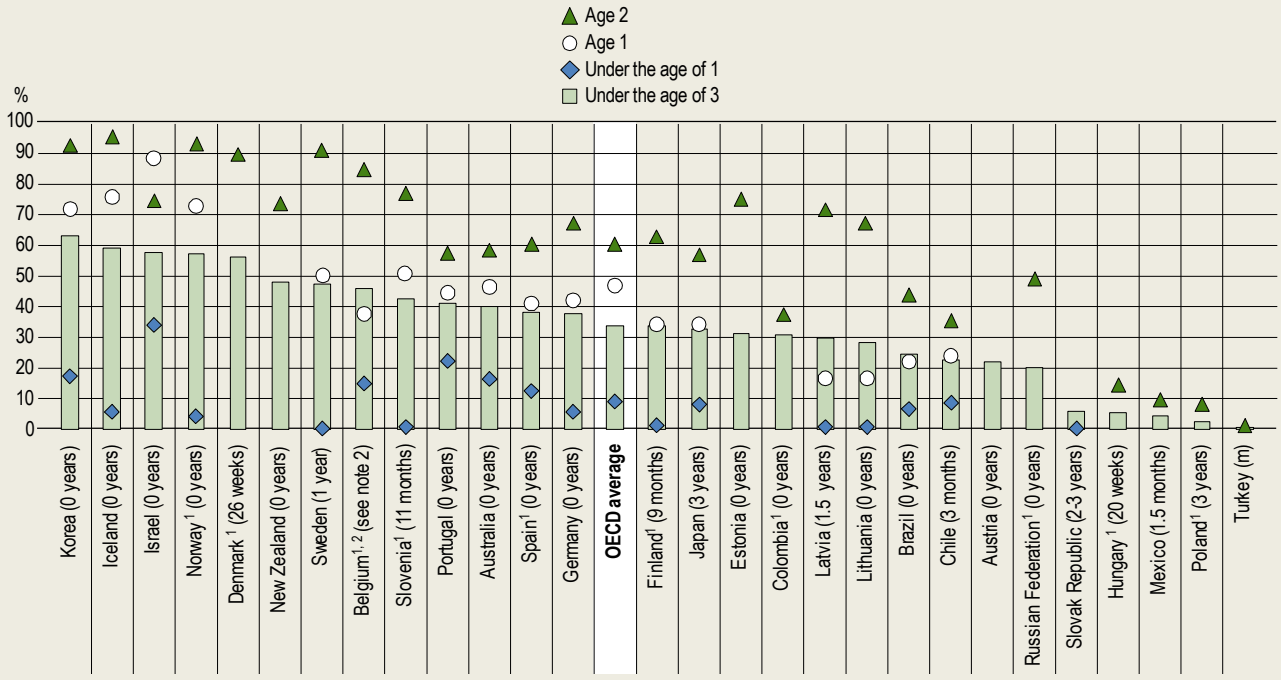
The benefits of ECEC services are not limited to better labour-market outcomes and higher fertility rates. There is an increasing awareness of the key role that ECEC plays in children's development, learning and well-being. Children who start strong will be more likely to have better outcomes when they grow older. This is particularly true for children from disadvantaged socio-economic backgrounds, because they often have fewer opportunities to develop these abilities in their home-learning environments (OECD, 2017[1]).

Economic prosperity also depends on maintaining a large share of the population in employment, and the increasing number of women entering the labour market has contributed to greater government interest in expanding ECEC services. High-quality ECEC services and other provision aiming to improve people's work-life balance give parents greater opportunities to enter employment and make it possible for individuals to combine work and family responsibilities (OECD, 2018[2]; OECD, 2011[3]; OECD, 2016[4]).

Such evidence has prompted policy makers to design early interventions, to take initiatives that aim to enhance the quality of ECEC services and improve the equity of access to ECEC settings, lower the starting age of compulsory education, and to rethink their education spending patterns to gain "value for money" (Duncan and Magnuson, 2013[5]). Despite these general trends, there are significant differences across OECD countries in the quality of ECEC services provided to young children, the types of ECEC services available and the usual number of hours per week each child attends.

Figure B2.1. Enrolment rates of children under the age of 3 in early childhood education and care, by age (2018)

All ECEC services (Early childhood education [ISCED 0] and other registered ECEC services outside the scope of ISCED 0)



Note: Figures in parentheses refer to the age when ECEC systems start offering intentional education objectives.

1. Excludes other registered ECEC services.

2. Age at which ECEC services start offering intentional education objectives: 3-6 months for the Flemish Community and 2 years for the French Community. ISCED 0 enrolment rates are underestimated since only the Flemish Community of Belgium has reported data on ISCED 01.

Countries are ranked in descending order of the enrolment rates in ISCED 0 of children under the age of 3.

Source: OECD (2020), Table B2.1. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Other findings

- On average, 34% of 1-year-olds and 46% of 2-year-olds were already enrolled in ISCED 0 programmes in 2018. In Japan, 33% of 1-year-olds and 50% of 2-year-olds are enrolled in ECEC services outside ISCED 0.
- A bachelor's degree or equivalent (ISCED 6) is the most prevalent qualification for teachers in ECEC (ISCED 0) in around three-quarters of OECD countries with available data.
- The estimated expenditure on all children aged 3 to 5 enrolled in ECEC and primary education amounts to an average of 0.6% of gross domestic product (GDP). Only in Iceland and Norway does it equal or exceed 1.0%.

Analysis

Types of early childhood education and care services

There is a growing consensus among OECD countries about the importance of high-quality early childhood education and care (ECEC). However, the type of ECEC services available to children and parents in OECD countries differ greatly. There are variations in the targeted age groups, governance of centres, funding of services, type of delivery (full-day versus part-day attendance) and the location of provision, whether in centres or schools, or at home (OECD, 2017[1]).

The organisation of national ECEC systems is diverse across countries, primarily regarding the highest administrative authorities in charge and whether the system is split or integrated at the national level. More than 70% of the OECD countries with available data have integrated early childhood education and care services, where one or more authorities are responsible for administering the whole ECEC system and setting adequate intentional education for children from the ages of 0 or 1 until they start primary education (see Box B2.1 in (OECD, 2019[6])).

Generally, formal ECEC services can be further classified into two categories:

The ECEC services reported in the ISCED 2011 classification (OECD/Eurostat/UNESCO Institute for Statistics, 2015[7]). To be classified as ISCED level 0, ECEC services should:

- have adequate intentional educational properties
- be institutionalised (usually school-based or otherwise institutionalised for a group of children)
- have an intensity of at least 2 hours per day of educational activities and a duration of at least 100 days a year
- have a regulatory framework recognised by the relevant national authorities (e.g. a curriculum)
- have trained or accredited staff (e.g. educators are required to have pedagogical qualifications).

The other registered ECEC services that are considered an integral part of countries' ECEC provision but do not comply with all the ISCED 0 criteria to be considered an educational programme (e.g. *crèches* in France or *amas* in Portugal). Many countries do have such programmes but not all are able to report the number of children enrolled in them. For this reason, the data are explicitly presented separately in Tables B2.1 and B2.2. This distinction is also made in the analysis below where averages can only be presented for ECEC services reported in the ISCED 2011 classification.

Informal care services (generally unregulated care arranged by the child's parent either in the child's home or elsewhere, provided by relatives, friends, neighbours, babysitters or nannies) are not covered by this indicator (see the *Definitions* section for more details).

Enrolment in early childhood education and care

Enrolment of children under the age of 3

Participation in high-quality ECEC in the first years of children lives can have a positive effect on their well-being, learning and development in the short and the long terms (OECD, 2018[8]) (OECD, 2018[2]). The length of parental leave and the age when ECEC services start becoming available influence the age at which children start these services. For instance, only 7 of the 22 countries with available data have enrolment rates of over 10% for children below the age of 1, namely Australia, Belgium, Ireland, Israel, Korea, Portugal and Spain. In contrast, once children reach the age of 1, 34% will be enrolled in ECEC (ISCED 0) on average, with enrolment rates of at least 50% at this age in Israel, Korea, Norway and Slovenia. Iceland also belongs to this group of countries (where enrolment rates exceed 50%) when the number of children in ECEC services outside ISCED 0 are taken into account. In Japan, one-third of 1-year-olds are enrolled in ECEC services outside the scope of ISCED 0. By the age of 2, enrolment in ECEC services has become the norm in many OECD countries. On average across OECD countries in 2018, 46% of 2-year-olds were enrolled in ECEC (ISCED 0). This proportion is 80% or more in Belgium, Denmark, Iceland, Korea, Norway and Sweden but less than 10% in Costa Rica, Japan, Luxembourg, Mexico, the Netherlands, Poland, Switzerland and Turkey. This latter group of countries do have children in ECEC services outside ISCED 0: in particular, in Japan half of children are enrolled in ECEC services outside ISCED 0 (Figure B2.1).

Despite significant differences across countries, a common pattern is emerging. The share of children under the age of 3 enrolled in ECEC is rising in most countries with available data for the years 2005 and 2018. The rise has been particularly marked in many European countries (i.e. by 15 percentage points or more in Germany, Lithuania, Norway, Portugal, Slovenia

and Spain), as a result of further stimulus from the objectives set by the European Union (EU) at its Barcelona 2002 meeting, to supply subsidised full-day places for one-third of children under the age of 3 by 2010 (OECD, 2017[1]). Globally, the rise in ECEC provision over recent decades is strongly correlated to the increase in women's participation in the labour force, particularly for mothers with children under 3. Countries with higher enrolment rates of children under 3 in 2018 tend to be those in which the employment rates of mothers are highest (see Table B2.1 in (OECD, 2018[2])).

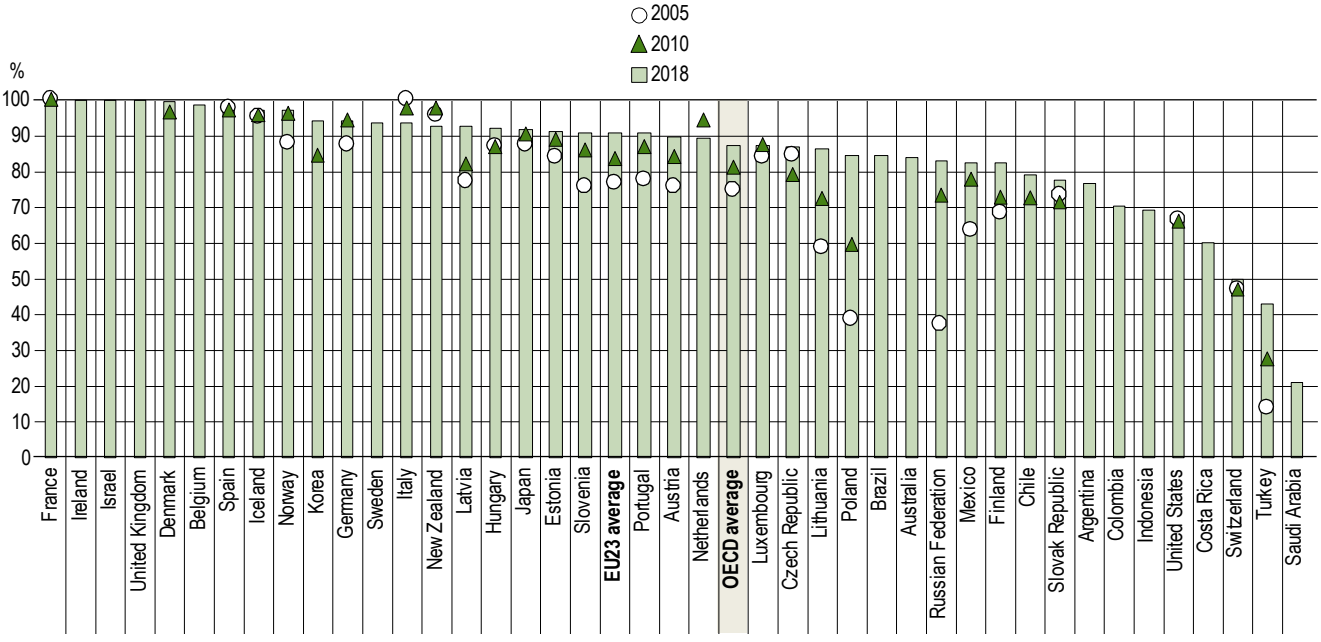
Enrolment of children from age 3 until entry to primary education

In many OECD countries, ECEC begins for most children long before they turn 5 years old and there are universal legal entitlements to a place in ECEC services for at least one or two years before the start of compulsory schooling (Box B2.1). On average, 88% of 3-5 year-olds are enrolled in ECEC (ISCED 0) and primary education – usually in pre-primary education (ISCED 02) at that age. In about half of the 41 countries with available data, the enrolment of children between the ages of 3 and 5 is near universal, i.e. at least 90% (Table B2.2).

The highest enrolment rates of 3-year-olds in ECEC (ISCED 0) are found in Belgium, Denmark, France, Iceland, Ireland, Israel, Norway, Spain and the United Kingdom, where they exceed 95%. Almost nine out of ten 4-year-olds (88%) are enrolled in pre-primary and primary education across OECD countries. In the EU23 countries (countries that are members of both the EU and the OECD), 91% of 4-year-olds are enrolled. OECD enrolment rates at this age vary from 98% or more in Belgium, Denmark, France, Ireland, Israel, Spain and the United Kingdom, to less than 50% in Saudi Arabia, Switzerland and Turkey (Table B2.2).

Figure B2.2. Change in enrolment rates of children aged 3 to 5 years (2005, 2010 and 2018)

Early childhood education (ISCED 0) and primary education



Countries are ranked in descending order of the enrolment rates of 3-5 year-olds in 2018.
Source: OECD (2020), Table B2.2. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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This situation is the result of the expansion of ECEC services over recent years in many countries. Between 2005 and 2018, the average enrolment of 3-5 year-olds in pre-primary or primary education in OECD countries rose by more than 10 percentage points. A few countries have seen spectacular increases in ECEC over this period, for example Lithuania, Poland, the Russian Federation and Turkey. In contrast, other countries have not shown much change. For instance, Switzerland reported one of the lowest enrolment rates in 2005 and this is still the case in 2018 (Figure B2.2). This is due to

the fact that there are almost no compulsory education programmes for 3-year-olds in Switzerland and the offer corresponding to ISCED level 02 is intended for children aged 4 and over.

Over this period, the increased focus on ECEC policy has resulted in the extension of compulsory education to younger children, increased provision of free ECEC for some ages and targeted population groups, universal provision for older children and, in some countries, the creation of integrated ECEC programmes from the age of 1 until entry into primary education. For instance, compulsory education coincided with the start of primary school in most countries a decade ago. In contrast, compulsory education started at pre-primary level in around one-third of countries with available data in 2018 and at the age of 3 in France (from September 2019), Hungary, Israel and Mexico (Table B2.2 and Box B2.2).

Enrolment of children by type of institution

Parents' needs and expectations regarding accessibility, cost, programme, staff quality and accountability are all important in assessing the expansion of ECEC programmes and the type of providers. When parents' needs for quality, accessibility or affordability are not met by public institutions, some parents may be more inclined to send their children to private pre-primary institutions (Shin, Jung and Park, 2009[9]).

In most countries, the share of children enrolled in private institutions is considerably larger in early childhood education than at primary and secondary levels. Private institutions can be classified into two categories: independent and government-dependent. Independent private institutions are controlled by a non-governmental organisation or by a governing board not selected by a government agency and receive less than 50% of their core funding from government agencies. Government-dependent private institutions have similar governance structures but they rely on government agencies for more than 50% of their core funding (OECD, 2018[10]).On average across OECD countries, about half of the children in early childhood educational development services (ISCED 01) are enrolled in private institutions. This average, however, hides huge discrepancies across countries. In Chile, Denmark, Hungary, Latvia, Lithuania, the Russian Federation, Slovenia and Sweden, 20% or less of the children in early childhood educational development programmes attend private ECEC institutions, while in Indonesia, Ireland, Israel, Korea, New Zealand, Portugal, Turkey and the United Kingdom, more than three-quarters of all children attend private institutions (Table B2.3).

Public institutions are usually less common for children under the age of 3 than for older ones. About two-thirds of children enrolled in pre-primary education (ISCED 02) attend public institutions across OECD countries, and almost three-quarters of children across EU23 countries, reflecting the development of policies promoting the public provision of ECEC among most European countries. In a few countries, however, pre-primary remains mostly private: in Australia, Indonesia, Ireland, Japan, Korea and New Zealand, at least 75% of children attending pre-primary programmes are in private institutions (Table B2.3).

Staffing of early childhood education and care

Qualifications among teaching staff

Prospective teachers should be provided with high-quality initial training. The type of qualification, duration of training and the programme content provided can influence how well initial teacher education prepares teachers for their role. Evidence from the literature shows that the level and duration of initial staff training are positively associated with overall ECEC quality (Manning et al., 2017[11]). Highly qualified staff result in a more stimulating environment and high-quality pedagogical practices, which boost children's well-being and learning outcomes (Box B2.2).

The most prevalent level of qualification for almost all ECEC teaching staff is a tertiary qualification. In 18 out of the 25 countries with available data, an individual can teach in ECEC (ISCED 0) with at least a bachelor's degree or equivalent (ISCED level 6). However, there are some exceptions. In the Slovak Republic, pre-primary teachers can start teaching with an upper secondary diploma, but an increasing number of teachers now have a bachelor's or master's degree. In Germany, they can begin teaching after graduating from a tertiary professional programme (e.g. *Erzieherausbildung*, at ISCED level 6); in Austria and Israel, they typically graduate from a two-year short-cycle tertiary programme (ISCED 5). At the other end of spectrum, in France (since the academic year 2010/11) and Portugal pre-primary school teachers are required to have a master's degree or equivalent (ISCED 7). In Poland, the master's or equivalent degree is not a prerequisite, but most ECEC teachers enter the profession with this level (Table B2.3).

However, no matter how high the quality of pre-service training, it cannot be expected to prepare teachers for all the challenges they will face throughout their careers. Given the changes in student demographics, the length of most teachers'

careers, and the need to update knowledge and competencies, initial teacher education must be viewed as only the starting point for teachers' ongoing development. Recent research also shows that in pre-primary education, the effects of specialised in-service training on process quality are greater than those of pre-service training, particularly when it comes to collaborative work, support for play and support for early literacy, mathematics and science (Assel et al., 2006[12]; de Haan et al., 2013[13]).

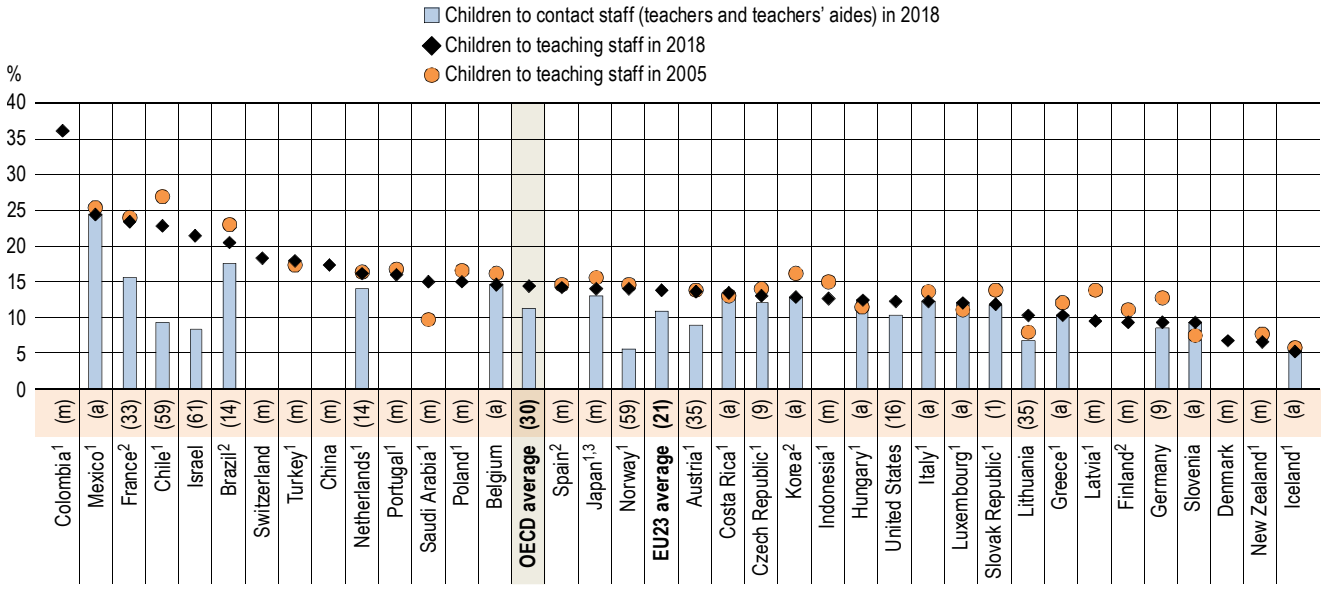
Child-staff ratios

Research demonstrates that enriched, stimulating environments and high-quality pedagogy are fostered by better-qualified practitioners, and that better-quality staff-child interactions facilitate better learning outcomes. In that context, lower child-staff ratios are found to be consistently supportive of staff-child relationships across different types of ECEC settings. Smaller ratios are often seen as beneficial, because they allow staff to focus more on the needs of individual children and reduce the amount of class time needed to deal with disruptions (OECD, 2020[14]).

The ratio of children to teaching staff is an important indicator of the resources devoted to education. Child-staff ratios and group sizes are part of the regulations used to improve ECEC quality. On average across OECD countries, there are 14 children for every teacher working in pre-primary education but wide variations are observed across countries. The ratio of children to teaching staff, excluding teachers' aides, ranges from fewer than 10 children per teacher in Denmark, Finland, Germany, Iceland, Latvia, New Zealand and Slovenia, to 20 or more in Brazil, Chile, Colombia, France, Israel and Mexico. In some countries, this ratio has decreased significantly over the last years. Over the last years, t fell by 3-4 students per teacher in Chile (2013-18), in Germany (2005-13), in Korea (2010-2018) and Latvia (2010-18). In Saudi Arabia, the child-teaching staff ratio increased by 5 children between 2013 and 2018 but the ratio in 2018 remains comparable to the OECD average (Figure B2.3).

Figure B2.3. Ratio of children to staff in pre-primary (ISCED 02) education (2005 and 2018)

Public and private institutions, calculation based on full-time equivalents



Note: Figures in parentheses show the percentages of teachers' aides among ECEC contact staff (teachers and teachers' aides).
1. Year of reference 2013 instead of 2005.
2. Year of reference 2010 instead of 2005.
3. Data does not cover day care centres and integrated centres for early childhood education and care.
Countries are ranked in descending order of the ratio of children to teaching staff in pre-primary education in 2018.
Source: OECD (2020), Table B2.3 and Education at a Glance database. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Some countries – Austria, Chile, France, Israel, Lithuania and Norway – also make extensive use of teachers' aides, which can be seen from the smaller ratios of children to contact staff compared to children to teaching staff. Teachers' aides assist

teachers in their daily tasks and deal with children with special needs. In most countries, they have an upper secondary qualification, often vocationally oriented (Figure B2.3).

Child-to-staff ratios matter more for interactions with children under the age of 3 than for 3-5 year-olds (OECD, 2018[8]). On average across OECD countries, there are 7 children for every teacher working in early childhood educational development services (ISCED 01) and this ratio reaches more than 20 to 1 in Indonesia. As with pre-primary education, the ratio decreases when teachers' aides are taken into account. In most countries, the ratios of children to contact staff (teachers and teachers' aides) are smaller in early childhood development programmes than in pre-primary education (Table B2.3).

Financing early childhood education and care

Sustained public financial support is critical for the growth and quality of ECEC programmes. Appropriate funding helps to recruit trained staff who are qualified to support children's cognitive, social and emotional development. Investment in early childhood facilities and materials also helps support the development of child-centred environments for well-being and learning. In countries that do not channel sufficient public funding towards achieving both broad access and high-quality programmes, some parents may be more inclined to send their children to private ECEC services. Moreover, if the cost of ECEC is not sufficiently subsidised, the ability of parents to pay will greatly influence the participation in ECEC among children from disadvantaged socio-economic backgrounds (OECD, 2017[1]).

Expenditure per child

In pre-primary education, annual expenditure for both public and private settings averages about USD 9 000 per child in OECD countries in 2017, ranging from less than USD 1 600 in Colombia to more than USD 15 000 in Denmark, Iceland, Luxembourg and Norway. Annual expenditure per child enrolled in early childhood educational development services (ISCED 01) is significantly higher than for pre-primary education (ISCED 02), averaging about USD 12 800 for ISCED 01. The smaller child-to-staff ratio in early childhood development services is one of the main drivers of this difference (Tables B2.3 and B2.4). The average number of hours children spend in ECEC settings per year also influences different countries' spending (see Box B2.2 in (OECD, 2018[15])).

Expenditure as a percentage of gross domestic product

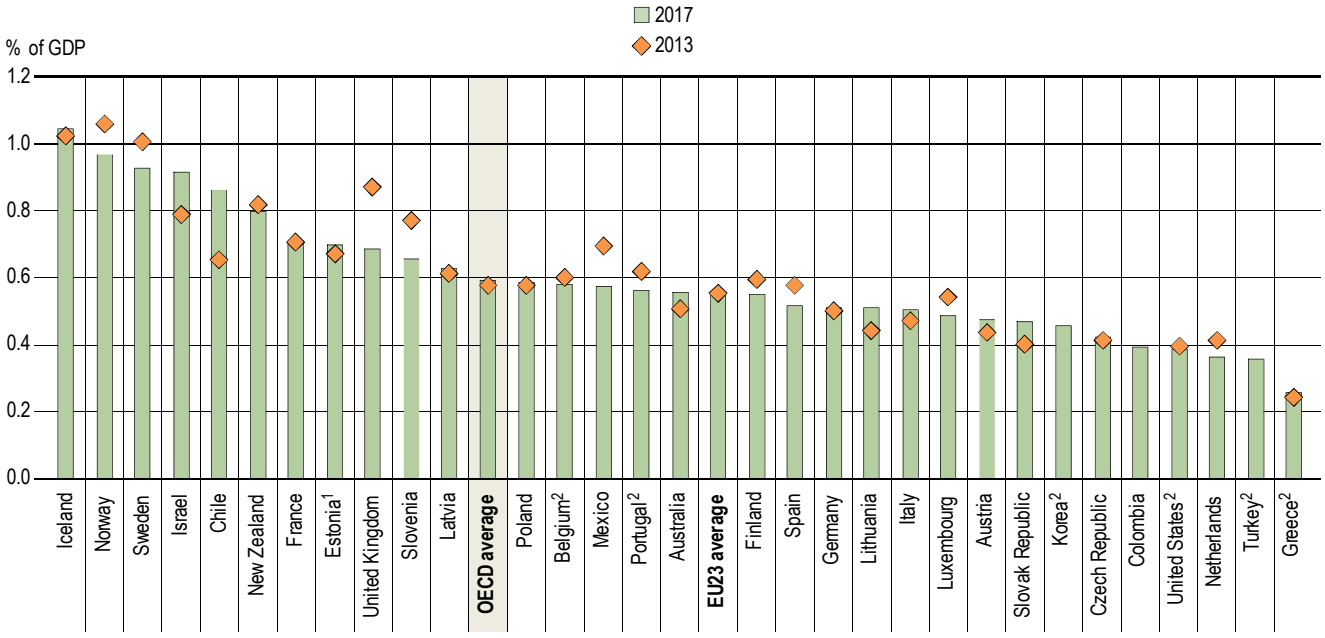
Spending on ECEC can also be analysed relative to a nation's wealth. Expenditure on all ECEC settings accounts in 2017 for an average of 0.9% of gross domestic product (GDP) across OECD countries, of which more than two-thirds is allocated to pre-primary education. While 0.3% or less of GDP is spent on pre-primary education (ISCED 02) in Australia, Colombia, Greece, Japan and Turkey, countries such as Denmark, Iceland, Israel, Norway and Sweden spend at least 1% of GDP (Table B2.4).

The differences on expenditure are largely explained by enrolment rates, legal entitlements and the intensity of participation, as well as the different starting ages for primary education. On the latter point, the shorter duration of pre-primary education, as a result of children's earlier transition from pre-primary to primary education in Australia, Ireland and the United Kingdom, partly explains why the expenditure on ECEC as a percentage of GDP is below the OECD average in these three countries. Similarly, late entry into primary education, as in Estonia, Finland, Latvia and Sweden, means a longer duration of ECEC than in other countries and may explain why they spend more as a percentage of GDP than the OECD average (see the information on starting ages for primary education in Table B2.2).

To avoid this distortion, the indicator on the financing of ECEC has been presented by age as well as by ISCED level since the 2019 edition of *Education at a Glance*. This methodology avoids the distortion arising from the differences in age groups attending ECEC, and compares expenditure on children of the same ages, giving a more accurate picture of countries' investment in young children. As this indicator is presenting estimates then the data should be interpreted with caution. Across OECD countries, the share of national resources devoted to 3-5 year-olds enrolled in ECEC and primary education is 0.6% of GDP. It ranges from 0.3% of GDP in Greece, to 1% or more in Iceland and Norway. While the share remained constant on average among OECD countries with available data, there are marked differences in trends across countries. About half of countries experienced a decrease between 2013 and 2017, while in contrast Chile displayed the most notable increase, from 0.7% of GDP to 0.9% (Figure B2.4).

Figure B2.4. Expenditure on all children aged 3 to 5 enrolled in early childhood education and care (ISCED 0) and primary education as a percentage of GDP (2013 and 2017)

Public and private institutions



1. Year of reference 2014 instead of 2013.
2. Excludes ISCED 01 programmes.
Countries are ranked in descending order of expenditure as a percentage of GDP in 2017.
Source: OECD (2020), Table B2.4. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Box B2.1. Legal entitlements and free access to early childhood education and care

Early childhood education and care (ECEC) remains high on the policy agenda in many OECD countries. Enrolment rates increase for children aged 3 and over, as well as for children under the age of 3, thanks to the extension of legal entitlements to a place in ECEC and to the efforts to ensure free access for older children (e.g. 3-5 year-olds). The rising enrolment rates are also likely due to the increased free access for selected population groups such as children under the age of 2 or disadvantaged children.

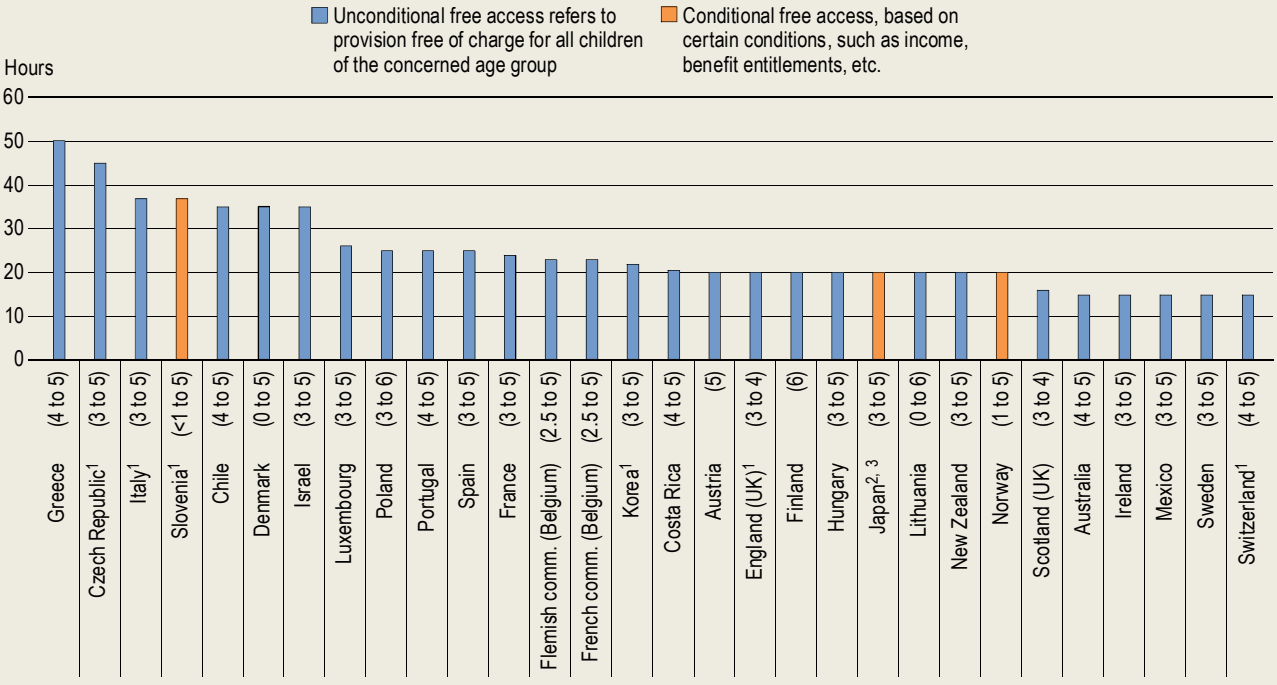
Countries guarantee an ECEC place for all children either by establishing a legal entitlement to participate in ECEC, or by making participation compulsory. A legal entitlement is a right for a child and his/her family. In countries with a legal entitlement, children may attend ECEC, but families may choose other options. In contrast, in countries with compulsory ECEC, children have to attend ECEC for a defined number of hours and parents may be asked to justify absences or face disciplinary measures. Often, a certificate of completion of a compulsory ECEC programme is required to enter primary education (European Commission/EACEA/Eurydice, 2019[16]).

There are significant differences in the age at which countries guarantee children a place in an ECEC institution. While most countries ensure a place in publicly subsidised ECEC from the age of 3 or a little earlier, seven countries (Denmark, Estonia, Finland, Germany, Latvia, Norway and Slovenia) guarantee a place in ECEC for all children soon after birth, often immediately after the end of parental leave. In Australia, Austria, Brazil, Chile, Costa Rica, Greece, Lithuania, the Netherlands, Portugal and Switzerland, the education systems only provide guaranteed places from higher ages: at 4, 5 or 6 years old, or for the last one or two years of ECEC. Often, this provision is explicitly directed at preparation for school with a specific programme to smooth the transition to primary education. However, a guaranteed ECEC place at a

given age does not mean that attendance is compulsory at this age. Indeed, Australia, Chile and Portugal provide a legal entitlement from the last one or two years of ECEC without making attendance compulsory. Despite a legal framework that guarantees a place in ECEC for all children, in reality some municipalities in some countries may still struggle to balance supply with demand. Moreover, many countries have introduced targeted measures to ensure the availability of ECEC for certain groups of children or families (European Commission/EACEA/Eurydice, 2019[16]).

The type of ECEC guarantee – a legal right to a place or compulsory attendance – influences the way in which the number of guaranteed hours is prescribed. Legal entitlements define the number of guaranteed publicly subsidised (or free-of-charge) ECEC hours that every family can claim. A child may use fewer hours than the guarantee entitles them to. In contrast, compulsory ECEC specifies the minimum number of ECEC hours that a child is required to attend. In both cases, the child may still benefit from additional (top-up) hours of ECEC that are not guaranteed for everyone (European Commission/EACEA/Eurydice, 2019[16]). The time per week covered by the legal entitlements to a free place in ECEC differs greatly across countries. Most countries guarantee 20-29 hours of ECEC per week, i.e. school-time hours, but the number increases to over 30 hours per week in Chile, the Czech Republic, Denmark, Israel, Italy, Slovenia and to 50 hours in Greece. In Australia, Ireland, Mexico, Scotland, Sweden and Switzerland, the number of hours covered is less than 20 hours per week (Figure B2.5).

Figure B2.5. Number of hours per week and ages at which children have free access entitlement to ECEC (2018)



Note: The age groups covered by the free access are added into brackets next to the country names.
1. The Czech Republic (32.5-60 hours), England (15-32 hours), Italy (25-50 hours), Korea (20-25 hours), Slovenia (30-45 hours), Switzerland (10-20 hours)
2. From 1 October 2019, free early childhood education and care is a universal legal entitlement for children age 3-5 years.
3. Data does not cover day care centres and integrated centres for early childhood education and care.
Countries and economies are ranked in descending order of the number of hours per week children have free access entitlement to ECEC (ISCED 02).
Source: OECD (2020), 2018 ECEC survey; TALIS Starting Strong; European Commission/EACEA/Eurydice. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Affordability is a very important factor in ensuring that the largest number of children possible have access to ECEC, and legal entitlement to a place in ECEC is not a guarantee of free access. Countries may provide conditional or unconditional free access for a set number of hours. Generally, unconditional free access to ECEC is less common for younger children than for older ones across countries (Figure B2.5). Although most countries provide free access to pre-primary education to all children for at least the year before entering primary school, the number of years covered and hours per week offered

differ substantially. Chile (for all 4-5 year-olds), the Czech Republic (for the year before starting primary school only), Greece, Italy, Israel and Luxembourg (for all 3-5 year-olds) offer more than 25 hours of free ECEC for all children enrolled in pre-primary education. In contrast, Australia, Ireland, Mexico, Scotland, Sweden and Switzerland offer less than 20 hours of free ECEC per week. From 1 October 2019, free early childhood education and care is a universal legal entitlement for children age 3-5 years in Japan. From September 2019, instruction has been compulsory from the age of 3 in France. Pre-primary education then became a universal legal entitlement and an obligation for 3-5 year-olds.

In contrast, a few countries regulate the provision of free access to ECEC based on a set of conditions, such as income level or the entitlement to certain benefits. This is the case in Norway and Slovenia, where free access to the last year of ECEC is provided on a needs basis only.

Public and private funding of ECEC

The source of funding for ECEC settings varies across countries. In many countries, the public sector provides universal access from a certain age. Governments may also delegate responsibility for the public funding of ECEC to local authorities. In general, public funding of ECEC is more decentralised than at any other level of education (OECD, 2018[15]). Generally, there has been a substantial and increasing public investment in ECEC, although there are differences between pre-primary (ISCED 02) and early childhood educational development (ISCED 01). On average, public sources account for 70% of total expenditure on early childhood educational development, while for pre-primary education, the share of public expenditure is 83%. Japan and the United Kingdom are the only countries where private funds account for more than 40% of total expenditure on pre-primary education. In the United Kingdom, most of the private funding comes from households. In Japan, the high cost is shared between households, foundations and the business sector (Table B2.4).

Box B2.2. The Starting Strong Teaching and Learning International Survey

In October 2019, the OECD launched the first international survey of the early childhood education and care (ECEC) workforce. The Starting Strong Teaching and Learning International Survey (TALIS Starting Strong) aims to generate robust international information relevant to developing and implementing policies focused on ECEC staff and leaders and their pedagogical and professional practices, with an emphasis on those aspects that promote the right condition for children's learning, development and well-being. Staff are defined as those working regularly in a pedagogical way with children, including both teachers and assistants in countries where the distinction can be made. The survey collects data on learning and well-being environments, the work that staff and centre leaders carry out with children in ECEC settings, how staff are prepared for and trained within the profession, and what motivates staff to join the ECEC profession.

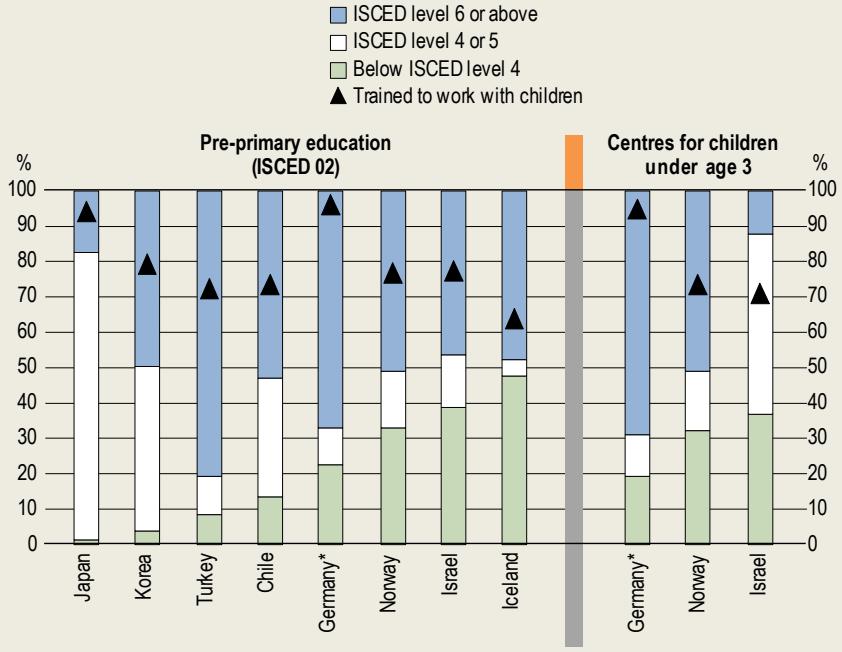
TALIS Starting Strong 2018 covers nine countries: Chile, Denmark, Germany, Iceland, Israel, Japan, Korea, Norway and Turkey. These countries collected data from staff and leaders in pre-primary education (ISCED level 02) settings. In addition, four of the countries (Denmark, Germany, Israel and Norway) collected data from staff and leaders in settings serving children under the age of 3. A more detailed description of the survey design and its implementation can be found in the *TALIS Starting Strong 2018 Technical Report* (OECD, 2019[17]).

This first volume of findings from TALIS Starting Strong examined multiple factors that can affect the quality of ECEC and could thereby influence children's learning, development and well-being. The main findings of this publication are:

First, staff with more education and training and more responsibility are more likely to report that they adapt their practices in the classroom or playroom to individual children's development and interests. The majority of the workforce has post-secondary education, but training specifically to work with children is not universal, and participation in professional development, while common, is not equal among early childhood staff. Whether staff are trained specifically to work with children, which is also important for ECEC quality, is a somewhat separate issue from their level of educational attainment (Figure B2.6). For example, in Japan, where the most common qualifications for ECEC staff were short-cycle tertiary education, nearly all staff are trained specifically to work with children. In Turkey, where the most typical attainment was a bachelor's degree or higher for ECEC staff, more than one-quarter of staff had no specific training on working with children. In Iceland, where almost half the workforce are highly educated and the other half at most secondary education, one-third of staff lack specific training to work with children (OECD, 2019[17]).

Figure B2.6. Educational attainment of staff and content of pre-service training

Staff reports of their highest level of education and whether they received training specifically to work with children



Note: Respondents in the "Below ISCED level 4" group are those whose highest education is at a secondary level or below. Respondents in the "ISCED level 4 or 5" group are those whose highest education is beyond secondary schooling but less than a bachelor's degree (or equivalent), including post-secondary non-tertiary education (generally vocationally oriented) and short-cycle tertiary education. Respondents in the "ISCED level 6 or above" group are those whose highest education is at the level of a bachelor's degree or higher.

* Estimates for subgroups and estimated differences between subgroups need to be interpreted with care. See Annex B in (OECD, 2019[17]) for more information.

Countries are ranked in ascending order of the percentage of staff (both teachers and assistants) below ISCED level 4.

Source: (OECD, 2019[17]), Tables D.3.1, D.3.2 and D.3.3.

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Second, staff who feel more valued by society report more use of practices in the classroom or playroom adapted to individual children's development and interests. With regard to job satisfaction, a majority of staff in all countries report feeling valued by the children and parents or guardians they serve. However, in all countries, staff were less likely to report feeling valued by society (Figure B2.7). Staff generally like their jobs, but fewer than 40% are satisfied with their salaries and little more than half think their job is valued in society (OECD, 2019[17]).

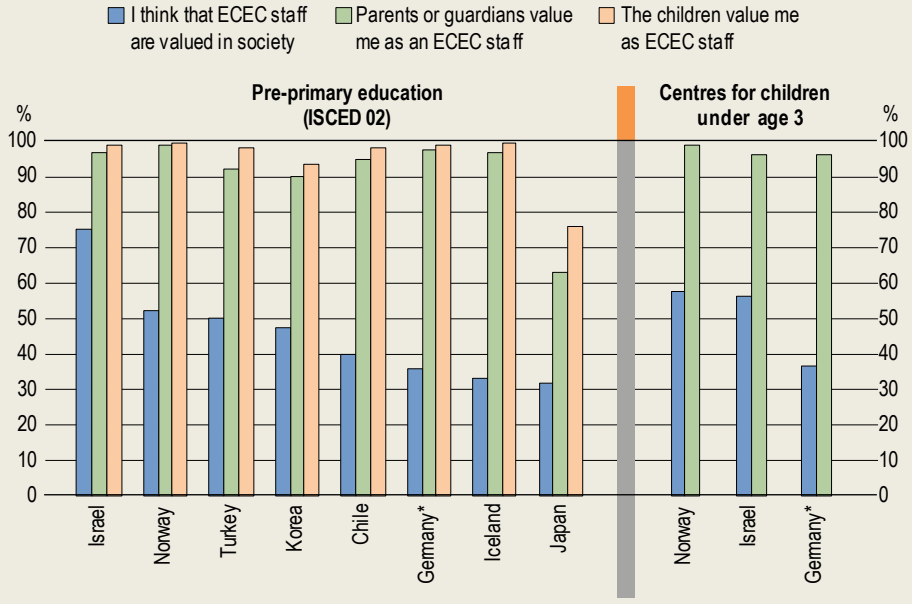
Third, reducing group sizes, improving staff salaries and receiving support for children with special needs were the top spending priorities identified by early childhood education and care staff if the sector's budget was increased. For staff in centres for children under age 3, high-quality professional development also appears in the top three priorities (OECD, 2019[17]).

Fourth, pre-school staff are much more likely to report using practices to facilitate children's socio-emotional development or oral language development than those geared towards literacy and numeracy skills. Related to this, being able to co-operate easily with others is at the top of the list of skills and abilities that ECEC staff regard as important for young children to develop (OECD, 2019[17]).

The findings presented in this report suggest several major objectives for policies to ensure high-quality ECEC. These include promoting practices that foster children's learning, development and well-being, attracting and retaining a high-quality workforce, and ensuring smart spending in view of complex governance and service provision. Policies to raise the quality of ECEC face a number of trade-offs in terms of the areas to invest in and the areas to spend less on. TALIS Starting Strong sheds light on what the priorities could be for each country (OECD, 2019[17]).

Figure B2.7. Staff feelings of being valued by children, families and society

Average percentage of staff who "agree" or "strongly agree" with each of the following statements



Note: Staff in centres serving children under the age of 3 were not asked the extent to which they feel valued by the children they serve.
* Estimates for subgroups and estimated differences between subgroups need to be interpreted with care. See Annex B in (OECD, 2019[17]) for more information.
Countries are ranked in descending order of the percentage of staff agreeing that ECEC staff are valued in society.
Source: (OECD, 2019[17]), Table D.3.18.

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Definitions

ECEC services: The types of ECEC services available to children and parents differ greatly. Despite those differences, most ECEC settings typically fall into one of the following categories ((OECD, 2017[1]) and Table B2.5):

- **Regular centre-based ECEC**: More formalised ECEC centres typically belong to one of these three subcategories:
  - *Centre-based ECEC for children under the age of 3*: Often called "crèches", these settings may have an educational function, but they are typically attached to the social or welfare sector and associated with an emphasis on care. Many of them are part time and provided in schools, but they can also be provided in designated ECEC centres.
  - *Centre-based ECEC for children from the age of 3*: Often called kindergarten or pre-school, these settings tend to be more formalised and are often linked to the education system.
  - *Age-integrated centre-based ECEC for children from birth or age 1 up to the beginning of primary school*: These settings offer a holistic pedagogical provision of education and care (often full-day).
- **Family childcare ECEC**: Licensed home-based ECEC, which is most prevalent for children under age 3. These settings may or may not have an educational function and be part of the regular ECEC system.
- **Licensed or formalised drop-in ECEC centres**: Often receiving children across the entire ECEC age bracket and even beyond, these drop-in centres allow parents to complement home-based care by family members or family childcare with more institutionalised services on an ad-hoc basis (without having to apply for a place).

Some of these ECEC services are in adherence with the criteria defined in the ISCED 2011 classification (see ISCED 0 definition). Others are considered an integral part of countries' ECEC provision but are not in adherence with all the ISCED criteria. Table B2.5, available on line, makes the distinction between these two categories explicit.

Informal care services: Generally unregulated care arranged by the child's parent either in the child's home or elsewhere, provided by relatives, friends, neighbours, babysitters or nannies, these services are not covered in this indicator.

ISCED 01 refers to early childhood educational development services, typically aimed at children under the age of 3. The learning environment is visually stimulating, and the language is rich and fosters self-expression, with an emphasis on language acquisition and the use of language for meaningful communication. There are opportunities for active play so that children can exercise their co-ordination and motor skills under supervision and in interaction with staff.

ISCED 02 refers to pre-primary education, aimed at children in the years immediately prior to starting compulsory schooling, typically aged between the ages of 3 and 5. Through interaction with peers and educators, children improve their use of language and their social skills, start to develop logical and reasoning skills, and talk through their thought processes. They are also introduced to alphabetical and mathematical concepts, understanding and use of language, and are encouraged to explore their surrounding world and environment. Supervised gross motor activities (i.e. physical exercise through games and other activities) and play-based activities can be used as learning opportunities to promote social interactions with peers and to develop skills, autonomy and school readiness.

For data-reporting purposes, data from age-integrated programmes designed to include children younger and older than 3 are allocated to levels 01 and 02 according to the age of the children. This may involve the estimation of expenditure and personnel at levels 01 and 02.

Most prevalent level of qualification: Higher than minimum qualification (if most prevalent) to enter the teaching profession in the reference year refers to the level of qualification higher than the minimum that is held by the largest proportion of teachers (among all teachers at a given level of education, and not only among starting teachers) and recognised through a specific salary range (see Indicator D3).

Teachers and comparable practitioners: Teachers have the most responsibility for a group of children at the class or playroom level. They may also be called pedagogue, educator, childcare practitioner or pedagogical staff in education, while the term teacher is almost universally used at the primary level.

Teachers' aides: Aides support the teacher in a group of children or class. They usually have lower qualification requirements than teachers, which may range from no formal requirements to, for instance, vocational education and training. This category is only included in the *Education at a Glance* indicator on children-to-staff ratio.

Please see Indicators C1 and C2 for definitions of **expenditure per student on educational institutions** and **expenditure on educational institutions relative to GDP**, and Indicator D2 for the definition of **child-to-staff ratios**.

Methodology

Enrolment rates

Net enrolment rates are calculated by dividing the number of students of a particular age group enrolled in ECEC by the size of the population of that age group. While enrolment and population figures refer to the same period in most cases, mismatches may occur due to data availability and different sources used in some countries resulting in enrolment rates exceeding 100%.

Full-time and part-time children

The concepts used to define full-time and part-time participation at other ISCED levels, such as study load, child participation, and the academic value or progress that the study represents, are not easily applicable to ISCED level 0. In addition, the number of daily or weekly hours that represent typical full-time enrolment in an education programme at ISCED level 0 varies widely between countries. Because of this, full-time equivalents cannot be calculated for ISCED level 0 programmes in the same way as for other ISCED levels. For data-reporting purposes, countries separate ISCED level 0 data into ISCED 01 and ISCED 02 by age only, as follows: data from age-integrated programmes designed to include children younger and older than 3 are allocated to levels 01 and 02 according to the age of the children. This may involve the estimation of expenditure and

personnel at levels 01 and 02. For more information please see the *OECD Handbook for Internationally Comparative Education Statistics* (OECD, 2018[10]) and Annex 3 for country-specific notes (https://doi.org/10.1787/69096873-en).

Estimated expenditure for all children aged 3 to 5 enrolled in ECEC and primary education as a percentage of GDP

The calculation of this new measure is based on the distribution of children aged 3 to 5 enrolled in ISCED 01, ISCED 02 and primary education (ISCED 1). For each country, the calculation was based on what proportion of all children enrolled at each of these three ISCED levels were aged 3 to 5. For instance, in Australia, children aged 3 to 5 accounted for 5% of all children enrolled in ISCED 01, 99% of all children enrolled in ISCED 02 and 12% of all children enrolled in ISCED 1. These percentages were used to estimate total expenditure for all children aged 3 to 5 enrolled in ECEC and primary education. Total expenditure for all children aged 3 to 5 are calculated by: 5% of all expenditure in ISCED 01 and 99% of all expenditure in ISCED 02 and 12% of all expenditure in ISCED 1. A similar calculation was made for all countries.

Source

Data refer to the reference year 2018 (school year 2017/18) and financial year 2017.

Data from Argentina, the People's Republic of China, India, Indonesia, Saudi Arabia and South Africa are from the UNESCO Institute of Statistics (UIS).

Data are based on the UNESCO-UIS/OECD/EUROSTAT data collection on education statistics administered by the OECD in 2019 (for details, see Annex 3 at https://doi.org/10.1787/69096873-en) and on a special survey administered by the OECD in 2019.

Data on subnational regions for selected indicators are available in the OECD Regional database (OECD, 2020[18]).

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Indicator B2 Tables

Table B2.1 Enrolment rates of children under the age of 3 in early childhood education and care, by type of service and age (2005, 2010 and 2018)

Table B2.2 Enrolment rates in early childhood education and care and primary education, by age (2005, 2010 and 2018)

Table B2.3 Enrolment of children in early childhood education and care (ISCED 0) in private institutions, ratio of children to teaching staff and most prevalent qualification of ECEC staff (2018)

Table B2.4 Financing of early childhood education and care (ISCED 0) and expenditure on all children aged 3 to 5 (2017)

WEB Table B2.5 *Coverage of early childhood education and care in OECD and partner countries (2019)*

Cut-off date for the data: 19 July 2020. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en. More breakdowns can also be found at http://stats.oecd.org/, Education at a Glance Database.

StatLink: https://doi.org/10.1787/888934163268

Table B2.1. Enrolment rates of children under the age of 3 in early childhood education and care, by type of service and age (2005, 2010 and 2018)

Public and private institutions

		Age when ECEC services (ISCED 0) start offering intentional education objectives	Under the age of 1		Age 1		Under the age of 2		Age 2		Under the age of 3					
			ECEC (ISCED 0)	Other registered ECEC services	ECEC (ISCED 0)	Other registered ECEC services	ECEC (ISCED 0)	Other registered ECEC services	ECEC (ISCED 0)	Other registered ECEC services	ECEC (ISCED 0)	Other registered ECEC services	ECEC (ISCED 0)	Other registered ECEC services	ECEC (ISCED 0)	Other registered ECEC services
		2018	2018		2018		2018		2018		2005		2010		2018	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD	Countries															
	Australia	0 years	16	0	45	0	30	0	58	0	m	m	m	1	40	0
	Austria	0 years	0	x(15)	15	x(15)	8	x(15)	42	x(15)	6	m	10	3	19	3
	Belgium[1]	(see note 1)	14	m	37	m	26	m	84	m	m	m	m	m	46	m
	Canada	3-4 years	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Chile	3 months	8	0	23	0	15	1	35	1	m	m	15	0	22	0
	Colombia	0 years	x(6)	m	x(6)	m	27	m	37	m	m	m	m	m	31	m
	Costa Rica	0 years	x(6)	m	x(6)	m	1	m	3	m	m	m	m	m	2	m
	Czech Republic	2-3 years	a	m	a	m	a	m	18	m	m	m	m	m	6	m
	Denmark	26 weeks	x(6)	m	x(6)	m	40	m	89	m	m	m	58	m	56	m
	Estonia	0 years	0	x(7)	15	x(7)	7	2	68	7	m	m	23	m	28	3
	Finland	9 months	1	m	34	m	18	m	63	m	25	m	27	m	33	m
	France	2-3 years	a	m	a	m	a	m	12	m	9	m	5	m	4	m
	Germany	0 years	5	a	41	a	23	a	67	a	17	a	27	a	38	a
	Greece	2 months	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Hungary	20 weeks	m	m	m	m	1	m	14	m	0	7	0	9	5	m
	Iceland	0 years	1	4	47	28	24	16	95	0	39	13	43	12	48	11
	Ireland	3 years	12	m	25	m	18	m	43	m	m	m	m	m	27	m
	Israel	0 years	34	a	88	a	50	a	74	a	m	a	m	a	58	a
	Italy	2-3 years	a	m	a	m	a	m	15	m	4	m	5	m	5	m
	Japan	3 years	a	8	a	33	a	21	7	50	m	16	m	19	2	30
	Korea	0 years	17	a	71	a	45	a	92	a	m	a	38	a	63	a
	Latvia	1.5 years	0	a	16	a	8	a	71	a	m	a	18	a	30	a
	Lithuania	0 years	0	a	16	a	8	a	67	a	13	a	16	a	28	a
	Luxembourg	0 years	0	m	0	m	0	m	4	m	m	m	m	m	1	m
	Mexico	1.5 months	x(6)	a	x(6)	a	1	a	9	a	2	a	2	a	4	a
	Netherlands	3 years	0	m	0	m	0	m	0	m	0	m	0	m	0	m
	New Zealand	0 years	x(6)	x(7)	x(6)	x(7)	29	5	66	7	34	m	36	m	42	6
	Norway	0 years	4	0	72	0	39	0	93	0	33	0	53	0	57	0
	Poland	3 years	0	m	0	m	0	m	7	m	1	2	1	2	2	m
	Portugal	0 years	21	1	42	1	32	1	56	1	19	1	26	2	40	1
	Slovak Republic	2-3 years	a	0	a	m	a	m	15	m	7	m	3	m	5	0
	Slovenia	11 months	0	m	50	m	25	m	77	m	25	m	34	m	43	m
	Spain	0 years	12	m	40	m	27	m	60	m	15	m	26	m	38	m
	Sweden	1 year	0	0	48	1	25	1	89	2	m	m	m	2	46	1
	Switzerland	m	a	m	a	m	a	m	0	m	2	m	0	m	0	m
	Turkey	m	x(8)	a	x(8)	a	x(8)	a	1 [d]	a	m	a	m	a	0 [d]	a
	United Kingdom	0 years	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	United States	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	OECD average		7	m	34	m	20	m	46	m	m	m	20	m	26	m
	EU23 average		4	m	25	m	16	m	47	m	m	m	m	m	24	m
Partners	Argentina[2]	m	x(6)	m	x(6)	m	2	m	11	m	m	m	m	m	5	m
	Brazil	0 years	6	a	21	a	14	a	43	a	m	a	m	a	24	a
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	x(6)	m	x(6)	m	3	m	13	m	m	m	m	m	7	m
	Russian Federation	0 years	x(6)	m	x(6)	m	4	m	49	m	18	m	17	m	20	m
	Saudi Arabia	m	a	m	a	m	a	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average		m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: Early childhood education = ISCED 0, other registered ECEC services = ECEC services outside the scope of ISCED 0, because they are not in adherence with all ISCED criteria. To be classified in ISCED 0, ECEC services should: 1) have an adequate intentional educational properties; 2) be institutionalised (usually school-based or otherwise institutionalised for a group of children); 3) have an intensity of at least 2 hours per day of educational activities and a duration of at least 100 days a year; 4) have a regulatory framework recognised by the relevant national authorities (e.g. curriculum); and 5) have trained or accredited staff (e.g. requirement of pedagogical qualifications for educators).

1. Age at which ECEC services start offering intentional education objectives: 3-6 months for the Flemish Community and 2 years for the French Community. ISCED 0 enrolment rates are underestimated since only the Flemish Community of Belgium has reported data on ISCED 01.

2. Year of reference 2017 instead of 2018.

Source: INES ad hoc survey and OECD/UIS/Eurostat (2020). See Source section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table B2.2. Enrolment rates in early childhood education and care and primary education, by age (2005, 2010 and 2018)

Public and private institutions, from age 3 to age 6

		Typical starting age of primary education	Starting age of compulsory education	Age 3		Age 4			Age 5			Age 6			Ages 3 to 5		
				ECEC (ISCED 0)	Other registered ECEC services	ECEC (ISCED 0)	Primary education (ISCED 1)	Total	ECEC (ISCED 0)	Primary education (ISCED 1)	Total	ECEC (ISCED 0)	Primary education (ISCED 1)	Total	ECEC (ISCED 0) and Primary education (ISCED 1)		
		2018		2018		2018			2018			2018			2005	2010	2018
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
OECD	**Countries**																
	Australia	5	6	65	0	86	1	87	21	79	100	2	99	100	m	m	84
	Austria	6	6	77	m	94	0	94	98	0	98	41	58	99	76	84	90
	Belgium	6	6	98	m	98	0	98	98	1	99	4	95	98	m	m	98
	Canada	6	6	m	m	m	0	m	m	0	m	m	99	m	m	m	m
	Chile	6	6	58	1	85	0	85	94	0	94	18	80	98	m	72	79
	Colombia	6	5	53	m	72	0	72	68	18	87	6	75	82	m	m	70
	Costa Rica	6	4	6	m	81	0	81	92	0	92	14	83	97	m	m	60
	Czech Republic	6	6	77	m	89	0	89	94	0	94	52	49	100	85	79	87
	Denmark	6	6	98	m	100	0	100	99	2	100	6	93	100	m	97	100
	Estonia	7	7	89	4	92	0	92	93	0	93	92	1	94	84	89	91
	Finland	7	7	77	m	83	0	83	87	0	87	98	0	98	68	73	82
	France[1]	6	6	100	m	100	0	100	100	1	100	1	100	100	100	100	100
	Germany	6	6	91	a	95	0	95	97	0	97	36	63	99	88	94	94
	Greece	6	5	m	m	m	0	m	m	0	m	m	90	m	45	49	m
	Hungary	7	3	85	m	95	0	95	96	0	96	63	29	92	87	87	92
	Iceland	6	6	97	0	97	0	97	97	0	98	0	98	99	95	96	97
	Ireland	5	6	98	m	79	24	100	5	100	100	4	100	100	m	m	100
	Israel	6	3	100	a	99	0	99	97	0	97	12	84	96	m	m	100
	Italy	6	6	91	m	94	0	94	88	7	95	1	96	97	100	98	94
	Japan	6	6	83	0	96	0	96	97	0	97	0	100	100	88	90	92
	Korea	6	6	92	a	94	0	94	97	0	97	0	95	95	m	85	94
	Latvia	7	5	89	a	93	0	93	97	0	97	93	4	98	77	82	93
	Lithuania	7	7	83	a	86	0	86	90	0	90	94	3	97	59	72	86
	Luxembourg	6	4	69	m	97	0	97	90	5	96	6	92	99	84	87	87
	Mexico	6	3	46	a	92	0	92	81	28	100	1	100	100	64	78	82
	Netherlands	6	5	74	m	95	0	95	99	0	99	0	100	100	m	94	89
	New Zealand	5	5	88	5	93	0	93	4	94	97	0	100	100	96	98	93
	Norway	6	6	96	0	97	0	97	98	0	98	1	99	100	88	96	97
	Poland	7	6	74	m	87	0	87	93	0	93	93	6	99	38	60	85
	Portugal	6	6	85	0	93	0	93	94	0	94	10	87	97	78	87	91
	Slovak Republic	6	6	68	m	79	0	79	85	0	85	39	47	86	73	71	78
	Slovenia	6	6	87	m	92	0	92	94	0	94	9	89	98	75	86	91
	Spain	6	6	97	m	98	0	98	98	0	98	1	96	97	98	97	98
	Sweden	7	7	92	2	94	0	94	95	0	95	98	1	99	m	m	94
	Switzerland	6	4-5	2	m	49	0	49	98	1	98	53	47	100	47	47	50
	Turkey	6	5-6	10	a	39	0	39	67	13	80	0	97	97	13	27	43
	United Kingdom	5	4-5	100	a	100	3	100	0	97	97	0	97	97	m	m	100
	United States[2]	6	4-6	40	m	68	0	68	86	4	90	22	74	96	66	66	66
	OECD average			78	m	89	1	88	83	12	95	27	71	97	75	81	88
	EU23 average			85	m	92	1	91	85	10	94	36	62	96	77	84	91
Partners	Argentina[3]	m	4	44	m	88	0	88	97	1	98	0	100	100	m	m	77
	Brazil	6	4	65	a	89	0	90	93	7	100	11	93	100	m	m	85
	China	6	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	6	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	7	35	m	73	0	73	98	3	100	60	64	100	m	m	69
	Russian Federation	7	7	79	m	85	0	85	86	0	86	80	9	88	37	73	83
	Saudi Arabia	m	6	4	m	14	0	14	41	5	45	5	77	82	m	m	21
	South Africa[3]	m	7	m	m	m	0	m	m	1	m	m	50	m	m	m	m
	G20 average			m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: Early childhood education = ISCED 0, other registered ECEC services = ECEC services outside the scope of ISCED 0, because they are not in adherence with all ISCED criteria. To be classified in ISCED 0, ECEC services should: 1) have an adequate intentional educational properties; 2) be institutionalised (usually school-based or otherwise institutionalised for a group of children); 3) have an intensity of at least 2 hours per day of educational activities and a duration of at least 100 days a year; 4) have a regulatory framework recognised by the relevant national authorities (e.g. curriculum); and 5) have trained or accredited staff (e.g. requirement of pedagogical qualifications for educators).

1. From September 2019, instruction is compulsory from the age of 3 in France
2. Excludes ISCED 01 programmes.
3. Year of reference 2017 instead of 2018.

Source: INES ad hoc survey and OECD/UIS/Eurostat (2020). See Source section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table B2.3. Enrolment of children in early childhood education and care (ISCED 0) in private institutions, ratio of children to teaching staff and most prevalent qualification of ECEC staff (2018)

		Percentage of children enrolled in private institutions (government-dependent and independent private institutions)			Ratio of children to staff in full-time equivalents by type of ECEC service (public and private institutions)									Most prevalent ISCED qualification required to enter ECEC profession	
					ISCED 01			ISCED 02			Total (ISCED 0)			Total (ISCED 0)	
		ISCED 01	ISCED 02	Total (ISCED 0)	Share of teachers' aides among contact staff	Children to contact staff (teachers and teachers' aides)	Children to teaching staff	Share of teachers' aides among contact staff	Children to contact staff (teachers and teachers' aides)	Children to teaching staff	Share of teachers' aides among contact staff	Children to contact staff (teachers and teachers' aides)	Children to teaching staff	Teachers	Teachers' aides
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
OECD	**Countries**														
	Australia	m	85	m	m	m	m	m	m	m	m	m	m	m	m
	Austria	65	29	36	31	6	9	35	9	14	34	8	13	ISCED 5	ISCED 3
	Belgium	m	53	m	m	m	m	a	14	14	m	m	m	ISCED 6	ISCED 3
	Canada	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Chile	10	63	51	43	6	10	59	9	23	59	9	22	ISCED 6	ISCED 3, vocational
	Colombia	m	21	14	m	m	m	m	m	36	m	m	m	ISCED 6	m
	Costa Rica	74	10	14	a	5	5	a	13	13	a	12	12	m	m
	Czech Republic	a	4	4	a	a	a	9	12	13	9	12	13	m	m
	Denmark	14	23	20	m	m	3	m	m	7	m	m	5	ISCED 6	x(13)
	Estonia	x(3)	x(3)	4	m	m	x(12)	m	m	x(12)	m	m	8	ISCED 6	m
	Finland	23	13	15	m	m	m	m	m	9	m	m	m	ISCED 6 or 7	m
	France	a	13	13	a	a	a	33	16	23	33	16	23	ISCED 7	ISCED 3, vocational
	Germany	73	65	67	8	4	5	9	9	9	9	7	7	ISCED 6, professional	ISCED 3, vocational
	Greece	m	10	m	m	m	m	a	10	10	m	m	m	m	a
	Hungary	16	11	11	a	14	14	a	12	12	a	12	12	m	a
	Iceland	21	14	16	a	3	3	a	5	5	a	4	4	m	m
	Ireland	100	99	99	x(10)	x(11)	x(12)	x(10)	x(11)	x(12)	7	4	4	m	m
	Israel	100	36	59	m	m	m	61	8	21	m	m	m	ISCED 5	ISCED 3
	Italy	a	28	28	a	a	a	a	12	12	a	12	12	m	a
	Japan[1]	a	76	76	a	a	a	m	13	14	m	13	14	ISCED 5 or 6	m
	Korea	89	77	82	a	5	5	a	13	13	a	8	8	ISCED 5	m
	Latvia	17	7	9	m	m	7	m	m	9	m	m	9	m	m
	Lithuania	11	4	5	36	7	10	35	7	10	35	7	10	ISCED 6	ISCED 3
	Luxembourg	a	11	11	a	a	a	a	12	12	a	12	12	m	m
	Mexico	68	15	18	60	5	12	a	24	24	11	21	23	ISCED 6	ISCED 2 and training
	Netherlands	a	28	28	a	a	a	14	14	16	14	14	16	m	m
	New Zealand	99	99	99	m	m	3	m	m	6	m	m	5	ISCED 6	m
	Norway	52	48	50	59	3	8	59	6	14	59	4	11	ISCED 6	ISCED 3
	Poland[2]	a	25	25	a	a	a	m	m	15	m	m	15	ISCED 7	m
	Portugal	96	47	62	m	m	m	m	m	16	m	m	m	ISCED 7	m
	Slovak Republic	a	7	7	a	a	a	1	12	12	1	12	12	ISCED 3	m
	Slovenia	7	5	5	a	6	6	a	9	9	a	8	8	ISCED 6	ISCED 3, vocational
	Spain	49	33	37	m	m	9	m	m	14	m	m	13	ISCED 5 for ISCED 01; ISCED 6 for ISCED 02	m
	Sweden	20	18	18	m	5	x(5)	m	6	x(8)	m	6	x(11)	ISCED 6	m
	Switzerland	a	5	5	a	a	a	m	m	18	m	m	18	ISCED 6	m
	Turkey	100	16	16	m	m	m	m	m	18	m	m	m	m	m
	United Kingdom	82	53	59	m	m	m	m	m	m	m	m	m	m	m
	United States	m	40	m	m	m	m	16	10	12	m	m	m	m	m
	OECD average	54	33	32	m	m	7	30	11	14	m	m	12		
	EU23 average	44	27	27	m	m	8	21	11	14	m	m	11		
Partners	**Argentina**[3]	57	31	33	m	m	m	m	m	m	m	m	m	m	m
	Brazil	34	23	28	37	9	14	14	17	20	27	12	17	ISCED 6	ISCED 3
	China	a	56	56	a	a	a	m	m	17	m	m	17	m	m
	India	a	m	m	a	a	a	m	m	m	m	m	m	m	m
	Indonesia	100	95	98	m	m	21	m	m	13	m	m	17	m	m
	Russian Federation	2	2	2	m	m	x(12)	m	m	x(12)	m	m	11	m	m
	Saudi Arabia	a	47	47	a	a	a	m	m	15	m	m	15	m	m
	South Africa[3]	m	6	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	33	34	m	m	m	m	m	16	m	m	15		

Note: Early childhood educational development programmes = ISCED 01, pre-primary education = ISCED 02 ; ISCED 5 = short-cycle tertiary; ISCED 6 = bachelor's degree or equivalent; ISCED 7 = master's degree or equivalent.

1. Data does not cover day care centres and integrated centres for early childhood education and care.
2. A master's or equivalent degree is not a prerequisite, but most ECEC teachers enter the profession with this level.
3. Year of reference 2017 instead of 2018.

Source: INES ad hoc survey and OECD/UIS/Eurostat (2020). See Source section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table B2.4. Financing of early childhood education and care (ISCED 0) and expenditure on all children aged 3 to 5 (2017)

Public and private institutions

		Expenditure on all children aged 3 to 5 enrolled in ECEC and primary education (based on head counts)		Expenditure on ECEC services as a percentage of GDP			Annual expenditure per child in USD, converted using PPPs (based on head counts)			Relative proportions of private expenditure on early childhood education and care (after transfers from public sources)		
		As a % of GDP	Per child	Early childhood educational development (ISCED 01)	Pre-primary (ISCED 02)	Total (ISCED 0)	Early childhood educational development (ISCED 01)	Pre-primary (ISCED 02)	Total (ISCED 0)	Early childhood educational development (ISCED 01)	Pre-primary (ISCED 02)	Total (ISCED 0)
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
OECD	Countries											
	Australia	0.6	8 697	0.2	0.3	0.6	7 685	7 994	7 863	41	34	37
	Austria	0.5	10 766	0.1	0.5	0.7	12 493	10 686	11 009	24	13	15
	Belgium[1]	0.6	8 918	m	0.7	m	m	8 912	m	m	3	m
	Canada	m	m	m	m	m	m	m	m	m	m	m
	Chile	0.9	6 489	0.3	0.9	1.2	7 730	6 449	6 727	17	18	18
	Colombia	0.4	1 725	0.1	0.3	0.5	m	1 556	m	89	28	45
	Costa Rica	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	0.4	6 109	a	0.5	0.5	a	6 109	6 109	a	10	10
	Denmark	m	m	0.6	1.0	1.6	18 850	18 304	18 502	19	19	19
	Estonia	0.7	8 137	x(5)	x(5)	1.2	x(8)	x(8)	8 137	x(11)	x(11)	16
	Finland	0.6	11 283	0.4	0.8	1.2	21 436	11 283	13 186	8	11	10
	France	0.7	8 892	a	0.8	0.8	a	8 894	8 894	a	7	7
	Germany	0.5	11 074	0.3	0.6	0.9	17 490	11 075	12 817	16	16	16
	Greece[1]	0.3	5 657	m	0.3	m	m	5 657	m	m	8	m
	Hungary	m	m	0.0	0.8	0.8	7 253	7 409	7 401	11	11	11
	Iceland	1.1	15 368	0.7	1.1	1.7	21 524	15 368	17 310	10	14	13
	Ireland	m	m	x(5)	x(5)	0.2	x(8)	x(8)	4 568	x(11)	x(11)	16
	Israel	0.9	6 055	0.3	1.0	1.3	3 282	6 052	5 049	84	9	27
	Italy	0.5	8 785	a	0.5	0.5	a	8 780	8 780	a	12	12
	Japan[2]	m	m	a	0.2	0.2	a	7 609	7 609	a	49	49
	Korea[1]	0.5	7 555	m	0.5	m	m	7 547	m	m	18	m
	Latvia	0.6	6 222	a	0.9	0.9	a	6 222	6 222	a	4	4
	Lithuania	0.5	6 610	0.2	0.7	0.9	6 972	6 610	6 677	17	13	14
	Luxembourg	0.5	19 334	a	0.5	0.5	a	19 326	19 326	a	2	2
	Mexico	0.6	2 594	x(5)	x(5)	0.5	x(8)	x(8)	2 570	x(11)	x(11)	10
	Netherlands	0.4	6 959	a	0.4	0.4	a	6 959	6 959	a	11	11
	New Zealand	0.8	8 985	0.4	0.5	0.9	10 133	9 217	9 599	28	14	20
	Norway	1.0	15 270	1.0	1.0	2.0	27 487	15 270	19 663	14	14	14
	Poland	0.6	7 164	a	0.8	0.8	a	7 164	7 164	a	18	18
	Portugal[1]	0.6	8 147	m	0.6	m	m	8 146	m	m	33	m
	Slovak Republic	0.5	6 123	a	0.6	0.6	a	6 123	6 123	a	12	12
	Slovenia	0.7	8 528	0.4	0.7	1.1	11 222	8 528	9 329	23	23	23
	Spain	0.5	7 415	0.2	0.5	0.7	8 735	7 413	7 759	40	17	24
	Sweden	0.9	14 703	0.5	1.3	1.8	17 520	14 703	15 442	6	6	6
	Switzerland[3]	m	m	a	0.4	0.4	a	13 412	13 412	a	m	m
	Turkey[1]	0.4	5 101	m	0.3	m	m	5 250	m	m	29	m
	United Kingdom	0.7	7 893	0.1	0.4	0.4	5 296	6 133	5 971	58	41	44
	United States[1]	0.4	9 509	m	0.4	m	m	9 435	m	m	25	m
	OECD average	0.6	8 583	0.3	0.6	0.9	12 819	9 079	9 661	30	17	18
	EU23 average	0.6	8 717	0.3	0.7	0.8	12 727	9 042	9 698	28	15	16
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m
	Brazil	m	m	m	m	m	m	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation[3]	m	m	m	m	m	x(8)	x(8)	6 186	m	m	m
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	a	m	m	a	m	m	a	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m

1. Expenditure on all children aged 3 to 5 excludes expenditure and enrolment in ISCED 01 programmes.
2. Data does not cover day care centres and integrated centres for early childhood education and care.
3. Public sources only.

Source: INES ad hoc survey and OECD/UIS/Eurostat (2020). See Source section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Indicator B3. Who is expected to complete upper secondary education?

Highlights

- On average across countries with true cohort data, 72% of students who enter upper secondary education graduate from any programme within its theoretical duration. Two years after the end of the theoretical duration, average completion increases to 81%. For countries with cross cohort data, the average completion rate is 83%.
- The completion rate (within the theoretical duration of the programme plus two years) of students in a general upper secondary programme (86%) is higher than for students in a vocational one (70%), on average across countries with data.
- In all countries with available data, women have higher completion rates than men in upper secondary education. The gender gap decreases with time, as men take longer to complete their programmes.

Context

Upper secondary completion rates measure how many of the students who enter an upper secondary programme ultimately graduate from it. One of the challenges facing education systems in many countries is students disengaging and consequent dropping out of the education system, meaning that they leave school without an upper secondary qualification. These young people tend to face severe difficulties entering – and remaining in – the labour market. Leaving school early is a problem for both individuals and society. Graduating with excessive delays is another source of concern, raising the issue of a later entry into the labour market and hence delaying the time when they are typically able to start contributing financially to society.

This indicator is restricted to initial education only, meaning it only captures students who are entering upper secondary education for the first time. For those students, it measures the successful completion of upper secondary programmes and the proportion of students still in education at two specific points: 1) the theoretical duration of the programme they entered; and 2) two years after the end of the theoretical duration. The difference between these two time frames sheds light on the extent to which students tend to graduate "on time" (or within the amount of time expected given the theoretical duration of the programme). It also allows completion rates by gender and programme orientation to be compared.

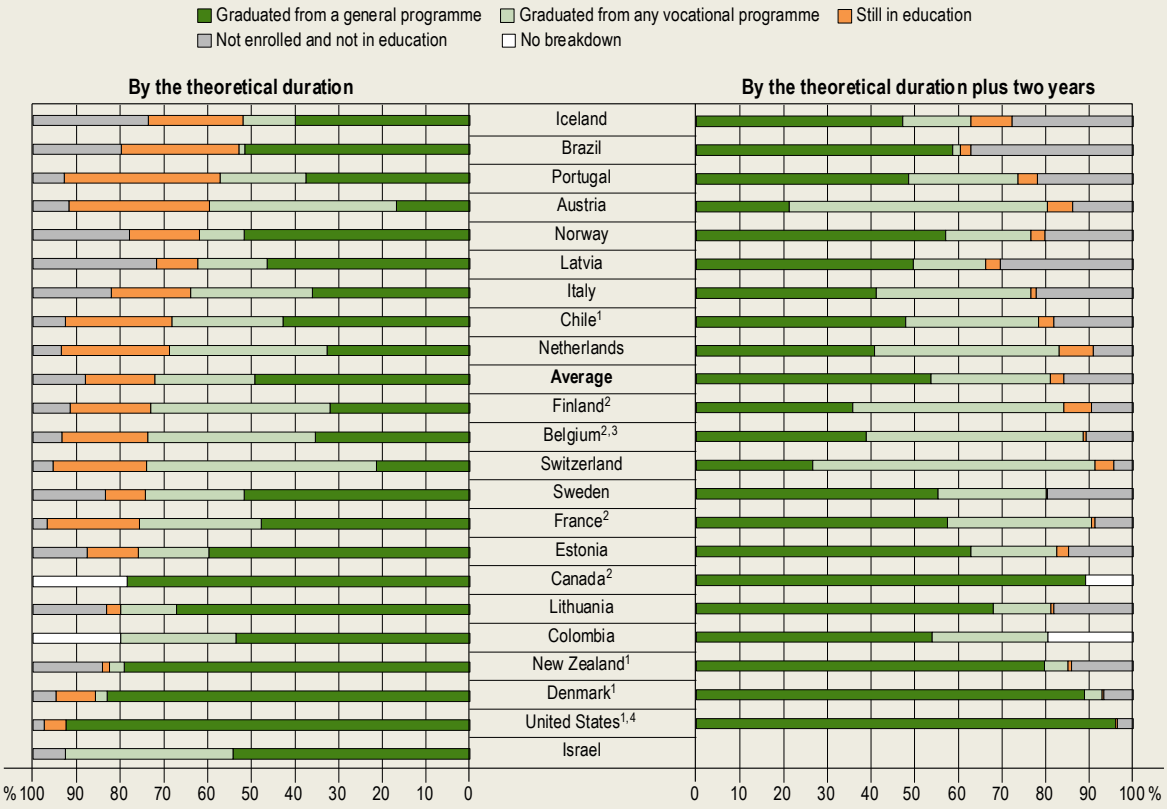
Like graduation rates, completion rates do not indicate the quality of upper secondary education; they do, however indicate to some extent the capacity of this education level to engage students to complete their programmes within a specific period.

Other findings

- For nearly all countries, the completion rate is higher for upper secondary general programmes than for vocational ones, within the theoretical duration. In Estonia and Norway, the difference in completion rates is at least 30 percentage points higher for general programmes than for vocational ones.
- On average, 3% of students who enter an upper secondary general programme are still in education two years after the end of the theoretical duration of the programme and 12% have not graduated and are no longer enrolled.
- In some countries and economies, upper secondary students transfer between programme orientations before graduating, meaning that they could graduate from a programme orientation that is different from the one they entered. In the Flemish Community of Belgium, Chile and Iceland, at least 10% of students who enter an upper secondary general programme graduate from a vocational one. Similarly, in Brazil, Iceland, Israel and Norway, at least 10% of upper secondary students graduate from a general programme after entering a vocational one.
- In all countries with available data, the completion rate of students who entered a general programme is higher than that of students who entered either type of vocational programme.

Figure B3.1. Distribution of upper secondary students by their status at the end of the theoretical duration of their programme and two years later

True cohort only



1. Students enter a general upper secondary education programme and only split into general and vocational programmes after one or more academic years
2. Year of reference 2017.
3. The data refer only to the Flemish Community.
4. Year of reference 2013 for the theoretical duration and 2015 for the theoretical duration plus two years.

Countries are ranked in descending order of the share of students who graduated from any programme.

Source: OECD (2020), Table B3.2. See Source section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en)

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Note

Completion, graduation and attainment rates are three different measures. Completion describes the percentage of students who enter an upper secondary programme for the first time and graduate from it a given number of years after they entered. The restriction to first-time entrants to upper secondary education means that adult-education programmes and students entering upper secondary education again after their initial schooling are excluded. For example, students who enter a vocational upper secondary programme after having completed a general upper secondary programme are not captured by this indicator.

This measure of upper secondary completion rates should not be confused with upper secondary graduation rates. The graduation rate represents the estimated percentage of people from a certain age cohort who are expected to graduate at some point during their lifetime. It measures the number of graduates from upper secondary education relative to the country's population. For each country, for a given year, the number of students who graduate is broken down into age groups (for example, the number of 16-year-old graduates divided by the total number of 16-year-olds in the country). The overall graduation rate is the sum of these age-specific graduation rates.

A third indicator in *Education at a Glance* uses the notion of educational attainment (see Indicator A1). Attainment measures the percentage of a population who have reached a certain level of education, in this case those who graduated at least from upper secondary education. It represents the relationship between all graduates (in the given year and previous years) and the total population.

Analysis

Completion rates for true cohort and cross cohort data

Completion rates are calculated using two different methods, depending on data availability. The first method, true cohort, follows individual students from entry into an upper secondary programme until a specified number of years later. Completion is then calculated as the share of entrants who have graduated in that time frame. The second method, cross cohort, is used when data on individuals are not available. It calculates completion by dividing the number of graduates in a year by the number of new entrants to that programme a certain number of years before, where the number of years corresponds to the theoretical duration of the programme.

Because of the difference in methodologies, caution must be exercised when comparing true cohort and cross cohort completion rates. On the one hand, countries with true cohort data are able to report exactly how many students from a given entry cohort have graduated within a specific time frame. That means that the true cohort completion rate includes students who graduated before or exactly at the end of the time frame (even if they graduated from a different upper secondary programme than the one they began) and excludes students who took longer than the time frame to graduate.

On the other hand, the number of graduates used in the cross cohort calculation corresponds to the total number of graduates of an upper secondary programme in a given calendar year. Thus, it includes every student who graduated that year, regardless of the time they took to successfully complete the programme. As an example, consider a programme with a theoretical duration of three years. Completion rates will then be calculated using the graduation cohort in 2018 and an entry cohort two academic years earlier, in 2015/16. For countries with cross cohort data, the graduation cohort in 2018 will include students who entered in 2015/16 and graduated on time (within three years) as well as all others who entered before 2015/16 and graduated in 2018. As a result, in countries where a significant share of students take longer to graduate, the cross cohort method will overestimate completion rates compared to the true cohort method, for which the time frame is limited.

The theoretical duration of upper secondary programmes may vary across countries. Therefore, despite having the same reference year for graduates (2018 unless specified otherwise), the year used for the entry cohort differs across countries. Please see Annex 3 (https://doi.org/10.1787/69096873-en) for more information on each country's theoretical duration of upper secondary programmes.

True cohort completion

On average across countries and economies with true cohort data, 72% of students who enter upper secondary education graduate from any programme within the theoretical duration of the programme. Two years after the end of the theoretical duration, the average completion rate increases to 81%. The completion rate increases between the theoretical duration and two years on, but for some countries and economies the increase is substantial. Notably, the completion rate at this level increases by at least 15 percentage points in Austria, the Flemish Community of Belgium, France, Norway, Portugal and Switzerland (Table B3.1).

A significant difference in completion rates between the shorter and longer time frames is not necessarily a negative outcome. It could reflect a more flexible upper secondary system, where it is common for students to transfer between different programmes or programme orientations, thus delaying their graduation. In the Flemish Community of Belgium, for example, 19% of students who enter a general upper secondary programme graduate instead from a vocational programme within the theoretical duration of their original programme plus two years. In Iceland and Norway, the opposite pathway is more common: more than 20% of students who enter a vocational programme transfer and graduate instead from a general programme (Table B3.2).

More generally, in countries that provide broad access to upper secondary education, flexibility may be important to give students more time to meet the standards set by their educational institution. In countries where upper secondary education is restricted either by admissions criteria or because students from disadvantaged backgrounds have less access to this level, completion rates may be higher because of the selection bias.

Nevertheless, students who graduate after excessive delays, or who leave the system without graduating are indeed a source of concern. Analysing how many of the students who are still in education by the theoretical duration leave the education system within the following two years may shed light on whether these students are delayed because of system characteristics or because they are falling behind and at risk of dropping out.

On average across countries and economies with available data, 51% of students who entered an upper secondary programme have graduated from a general programme and 24% from a vocational programme by the end of its theoretical duration. About 16% were still in education (even if at a different level) and 12% were no longer enrolled and had not graduated from any upper secondary programme. The picture evolves quite considerably two years after the end of the theoretical duration of the programme, as many of those who were still in education either graduate or leave the system. At this point, on average, 55% of students have graduated from a general programme and 28% from a vocational programme. Some 3% are still in education and 16% are no longer enrolled and have not graduated (Figure B3.1).

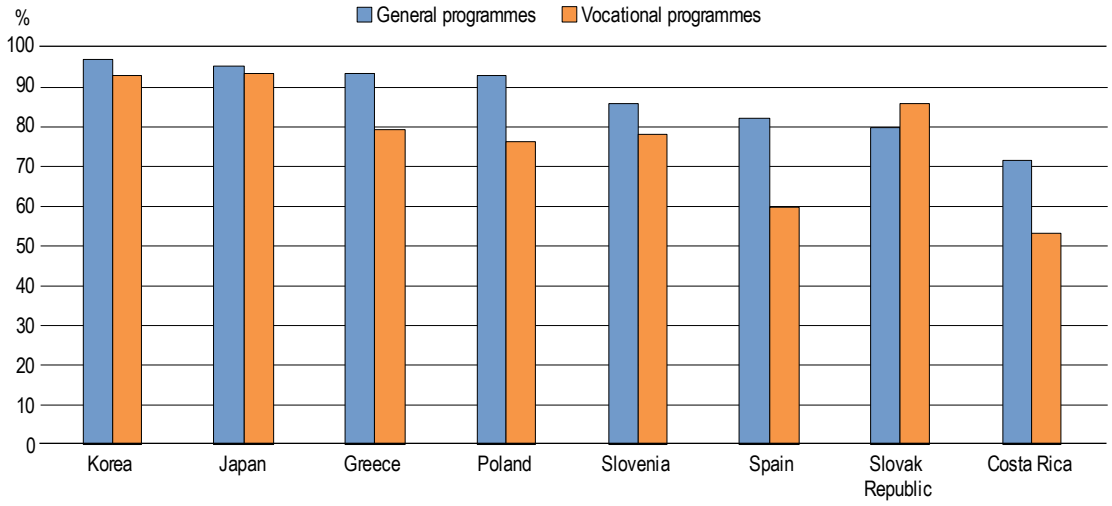
Cross cohort completion

Cross cohort completion rates take into account all graduates in a given academic year, regardless of the time it took them to complete the programme. As a result, cross cohort completion rates tend to be considerably higher than true cohort completion rates. Although they cannot be used to assess whether students are graduating with excessive delays, cross cohort completion provides valuable information on the share of students who are not graduating at all.

On average across the eight countries that submitted cross cohort data, 83% of students who enter an upper secondary programme complete it. There is, however, a wide variation among countries, ranging from 65% in Costa Rica to 96% in Korea (Table B3.1).

The completion rate pattern by programme orientation shows that in most countries with available data, cross cohort completion is higher in general programmes than in vocational programmes, except in the Slovak Republic (Figure B3.2). On average, the cross cohort completion rate is 10 percentage points higher for general programmes, ranging from 2 percentage points in Japan to 22 percentage points in Spain (Table B3.1).

Figure B3.2. Cross cohort completion of upper secondary education by programme orientation at graduation (2018)



Countries are ranked in descending order of the general programme completion rate.
Source: OECD 2020, Table B3.1. Ad-hoc survey on completion rates. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Completion rate by programme orientation

The flexibility to transfer between upper secondary programmes is important to ensure that students do not get locked into a programme that does not reflect their interest or ability. However, in most countries with true cohort data, students tend to graduate from the programme they entered: 73% of entrants to upper secondary general programme graduate from the same programme and 4% graduate from a vocational programme within the theoretical duration. Similarly, 58% of entrants to upper

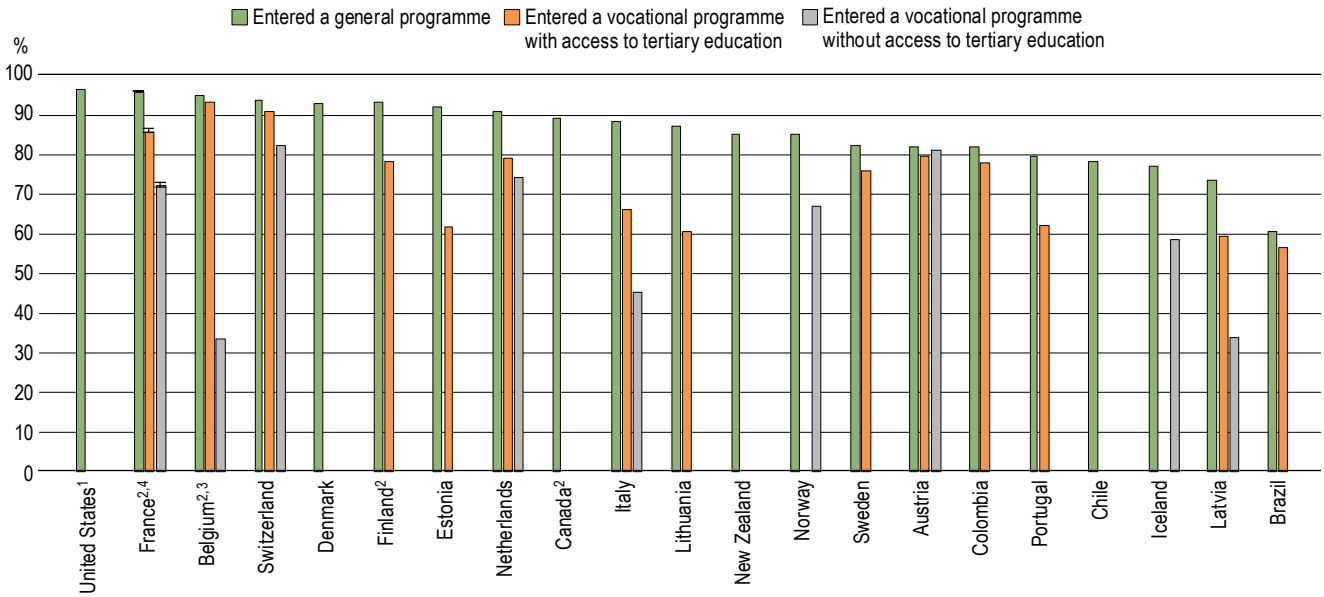
secondary vocational programmes graduate from the same programme and only 4% have gained a general qualification within the theoretical duration.

In all countries with true cohort data, except Israel and Switzerland, the completion rate within the theoretical duration for students who enter a general upper secondary programme is higher than for students who enter a vocational one. On average across countries with true cohort data, the completion rate for general programmes within the theoretical duration is 76%, compared to 62% for vocational programmes. In Estonia and Norway, the completion rate for general programmes is at least 30 percentage points higher than that for vocational programmes. The completion rates of vocational programmes within the theoretical duration range from 41% in Iceland to 94% in Israel. For countries with cross cohort data, the figures range from 53% in Costa Rica to 93% in Japan and Korea (Table B3.1).

In most countries, the difference in completion rates between the two orientations does not change significantly after two years following the end of the theoretical duration. One notable exception is Norway, where the gap reduces by 12 percentage points between the shorter and longer time frames. In contrast, the gap actually increases by 10 percentage points in France and by 17 percentage points in Portugal as the completion rate for general programmes increases considerably more than that of vocational programmes during the two years after the end of the theoretical duration (Table B3.1).

For the first time, the ad-hoc survey on upper secondary completion rates disaggregates vocational programmes into those which give access to tertiary education and without access to tertiary education (but may give direct access to post-secondary non-tertiary education). This further disaggregation is meant to shed light on the different pathways through upper secondary education but also on the differences in completion rates between these vocational programmes.

Figure B3.3. Completion rate of upper secondary education within the theoretical duration plus two years, by programme orientation at entrance (2018)



1. Year of reference 2013 for the theoretical duration and 2015 for the theoretical duration plus two years.
2. Year of reference 2017.
3. The data only refer to the Flemish Community.
4. The standard errors are included when data are provided through a survey.

Countries are ranked in descending order of completion rate of students who entered a general programme (for true cohort, by the theoretical duration plus two years).
Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934163591

The entry into general upper secondary programmes may be subject to stricter admission criteria than into vocational ones (Box B3.1).In all countries and economies with available data, the completion rate of students who entered a general

programme is higher than that of students who entered either type of vocational programme (with or without access to tertiary education). However, many countries have substantial differences in completion rates between vocational programmes. In the Flemish Community (Belgium), France, Italy, Latvia and Switzerland, students who entered a vocational programme without access to tertiary education are considerably less likely to complete upper secondary education than those who entered one with access to tertiary education. In contrast, the difference in completion rates between vocational programmes is low in Austria (Figure B3.3).

Among countries with cross cohort data, completion is also higher for general programmes than for vocational programmes. The average completion rate for general programmes is 87%, compared to 77% for vocational ones. The largest difference is found in Spain, where the completion rate for general programmes is 22 percentage points higher than for vocational programmes. One exception is the Slovak Republic, where completion is higher in vocational programmes than in general ones (Table B3.1).

As many countries aim to develop their upper secondary vocational programmes in the hope of better preparing students for the labour market, the comparatively lower completion rate for these programmes is concerning. It highlights the challenge faced by educators and policy makers alike of not only attracting students to vocational tracks, but also of supporting them through successful completion. Some countries have been successful in considerably increasing completion rates in vocational programmes and diminishing the gap between vocational and general programmes, however (Box B3.2). It is important to note, however, that there is a wide variation in size, duration and even completion rates of vocational programmes across countries.

Box B3.1. Transition between lower and upper secondary education

The transition from lower secondary to upper secondary education is an important step in students' academic trajectory. Ensuring a smooth transition helps to foster higher achievement gains and prevent students from dropping out (OECD, 2011[1]).

After having completed lower secondary education, students face many options: transition courses between lower and upper secondary level, basic vocational education, general education courses or no immediate entry into upper secondary level. Whatever the programme orientation chosen, the rate of immediate transition to upper secondary level shows the percentage of students who complete lower secondary education and start upper secondary education straight away. This rate varies widely across countries with available data, reaching almost 100% in Belgium, Japan, Korea, Latvia and Slovenia (metadata questions on policies and system characteristics). However, lower rates of immediate transition are not necessarily a negative outcome; they could reflect a more flexible educational system in which it is common for students to re-enter education later on, thus delaying their entry into upper secondary education.

In most countries with available data, successful completion of lower secondary level is sufficient to give students access to upper secondary education. However, when a national end-of-year examination is required to move from one level to another, some education authorities have introduced stricter conditions for entry into general upper secondary programmes than into vocational ones. In Norway, students must pass an exam with a minimum score to enter a general programme, whereas they need an educational agreement with a company to enter a vocational pathway. In Iceland, longer general programmes require higher grades than short ones but no specific exam is needed to enter upper secondary education.

Overall, countries have a distinct structure for lower and upper secondary education. Some studies have highlighted the benefits of combining primary, lower and upper secondary education in terms of school belonging (OECD, 2011[1]), which in turn is inversely related to depression, social rejection and school problems (Anderman, 2002[2]). However, there is no one-size-fits-all solution, and the choice of a particular pattern depends on the characteristics of the national educational system.

Completion rate by gender

In every country with available data (both true and cross cohort), women are more likely than men to complete upper secondary education, both within the theoretical duration and two years after (Table B3.1). On average across countries and economies with true cohort data, 76% of women graduated from upper secondary education within the theoretical duration of the programme, compared to only 68% of men. The difference in completion rates between women and men by the theoretical

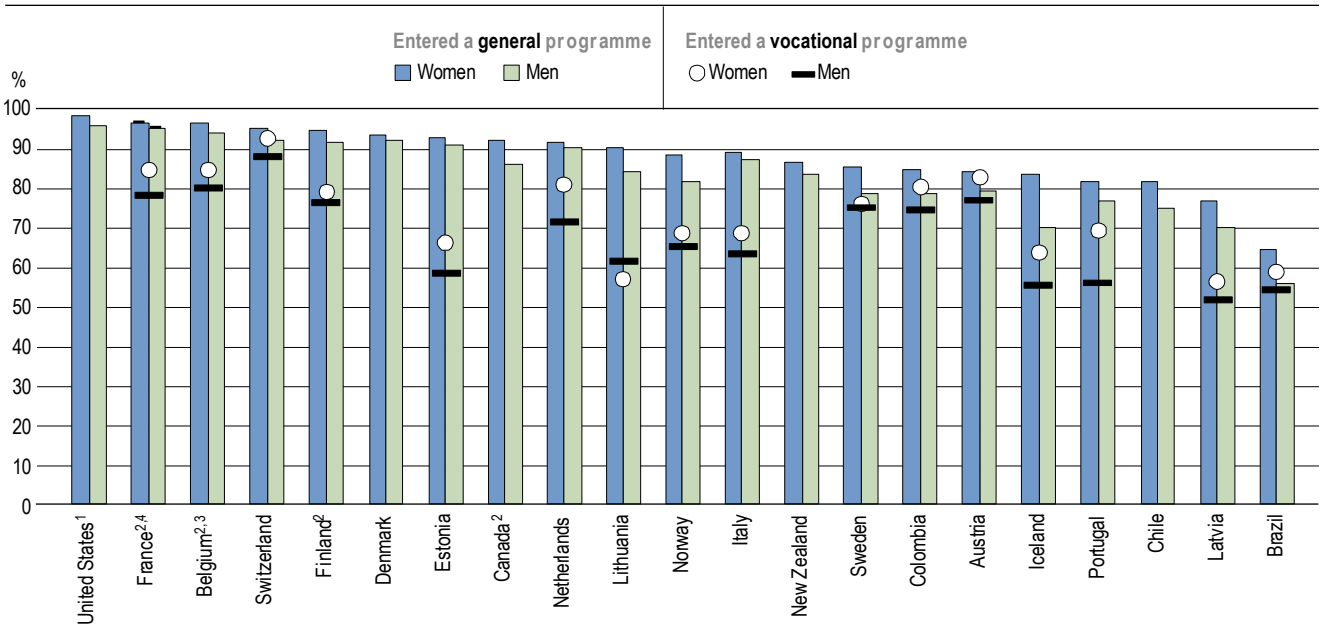
duration is at least 11 percentage points in the Flemish Community of Belgium, Iceland, Italy, Norway and Portugal. The gender gap narrows two years after the theoretical duration of the programme, when the completion rate among women increases to 84% and among men to 78% (Table B3.1).

In all countries and economies except Finland and Sweden, the gap in completion rate between men and women narrows or remains the same within the two years after the end of the theoretical duration of programmes, meaning relatively more men tend to delay graduation. Many factors may contribute to this delay, one of which is the higher incidence of grade repetition among men, who are more likely than women to repeat a grade even after accounting for students' academic performance and self-reported behaviour and attitudes (OECD, 2016[3])

The difference between upper secondary completion rates for women and men tends to be smaller among countries with cross cohort data. On average, the completion rate for women is 4 percentage points higher than for men, and the difference reaches 8 percentage points in Slovenia and Spain.

The gender gap also varies considerably depending on the programme orientation at entrance. In all countries with true cohort data, the completion rate of women is higher than that of men, whatever their programme orientation (Figure B3.4), except in Lithuania for students who entered a vocational programme. While the gender gap in favour of women tends to be similar for students entering a general or vocational programme (7 percentage points) within the theoretical duration plus two years, the completion rate of men in vocational programmes is equal or significantly higher than that of women in some countries (Table B3.1).

Figure B3.4. Completion rate of upper secondary education within the theoretical duration plus two years, by gender and programme orientation at entrance (2018)



1. Year of reference 2013 for the theoretical duration and 2015 for the theoretical duration plus two years.
2. Year of reference 2017.
3. The data only refer to the Flemish Community.
4. The standard errors are included when data are provided through a survey.

Countries are ranked in descending order of the completion rates of women who entered a general programme.

Source: OECD (2020). OECD (2020), Table B3.1. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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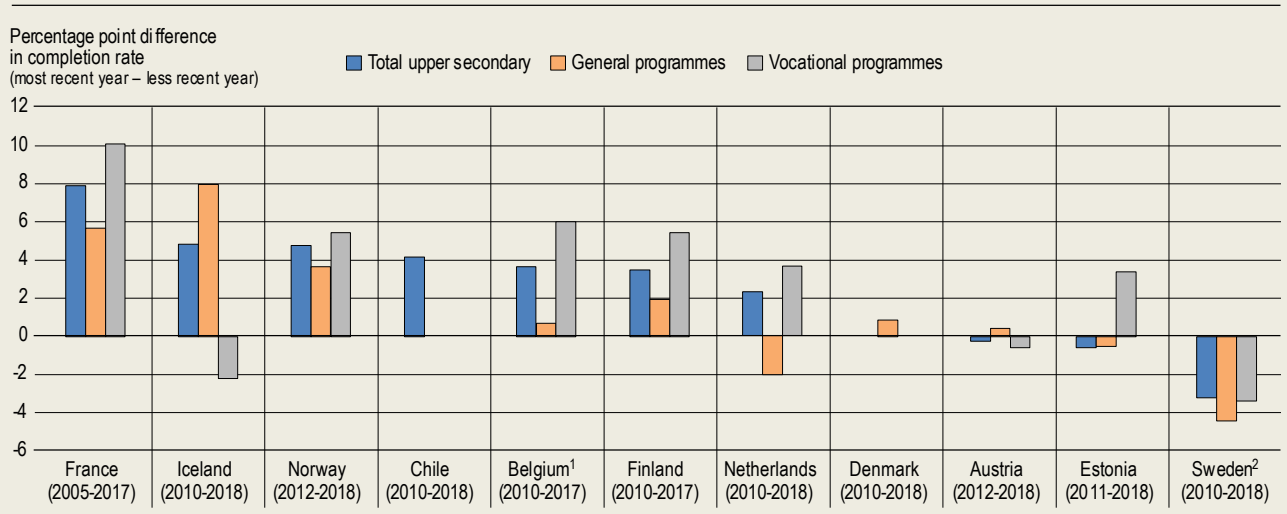
Box B3.2. Trends in completion rates of upper secondary education, by programme orientation, within the theoretical duration plus two years

Increasing the number of students who complete upper secondary education is a priority for many education policy makers. However, this is a challenging goal, which may require changes at the system, school and classroom levels. Figure B3.5 shows trends in completion rates broken down by programme orientation. The reference years used for the trend comparison in each country vary according to data availability (as indicated below the country's name on the horizontal axis), and therefore cross-country comparisons cannot be made from these data.

It is, however, possible to observe that the Flemish Community (Belgium), Finland, France and Norway have been able to increase completion rates over recent years for both general and vocational programmes in upper secondary education. In all four countries, the completion rate for vocational programmes has increased by more than for general programmes. In France, the total upper secondary completion rate increased by 8 percentage points between 2005 and 2017, driven mostly by an increase of 10 percentage points in the completion rate for vocational programmes. A sharp increase in completion rates for vocational programmes can also be observed in the Flemish Community of Belgium and Finland from 2010 to 2017 and in Norway between 2012 and 2018. In the Netherlands and Estonia, an increase in completion rates for vocational programmes was accompanied by a decrease in completion rates for general programmes.

In Sweden, an upper secondary school reform in 2011 may help explain the trend between 2010 and 2018. This has meant, among other things, that higher demands have been introduced for completion/graduation.

Figure B3.5. Trends in completion rates of upper secondary education within the theoretical duration plus two years, by programme orientation



How to read this figure: In France, the completion rate for total upper secondary education increased by 8 percentage points from 2005 to 2017. In Sweden, it decreased by 3 percentage points from 2010 to 2018.

Note: Completion rate by the theoretical duration of the programme plus two years.

1. The data only refer to the Flemish Community.

Countries are ranked in descending order of the percentage-point change in completion rates of upper secondary programmes.

Source: OECD 2020 ad-hoc survey on completion rates. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Definitions

The **true cohort** method requires following an entry cohort through a specific time frame, which in the case of this survey corresponds to the theoretical duration N and the theoretical duration plus two years (N+2). Only countries with longitudinal surveys or registers are able to provide such information. Panel data can be available in the form of an individual student registry (a system including unique personal ID numbers for students) or a cohort of students used for conducting a longitudinal survey.

The **cross cohort** method only requires the number of new entrants to a given ISCED level and the number of graduates N years later, where N corresponds to the theoretical duration of the programme. Under the assumption of constant student flows (constant increase or decrease in the number of students entering a given ISCED level throughout the years), the cross cohort completion is closer to a total completion rate (i.e. the completion rate of all students, regardless of the time it took them to graduate). As such, in countries where a large share of students do not graduate "on time" given the theoretical duration of the programme, the cross cohort completion may be more comparable to longer time frames of the true cohort completion.

The **theoretical duration** of studies is the regulatory or common-practice time it takes a full-time student to complete a level of education. True cohort completion is measured within two time frames: by the end of the theoretical duration and by the end of the theoretical duration plus two years. The theoretical duration always refers to the programme in which the student *originally entered* upper secondary education. This means that even if a student transfers to a different programme with a different duration they will still be registered according to the programme in which they originally entered the level. Please see Annex 3 (https://doi.org/10.1787/69096873-en) for information on each country's theoretical duration for general and vocational upper secondary programmes.

The **programme orientation** can refer either to the programme in which the student originally entered upper secondary education or to the programme from which the student graduated. Both types of analysis are included in the indicator. The titles, subtitles or axis titles of the figures (and tables) will clarify which programme is being disaggregated by programme orientation. Only programmes sufficient for level completion are included. Four programme orientations are considered in the analysis:

- general programmes (ISCED-P 343 and 344)
- vocational programmes without access to tertiary education (ISCED-P 353)
- vocational programmes with access to tertiary education (ISCED-P 354)
- combined vocational programmes (ISCED-P 353 and 354).

The **reference year** for the survey is 2018 and refers to the academic year 2017/18 in countries where the academic year runs from Sept-June. For countries submitting true cohort data, the reference year should be two years after the end of the theoretical duration of the programme. For example, if a programme has a duration of two years, the cohort reported must have entered upper secondary education in the academic year 2014/15. Their status is then recorded by the end of the theoretical duration of the programme (academic year 2015/16) and two years later (academic year 2017/18). For countries submitting cross cohort data, the year of reference corresponds to the reference year for the graduate data. Reference years that differ from 2018 will be clearly indicated throughout the indicator (even if not noted below the charts in this paper).

Methodology

Data on completion rates refer to the academic year 2017/18 and were collected through a special survey undertaken in 2019. Countries could submit data either using either the true cohort or cross cohort methodology.

The completion rate for both methods is calculated as the number of graduates divided by the number of entrants N or N+2 years before (where N is the theoretical duration of the programme).

For countries that submit true cohort data it is also possible to calculate the share of students still in education and the share of students who have neither graduated nor are still enrolled – all of which is calculated within the timeframes of N and N+2. Both shares are calculated by dividing the number of students in the given situation by the number of new entrants N or N+2 years before.

References

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OECD (2011), *Reviews of National Policies for Education, Improving Lower Secondary Schools in Norway*, Reviews of National Policies for Education, OECD Publishing, Paris, https://doi.org/10.1787/9789264114579-en. [1]

Indicator B3 Tables

Table B3.1 Completion rate of upper secondary education, by programme orientation at entrance and gender (2018)

Table B3.2 Distribution of entrants to upper secondary education by programme orientation and outcomes after the theoretical duration and after the theoretical duration plus two years (2018)

Cut-off date for the data: July 19th, 2020. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en. More breakdowns can also be found at http://stats.oecd.org/, Education at a Glance Database.

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Table B3.1. Completion rate of upper secondary education, by programme orientation at entrance and gender (2018)

Completion rate of full-time students who graduated from any programme

	General programmes			Vocational programmes			Total upper secondary		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	True cohort – Completed upper secondary by theoretical duration								
Countries									
Austria	56	66	62	54	64	59	55	65	60
Flemish Comm. (Belgium) [1]	77	87	82	60	71	65	68	80	74
Brazil	48	58	53	45	50	48	48	58	53
Canada [1]	75	83	79	a	a	a	75	83	79
Chile [2]	64	72	68	a	a	a	64	72	68
Colombia	78	85	81	75	80	78	77	83	80
Denmark [2]	84	88	86	a	a	a	84	88	86
Estonia	84	86	85	51	61	54	71	81	76
Finland [1]	81	81	81	68	69	68	72	74	73
France [1]	74	80	77	70	77	73	72	79	76
Iceland	55	73	65	38	48	41	45	60	52
Israel	87	96	91	92	97	94	89	96	93
Italy	74	79	77	49	58	52	58	71	64
Latvia	67	73	70	47	51	49	59	66	62
Lithuania	83	89	86	60	55	59	77	84	80
Netherlands	70	74	73	60	72	66	65	73	69
New Zealand [2]	81	84	83	a	a	a	81	84	83
Norway	72	81	77	39	56	46	54	71	62
Portugal	52	62	57	51	65	57	52	63	57
Sweden	72	79	76	71	71	71	72	77	74
Switzerland	67	75	72	72	79	75	71	77	74
United States [2, 3]	91	94	93	a	a	a	91	94	93
Average	72	79	76	59	66	62	68	76	72
	True cohort – Completed upper secondary education by theoretical duration plus two years								
Countries									
Austria	79	84	82	77	83	80	78	83	80
Flemish Comm. (Belgium) [1]	94	96	95	80	85	82	86	91	89
Brazil	56	65	61	55	59	57	56	65	60
Canada [1]	86	92	89	a	a	a	86	92	89
Chile [2]	75	82	78	a	a	a	75	82	78
Colombia	79	85	82	75	81	78	77	83	81
Denmark [2]	92	94	93	a	a	a	92	94	93
Estonia	91	93	92	59	67	62	78	87	83
Finland [1]	92	95	93	77	79	78	82	86	84
France [1]	95	96	96	79	85	81	88	93	90
Iceland	70	83	77	56	64	58	57	69	63
Israel	a	a	a	a	a	a	a	a	a
Italy	87	89	88	64	69	66	73	81	77
Latvia	70	77	74	52	57	54	62	71	66
Lithuania	84	90	87	62	57	61	78	85	81
Netherlands	90	92	91	72	81	76	80	86	83
New Zealand [2]	84	86	85	a	a	a	84	86	85
Norway	82	89	85	65	69	67	73	81	77
Portugal	77	82	80	57	70	62	69	78	74
Sweden	79	85	82	75	76	76	77	83	80
Switzerland	92	95	94	88	92	90	89	93	91
United States [2, 3]	95	97	96	a	a	a	95	97	96
Average	83	88	86	68	73	70	78	84	81
	Cross cohort								
Countries									
Costa Rica	70	73	72	53	54	53	64	67	65
Greece	92	95	93	85	71	80	86	88	87
Japan	95	96	95	93	94	93	95	95	95
Korea	97	97	97	93	93	93	96	97	96
Poland	92	94	93	76	78	77	81	87	84
Slovak Republic	77	82	80	85	86	86	83	84	84
Slovenia	85	86	86	74	84	78	77	85	81
Spain	79	85	82	57	64	60	71	79	75
Average	86	89	87	77	78	77	82	85	83

Note: The data presented in this table come from an ad-hoc survey and only concern initial education programmes. For true cohorts, the reference year (2018, unless noted otherwise) refers to the year of graduation by the theoretical duration plus two years. See Definitions and Methodology sections for more information.

1. Year of reference 2017.
2. Students enter a general upper secondary education programme and only split into general and vocational programmes after one or more academic years.
3. Year of reference 2013 for the theoretical duration and 2015 for the theoretical duration plus two years.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table B3.2. Distribution of entrants to upper secondary education by programme orientation and outcomes after the theoretical duration and after the theoretical duration plus two years (2018)

True cohort only

	Students' status by the end of theoretical duration of the programme								Students' status by the end of the theoretical duration of the programme plus two years							
	Graduated					Still in education	Not graduated and not enrolled	TOTAL (5)+(6)+(7)	Graduated					Still in education	Not graduated and not enrolled	TOTAL (13)+(14)+(15)
	From general programmes	From vocational programmes: Sufficient for level completion, without direct access to tertiary	From vocational programmes: Sufficient for level completion, with direct access to tertiary	From vocational programmes: Total	Total				From general programmes	From vocational programmes: Sufficient for level completion, without direct access to tertiary	From vocational programmes: Sufficient for level completion, with direct access to tertiary	From vocational programmes: Total	Total			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Distribution of students who entered an upper secondary general programme															
Countries																
Austria	59	0	3	3	62	29	9	100	74	0	8	8	82	5	13	100
Flemish Comm. (Belgium)[1]	70	0	13	13	82	15	3	100	76	0	19	19	95	0	5	100
Brazil	53	a	0	0	53	26	20	100	60	a	0	0	61	2	37	100
Canada[1]	79	a	a	a	79	x(8)	x(8)	100	89	a	a	a	89	x(16)	x(16)	100
Chile[2]	43	a	26	26	68	24	7	100	48	a	30	30	78	4	18	100
Colombia	81	0	0	0	81	x(8)	x(8)	100	82	0	0	0	82	x(16)	x(16)	100
Denmark[2]	83	3	0	3	86	9	5	100	89	4	0	4	93	1	7	100
Estonia	85	a	0	0	85	10	5	100	89	a	3	3	92	2	6	100
Finland[1]	81	m	0	0	81	16	3	100	90	m	3	3	93	3	3	100
France[1]	76	0	1	1	77	22	1	100	91	1	4	5	96	1	3	100
Iceland	54	x(4)	x(4)	10	56	21	24	100	63	x(12)	x(12)	14	66	9	25	100
Israel	86	0	5	6	91	0	9	100	a	a	a	a	a	a	a	a
Italy	75	0	2	2	77	15	8	100	85	0	4	4	88	1	11	100
Latvia	70	0	a	0	70	9	20	100	73	0	a	0	74	3	23	100
Lithuania	86	a	a	a	86	3	11	100	87	a	a	a	87	1	12	100
Netherlands	72	0	0	0	73	27	0	100	90	0	1	1	91	7	2	100
New Zealand[2]	79	4	a	4	83	2	16	100	80	5	a	5	85	1	14	100
Norway	77	x(4)	x(4)	0	77	8	15	100	85	x(12)	x(12)	1	85	2	13	100
Portugal	57	a	0	0	57	40	3	100	73	a	7	7	80	5	15	100
Sweden	75	0	0	1	76	9	15	100	80	1	1	2	82	0	18	100
Switzerland	72	0	1	1	72	25	3	100	88	0	5	5	94	4	2	100
United States[2, 3]	93	a	a	a	93	5	2	100	96	a	a	a	96	0	3	100
Average	73	1	3	4	76	16	9	100	80	1	6	6	85	3	12	100
	Distribution of students who entered an upper secondary vocational programme															
Countries																
Austria	0	0	58	59	59	33	8	100	0	0	79	80	80	6	14	100
Flemish Comm. (Belgium)[1]	0	6	59	65	65	24	11	100	1	8	74	82	82	1	17	100
Brazil	10	a	38	38	48	39	14	100	16	a	41	41	57	3	40	100
Canada[1]	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
Chile[2]	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
Colombia	0	0	78	78	78	x(8)	x(8)	100	0	0	78	78	78	x(16)	x(16)	100
Denmark[2]	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
Estonia	2	a	53	53	54	16	29	100	3	a	59	59	62	4	34	100
Finland[1]	0	m	68	68	68	20	12	100	1	m	78	78	78	8	14	100
France[1]	0	26	47	73	73	19	8	100	1	30	50	80	81	1	18	100
Iceland	14	x(4)	x(4)	28	37	26	38	100	23	x(12)	x(12)	35	50	12	38	100
Israel	11	5	79	84	94	0	6	100	a	a	a	a	a	a	a	a
Italy	1	1	50	51	52	21	27	100	1	1	63	65	66	2	33	100
Latvia	7	6	36	42	49	10	42	100	10	6	38	44	54	3	43	100
Lithuania	a	a	59	59	59	4	38	100	a	a	61	61	61	1	39	100
Netherlands	0	36	29	65	66	23	11	100	0	42	34	76	76	9	15	100
New Zealand[2]	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
Norway	25	x(4)	x(4)	21	46	24	30	100	27	x(12)	x(12)	40	67	5	28	100
Portugal	0	0	57	57	57	29	14	100	1	0	61	61	62	4	34	100
Sweden	1	40	30	70	71	9	20	100	2	43	31	74	76	0	24	100
Switzerland	0	8	67	75	75	20	5	100	0	9	81	90	90	4	5	100
United States[2, 3]	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
Average	4	12	54	58	62	20	19	100	6	14	59	65	70	4	26	100

Note: The data presented in this table come from an ad-hoc survey and only concern initial education programmes. See Definitions and Methodology sections for more information.
The columns for "not graduated and not enrolled" may include students who left the country before graduation.
Students who continued their studies in the adult-education system are included in the columns for "not graduated and not enrolled"
1. Year of reference 2017.
2. Students enter a general upper secondary education programme and only split into general and vocational programmes after one or more academic years.
3. Year of reference 2013 for the theoretical duration and 2015 for the theoretical duration plus two years.
Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934163534

Indicator B4. Who is expected to enter tertiary education?

Highlights

- If current entry patterns continue, it is estimated that 49% of young adults (excluding international students) will enter tertiary education for the first time before the age of 25 on average across OECD countries. Most of them will enter a bachelor's or equivalent programme.
- Short-cycle tertiary programmes are the second most common route of entry into tertiary education after bachelor's programmes. Men are more likely than women to enter short-cycle tertiary programmes in countries where science, technology, engineering and mathematics (STEM) fields are more prevalent at this level. In contrast, where health and education fields are more prevalent, then the share of women at this level increases.
- At higher levels of education, 14% of young adults are expected to enter master's or equivalent programmes (excluding international students) before the age of 30, dropping to 1% at doctoral level.

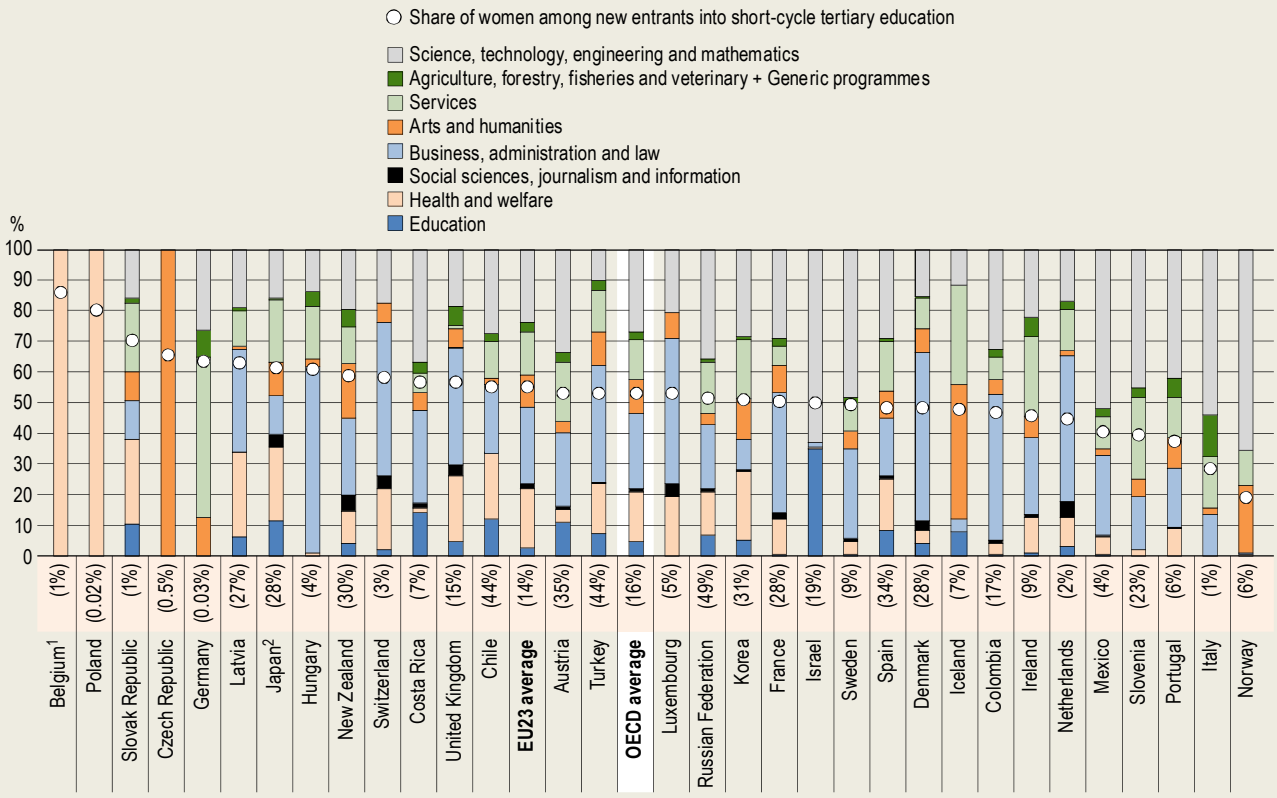
Context

Access to tertiary education plays an essential role in developing young adults' skills so they can contribute fully to society. Yet students' profiles and academic aptitudes can be very diverse. Some people find academic learning unappealing, too long and too uncertain. Not all students develop skills at the same pace, and the traditional route of only entering tertiary education following an upper secondary general programme is increasingly being challenged. At the same time, the sequencing of higher educational level within educational life cycles has also seen changes. Students are more likely to postpone entry to higher education, take a gap year or alternate periods of employment with periods of study. Stimulating employment opportunities and burgeoning economies have prompted students in some countries to defer education in favour of learning in the workplace, particularly when financial support for further study is limited. Lifelong learning is slowly emerging as the new vision for education, enabling individuals to continually update their skills to meet volatile and constantly evolving market demand.

To address the growing needs of a diverse population, some countries have progressively adapted their tertiary-level programmes to ensure more learning flexibility to suit a wide range of students' skills and learning aptitudes. This includes building more pathways between upper secondary and tertiary programmes, including those with a vocational orientation, and also expanding the types of programmes available to first-time tertiary students: short-cycle tertiary programmes, bachelor's programmes or long first degrees at master's level. Each education level and programme requires different skills at entry and addresses specific labour-market demands. Flexible entrance criteria can support lifelong learning and second-chance programmes can offer new opportunities to older students who might have dropped out of the education system or for those who wish to develop new skills. Providing a range of educational options adapted to the needs and ambitions of young adults also ensures a smoother transition from education to work.

The profile of first-time entrants to tertiary education provides an indication of the learning trajectories across various tertiary levels and programmes. It also provides information about equity in access to tertiary programmes by looking at differences in entry rate across different demographic groups. Entry rates estimate the proportion of people who are expected to enter a specific type of tertiary education programme at some point during their life. They provide some indication of the accessibility of tertiary education and the degree to which a population is acquiring high-level skills and knowledge. High entry and enrolment rates in tertiary education imply that a highly educated labour force is being developed and maintained.

Figure B4.1. Share of women and distribution by field of study of new entrants into short-cycle tertiary level (2018)



How to read this figure: In Norway, the entry rate for short-cycle tertiary is 6% and women make up 19% of short-cycle tertiary new entrants. At this level 65% of new entrants are studying science, technology, engineering and mathematics (STEM), 22% arts and humanities, 12% services and 1% business.

Note: The percentage in parenthesis is the total entry rate in short-cycle tertiary programmes. It informs on how prevalent these types of programmes are in the education system of each country.

1. Short-cycle tertiary: data refer to the Flemish Community of Belgium only.

2. All fields of study include information and communication technologies (ICT).

Countries are ranked in descending order of the share of women among short-cycle tertiary new entrants in 2018.

Source: OECD/UIS/Eurostat (2020), Table B4.2 and Education at a Glance Database (http://stats.oecd.org/). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934163724

Other findings

- Short-cycle tertiary programmes are mostly vocational, and they provide access to higher tertiary education in most OECD countries.
- The entry rate into short-cycle tertiary programmes by the age of 25 is about the same among women as among men, on average across OECD countries. In most countries with high short-cycle tertiary entry rates (20% and more), the entry rate among women is higher than among men.

Note

Short-cycle tertiary and master's long first degree programmes may not exist or are rare in a number of educational systems. To highlight the diversity of vocational education and training (VET) programmes at tertiary level across OECD member and partner countries, the analysis includes countries where short-cycle tertiary programmes, mostly vocational, may represent a very small part of the educational system.

Analysis

First-time entrants to tertiary education

If current entry patterns continue, it is estimated that 49% of young adults (excluding international students) will enter tertiary education for the first time before the age of 25 on average across OECD countries. However, first-time entry rates into tertiary education can vary significantly across countries and depend on the context within countries, the availability of programmes and their prevalence within the educational landscape. For example, Chile and Turkey have some of the highest first-time tertiary entry rates among OECD countries, mostly inflated by a high rate of entry into short-cycle tertiary education (Table B4.1). Conversely, Luxembourg reports the lowest first-time tertiary entry rates among OECD countries, due to the very high share of national tertiary students enrolled abroad (see Indicator B6).

Pathways into tertiary education

In slightly more than half of OECD and partner countries, first-time entrants into tertiary education can choose from one of the three types of programme: short-cycle tertiary, bachelor's or a master's long first degree. A short-cycle tertiary programme (ISCED 5) is typically a short two to three year programme that develops occupation-specific skills and that most often prepares students for direct entry into the labour market. A bachelor's or equivalent programme (ISCED 6), allows students to obtain a first degree qualification over three to four years, that would then be required if they wish to access a master's or equivalent programme (ISCED 7), which is a second stage qualification (one to two years), and then a doctoral or equivalent programme (ISCED 8). A master's long first degree (ISCED 7-LFD) does not require students to first obtain a bachelor's degree, but when completed, after at least five years, the qualification attained is at the same level as a second stage master's degree (OECD/Eurostat/UNESCO Institute for Statistics, 2013[1]).

The level at which students first enter tertiary education is indicative of the length of their studies and the employment or further learning opportunities they will have access to once they graduate. The distribution of students across each tertiary entry-level programme depends on each programme's availability, capacity and entry requirements within the national education system. The transition between programmes at the tertiary level is not always clearly distinguished and it may be possible to combine programmes and transfer credits from one programme to another.

On average across OECD countries, in 2018, more than three-quarters of first-time tertiary entrants enrolled in a bachelor's programme. However, the predominance of such programmes in the educational landscape varies greatly from country to country. In Belgium, the Czech Republic, Estonia, Finland, Greece, India, Lithuania, Mexico, the Netherlands and the Slovak Republic, more than 90% of first-time tertiary students enter bachelor's programmes. In other countries, first-time tertiary entrants are more evenly distributed across the various entry-level tertiary programmes. For example, in Austria, Chile, the People's Republic of China, Colombia, Japan, the Russian Federation, Saudi Arabia, Spain, Turkey and the United States, more than one-third of first-time entrants into tertiary education entered short-cycle programmes, twice the OECD average of 17% (Figure B4.2).

Despite the benefits offered by short-cycle tertiary programmes, they are not available in all countries. Where they are, they are not always very attractive to students. In 12 OECD countries, short-cycle tertiary programmes represent less than 10% of first-time entrants into tertiary education (Figure B4.2). Master's programmes are the least common entry point into tertiary level. On average across OECD countries with available data, 6% of first-time entrants into tertiary education are in master's programmes, and this only exceeds 15% in Austria, Germany, Hungary and Sweden. They include highly specialised fields such as medicine, dentistry or, in some cases, law and engineering (OECD/Eurostat/UNESCO Institute for Statistics, 2015[2]). In most countries, the majority of first-time tertiary entrants at master's level enter through master's long first degrees. In the United Kingdom, where master's long first degrees are not available, first-time tertiary entrants at master's level are students who are entering programmes based on industry experience rather than academic qualifications.

Profile of first-time entrants to tertiary education

From an economic point of view, delayed entry into tertiary education can be costly to the public purse, as adults postpone their entry into the labour market and hence the time when they are typically able to start contributing financially to society (see Indicator A5). On average across OECD countries, the average age of first-time entrants was 22 years old in 2018. However, there are large disparities among countries. The average age ranges from younger than 20 years old in Belgium and Japan, to over 24 years old in Denmark, Sweden and Switzerland (Table B4.1).

Average ages can mask variations in the age distribution across first-time tertiary entrants. Although there are 10 OECD countries where the average age of first-time entrants is 22 years old, within these countries the share below the age of 25 ranges from 87% in the Czeck Republic and Poland to 74% in Colombia. However, the average age is generally correlated with the share of first-time entrants below the age of 25 across OECD countries. This ranges from almost 100% in Japan, which is one of the countries with the lowest average age (18 year-old), to 66% in Sweden, which is one of the countries with the highest age (25 year-old) (Table B4.1).

Various factors may explain the differences in the age of first-time entrants into tertiary education. Structural factors, such as admission procedures, the typical age at which students graduate from upper secondary education, or cultural perceptions of the value of professional or personal experiences outside of education may explain the differences in the average age of entry to tertiary education across countries. Traditionally, students entered tertiary programmes immediately after completing upper secondary education, and this remains true in many cases. However, in a few countries, less than 25% of entrants to bachelor's programmes enrol straight after upper secondary (Box B4.1 in (OECD, 2019[3])). This is the case in Israel, for example, where military service is compulsory. Delayed entry can indicate difficulties in access to tertiary education, either through selective entry requirements or *numerus clausus* (a fixed maximum number of entrants admissible to an academic institution). In Finland and Sweden, admissions are restricted for many programmes and fields of study, resulting in more than 60% of applicants being rejected (Indicator D6 in (OECD, 2019[3])). A wide age distribution may also reflect the existence of second-chance and lifelong learning programmes characteristic of flexible pathways allowing for re-entry into the education system. It can also reflect financial challenges in affording the private costs associated with higher education.

Countries with lower average entry ages are those where enrolment into tertiary programmes is more likely to follow directly after graduation from upper secondary level. In some cases, this is facilitated by tertiary systems with open admissions, such as in the Netherlands. In others, direct entry following upper secondary has also been fuelled by tertiary education expansion policies and a strong culture valuing academic achievement and educational attainment. For instance in Japan, an increase in tertiary capacity since the 1970s, combined with specific policies to promote tertiary attainment following the Japan Revitalisation Strategy, have led to higher enrolment rates in spite of selective admission systems (OECD, 2009[4]).

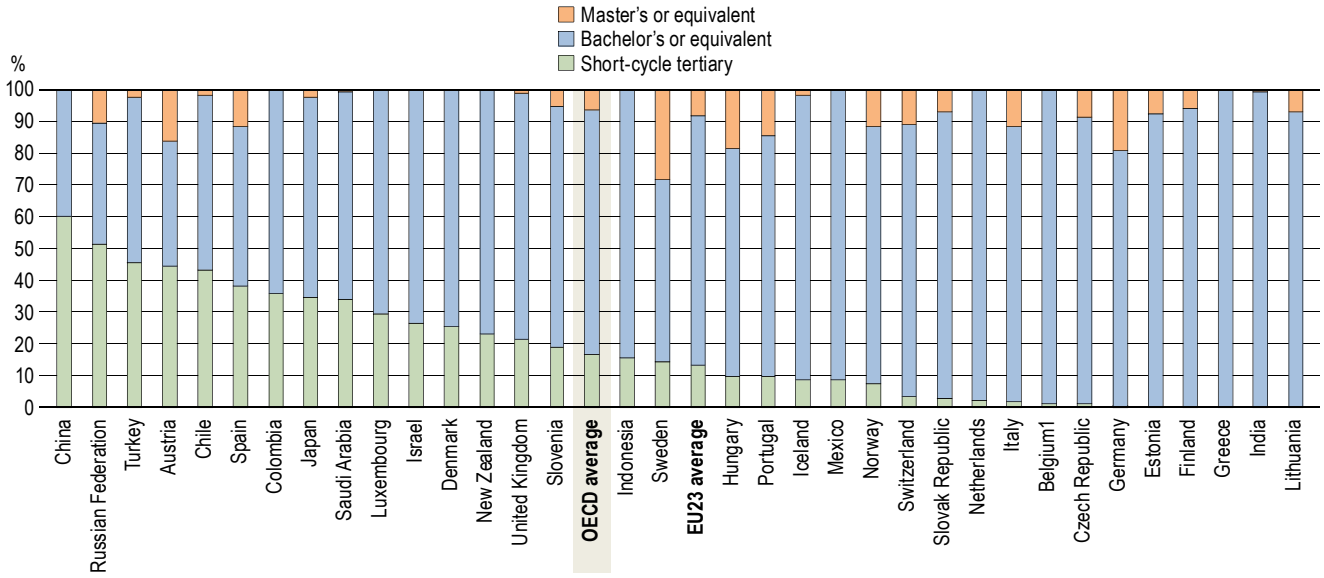
The prevalence of the different entry-level programmes and the student profile each programme tends to attract also affect the average age of first-time entrants. Students tend to enrol in bachelor's programmes shortly after upper secondary school, while short-cycle tertiary programmes tend to attract older adults, potentially with some employment experience. Belgium and the Netherlands, where 98-99% of first-time entrants into tertiary education are bachelor's students, are unsurprisingly among the countries with the lowest average entry age.

International mobility has expanded significantly in the past two decades. Higher demand for high-quality tertiary education worldwide, coupled with specific policies to promote student mobility within a geographic region (as is the case in Europe), or to support students in studying abroad specific fields of high relevance in the country of origin have largely driven the growth of international student mobility. For example, among European countries, the Erasmus Programme (European Action Scheme for the Mobility of University Students) plays an important role in students' mobility whatever the entry-level programme. International students provide an additional income stream for educational institutions and contribute to the economy of their host country. Beyond the economic benefits, interaction between domestic and international students promotes cultural understanding (culture, politics, religion, ethnicity and worldview), and dialogue, all essential to navigating an increasingly globalised economy (see Indicator B6). On average across OECD countries, 10% of first-time entrants into tertiary education were international students in 2018. Some countries are better than others at attracting international students. The share of international students among first-time entrants to tertiary programmes ranges from 1% or less in Chile, Colombia and Mexico to 22-23% in Austria, Hungary and Luxembourg and 31% in New Zealand (Table B4.1).

Equal opportunities for both men and women to enter tertiary education can contribute to stronger, better and fairer growth by raising the overall level of human capital and labour productivity (OECD, 2011[5]). Women are more likely to enter tertiary education before the age of 25 than men, and this is true in all OECD countries. On average across OECD countries in 2018, the first-time tertiary entry rate (excluding international students) among women below the age of 25 was 55% compared to 44% for men. Nonetheless, the gender gap varies in favour of women from less than 2 percentage points in Luxembourg and Mexico to 18 or more percentage points in the Czech Republic, Iceland and New Zealand (Table B4.1).

On average across OECD countries, 54% of first-time entrants into tertiary education are women. In some countries, men are particularly under-represented, for example in the Czech Republic, Iceland and Sweden, where women make up 58-60% of first-time entrants into tertiary education. Conversely, women are mainly under-represented in few non-OECD G20 countries with available data. In India and Saudi Arabia they make up 45-47% of first-time entrants into tertiary education (Table B4.1).

Figure B4.2. Distribution of first-time entrants into tertiary education by level of education (2018)



1. Short-cycle tertiary: data refer to the Flemish Community of Belgium only.
Countries are ranked in descending order of the share of first-time entrants going into short-cycle tertiary programmes.
Source: OECD/UIS/Eurostat (2020), Table B4.1. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Short-cycle tertiary education

Short-cycle tertiary programmes are often designed to provide participants with professional knowledge, skills and competencies. Typically, they are practically based, occupation-specific and prepare students to enter the labour market directly. Unsurpringly, most programmes at this level have a vocational orientation. Only in Australia, Iceland, Japan, New Zealand, Sweden and the United Kingdom do some short-cycle tertiary programmes have a general orientation (see Indicator B7).

Short-cycle tertiary programmes have the double advantage of offering reasonably priced higher education (as two-year programmes, their direct and foregone costs are lower than four-year programmes; see Indicator A5) and a readily employable qualification, but they do not exist in all countries. In most countries, the employment rates for adults with short-cycle tertiary attainment are lower than for those with a bachelor's degree, but there are exceptions in countries where short-cycle education is especially prevalent. For example, employment rates are slightly higher among adults with a short-cycle tertiary degree than among those with a bachelor's in Austria, Denmark and Korea (see Indicator A3). In these countries, short-cycle tertiary entry rates below the age of 25 (including international students) range from 12% to 30%, higher than the OECD average of 11%. Similarly, the earnings of workers with a short-cycle tertiary degree are the same or higher than those of workers with a bachelor's degree in Austria (see Indicator A4).

Short-cycle tertiary education is the second most common route into tertiary education on average across OECD countries after the bachelor's degree. The short-cycle tertiary entry rate for students below the age of 25 (excluding international students) varies from 1% or less in Belgium, the Czech Republic, Germany, Italy, Poland, the Slovak Republic and Switzerland, to 29-30% in Austria, Chile and the United States. In 2018, it was the main route of entry to tertiary education in Austria, China, and the Russian Federation (Figure B4.2). In some countries, this is due to the particular structure of these programmes. For example, in Austria and in the Russian Federation, short-cycle tertiary programmes span upper secondary and tertiary levels of education, leading to the wider take up of this level of education (Table B4.2).

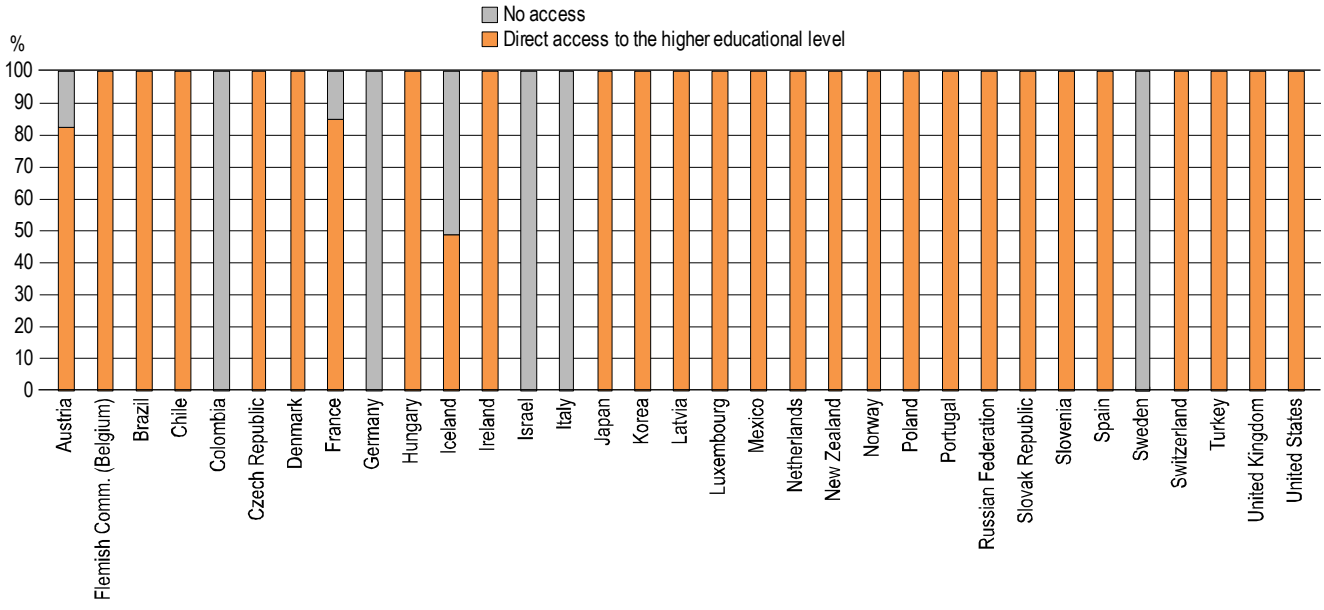
On average across OECD countries, 96% of students in short-cycle tertiary education are enrolled in vocational education and training (VET) programmes. In about three-quarters of countries with available data, all students in short-cycle tertiary education are enrolled in VET programmes, and for the remaining countries, the percentage varies from 50% in the United Kingdom to 96% in Australia (see Indicator B7).

Pathways into and out of short-cycle tertiary programmes

Although short-cycle tertiary programmes are primarily vocational, students from upper secondary vocational programmes are not necessarily more likely to enter them. In 2017, only 21% of entrants to short-cycle tertiary programmes had completed an upper secondary vocational programme in France compared to 69% in Norway (Table B5.2 in (OECD, 2019[3])). Students from upper secondary vocational programmes represent between 43% and 60% of entrants into short-cycle tertiary programmes in Sweden, Chile and Slovenia (OECD, 2019[3]). Direct access from upper secondary vocational to tertiary programmes varies across countries: in 2018, the share of upper secondary vocational students enrolled in programmes giving direct access to tertiary education varied from 0% in Norway and Sweden to 62% in France, 70% in Slovenia and 100% in Chile. However, these differences also highlight the various pathways available for upper secondary vocational students wishing to pursue tertiary education. For instance, in Sweden, students enrolled in upper secondary vocational programmes can add more academic courses to their curriculum in order to access higher education. In some countries, access is indirect and requires the prior completion of an intermediate level. In Hungary, for example, non-tertiary post-secondary education is a stepping stone for upper secondary vocational graduates into tertiary education (see Indicator B7).

While short-cycle tertiary programmes in most countries give access to further studies at bachelor's or master's level, in some countries they do not, even if they are sufficient for this level completion (Figure B4.3). In Colombia, Germany, Israel, Italy and Sweden, it is not possible for students to access directly to the higher educational level after graduating from a short-cycle tertiary programme. In Colombia and Israel, programmes at this level are dedicated to adults wishing to develop new skills. Adult programmes may be second-chance programmes, where individuals who did not obtain the qualifications they need during their initial education are provided another opportunity to do so. Such programmes may also aim to get individuals back into employment as quickly as possible. In these situations, flexible pathways from short-cycle tertiary to higher levels of education may not then be necessary.

Figure B4.3. Distribution of students enrolled in short-cycle tertiary programmes by level of access to the higher educational level (2018)



Countries and economies are listed in alphabetical order.
Source: OECD/UIS/Eurostat (2020). See Source section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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In some countries, different short-cycle tertiary programmes are offered, some of which do provide access to the higher educational level, and some of which do not (Austria, France and Iceland). For example, in Austria, *Berufsbildende höhere Schule* provides access to the higher educational level whereas *Meisterschule*, *Werkmeister* and *Bauhandwerkerschule* do not. In some countries, programmes classified as insufficient for level completion may still provide access to the higher

educational level. For example, in France, students who complete a one-year short-cycle tertiary programme classified as insufficient for level completion may enter a bachelor programme in the first year of the programme. In contrast, those that completed a longer short-cycle tertiary programme may enter directly in the third year of the bachelor programme after graduation.

Countries are promoting the development of pathways from initial VET programmes to further and higher educational levels. Tertiary education allows students to acquire the skills they require to respond to today's labour-market needs. On the one hand, there is continued demand for employees with skills that are not typically taught in academically oriented tertiary programmes. On the other hand, some people find academic learning unattractive, too long and too uncertain. Short-cycle tertiary vocational education matches those labour-market needs and those students' expectations. Vocational education and training, may have been primarily designed to train people for a lifetime occupation, but rapid changes in the labour market, driven by technology, changing the skillsets required in many occupations and eliminating some types of job altogether while also creating new ones, suggest the need for a flexible tertiary education. The development of effective pathways serves multiple policy objectives, such as increasing the attractiveness of initial VET by meeting students' aspirations, and removing any perception of VET tracks as dead ends; helping to meet growing economic demands for higher level skills and qualifications; supporting lifelong learning; removing wasteful barriers, such as requirements to repeat course material; and improving equity by promoting access to higher level programmes among more disadvantaged groups (UNESCO-UNEVOC, 2017[6]).

Many learning pathways from initial short-cycle tertiary to higher educational level are open in principle (Figure B4.3), "but rarely travelled" (Musset et al., 2019[7]). Graduates from this level may prefer to directly enter employment, either for financial reasons or due to challenges in gaining recognition of their degree to advance to higher educational level. To improve the pathways from initial short-cycle tertiary to higher education, reforms have been introduced in some countries to facilitate credit recognition. For example, in Australia, the national qualification framework (NQF) standardises the contents of knowledge, skills and attitudes required to observe "levels" of attainment and offers formal pathways from post-secondary VET courses into bachelor's programmes, whereby graduates receive credits for subject, units or years of study that they have followed, which are taken into consideration when they apply for related degree courses in general higher education. Nonetheless, in Australia, only 9% of bachelor's entrants come from (vocational) technical and further education colleges (Field and Guez, 2018[8]).

Some reforms have aimed to diversify the programmes on offer and increase the attractiveness of short-cycle tertiary programmes. For instance, in 2016 the Chilean government created by law (Law N° 21.910) the first 15 public centres for VET in tertiary education, one per region, facilitating student access to VET throughout the country. In Sweden, higher vocational education (*yrkeshögskola*) is currently going through an expansion and increasing the number of student places. The expansion began in 2018 and will take place in stages until 2022 when the number of full-time equivalent student places will have increased by 45%. England (United Kingdom) implemented a reform encouraging sustainable employer investment in apprenticeship training by placing the control of apprenticeship funding in the hands of employers. Israel upgraded the status and quality of practical engineer programmes, and improving their correspondence with market needs.

Profile of new entrants to short-cycle tertiary education

On average across OECD countries, the average age of new entrants to short-cycle tertiary programmes was 25 years old in 2018. However, there are large differences among countries. The average age varies from 22 or younger in Austria, Belgium, Costa Rica, France, Japan, Korea, Luxembourg, Mexico and Portugal, to 28 and older in Denmark, Iceland, Ireland, Latvia, New Zealand, Poland, Sweden, Switzerland and the United Kingdom. The average age is reflected in the share of new entrants below the age of 25 which varies from more than 90% in Belgium, France, Japan, Korea and Mexico to below 35% in Iceland, Poland, Sweden and Switzerland. In all countries except Belgium, France, Israel, Luxembourg and Mexico, the share of new entrants under the age of 25 is higher at bachelor's level than at short-cycle tertiary level (Table B4.2 and Table B4.3).

The disparities in the average age of new entrants in short-cycle tertiary programmes depends on the profile of students entering the programmes. In some countries, students tend to have some work experience before enrolling in these degrees. Even in countries with direct access to this level from upper secondary education, students are typically older as they tend to enter from upper secondary vocational programmes where completion rates are lower than for upper secondary general programmes (see Indicator B3).

On average across OECD countries, 5% of new entrants into short-cycle tertiary programmes were international students in 2018, the lowest share across all tertiary levels of education. In all countries except Chile, Denmark, Iceland, Ireland and Italy, the share of international new entrants at bachelor's level or equivalent is greater than at short-cycle tertiary level (Table B4.2 and Table B4.3).

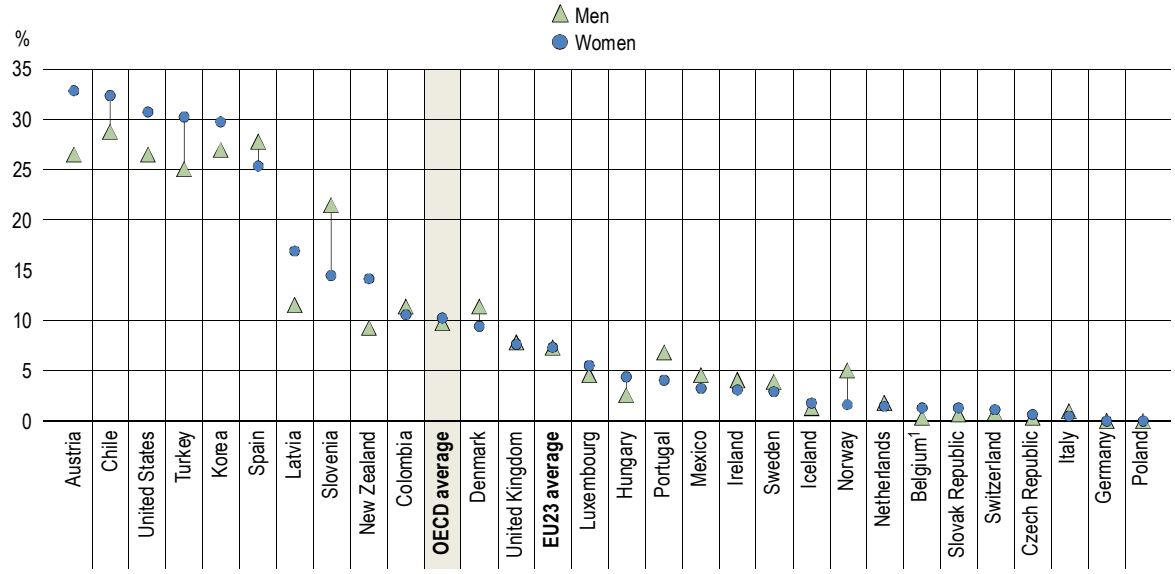
There are also large disparities across countries in the share of international students among new entrants, ranging from close to zero in Colombia, Germany, Mexico, Poland, Sweden and Switzerland to 18% in New Zealand and 39% in Iceland. As students in short-cycle tertiary programmes tend to be older than those enrolled in other tertiary programmes, they tend to be more likely to have family or personal obligations that may hinder their international mobility (Kirsch and Beernaert, 2011[9]).

On average across OECD countries, 27% of new entrants into short-cycle tertiary programmes in 2018 enrolled in the broad field of science, technology, engineering and mathematics (STEM); 25% in business, administration and law; 15% in health and welfare; 13% in services; 11% in arts and humanities and the remainder in education; agriculture, forestry, fisheries and veterinary; and social sciences, journalism and information. Promoting the study of STEM fields has become a priority in many countries as science-related competencies, problem solving and quantitative analysis are considered essential in today's data-based economy and are in high demand in the labour market. In Austria, Chile, Israel, Korea, Slovenia and Spain, where short-cycle tertiary entry rates for students under the age of 25 range from 13% (Israel) to 31% (Chile), STEM is the largest field of study with the share of new entrants ranging from 27% (Chile) to 63% (Israel) (Table B4.2).

There are large disparities in the distribution of new entrants by fields of study across countries at short-cycle tertiary level. In Belgium, the Czech Republic and Poland, where the short-cycle tertiary entry rate below the age of 25 is 1% or lower, all students are enrolled in just one broad field of study: health and welfare in Belgium and Poland, and arts and humanities in the Czech Republic. Conversely, in Germany, Iceland, Italy, the Slovak Republic and Switzerland, where the entry rate into short-cycle tertiary education is also 1% or lower, students enter a variety of fields of study (Figure B4.1).

Figure B4.4. Entry rates into short-cycle tertiary for new entrants below the age of 25, by gender (2018)

Excluding international students



1. Short-cycle tertiary: data refer to the Flemish Community of Belgium only.
Countries are ranked in descending order of the short-cycle tertiary entry rates for women below the age of 25.
Source: OECD/UIS/Eurostat (2020), Table B4.2. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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On average across OECD countries, 53% of new entrants into short-cycle tertiary programmes are women. In some countries, men are particularly under-represented at this level, as in Belgium, the Czech Republic, Poland and the Slovak Republic,

where women make up between 65% and 86% of new entrants. Conversely, women are particulary under-represented in Italy, Mexico, Norway, Portugal, Slovenia and Saudi Arabia where they make up between 19% and 40% of new entrants into short-cycle tertiary programmes (Table B4.2).

The disparities in the share of women among new entrants to short-cycle tertiary programmes may depend on the prevalence of some fields of study. Women in short-cycle tertiary programmes are under-represented in STEM fields while they tend to dominate in the field of health and welfare (OECD, 2019[3]). Hence, the share of women among new entrants into short-cycle tertiary across all fields of study tends to be lower when STEM fields make up a larger proportion of these programmes. In Mexico, Norway, Portugal and Slovenia (where the entry rates vary from 4% to 23%), STEM fields make up a large share of these programmes while the shares of women among new entrants are among the lowest, below 40% (Figure B4.1). Students' choice of field of study is guided by a variety of factors, including career opportunities and their aspirations after education. One explanation of the under-representation of women in some fields could be that they fear they will not have equal career opportunities in those fields, after completing their education.

The gender distribution is more balanced at short-cycle tertiary level than across other tertiary levels in OECD countries. In 2018, on average across OECD countries, the entry rate to short-cycle tertiary programmes (excluding international students) was the same for women as for men (10%), whereas women have a signficantly higher entry rate at bachelor's level (49% for women versus 38% for men). However, this difference varies widely among countries. In Norway, Portugal and Slovenia, the gender gap in short-cycle tertiary entry rates is in favour of men by 3-7 percentage points, while in Austria, Latvia, New Zealand and Turkey, the entry rate for women is 5-6 percentage points higher than the rate for men. In countries with high short-cycle tertiary entry rates, the entry rate for women below the age of 25 tends to be higher than for men (Figure B4.4).

Bachelor's, master's and doctoral education

Bachelor's programmes are the most common route into tertiary education on average across the OECD, accounting for 77% of first-time entrants into tertiary education. In Greece and India, it is the only route into tertiary education, as 100% of first-time entrants enter bachelor's programmes.

On average and excluding international students, the bachelor's entry rate is 44% across OECD countries, the master's entry rate is 14% and the doctoral entry rate is just 1%. The low entry rate at doctoral level reflect the substantial investment required from both individuals and governments to develop this level of education, as the key entry point into a career in academic research. Furthermore, in some countries, adults with doctorates still have lower employment rates than those with a master's degree. Nonetheless, these degrees continue to be in high demand and offer attractive returns on the initial investment. While the average annual cost is similar to that of a bachelor's degree programme in more than half of OECD countries, graduates of these programmes earn 32% more, on average (OECD, 2019[3]).

Profile of new entrants to bachelor's, master's and doctoral programmes

On average across OECD countries, 84% of new entrants into bachelor's programmes or equivalent are below the age of 25. The share varies from more than 96% in Belgium, Japan and Korea, to 68-69% in Israel, Sweden and Switzerland (Table B4.3). Differences in the share of new entrants below the age of 25 reflect the possibilities of re-entry into the education system among adults and selective entry requirements for bachelor's programmes. Traditionally, students enter a bachelor's programme immediately after completing upper secondary education, and this remains true in many countries. However, in some countries, the transition from upper secondary to tertiary education may occur at a later age, as discussed above (see first-time entrants section).

On average across OECD countries, 74% of new entrants at master's level and 58% at doctoral level are below the age of 30. Master's programmes may lead directly to a labour market-relevant qualification but they are also a prerequisite to accessing an advanced research qualification such as a doctorate in many countries. Interestingly, in Ireland and Luxembourg, the share of new entrants below the age of 30 is greater at the doctoral level than at the master's level (Table B4.2).

The share of internationally mobile students increases on average with the level of education, but this pattern varies across countries. On average across OECD countries, international students make up 9% of new entrants at bachelor's level, 21% at master's level and 29% at doctoral level. New entrants at master's level tend to be more likely to be mobile than at bachelor's level in all countries, except in Greece and the Slovak Republic where the share of international students entering bachelor's programmes is slightly higher than at master's level. New entrants into doctoral programmes tend to be more mobile than at

master's level, but this varies across countries. In Belgium, Iceland, Netherlands, New Zealand, Norway, Portugal, Sweden and Switzerland, the share of international students among doctoral new entrants is between 20 percentage points and almost 40 percentage points higher than in master's programmes. In contrast, the difference is negligible (less than 1 percentage point) in Greece, Spain and the United Kingdom. In Australia, Germany, Latvia and Lithuania, the share of international entrants to doctoral programmes ranges from around 3 percentage points to almost 20 percentage points lower than in master's programmes. Doctoral studies require substantial investment from both individuals and governments and some countries may prefer to concentrate on student mobility at master's level. Germany, Latvia and Lithuania have some of the lowest shares of international students at doctoral level, while Australia has the second highest share of international students among master's new entrants (Table B4.2).

While English-speaking countries are the most attractive destinations for students overall (see Indicator B6), other non-English speaking countries recruit from abroad more than half of new entrants at master's level (Luxembourg) or doctoral level (Belgium, Luxembourg, the Netherlands and Switzerland) (Table B4.3). Some countries have been developing programmes or changing their funding policies to attract international students at these levels of education in order to help play a leading role in research and innovation.

On average across OECD countries and excluding international students, the first-time entry rate of women to bachelor's, master's and doctoral programmes is greater than among men, but the gender gap shrinks as the level of education increases. At bachelor's level or equivalent, 49% of women are expected to enter a bachelor programme before the typical age of 25, compared to 38% of men. While the entry rate among women is larger than that of men in all countries at bachelor's level, the gender difference varies from 3 percentage points or less in Luxembourg, Mexico and Turkey to 21-22 percentage points in Australia and Israel. At master's level, 17% of women are expected to enter the programme before the typical age of 30, compared to 11% of men on average across OECD countries. The entry rate of women is higher than men for all countries with available data, except for Turkey. At doctoral level, the entry rate among women (below the typical age of 30) is almost equal to the rate among men, at 1% on average across OECD countries. Across OECD countries, the gender difference at doctoral level is very limited, within the range of ±0.5 percentage points (Table B4.3).

Definitions

Entry rate is the sum of age-specific entry rates up to an age threshold. The age-specific entry rate is calculated by dividing the number of entrants by age in a certain education level by the total population of the same age. The rate can be calculated including and excluding international students in the numerator of each age-specific entry rate.

First-time tertiary-level entry rate is an estimated probability, based on current entry patterns, that a young adult below an age threshold will enter tertiary education for the first time. The rate can be calculated including and excluding international students in the numerator of each age-specific entry rate.

Bachelor's/master's/doctoral level entry rate is an estimated probability, based on current entry patterns, that a young adult below an age threshold will enter a bachelor's/master's/doctoral programme during his or her lifetime. The rate can be calculated including and excluding international students in the numerator of each age-specific entry rate.

First-time entrants into tertiary education are students who are enrolling in tertiary education for the first time, without previous education at any other tertiary level. They may enter tertiary education at different levels through short-cycle tertiary (ISCED 5), bachelor's programmes (ISCED 6) or master's programmes. **First-time entrants to a master's programme** in most cases refer to entrants to a master's long first degree (ISCED 7-LFD), but may also include entrants to a stage of a programme at ISCED level 7 insufficient for level or partial level completion; and students authorised to enter a master's programme after validation of acquired experience (VAE).

Internationally mobile students or international students are those students who left their country of origin and moved to another country for the purpose of study.

Master's long first degree (LFD) is a master's programme (ISCED 7-LFD) of 5 to 7 years that prepares for a first degree or qualification that is equivalent to master's level programme in terms of their complexity of content. This includes highly specialised fields such as medicine, dentistry or, in some cases, law and engineering.

New entrants to a tertiary level of education are students enrolling for the first time into a tertiary level of education but may have previously entered and completed a degree in another tertiary level of education.

Methodology

Unless otherwise indicated, entry rates are calculated as net entry rates (i.e.as the sum of age-specific entry rates) up to an age threshold. The net entry rate for a single age is obtained by dividing the number of first-time entrants of that age for each type of tertiary education by the total population of the corresponding age. The sum of net entry rates is calculated by adding the rates for each year of age until the age threshold. The result represents the expected probability of entering tertiary education for the first time before the age threshold if current entry patterns are maintained. The age threshold refers to the upper limit for entering into a tertiary degree. Age 25 is used as the upper limit for entering into a short-cycle tertiary, bachelor's degree and first-time tertiary education overall. At the master's and doctoral levels, 30 is considered to be the upper age limit for entry.

Gross entry rates are used when data by age are missing and if the average age of entry is well below the age threshold considered for the calculation of this indicator. In this case, the number of entrants of which the age is unknown is divided by the population at the typical entry age (see Annex 1).

The average age of students is calculated from 1 January for countries where the academic year starts in the second semester of the calendar year and 1 July for countries where the academic year starts in the first semester of the calendar year. As a consequence, the average age of new entrants may be overestimated by up to 6 months while that of first-time graduates may be underestimated by the same.

Entry rates are sensitive to changes in the education system, such as the introduction of new programmes or the number of international students. Rates could at times be very high, during periods when there are unexpectedly high numbers of entrants. This indicator also reports the share of first-time entrants below the age threshold, alongside the entry rate, to provide contextual information on the relevance of the age threshold for each country.

International students are a significant share of the total student population in some countries, and their numbers can artificially inflate the proportion of today's young adults who are expected to enter tertiary programmes. When international students are included in the calculation, the percentage of expected first-time entrants into tertiary programmes can change significantly.

For more information, please see the *OECD Handbook for Internationally Comparative Education Statistics 2018* (OECD, 2018[10]) and Annex 3 for country-specific notes (https://doi.org/10.1787/69096873-en).

Source

Data refer to the academic year 2017/18 and are based on the UNESCO-UIS/OECD/EUROSTAT data collection on education statistics administered by the OECD in 2019. Data for some countries may have a different reference year. For details, see Annex 3 at https://doi.org/10.1787/69096873-en.

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Indicator B4 Tables

Table B4.1 Entry rate and profile of first-time entrants into tertiary education (2018)

Table B4.2 Entry rate and profile of new entrants into short-cycle tertiary level (2018)

Table B4.3 Entry rate and profile of new entrants into bachelor's, master's and doctoral levels (2018)

Cut-off date for the data: 19 July 2020. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en. More breakdowns can also be found at http://stats.oecd.org/, Education at a Glance Database.

StatLink: https://doi.org/10.1787/888934163648

Table B4.1. Entry rate and profile of first-time entrants into tertiary education (2018)

		Share of female first-time entrants	Share of first-time entrants below the age of 25	Average age of first-time entrants	Share of international first-time entrants	Share of first-time entrants by level of education			First-time tertiary entry rate for students under 25			
						Short-cycle tertiary	Bachelor's or equivalent	Master's or equivalent	Excluding international students			
									Total	Men	Women	Total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
OECD	**Countries**											
	Australia	m	m	m	m	m	m	m	m	m	m	m
	Austria	53	80	22	23	44	40	16	48	41	55	58
	Belgium[1]	56	96	19	9	1	99	a	62	55	71	68
	Canada	m	m	m	m	m	m	m	m	m	m	m
	Chile	54	82	22	1	44	55	2	71	65	77	71
	Colombia	51	74	22	0	36	64	a	32	30	34	32
	Costa Rica	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	58	87	22	13	1	91	8	49	40	58	57
	Denmark	55	74	25	8	25	75	0	53	46	60	58
	Estonia	56	82	23	11	a	93	7	42	36	49	47
	Finland	53	77	23	10	a	94	6	43	40	47	47
	France	m	m	m	m	m	m	m	m	m	m	m
	Germany	52	84	22	13	0	81	19	45	40	50	52
	Greece	56	88	21	5	a	100	a	40	33	47	42
	Hungary	55	88	21	22	9	72	18	32	28	37	40
	Iceland	60	74	24	12	8	90	2	43	34	53	47
	Ireland	m	m	m	m	m	m	m	m	m	m	m
	Israel	57	71	24	m	27	73	a	m	m	m	45
	Italy	55	94	20	6	2	87	11	46	39	53	48
	Japan	51	99	18	m	35	63	2	m	m	m	73
	Korea	m	m	m	m	m	m	m	m	m	m	m
	Latvia	m	m	m	m	m	m	m	m	m	m	m
	Lithuania	52	88	21	6	a	93	7	63	58	69	67
	Luxembourg	54	86	23	21	29	71	a	15	13	17	19
	Mexico	51	88	21	0	8	92	a	45	44	46	45
	Netherlands	52	94	20	15	2	98	a	53	50	56	62
	New Zealand	57	75	23	31	23	77	a	48	39	58	66
	Norway	54	85	22	2	7	81	11	57	49	66	57
	Poland	54	87	22	4	m	m	m	67	59	76	70
	Portugal	54	92	20	6	9	77	14	56	50	62	60
	Slovak Republic	57	85	22	11	2	91	7	41	34	48	45
	Slovenia	53	93	20	5	19	76	5	66	59	73	70
	Spain	53	81	22	7	38	50	12	65	59	71	67
	Sweden	58	66	25	13	14	58	28	41	33	50	46
	Switzerland	50	67	25	17	4	86	11	40	36	45	48
	Turkey	51	73	23	2	46	52	2	67	63	71	69
	United Kingdom	56	81	22	11	21	78	1	54	48	61	63
	United States	54	94	20	4	47	53	a	44	40	48	46
	OECD average	54	83	22	10	17	77	6	49	44	55	54
	EU23 average	54	85	22	10	13	79	8	48	43	54	53
Partners	**Argentina**	m	m	m	m	m	m	m	m	m	m	m
	Brazil	m	m	m	m	m	m	m	m	m	m	m
	China	55	m	m	m	60	40	a	m	m	m	m
	India	47	m	m	m	a	100	0	m	m	m	m
	Indonesia	56	m	m	m	15	85	a	m	m	m	m
	Russian Federation	55	m	m	m	52	38	10	m	m	m	m
	Saudi Arabia	45	m	m	m	34	65	1	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m
	G20 average	52	m	m	m	28	68	5	m	m	m	m

Note: See Definitions and Methodology sections for more information. Data and more breakdowns available at http://stats.oecd.org/, Education at a Glance Database.
1. Short-cycle tertiary: data refer to the Flemish Community of Belgium only.
Source: OECD/UIS/Eurostat (2020). See Source section for more information and Annex 3 for notes (https://doi.org/10.1787/f8d7880d-en).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934163667

Table B4.2. Entry rate and profile of new entrants into short-cycle tertiary level (2018)

		Share of female first-time entrants	Share of first-time entrants below the age of 25	Average age of first-time entrants	Share of international first-time entrants	Share of new entrants by field									Short-cycle tertiary entry rate for students under 25			
						Generic programmes and qualifications	Education	Health and welfare	Social sciences, journalism and information	Business, administration and law	Arts and humanities	Services	Agriculture, forestry, fisheries and veterinary	Science, technology, engineering and mathematics	Excluding international students			
															Total	Men	Women	Total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
OECD	**Countries**																	
	Australia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Austria	53	82	21	2	0	11	4	1	24	4	19	3	34	29	26	33	30
	Belgium[1]	86	99	19	7	0	0	100	0	0	0	0	0	0	1	0	1	1
	Canada	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Chile	55	68	24	1	0	12	21	0	22	2	12	2	27	30	29	32	31
	Colombia	47	67	23	0	0	0	4	1	47	5	7	2	33	11	11	11	11
	Costa Rica	57	m	22	m	0	14	1	2	30	6	6	4	37	m	m	m	m
	Czech Republic	65	78	23	5	0	0	0	0	0	100	0	0	0	0	0	1	0
	Denmark	48	45	31	10	0	4	4	3	55	8	10	1	15	10	11	9	12
	Estonia	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
	Finland	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
	France	50	94	20	m	0	0	12	2	39	9	6	3	29	m	m	m	26
	Germany	63	42	26	0	0	0	0	0	0	12	52	9	26	0	0	0	0
	Greece	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
	Hungary	61	81	23	1	0	0	1	0	61	3	17	5	13	3	3	4	3
	Iceland	48	27	31	39	0	8	0	0	4	44	33	0	11	1	1	2	2
	Ireland	45	46	30	8	6	1	12	1	25	7	26	0	22	4	4	3	4
	Israel	49	70	23	m	0	35	0	0	2	0	0	0	63	m	m	m	13
	Italy	28	80	23	7	0	0	0	0	13	2	17	14	54	1	1	0	1
	Japan[2]	61	100	18	m	0 [d]	11 [d]	24 [d]	4 [d]	12 [d]	11 [d]	21 [d]	1 [d]	16 [d]	m	m	m	21
	Korea	51	91	21	1	0	5	23	0	10	13	19	1	28	28	27	30	28
	Latvia	62	42	29	1	0	6	28	0	33	1	12	1	19	14	12	17	14
	Lithuania	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
	Luxembourg	53	90	22	10	0	0	19	4	48	8	0	0	21	5	5	5	6
	Mexico	40	93	20	0	0	0	6	0	26	2	11	3	52	4	5	3	4
	Netherlands	44	66	25	2	0	3	9	5	48	2	14	2	17	2	2	1	2
	New Zealand	58	51	29	18	1	4	10	5	25	18	12	4	20	12	9	14	15
	Norway	19	58	26	1	0	0	0	0	1	22	12	0	65	3	5	2	3
	Poland	80	21	37	0	0	0	100	0	0	0	0	0	0	0	0	0	0
	Portugal	37	88	21	3	0	0	9	0	20	10	13	6	42	5	7	4	6
	Slovak Republic	70	72	25	1	0	10	28	0	12	10	23	1	16	1	1	1	1
	Slovenia	39	74	24	3	0	0	2	0	17	6	27	3	45	18	21	14	19
	Spain	48	74	24	1	0	8	17	1	19	9	16	1	29	27	28	25	27
	Sweden	49	35	29	0	0	0	4	1	30	6	9	2	48	3	4	3	3
	Switzerland	58	32	31	0	0	2	20	4	50	6	0	0	17	1	1	1	1
	Turkey	53	64	25	1	0	7	16	1	38	11	13	3	10	28	25	30	28
	United Kingdom	56	51	28	3	4	4	22	4	39	6	1	2	18	8	8	8	8
	United States	55	75	23	3	m	m	m	m	m	m	m	m	m	29	27	31	29
	OECD average	53	66	25	5	0	5	16	1	24	11	13	2	27	10	10	10	11
	EU23 average	55	66	25	4	1	3	19	1	25	11	14	3	24	7	7	7	9
Partners	Argentina[3]	61	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	China	53	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
	Indonesia	59	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	51	m	m	1	0	7	14	1	21	4	16	1	36	m	m	m	m
	Saudi Arabia	28	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	50	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See Definitions and Methodology sections for more information. Data and more breakdowns available at http://stats.oecd.org/, Education at a Glance Database.
1. Short-cycle tertiary: data refer to the Flemish Community of Belgium only.
2. All fields of study include the field Information and Communication Technologies (ICTs).
3. Year of reference 2017.
Source: OECD/UIS/Eurostat (2020). See Source section for more information and Annex 3 for notes (https://doi.org/10.1787/f8d7880d-en).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table B4.3. Entry rate and profile of new entrants into bachelor's, master's and doctoral levels (2018)

		Bachelor's or equivalent						Master's or equivalent						Doctoral					
		Share of new entrants below the age of 25	Share of international new entrants	Bachelor's entry rate for students under 25				Share of new entrants below the age of 30	Share of international new entrants	Master's entry rate for students under 30				Share of new entrants below the age of 30	Share of international new entrants	Doctoral entry rate for students under 30			
				Excluding international students						Excluding international students						Excluding international students			
				Total	Men	Women	Total			Total	Men	Women	Total			Total	Men	Women	Total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
OECD	Countries																		
	Australia	80	21	60	50	71	77	75	61	8	6	9	28	50	42	0.8	0.7	0.9	1.6
	Austria	83	22	29	24	34	36	80	32	14	12	16	20	65	39	1.3	1.3	1.2	2.0
	Belgium[1]	96	9	66	59	74	72	94	17	27	24	29	31	67	56	0.3	0.4	0.3	0.6
	Canada	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Chile	82	0	50	47	53	50	48	2	6	4	7	6	41	14	0.2	0.2	0.1	0.2
	Colombia	77	0	22	20	24	22	42	1	3	3	4	3	17	5	0.0	0.0	0.0	0.0
	Costa Rica	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	86	11	46	38	54	52	94	18	21	17	26	27	76	23	1.9	1.9	1.9	2.4
	Denmark	76	8	47	39	56	51	86	23	23	20	26	30	69	40	1.1	1.2	1.0	2.1
	Estonia	81	10	39	34	45	43	73	21	16	11	21	20	65	35	0.9	0.6	1.2	1.3
	Finland	75	6	42	39	46	45	49	20	5	4	6	7	42	31	0.7	0.7	0.7	1.0
	France	90	m	m	m	m	54	87	m	m	m	m	39	76	m	m	m	m	1.8
	Germany	83	7	38	36	41	41	90	28	20	18	23	28	71	15	2.7	2.9	2.6	2.7
	Greece	90	3	65	61	69	67	50	0	11	8	14	11	46	0	1.2	1.2	1.2	1.2
	Hungary	88	9	26	24	29	29	88	24	11	9	13	15	64	25	0.9	0.9	1.0	1.2
	Iceland	76	9	42	33	51	45	60	17	14	9	19	17	36	41	0.4	0.3	0.5	1.1
	Ireland	89	5	61	58	64	64	57	27	14	12	16	23	60	35	1.3	1.2	1.3	2.1
	Israel	69	4	34	24	45	35	46	6	9	6	12	10	37	8	0.6	0.5	0.7	0.7
	Italy	94	6	39	35	45	41	90	9	22	18	27	24	71	18	1.0	0.9	1.0	1.1
	Japan	99	m	m	m	m	50	91	m	m	m	m	8	57	16	m	m	m	0.7
	Korea	98	2	56	53	59	57	57	12	6	5	7	8	41	15	1.2	1.3	1.0	1.5
	Latvia	75	11	54	49	60	61	74	20	18	12	24	24	48	14	0.9	0.7	1.1	1.0
	Lithuania	87	5	59	56	63	62	80	12	17	12	23	20	60	10	0.8	0.7	0.9	0.9
	Luxembourg	84	25	10	9	12	14	61	78	2	2	3	8	73	89	0.1	0.1	0.1	1.1
	Mexico	87	0	41	39	42	41	58	2	3	3	4	3	34	9	0.2	0.2	0.2	0.2
	Netherlands	95	15	52	49	55	61	92	30	15	13	17	22	85	51	0.6	0.6	0.6	1.2
	New Zealand	74	31	41	34	50	56	61	38	4	3	5	7	51	58	0.5	0.5	0.6	1.3
	Norway	80	4	49	40	58	49	79	6	26	22	31	28	47	29	0.8	0.8	0.8	1.3
	Poland	87	m	m	m	m	63	86	m	m	m	m	32	73	m	m	m	m	1.2
	Portugal	90	7	44	37	52	47	87	12	23	20	27	26	37	35	1.4	1.2	1.5	1.8
	Slovak Republic	85	9	38	33	44	41	88	8	27	20	34	29	66	10	1.5	1.4	1.6	1.6
	Slovenia	92	5	62	54	71	66	89	5	29	20	38	30	59	10	1.9	1.7	2.1	2.2
	Spain	91	2	43	37	50	44	79	21	15	11	18	17	45	21	1.7	1.6	1.8	2.0
	Sweden	68	5	30	22	38	32	77	22	20	17	23	25	57	43	0.5	0.5	0.6	1.2
	Switzerland	69	10	40	36	44	46	81	31	14	13	14	19	75	60	1.5	1.5	1.5	3.7
	Turkey	80	3	38	37	39	39	84	5	10	13	7	10	53	8	0.7	0.7	0.7	0.7
	United Kingdom	87	16	50	43	56	60	75	43	11	8	14	23	68	43	1.5	1.5	1.5	2.8
	United States	m	m	m	m	m	m	64	19	7	5	9	9	61	25	0.5	0.6	0.4	0.7
	OECD average	84	9	44	38	49	49	74	21	14	11	17	19	57	29	1.0	0.9	1.0	1.4
	EU23 average	84	10	43	38	49	47	76	22	16	13	19	21	60	31	1.1	1.1	1.1	1.6
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	84	7	46	42	51	46	91	8	25	22	27	25	m	9	m	m	m	m
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: Note: See Definitions and Methodology sections for more information. Data and more breakdowns available at http://stats.oecd.org/, Education at a Glance Database.
1. Doctorates: data refers to the French Community of Belgium only.
Source: OECD/UIS/Eurostat (2020). See Source section for more information and Annex 3 for notes (https://doi.org/10.1787/f8d7880d-en).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

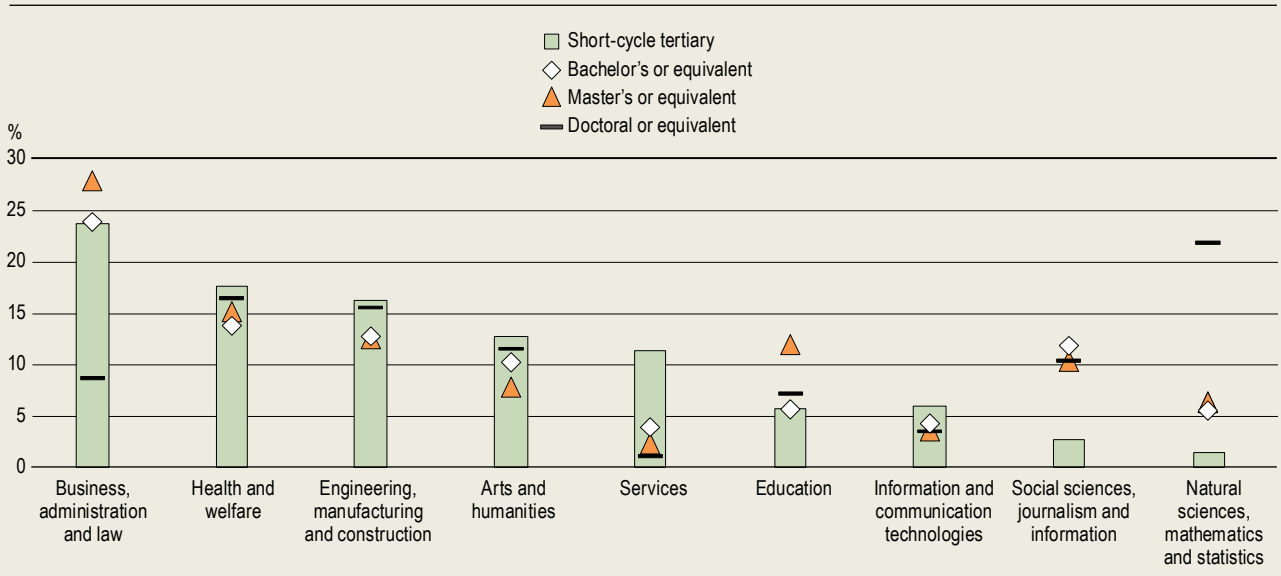
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Indicator B5. Who is expected to graduate from tertiary education?

Highlights

- Bachelor's or equivalent degrees remain the most common tertiary qualification among first-time tertiary graduates in OECD countries. In 2018, on average across OECD countries, the majority of first-time tertiary graduates (78%) earned a bachelor's degree, 18% a short-cycle tertiary diploma and 10% a master's degree.
- On average across OECD countries, at short-cycle tertiary level, 24% of students graduate from the fields of business, administration and law, whereas only 2% earn a diploma in natural sciences, mathematics and statistics.
- Based on current patterns, it is estimated that 38% of young adults across OECD countries will graduate from tertiary education for the first time before the age of 30 (excluding international students).

Figure B5.1. Distribution of short-cycle tertiary, bachelor's, master's and doctoral graduates on average across partners and OECD countries, by field of education (2018)



Note: Agriculture, forestry, fisheries and veterinary are not included in the chart but data are available in the education database.
Fields of study are ranked in descending order of their share of short-cycle tertiary graduates (ISCED 5).
Source: OECD/UIS/Eurostat (2020), Education at a Glance (database), http://stats.oecd.org/. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934163876

Context

Tertiary graduation rates illustrate a country's capacity to provide future workers with advanced and specialised knowledge and skills. The incentives to earn a tertiary degree, including higher salaries and better employment prospects, remain strong across OECD countries (see Indicators A1, A3, A4 and A5 for further reading on these themes). Tertiary education varies in structure and scope across countries, and graduation rates seem to be influenced by educational factors such as the flexibility of programmes, the supply of spaces available by education level and fields of study, as well as other factors during the educational year, that make students likely to complete their programme or not.

In recent decades, access to tertiary education has expanded remarkably, involving new types of institutions that offer more choice and new modes of delivery (OECD, 2016[1]). In parallel, the student population is becoming increasingly diverse in the study pathways they choose. Students are also becoming more likely to seek a tertiary degree outside their country of origin. Understanding current graduation patterns helps to understand student progression throughout higher education and anticipate the flow of new tertiary-educated workers into the labour force.

Policy makers are exploring ways to help ease the transition from tertiary education into the labour market (OECD, 2015[2]).To this end, short-cycle tertiary programmes, typically vocationally oriented, are central to preparing young people for work, developing adults' skills and responding to labour-market needs.

Other findings

- Advanced tertiary degrees attract more international students (see *Definitions* section) than bachelor's degrees. Some 26% of students in OECD countries who graduated for the first time from a doctoral or equivalent programme in 2018 were international students, compared to 19% of those who were awarded a master's degree and 8% of those who earned a bachelor's degree for the first time.
- Women's participation in higher education has been increasing in recent years, and their share among first-time tertiary graduates (58%) remains higher than their share among first-time tertiary entrants (54%). This is in line with previous findings suggesting that women are more likely to complete their degree than men (OECD, 2019[3]).
- Average age at graduation reflects a combination of average age at entry and the time taken to complete tertiary educational programmes. Across OECD countries with data, people graduate for the first time from a tertiary level programme on average at the age of 25.

Note

Graduation rates, when calculated for all ages, represent the estimated percentage of people from a given age cohort who are expected to graduate within the country at some point during their lifetime. This estimate is based on the number of graduates in 2018 and the age distribution of this group. Graduation rates are based on both the population and the current pattern of graduation and are thus sensitive to any changes in the education system, such as the introduction of new programmes and changes in the duration of programmes. Graduation rates can be very high during a period when an unexpected number of people go back to school.

In this indicator, age refers generally to the age of students at the beginning of the calendar year. Students could be one year older than the age indicated when they graduate at the end of the school year. Thirty is used as the upper age limit for completing short-cycle tertiary and bachelor's degree, because across OECD countries, more than 95% of graduates from upper secondary general programmes in 2018 were under 25 (see Education at a Glance Database). People who graduate from upper secondary level at 25 or older are usually enrolled in second-chance programmes. Similarly, 35 is used as the upper age limit for completing master's and doctorate degrees.

In this edition of *Education at a Glance*, the focus is predominately on first-time graduates below the typical age (30 for short-cycle tertiary and bachelor's and 35 for master's and doctoral levels). The concept of graduates (i.e. all graduates, not only first-time graduates) is used when measuring graduation rate at each tertiary level and graduates by field of study (see Definitions section).

Analysis

Graduation patterns at tertiary level

Over the past two decades, tertiary education in OECD countries has changed significantly. The student body is more international, more women than men are graduating and choices of fields of study have evolved. These changes might reflect concerns about competitiveness in the global economy and the labour market, but also the interests and priorities of a growing student population.

The first-time graduation rate from tertiary education among people under the age of 30 is an indicator of how many young people are expected to enter the labour force for the first time with a tertiary qualification. Based on current patterns of graduation, it is estimated that 41% of young adults will graduate from tertiary education for the first time in their life before the age of 30 on average across OECD countries. The proportion ranges from 10% in Luxembourg (although this percentage is negatively biased by the high percentage of secondary graduates who pursue tertiary studies abroad) to 71% in Japan (Table B5.1).

International students (see *Definitions* section at the end of this indicator) can have a marked impact on graduation rates by inflating the estimate of graduate students compared to the national population. In a country with a high proportion of international graduates, such as Australia where they make up 46% of all first-time graduates, the difference can be significant. Australia's first-time tertiary graduation rate drops from 70% to 37% when international students are excluded (Table B5.1).

Age distribution of first-time tertiary graduates

For some years now, many OECD countries have been concerned about the length of time tertiary students take to complete their studies. They have developed policies to encourage students to graduate more quickly, so as to get more workers into the labour market at an earlier age.

Across OECD countries, in 2018 86% of first-time tertiary graduates graduated before they turned 30, and the average age of graduation was 25. The variation among countries is large, however, ranging from 23 in the United Kingdom, to 28 in Latvia, Sweden and Switzerland (Table B5.1). The average age at which most students graduate reflects a combination of their average age at entry and the length of tertiary programmes. Entrance to tertiary education can be delayed by the structure of upper secondary education systems, processes for entry and admission into tertiary education, conscription requirements, or diverse pathways to transition from study to work. Programme duration depends on the structure of the educational programme and on the intensity of study, i.e. full time or part time.

In Iceland, Sweden and Switzerland, students graduate relatively later but the average age of entry is also two to three years older than the OECD average (24-25 compared to the average of 22). These older ages for both graduation and entry in these countries reflect students' varied trajectories before entering higher education, the flexibility of their education systems to accommodate transitions between educational programmes or between work and study, and adults' lifelong learning. Greater enrolment in part-time studies, as observed in Sweden, also tends to delay the average graduation age (see data available on OECD.Stat at http://stats.oecd.org/).

Some education systems accommodate a wider range of ages than others. This suggests that these education systems are more flexible about access to programmes and their duration, particularly for students outside typical student age. It may also reflect the different policies and attitudes towards adult and lifelong learning. In Latvia, Sweden and Switzerland, the average age of first-time graduates is more than two years higher than the OECD average.

Gender distribution of first-time tertiary graduates

Recognising the impact that education has on participation in the labour market, occupational mobility and quality of life, policy makers and educators have emphasised the importance of reducing differences between men and women in education opportunities and outcomes.

In 2018, more women than men graduated from tertiary education: on average 58% of first-time graduates from tertiary education in OECD countries were women, ranging from 50% in Switzerland to 64% in Latvia (Table B5.1). Furthermore, the share of female first-time graduates was higher than the share of female first-time new entrants into tertiary education (54%) in all OECD and partner countries with available data. This confirms previous findings that women are more likely to complete tertiary education than their male counterparts (OECD, 2019[3]). On average across OECD countries, excluding

international students, 44% of women are expected to obtain a tertiary degree before the age of 30, compared to 29% of men. In all countries with available data, first-time tertiary graduation rates are lower for men than for women, but the size of the gender gap varies significantly across countries, ranging from 2 percentage points in Luxembourg to 26 percentage points in Lithuania (Table B5.1).

Although the majority of tertiary graduates in 2018 were women, men still have better labour-market outcomes. Earnings for tertiary-educated men are higher, on average, than those for tertiary-educated women, and tertiary-educated men tend to have higher employment rates than women with the same level of education (see Indicators A3 and A4).

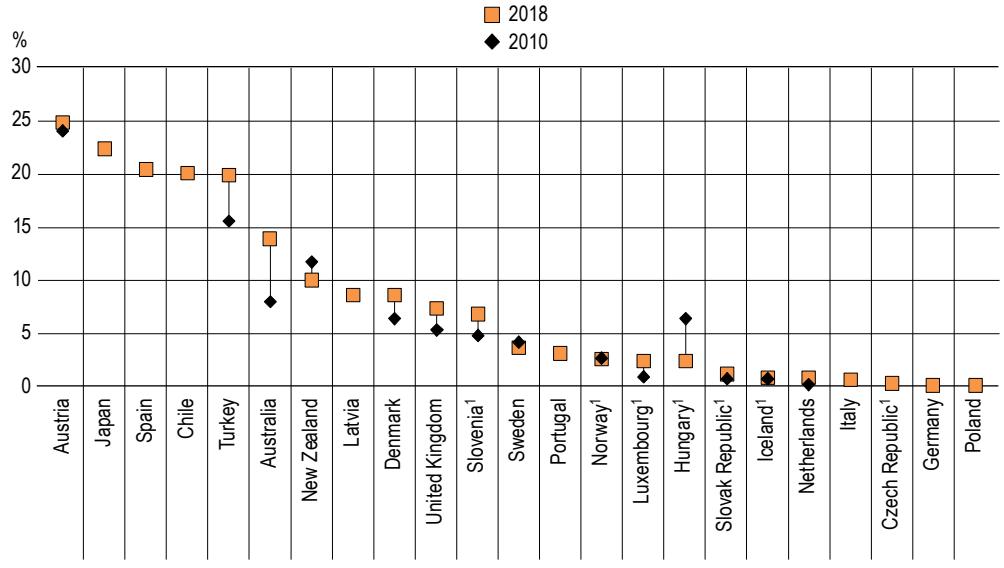
Fields studied by tertiary graduates

The distribution of graduates by field of study is related to factors such as the relative popularity of these fields among students, the number of study spaces offered in universities and equivalent institutions, and the degree structure of the various disciplines in each country.

Currently, in most OECD countries, the largest share of graduates across all tertiary education programmes complete degrees in business, administration and law, with a few exceptions (Table B5.2). In 2018, on average, 25% of tertiary students graduating in that year obtained a degree in this broad field across OECD countries, although this ranges from 15% in Korea to 46% in Colombia. In Korea, the most popular field among tertiary graduates is engineering, manufacturing and construction; in Belgium, Finland, Norway and Sweden it is health and welfare; in India it is social sciences, information and journalism; and in Indonesia it is education. Some of these differences can be explained by the structure of educational systems and the type of institutions offering qualifications in each field of study across countries. For example, degrees in fields of study such as nursing (included under health and welfare) are more likely to be offered as a tertiary programme in countries that have integrated most of the post-secondary vocational education into their tertiary education system.

In most countries, the broad field of natural sciences, mathematics and statistics is less popular than other fields of study. In more than half of the OECD and partner countries with available data, the combined share of students graduating from natural sciences, mathematics and statistics; engineering, manufacturing and construction; and information and communication technologies is still lower than the share of students graduating from business, administration and law.

Figure B5.2. First-time short-cycle tertiary graduation rate, for students under 30 and excluding international students (2010 and 2018)



1. Year of reference 2013 instead of 2010.

Countries are ranked in descending order of the first-time short-cycle tertiary graduation rates for students under 30 in 2018.

Source: OECD/UIS/Eurostat (2020), Education at a Glance Database, http://stats.oecd.org/. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934163895

Profile of first-time graduates from short-cycle tertiary levels

In 2018, the second most common tertiary qualification among first-time tertiary graduates that year remained a short-cycle tertiary degree. On average across OECD countries 18% of those graduating earned a short-cycle tertiary qualification ranging from 1% or less in the Czech Republic, Germany, Italy and Switzerland to 49% in Austria, where short-cycle tertiary accounted for the largest share of first-time graduates.

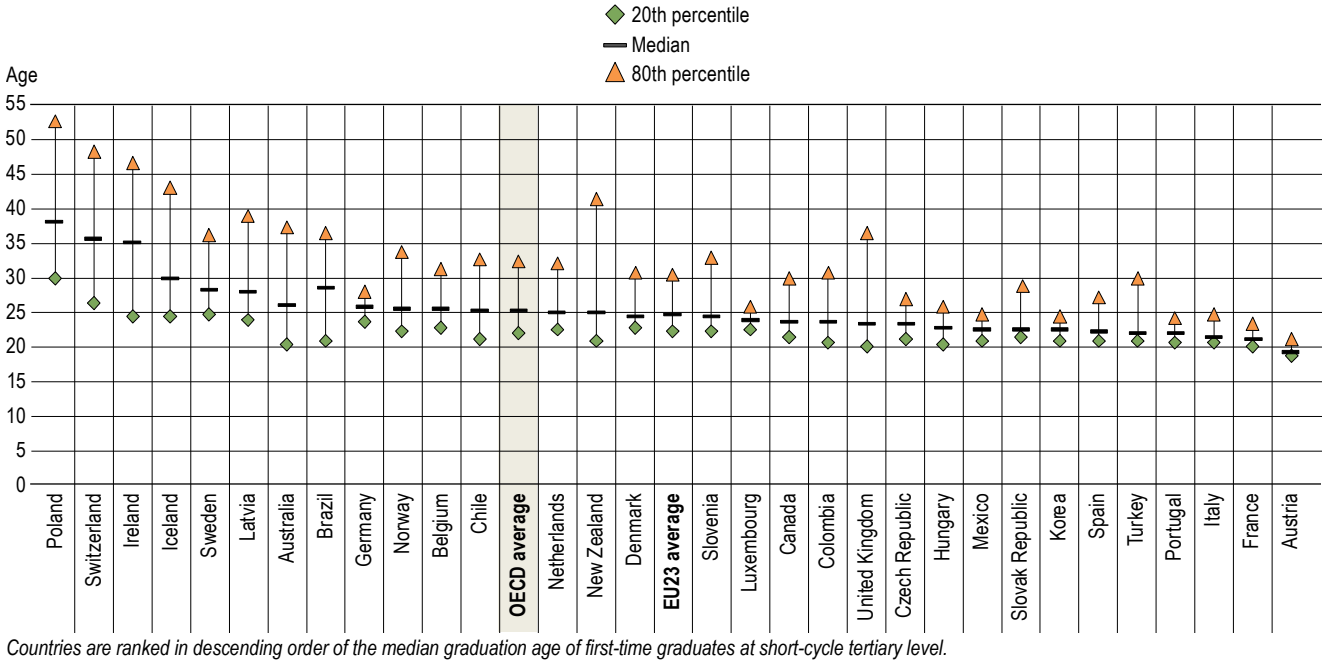
Although the large majority of first-time tertiary graduates are awarded a bachelor's degree, some OECD countries are also encouraging participation in short-cycle tertiary programmes to improve employability and smooth transitions into work. Generally professionally oriented, these programmes develop occupation-specific skills and most often prepare students for direct entry into the labour market. The first-time graduation rate for students under 30 from these programmes has increased by more than 4 percentage points in Australia and Turkey between 2010 and 2018, excluding international graduates. In contrast, the rate has remained stable over this period in Austria, the Czech Republic, Iceland, the Netherlands and the Slovak Republic, increasing by less than 1 percentage point over this period (Figure B5.2). In some cases, this limited growth over time could suggest that short-cycle tertiary programmes are not an attractive option in many countries. To remedy this situation, many countries are trying to develop future education opportunities for those entering this level, by promoting professional or vocational programmes at bachelor's and master's levels.

Based on patterns of graduation prevailing in 2018 and excluding international students, on average across OECD countries, 8% are expected to graduate from a short-cycle tertiary programme before the age of 30 (Table B5.3).

Analysis by age

On average across OECD countries in 2018, 75% of first-time short-cycle tertiary graduates graduated before the age of 30, and the median age at graduation was 25, ranging from 19 in Austria to 38 in Poland (Figure B5.3). The variation across countries is large and older first-time graduation ages could be explained in some cases by short-cycle tertiary programmes specifically designed for older students, as well as students taking longer to graduate.

Figure B5.3. Age distribution of first-time graduates at short-cycle tertiary level (2018)



Countries are ranked in descending order of the median graduation age of first-time graduates at short-cycle tertiary level.

Source: OECD/UIS/Eurostat (2020), Education at a Glance Database, http://stats.oecd.org/. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934163914

The age distribution of first-time graduates at short-cycle tertiary level provides insights into the diversity of graduates' ages, compared to the median value. In some countries, the age distribution is closely centred on the median, implying relatively small age differences at this level. This is the case in Austria, France, Korea, Luxembourg, Mexico and Portugal, where no more than 4 years separate the 80th and 20th percentile age groups. In other countries, the age distribution is much wider. For example in Ireland, New Zealand, Poland and Switzerland, first-time short-cycle tertiary graduates in the 80th percentile are at least 20 years older than those in the 20th percentile. However on average across OECD countries, the median age is closer to the 20th percentile, indicating the age distribution skews more towards the younger than the older age group (Figure B5.3).

Analysis by mobility status

On average across OECD countries, 5% of first-time graduates from short-cycle tertiary programmes were international students in 2018, the lowest share across all tertiary levels of education. The more limited share of international students in short-cycle tertiary programmes could be due to the relative low prevalence and limited attractiveness of short-cycle tertiary programmes, compared to the other tertiary levels. However, this pattern does not hold for every country: in Denmark, Italy, Japan and Luxembourg, the share of international students in short-cycle tertiary level is substantially higher than in bachelor's programmes, by more than 2 percentage points. However, there are large disparities across countries. The share of international students in short-cycle tertiary programmes varies from close to zero in Austria, Chile, Germany, Iceland, the Netherlands, Poland, Sweden and Turkey to 29% in New Zealand (Table B5.3).

Analysis by field of study

On average across OECD countries, at short-cycle tertiary level, 24% of students graduate from the broad field of business, administration and law compared to only 2% in natural sciences, mathematics and statistics (Figure B5.1). However, some exceptions exist: Austria, Italy, Mexico, Norway, Portugal and Slovenia have the largest share of students graduating from engineering, manufacturing and construction at short-cycle tertiary level. In Chile, Japan, Korea, Latvia, Luxembourg, Switzerland and the United Kingdom the largest share of short-cycle tertiary graduates studied health and welfare; in Belgium and Poland, 100% studied this broad field. The largest share of short-cycle tertiary students in Germany and Iceland graduate from the field of services whereas the dominant field of study in the Czech Republic (with 100% of graduates), the Slovak Republic and the United States is arts and humanities (see data available on OECD.Stat at http://stats.oecd.org/). However, these results need to be analysed with caution as short-cycle tertiary represents less than 3% of the share of first-time tertiary graduates in the Czech Republic, Germany, Italy, the Netherlands, Sweden and Switzerland. These differences may result from the structure of the tertiary system, the promotion of short-cycle programmes, as well as the educational provision of short-cycle training in certain fields of study which require more vocational skills than others.

Profile of first-time graduates from bachelor's, master's and doctoral levels

In 2018, the large majority of first-time tertiary graduates were awarded a bachelor's or equivalent degree. On average across OECD countries, 78% of first-time tertiary graduates earned a bachelor's degree, 10% earned a master's or equivalent degree and 18% earned a short-cycle tertiary diploma (Table B5.1).

More young people are expected to graduate from a bachelor's programme than from any other level of tertiary education. Based on graduation patterns prevailing in 2018, on average across OECD countries, 33% of young people are expected to graduate with a bachelor's degree before they turn 30, 16% are expected to earn a master's degree and 1% are expected to graduate from a doctoral or equivalent programme (including international students) (Table B5.3).

Analysis by age

On average across OECD countries, 86% of first-time graduates at bachelor's level are below the age of 30, this varies from 76% in Israel and Sweden to almost 100% in Japan. On average across OECD countries, 84% of first-time graduates from master's programmes and 61% from doctoral programmes are below the age of 35. Master's programmes may lead directly to a labour market-relevant qualification but they are also a prerequisite to accessing an advanced research qualification (i.e. a doctorate) in many countries. In Luxembourg, the share of first-time graduates below the age of 35 is slightly higher among doctoral graduates than among master's (Table B5.3).

Analysis by mobility status

The share of first-time international graduates varies significantly across countries. The proportions are particularly high in Australia, Luxembourg and New Zealand, which have at least 20% of international graduates in bachelor's programmes, at least 30% in master's programmes, and at least 40% in doctoral programmes. In contrast, the smallest shares of international graduates at doctoral level are found in Chile, Greece and Lithuania where they account for no more than 5% of first-time graduates (Table B5.3).

In spite of these differences, there is a common pattern across countries with available data: advanced tertiary degrees attract more international students than bachelor's degrees. Some 26% of students in OECD countries who graduated for the first time from a doctoral programme in 2018 were international students, compared to 19% of students who were awarded a master's degree, and 8% of students who earned a bachelor's degree for the first time (Table B5.3). The high share of international students in advanced tertiary degrees may be due, in part, to the emergence of knowledge-based economies (economies directly based on the production, distribution and use of knowledge and information). This phenomenon has contributed to the internationalisation of research. Consequently, many students are seeking opportunities to study abroad at the master's or doctoral level. From the point of view of host countries, attracting international students can be beneficial for several reasons, such as the fees and other living expenses the students pay, and the social and business networks that they help to build with their home countries.

In addition, international students, particularly at the master's or doctoral or equivalent level, can contribute to research and development (R&D) in the host country, initially as students and later on potentially as researchers or highly qualified professionals. Doctoral students, in particular, form an integral part of the research staff of a country (OECD, 2016[4]).

Analysis by field of study

At tertiary level, only a small share of students graduate from the broad field of natural sciences, mathematics and statistics, on average across OECD countries. However, there are large variations across tertiary education levels. Graduation rates from this broad field of study increase with educational level: on average across partners and OECD countries, 6% of bachelor's and master's graduates in 2018 earned a degree in natural sciences, mathematics and statistics, while this rose to 22% of graduates at doctoral level (Figure B5.1).

The popularity of natural sciences, mathematics and statistics in doctoral programmes may be the result of policies that encourage academic research in these fields. Recent OECD work has highlighted that while innovation draws on a wide set of skills, excellence in scientific research is the basis of science-based innovation, and research competence is essential for building co-operation among the scientific community, business and society. Thus, developing scientific research skills through doctoral training has become an important aim of education policy in many countries (OECD, 2014[5]).

The broad fields of business, administration and law, and of education are among those most commonly pursued at master's level. On average across partners and OECD countries, business, administration and law accounted for 28% of master's graduates compared with 24% of bachelor's graduates and 9% of doctoral graduates. Similarly, 12% of students graduating at master's level studied in the field of education, compared to 6% graduating from a bachelor's programme and 7% earning a doctorate (Figure B5.1). Tertiary students are more likely to graduate from the fields of social sciences, journalism and information at bachelor's level (12%) than from any other long-cycle tertiary level (10% at master's and doctoral levels), on average across partners and OECD countries (Figure B5.1).

Definitions

First-time graduates refer to students who have graduated for the first time at a given level of education during the reference period. Therefore, if a student has graduated multiple times over the years, he or she is counted as a graduate each year, but as a first-time graduate only once per level of education.

First-time tertiary graduates refer to students who graduate for the first time with a tertiary degree, regardless of the education programme in which they are enrolled. This definition is applied in Tables B5.1 and B5.3.

International students are students who left their country of origin and moved to another country for the purpose of study. In the majority of countries, international students are considered first-time graduates, regardless of their previous education in other countries. In the calculations described here, when countries could not report the number of international students,

foreign students have been used as an approximation. Foreign students are students who do not have the citizenship of the country in which they studied (for more details, please refer to Annex 3, www.oecd.org/education/education-at-a-glance-19991487.htm).

Net graduation rates represent the estimated percentage of an age group who will complete a given level of education, based on current patterns of graduation.

Typical age is the age at the beginning of the last school/academic year of the corresponding educational level and programme when the degree is obtained.

Methodology

Unless otherwise indicated, graduation rates are calculated as net graduation rates (i.e.as the sum of age-specific graduation rates) up to an age threshold. The net graduation rate for a single age is obtained by dividing the number of first-time graduates of that age for each type of tertiary education by the total population of the corresponding age. The sum of net graduation rates is calculated by adding the rates for each year of age until the age threshold. The result represents the expected probability of graduating for the first time from tertiary education before the age threshold if current patterns are maintained. The age threshold refers to the upper limit for completing a tertiary degree. Age 30 is used as the upper limit for completing short-cycle tertiary, bachelor's degrees and first-time tertiary education overall. At the master's and doctoral levels, 35 is considered to be the upper age limit for graduation.

Gross graduation rates are used when data by age are missing and where the average age of graduation is well below the age threshold considered for the calculation of this indicator. In this case, the number of graduates of which the age is unknown is divided by the population at the typical graduation age (see Annex 1).

The average age of students is calculated from 1 January for countries where the academic year starts in the second semester of the calendar year and 1 July for countries where the academic year starts in the first semester of the calendar year. As a consequence, the average age of new entrants may be overestimated by up to 6 months while that of first-time graduates may be underestimated by the same.

Graduation rates are sensitive to changes in the education system, such as the introduction of new programmes or the number of international students. Rates could at times be very high, during periods when there are unexpectedly high numbers of graduates. This indicator also reports the share of first-time graduates below the age threshold, alongside the graduation rate, to provide contextual information on the relevance of the age threshold for each country.

International students are a significant share of the total student population in some countries, and their numbers can artificially inflate the proportion of today's young adults who are expected to graduate from tertiary programmes. When international students are included in the calculation, the percentage of expected first-time graduates from tertiary programmes can change significantly.

For more information please see the *OECD Handbook for Internationally Comparative Education Statistics* (OECD, 2018[6]) and Annex 3 for country-specific notes (https://doi.org/10.1787/69096873-en).

Source

Data refer to the academic year 2017/18 and are based on the UNESCO-UIS/OECD/EUROSTAT data collection on education statistics administered by the OECD in 2019 (for details, see Annex 3 at https://doi.org/10.1787/69096873-en).

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Indicator B5 Tables

Table B5.1. Graduation rate and profile of first-time tertiary graduates (2018)

Table B5.2. Distribution of tertiary graduates by field of study (2018)

Table B5.3. Graduation rate and profile of first-time tertiary graduates at short-cycle tertiary, bachelor's, master's and doctoral or equivalent levels (2018)

Cut-off date for the data: 19 July 2020. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en. More breakdowns can also be found at http://stats.oecd.org/, Education at a Glance Database.

Statlink: https://doi.org/10.1787/888934163800

Table B5.1. Graduation rate and profile of first-time tertiary graduates (2018)

		Share of female first-time graduates	Share of first-time graduates below the age of 30	Average age of first-time graduates	Share of international first-time graduates	Share of first-time graduates by level of education			First-time tertiary graduation rate for students under 30			
						Short tertiary (2-3 years)	Bachelor's or equivalent	Master's or equivalent	Excluding international students			
									Total	Men	Women	Total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
OECD	**Countries**											
	Australia	56	84	25	46	8	68	24	37	30	44	70
	Austria	55	85	24	18	49	32	19	35	29	42	42
	Belgium	61	93	24	14	m	95	5	32	26	39	37
	Canada[1]	m	m	m	m	m	m	m	m	m	m	m
	Chile	57	78	27	0	47	51	2	44	37	52	44
	Colombia	m	m	m	m	m	m	m	m	m	m	m
	Costa Rica	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	63	87	26	12	1	89	10	28	20	36	32
	Denmark	56	85	26	8	21	79	a	45	38	52	50
	Estonia	63	82	26	7	a	93	7	30	21	39	32
	Finland	57	79	27	10	a	91	9	37	31	44	41
	France	m	m	m	m	m	m	m	m	m	m	m
	Germany	53	87	25	4	0	85	15	32	28	37	33
	Greece	59	91	25	2	a	100	a	37	29	46	38
	Hungary	59	84	26	7	8	80	12	23	18	28	25
	Iceland	62	79	27	3	3	96	0	34	25	45	35
	Ireland	m	m	m	m	m	m	m	m	m	m	m
	Israel	m	m	m	m	m	m	a	m	m	m	m
	Italy	58	91	24	4	1	81	17	34	27	40	35
	Japan[2]	52	100	m	5	34	63	2	67	m	m	71
	Korea	m	m	m	m	m	m	m	m	m	m	m
	Latvia	64	73	28	5	29	65	7	37	25	49	39
	Lithuania	61	92	24	3	a	93	7	50	38	64	52
	Luxembourg	58	94	25	23	30	70	a	8	7	9	10
	Mexico	53	90	25	m	8	92	a	m	m	m	28
	Netherlands	56	95	24	10	2	98	a	41	35	46	45
	New Zealand	57	78	26	30	29	71	a	36	28	45	52
	Norway	59	85	26	3	7	82	11	43	34	53	44
	Poland	m	m	m	m	m	m	m	m	m	m	m
	Portugal	58	92	24	2	7	79	14	43	35	52	44
	Slovak Republic	63	86	25	7	4	89	7	30	21	38	31
	Slovenia	59	87	25	2	17	77	6	45	34	56	46
	Spain	55	85	25	7	37	49	14	52	45	59	55
	Sweden	63	78	28	11	2	64	34	25	17	33	28
	Switzerland	50	77	28	7	1	99	0	36	33	39	39
	Turkey	53	84	25	1	41	57	2	50	46	55	51
	United Kingdom	57	89	23	12	21	78	1	41	35	47	48
	United States	58	m	m	4	40	60	a	m	m	m	m
	OECD average	58	86	25	9	18	78	10	38	29	44	41
	EU23 average	59	87	25	8	16	79	12	36	29	43	38
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m
	Brazil	m	m	m	m	m	m	m	m	m	m	m
	China	53	m	m	m	m	m	m	m	m	m	m
	India	53	m	m	m	m	m	m	m	m	m	m
	Indonesia	59	m	m	m	m	m	m	m	m	m	m
	Russian Federation	56	m	m	m	m	m	m	m	m	m	m
	Saudi Arabia	53	m	m	m	m	m	m	m	m	m	m
	South Africa[1]	61	m	m	m	m	m	m	m	m	m	m
	G20 average	55	m	m	m	m	m	m	m	m	m	m

1. Year of reference 2017.
2. It is estimated that almost all students graduate from tertiary education before the typical graduation age.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934163819

Table B5.2. Distribution of tertiary graduates by field of study (2018)

		Education	Arts and humanities	Social sciences, journalism and information	Business, administration and law	Natural sciences, mathematics and statistics	Information and communication technologies	Engineering, manufacturing and construction	Agriculture, forestry, fisheries and veterinary	Health and welfare	Services
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD	**Countries**										
	Australia	9	12	6	36	5	5	8	1	17	2
	Austria	12	8	7	24	6	4	21	2	8	8
	Belgium	8	10	11	21	4	2	12	2	30	1
	Canada[1]	6	10	15	28	6	3	13	2	15	3
	Chile	14	3	4	25	1	3	17	2	22	9
	Colombia	8	4	7	46	1	5	17	2	6	4
	Costa Rica	22	3	6	37	2	6	8	1	14	2
	Czech Republic	11	9	11	20	6	5	15	3	12	7
	Denmark	5	12	10	26	5	5	12	1	21	3
	Estonia	7	13	8	23	6	7	15	2	13	7
	Finland	7	10	7	19	5	7	16	2	22	5
	France	4	9	7	34	8	4	14	2	15	4
	Germany	11	11	8	23	9	5	21	2	7	2
	Greece	8	11	14	22	9	3	16	3	11	3
	Hungary	14	9	10	26	4	5	14	4	9	5
	Iceland	13	10	16	22	5	5	9	1	17	3
	Ireland	9	12	6	27	8	8	9	1	17	4
	Israel	m	m	m	m	m	m	m	m	m	m
	Italy	7	17	14	18	8	1	15	3	15	3
	Japan[2]	9 d	15 d	7 d	20 d	3 d	x	18 d	3 d	16 d	8 d
	Korea	7	16	5	15	4	5	20	1	16	10
	Latvia	8	7	9	28	3	5	13	2	17	8
	Lithuania	6	9	9	26	4	3	19	3	18	3
	Luxembourg	10	10	11	42	6	6	7	0	7	1
	Mexico	11	3	9	34	3	5	18	2	11	3
	Netherlands	10	9	13	27	6	3	8	1	17	5
	New Zealand	10	12	9	24	7	7	9	2	15	5
	Norway	16	8	11	17	5	4	13	1	20	5
	Poland	21	7	9	24	3	4	15	2	9	7
	Portugal	4	10	11	20	6	2	20	2	18	6
	Slovak Republic	14	8	12	20	6	4	12	2	17	6
	Slovenia	11	9	9	20	7	4	17	3	12	8
	Spain	17	9	7	19	5	4	13	1	17	8
	Sweden	13	6	12	16	4	4	18	1	23	2
	Switzerland	10	7	7	28	7	3	16	1	15	5
	Turkey	9	11	8	31	2	2	15	2	13	6
	United Kingdom	8	15	12	22	14	4	9	1	15	0
	United States	6	19	12	19	8	4	7	1	17	6
	OECD average	10	10	9	25	5	4	14	2	15	5
	EU23 average	10	10	10	25	6	4	15	2	15	4
Partners	Argentina	m	m	m	m	m	m	m	m	m	m
	Brazil	19	3	5	32	2	3	13	3	16	3
	China	m	m	m	m	m	m	m	m	m	m
	India	8	6	30	19	16	5	12	1	3	0
	Indonesia	24	5	13	18	3	8	8	4	16	0
	Russian Federation	8	4	11	27	3	5	23	2	8	8
	Saudi Arabia	13	18	10	30	7	6	8	0	6	1
	South Africa[1]	19	5	16	32	7	3	8	2	7	0
	G20 average	11	10	11	25	6	4	14	2	13	4

1. Year of reference 2017.
2. Data on information and communication technologies are included in other fields.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table B5.3. Graduation rate and profile of first-time tertiary graduates at short-cycle tertiary, bachelor's, master's and doctoral or equivalent levels (2018)

		Short-cycle (2-3 years)				Bachelor's or equivalent				Master's or equivalent				Doctorate or equivalent			
		Share of first-time graduates below the age of 30	Share of international first-time graduates	Short-cycle tertiary graduation rate, for students under 30		Share of first-time graduates below the age of 30	Share of international first-time graduates	Bachelor's graduation rate, for students under 30		Share of first-time graduates below the age of 35	Share of international first-time graduates	Master's graduation rate, for students under 35		Share of first-time graduates below the age of 35	Share of international first-time graduates	Doctoral graduation rate, for students under 35	
				Excluding international students	Total			Excluding international students	Total			Excluding international students	Total			Excluding international students	Total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
OECD	Countries																
	Australia	65	14	14	18	83	28	35	50	85	66	6	21	56	41	0.7	1.3
	Austria	95	0	25	25	86	18	17	21	87	25	13	18	59	32	0.9	1.4
	Belgium	m	m	m	m	95	8	33	36	96	24	16	21	76	20	1.1	1.4
	Canada[1]	83	m	m	28	91	m	m	33	78	m	m	8	63	m	m	1
	Chile	73	0	20	20	77	0	27	27	62	0	6	6	51	5	0.1	0.1
	Colombia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Costa Rica	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	89	4	0	0	86	11	25	29	91	13	18	21	71	17	1.0	1.2
	Denmark	79	16	8	10	85	8	40	44	92	21	22	29	69	38	1.1	2.0
	Estonia	a	a	a	a	81	7	28	30	83	20	13	16	60	16	0.6	0.7
	Finland	a	a	a	a	77	6	36	38	76	12	16	18	47	30	0.7	1.2
	France	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Germany	84	0	0	0	87	4	27	29	94	15	16	18	79	19	1.7	2.0
	Greece	a	a	a	a	91	2	37	38	63	1	10	10	45	1	0.5	0.5
	Hungary	88	1	2	2	82	5	19	20	86	14	11	13	63	11	0.6	0.7
	Iceland	50	0	1	1	79	4	34	35	65	13	13	15	48	38	0.2	0.6
	Ireland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Israel	m	m	m	m	76	m	m	31	57	m	m	11	36	m	m	0.5
	Italy	93	7	1	1	92	4	28	28	94	6	20	21	83	13	0.9	1.0
	Japan[2]	100	8	22	24	100	2	44	45	m	11	m	m	m	19	m	m
	Korea	m	m	m	m	m	m	m	m	m	m	m	m	40	m	m	0.9
	Latvia	54	1	9	9	81	5	27	29	82	12	12	14	46	9	0.2	0.2
	Lithuania	a	a	a	a	92	2	47	48	90	8	15	16	73	3	0.7	0.7
	Luxembourg	97	26	2	3	92	21	6	7	80	50	4	7	81	87	0.2	1.2
	Mexico	96	m	m	2	89	m	m	26	m	m	m	m	m	m	m	m
	Netherlands	74	0	1	1	95	10	40	44	95	29	13	19	83	42	1.1	1.8
	New Zealand	67	29	10	15	79	28	30	41	73	40	4	7	55	52	0.5	1.1
	Norway	69	1	3	3	84	3	36	37	82	9	15	16	48	27	0.5	0.9
	Poland	20	0	0	0	m	m	m	m	m	m	m	m	m	m	m	m
	Portugal	93	2	3	3	91	3	34	35	94	10	18	19	41	26	0.6	0.8
	Slovak Republic	82	1	1	1	86	6	27	28	92	6	25	26	76	8	1.3	1.3
	Slovenia	73	1	7	7	87	2	36	37	92	5	20	21	74	7	1.0	1.1
	Spain	85	1	20	21	91	1	32	32	87	15	16	19	48	m	m	1.5
	Sweden	58	0	4	4	76	2	18	18	84	20	12	16	54	37	0.5	1.1
	Switzerland	32	a	a	0	77	7	35	39	89	25	12	16	79	57	1.2	2.8
	Turkey	81	0	20	20	86	1	29	29	99	25	1	1	59	7	0.3	0.3
	United Kingdom	71	4	7	8	92	17	37	45	85	47	10	21	71	46	1.2	2.3
	United States	m	2	m	m	m	4	m	m	m	16	m	m	m	27	m	m
	OECD average	75	5	8	9	86	8	31	33	84	19	13	16	62	26	0.8	1.1
	EU23 average	76	4	6	6	87	7	30	32	87	18	15	18	65	25	0.8	1.2
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

1. Year of reference 2017.

2. It is estimated that almost all students graduate from short-cycle tertiary education and bachelor's programmes before the typical graduation age.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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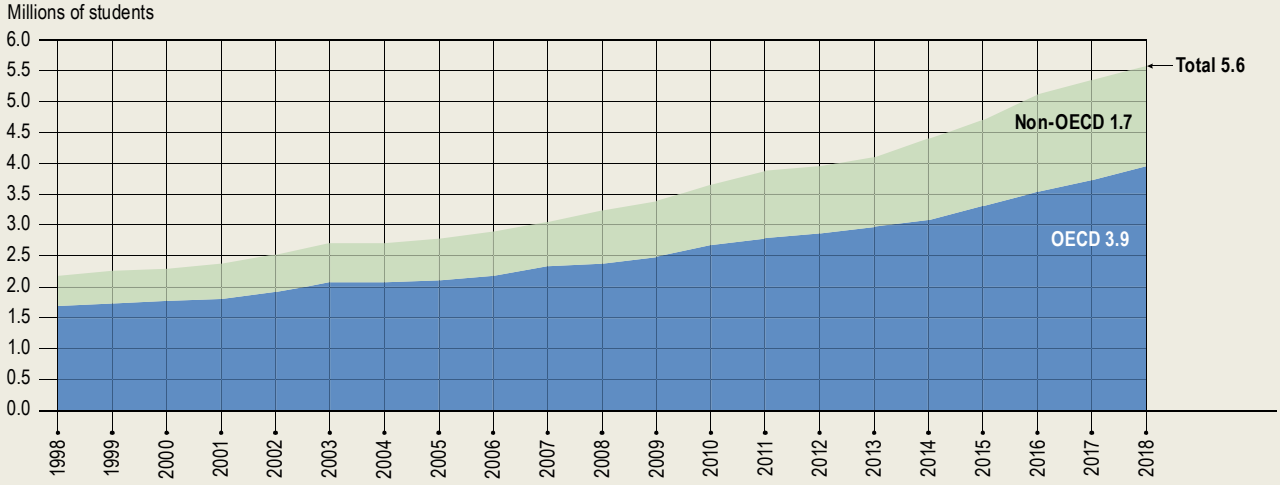
Indicator B6. What is the profile of internationally mobile students?

Highlights

- The number of international and foreign tertiary students has grown on average by 4.8% per year between 1998 and 2018. Even though OECD countries host the great majority of international and foreign students, the fastest growth has been among internationally mobile students enrolled in non-OECD countries.
- In 2018, there were three international or foreign students for each national student studying abroad across OECD countries, but this ratio exceeds 10:1 in Australia, New Zealand, the United Kingdom and the United States.
- In total, women in OECD countries are about as likely as men to travel abroad for a bachelor's or master's degree or equivalent, but less likely to do so to enrol in a doctoral or equivalent programme.

Figure B6.1. Growth in international or foreign enrolment in tertiary education worldwide (1998 to 2018)

Number of international or foreign students enrolled in OECD and non-OECD countries



Note: The data sources use similar definitions, thus making their combination possible. Missing data were imputed with the closest data reports to ensure that breaks in data coverage do not result in breaks in time series

Source: OECD/UIS/Eurostat (2020). Other non-OECD countries and years prior to 2013: UNESCO Institute for Statistics. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Context

Studying abroad has become a key differentiating experience for young adults enrolled in tertiary education, and international student mobility has received increasing policy attention in recent years. Studying abroad is an opportunity to access high-quality education, acquire skills that may not be taught at home and get closer to labour markets that offer higher returns on education. Studying abroad is also seen as a way to improve employability in increasingly globalised labour markets. Other motivations include the desire to expand knowledge of other societies and to improve language skills, particularly English.

For host countries, mobile students (whether international or foreign) may be an important source of income and have a disproportionate impact on their economic and innovation systems. They often pay higher tuition fees than domestic students (see Indicator C5) and, in some countries, incur higher registration fees. They also contribute to the local economy through their living expenses. In the longer run, highly educated mobile students are likely to integrate into domestic labour markets, contributing to innovation and economic performance. Attracting mobile students, especially if they stay permanently, is therefore a way to tap into a global pool of talent, compensate for weaker capacity at lower educational levels, support the development of innovation and production systems and, in many countries, to mitigate the impact of an ageing population on future skills supply.

For their countries of origin, mobile students might be viewed as lost talent (or "brain drain"). However, mobile students can contribute to knowledge absorption, technology upgrading and capacity building in their home country, provided they return home after their studies or maintain strong links with nationals at home. Mobile students gain tacit knowledge that is often shared through direct personal interactions and can enable their home country to integrate into global knowledge networks. Some research suggests that numbers of students overseas are a good predictor of future scientist flows in the opposite direction, providing evidence of a significant movement of skilled labour across nations. In addition, student mobility appears to shape international scientific co-operation networks more deeply than either a common language or geographical or scientific proximity.

In 2020, higher education institutions around the world closed down to control the spread of the COVID-19 pandemic potentially affecting more than 3.9 million international and foreign students studying in OECD countries (UNESCO, 2020[1]). The imposed lockdown has affected the continuity of learning and the delivery of course material, as well as students' perceptions about the value of their degree and their host country's capacity to look out for their safety and well-being. These changes could have dire consequences on international student mobility in the coming years (Box B6.1).

Other findings

- Students from Asia form the largest group of international or foreign students in tertiary education at all levels, accounting for 57% of all mobile students across the OECD in 2018. Together, the People's Republic of China and India contribute more than 30% of all mobile students enrolled in OECD countries.
- The United States is the top OECD destination for international students. It accounts for 18% of the global education market share, followed by Australia and the United Kingdom (8% each), and Germany (6%).
- In total across OECD countries, the fields studied by mobile students share a similar pattern to those studied by national ones, with the largest share entering the broad field of business, administration and law, followed by engineering, manufacturing and construction.

Analysis

Trends in international student mobility

International student mobility has been expanding quite consistently in the past twenty years. In 2018, 5.6 million tertiary students worldwide had crossed a border to study, more than twice the number in 2005. Many factors at the individual, institutional, national and global levels drive patterns of international student mobility. These include personal ambitions and aspirations for better employment prospects, a lack of high-quality higher education institutions at home, the capacity of higher education institutions abroad to attract talent, and government policies to encourage cross-border mobility for education (Bhandari, Robles and Farrugia, 2018[2]). The needs of increasingly knowledge-based and innovation-driven economies have spurred demand for tertiary education worldwide, while rising wealth in emerging economies has prompted the children of the growing middle classes to seek educational opportunities abroad. At the same time, economic factors (e.g. costs of international flights), technological factors (e.g. the spread of the Internet and social media enabling contacts to be maintained across borders) and cultural factors (e.g. use of English as a common working and teaching language) have contributed to making international study substantially more affordable and easier to access than in the past.

The number of international and foreign tertiary students grew on average by 4.8% per year between 1998 and 2018. Even though OECD countries welcome the great majority of international and foreign students, the number of foreign students enrolled in non-OECD countries has been rising faster: their numbers have grown by 6.2% per year on average compared to 4.3% for international and foreign students in OECD countries. In 2018, foreign students enrolled in non-OECD countries represented about 30% of the global pool of internationally mobile students, compared to 23% in 1998 (Figure B6.1).

The growth rate of international or foreign students has fluctuated greatly in the past two decades, for both groups of students, however it has varied more for students from non-OECD countries than from OECD ones. Between 1998 and 2018, the annual growth rate of mobile students in non-OECD countries varied from 0.3% in 2004 to 19% in 2008. In contrast, the annual growth in mobile students in OECD countries fluctuated between 0.7% and 8% over the same period. However, the growth of international and foreign students in non-OECD countries has been slowing down in recent years. Since 2017, their yearly growth rate dropped below 3%, the lowest rate since 2013, and less than half the yearly growth rate of international and foreign students in OECD countries over this period (Figure B6.1).

Despite strong increases in the total number of international and foreign students worldwide, their relative concentration has remained fairly stable, increasing from 5% of all tertiary students in 2014 to 6% in 2018 in total across OECD countries. While their share increased in most OECD countries over this period, there are striking differences across countries: the share of international or foreign students increased by 6 percentage points or more in Australia and Estonia between 2014 and 2018, while it declined by 1 percentage point in Belgium and Greece. In about one-third of OECD countries, international students accounted for more than 10% of enrolled tertiary students in 2018. At least 20% of tertiary students in Australia, Luxembourg and New Zealand are international or foreign, compared to 2% or less in Chile, Colombia, Costa Rica, Mexico, and Turkey (Table B6.1).

Mobility patterns and international student flows

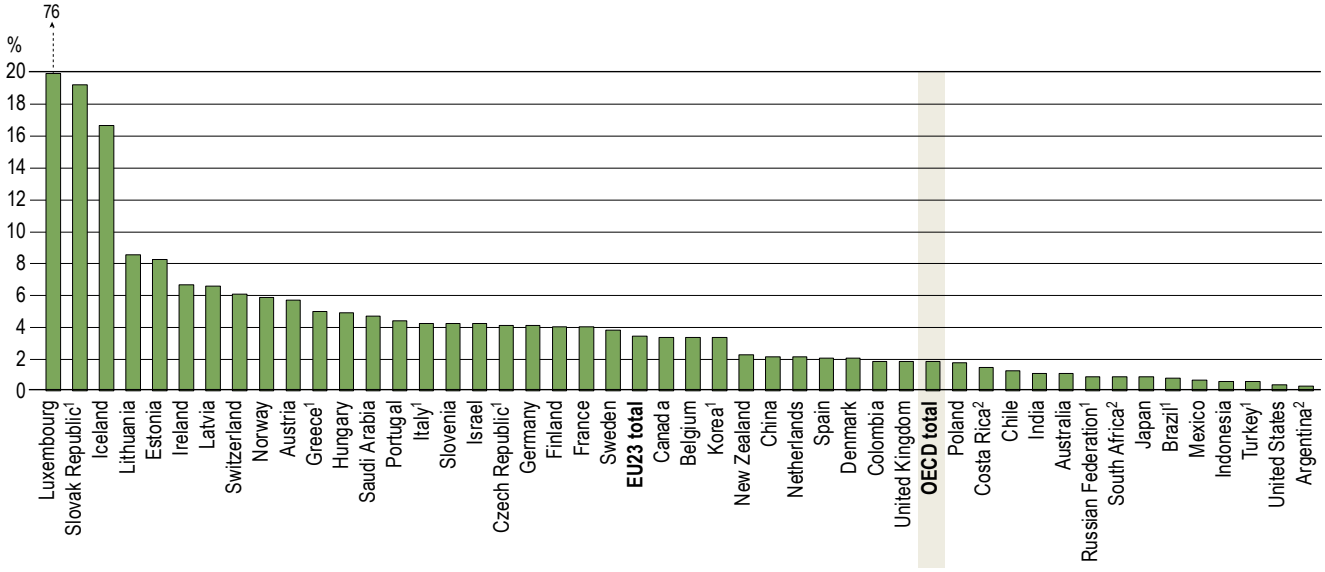
The pools and flows of mobile talent remain very concentrated worldwide, and mobility pathways are deeply rooted in historical patterns. Identifying the determinants of international student mobility is key to designing efficient policies to encourage the movement of skilled labour. Student migration is mainly driven by differentials in education capacity (a lack of educational facilities in the country of origin or the prestige of educational institutions in the country of destination). It is also driven by differences in the returns to or rewards for education and skills in origin and destination countries (see Indicators A3 and A4). Economic factors include better economic performance in the host country, exchange rates, more affordable mobility (due to lower tuition fees or higher education subsidies, for instance) and higher-quality education in the host country. In addition, the decision to study abroad may be determined by non-economic factors, such as political stability or cultural and religious similarities between origin and destination countries (Guha, 1977[3]; UNESCO Bangkok, 2013[4]; Weisser, 2016[5]).

The perceived quality of instruction abroad and the perceived value of host institutions are key criteria for international students when choosing where to study (Abbott and Silles, 2016[6]). Top destinations for internationally mobile students include a large number of top-ranked higher education institutions. Students worldwide are increasingly aware of differences in quality among tertiary education systems, as university league tables and other international university rankings are widely disseminated. At the same time, the ability to attract international students has become a criterion for assessing the

performance and quality of institutions. As governments seek to encourage the internationalisation of higher education, they have revised performance agreements with domestic institutions, for example by taking into account inflows of international students in university funding formulas. In Finland, for example, the internationalisation of higher education is one of the dimensions considered for the funding of tertiary institutions, along with quality and impact measures (Eurydice, 2020[7]). Similarly, in Estonia and Norway, the share of foreign or international students is an indicator used to determine the level of block grant funding allocated to tertiary institutions (OECD, 2019[8]).

Most countries have implemented reforms aiming to lower the barriers to migration of highly skilled individuals, beyond the purposes of education, and most countries operate funding programmes to support inward, outward or return mobility. While the conditions of migration differ (e.g. short-term versus long-term settlement), the most common target for these programmes are pre-doctoral students and early stage researchers (both doctoral and postdoctoral). Although setting appropriate tuition fees remains one of the most debated topics in education policy, setting higher fees for international students is less politically controversial and often constitutes an important revenue stream for higher education institutions. In some countries, international students in public universities pay twice as much for tuition as national students, attracted by the perceived quality of the education and potential labour-market prospects in their host country. In contrast, some countries may seek to promote international mobility within a region by reducing or eliminating fees. Students from the European Economic Area can study in any other country within this area, paying the same tuition fees as national students (see Indicator C5).

Figure B6.2. Share of national tertiary students enrolled abroad (2018)



1. National tertiary students are calculated as total enrolment minus foreign students instead of total enrolment minus international students.
2. Year of reference 2017.
Countries are ranked in descending order of the percentage of national students enrolled abroad.
Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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In total across OECD countries, 2% of national tertiary students were enrolled abroad in 2018. Iceland, Luxembourg and the Slovak Republic have the highest share of national tertiary students enrolled abroad for their degree, reaching 76% in Luxembourg (Figure B6.2). Factors such as proximity, language, historical ties, geographical distance, bilateral relationships and political framework conditions (e.g. the European Higher Education Area) are key determinants in selecting a country in which to study (Abbott and Silles, 2016[6]). For example, the largest share of mobile students from the Slovak Republic study in the Czech Republic, those from Luxembourg study in Germany or Belgium, while those from Iceland are more likely to head to Denmark (Table B6.5, available on line).

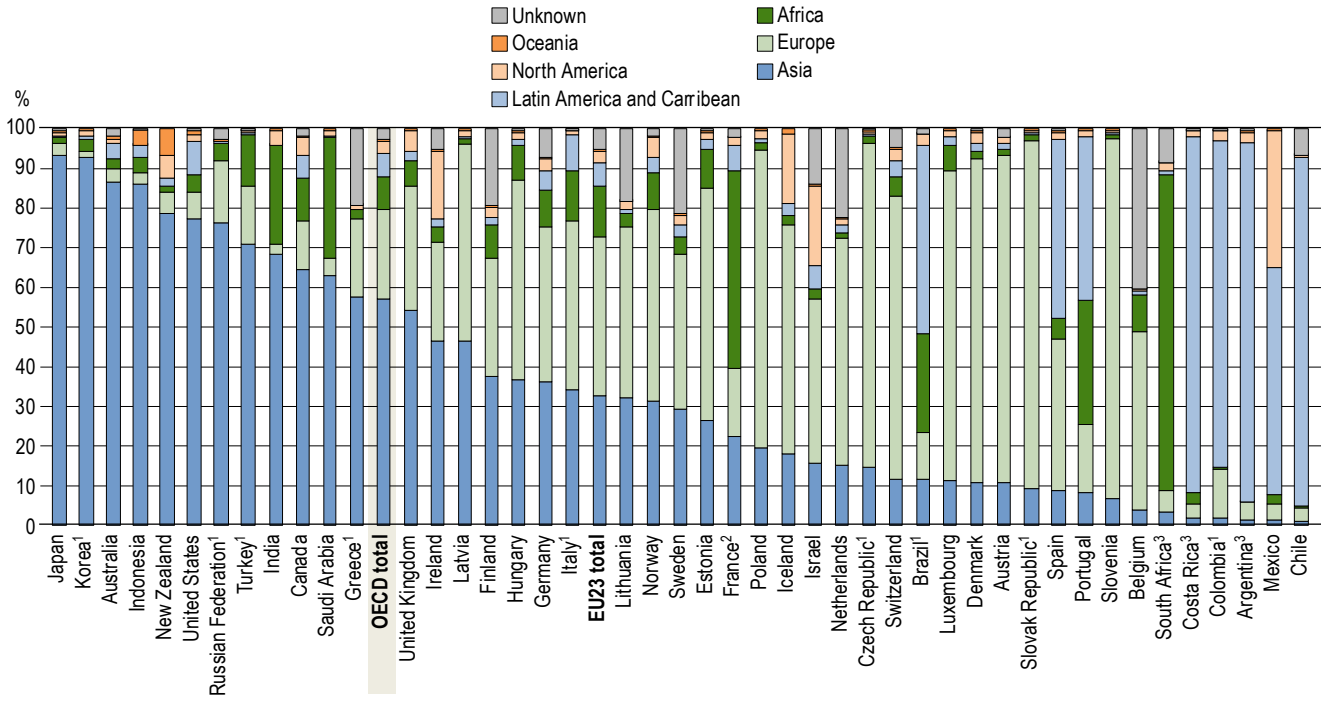
Most countries are net "importers" of students, that is, they have more students coming into the country to study than leave to study abroad. In total across OECD countries in 2018, there were three international students for each national student

studying abroad, but this ratio exceeds ten in Australia, New Zealand, the United Kingdom and the United States. In contrast, a number of countries are net "exporters" of students, that is, more students travel abroad to study than they receive. Chile, Colombia, Luxembourg and Mexico are among the OECD countries with the lowest ratios of international or foreign students to national student abroad. Among partner countries, China and India, who together are responsible for more than 30% of the pool of international students, are also net exporters of talent (Table B6.3).

By country of destination and origin

English is the *lingua franca* of the globalised world, with one in four people using it worldwide (Sharifian, 2013[9]). Not surprisingly, English-speaking countries are the most attractive student destinations overall, with four countries receiving more than 40% of all internationally mobile students in OECD and partner countries. The United States is the top OECD destination country for international tertiary students. Of the 3.9 million international students in OECD countries, 987 000 are enrolled in programmes in the United States. Among the English-speaking countries, after the United States, the United Kingdom accounts for 452 000 international students, Australia 445 000 and Canada 225 000 (Table B6.1). As a destination country, the United States alone accounts for 18% of the global education market share. Australia and the United Kingdom each have 8% of the global market share, while Germany has 6% (Table B6.3).

Figure B6.3. Distribution of international and foreign students by region of origin (2018)



1. Share of foreign rather than international students.
2. The share of students by country of origin is based on citizenship criteria, while their total number is based on the country of upper secondary education.
3. Year of reference 2017.

Countries are ranked in descending order of the percentage of international or foreign students from Asia.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934164047

The European Union is another key geographical area for inward mobility, with 1.7 million mobile students enrolled in the 23 OECD countries that are also members of the EU (EU23). After the United Kingdom and Germany, France is also a major EU host country, accounting for 4% of global international students. The Russian Federation is another major destination country outside of the EU, with 5% of global mobile students (Table B6.3).

Students from Asia form the largest group of international students enrolled in tertiary education programmes at all levels, totalling 57% of all mobile students across the OECD in 2018. In total over 30% of mobile students in OECD countries come from China and India. More than two-thirds of Chinese and Indian students are concentrated in only five countries: Australia, Canada, Japan, the United Kingdom and the United States. Europe is the next largest region of origin, with European international students making up 23% of all mobile students enrolled in OECD countries. European students prefer to stay in Europe, accounting for 40% of mobile students enrolled in the EU23 countries. At least 8 out of 10 mobile students in Austria, the Czech Republic, Denmark, the Slovak Republic and Slovenia come from other European countries (Figure B6.3 and Table B6.4, available on line)

Among OECD and partner countries, students from African countries only make up the majority of mobile students in South Africa, where 80% of mobile students are from other African countries, although they account for more than 3 out of 10 mobile students in Portugal and Saudi Arabia and about 5 out of 10 in France. Student flows from Latin America and the Caribbean highlight the importance of proximity, as they make up the majority of mobile students in Argentina, Brazil, Chile, Colombia, Costa Rica and Mexico. They also highlight the importance of the language of study: more than 40% of mobile students in Portugal and Spain come from this region. Finally, North American students represent more than 10% of international enrolment only in Iceland, Ireland, Israel and Mexico, while students from Oceania are a minority of international students in all OECD and partner countries, making up less than 1% of mobile students in OECD destination countries (Figure B6.3).

Box B6.1. The impact of the COVID-19 pandemic on international student mobility flows

The global spread of the coronavirus pandemic has brought tertiary education in OECD countries to a standstill as universities have closed down their premises and countries have shut their borders in response to government lockdown measures. While the crisis has affected all tertiary students, it has had a severe impact on the internationalisation of higher education. In particular, the crisis has affected the safety and legal status of international students in their host country, the continuity of learning and the delivery of course material, and students' perception of the value of their degree, all of which could potentially have dire consequences for international student mobility in the coming years.

International students were particularly badly hit at the start of the lockdown as they have had to sort out the implications of university closures on their status on campus and within their host country. Students have had to decide whether to return home (funding permitting) with limited information of when they might return, or remain in their host country with restricted employment and education opportunities, all while sorting out their visa status. Some countries, such as Canada or the United Kingdom, have offered leniency around visa rules, or the possibility to remain on campus (Immigration, Refugees and Citizenship Canada, 2020[10]) (UKCISA, 2020[11]) but this has not been the case everywhere. The varying approach across institutions and countries has captured the complexity of ensuring accountability over the well-being and safety of international students in a globalised higher education market.

To ensure the continuity of education despite the lockdown, higher education institutions have sought to use technology and offer online classes and learning experiences as a substitute for in-class time. Although many higher education institutions offered online courses before the pandemic, few students considered it as a sole alternative to physical in-person learning. For example, in the United States, only 13% of first-cycle tertiary students were exclusively enrolled in distance education courses in 2017 (NCES, 2019[12]). Now with reopening for the coming academic year severely compromised and travel likely to remain restricted even after the confinement period, international students are being forced to face and deal with the reality of online learning.

Beyond the transactional learning experience, students are also losing out on other benefits of international mobility such as international exposure, access to a foreign job market, and networking. A survey of EU students studying in the United Kingdom found that the main reasons for choosing to study abroad were to broaden their horizons/experience other cultures, improve their labour-market prospects and improve their competence in English (West, 2000[13]). Similarly, the opportunity to live abroad, learn or improve a foreign language and meet new people, were among the three first reasons cited among students participating in the EU-ERASMUS programme (European Comission, 2014[14]).

A decrease in the share of international students may have severe repercussions on the funding model of some higher education institutions, as international students often pay higher tuition fees than domestic ones. Countries, such as Australia, Canada, the United Kingdom and the United States, that rely heavily on international students with differentiated

fees will suffer the highest losses. For instance, at the bachelor's or equivalent level, public institutions in Australia, Canada and the United States charged foreign students over USD 13 800 more per year on average than national ones in 2017/18 (see Indicator C5). Given the large share of international students in these countries, international student inflows provide an important source of revenue to tertiary institutions. In Australia, the estimated revenue from foreign students' tuition fees exceeds one-quarter of the total expenditure on tertiary educational institutions (OECD, 2017[15]). Overall, doctoral programmes will be particularly affected, as one in five students in these programmes are international. While the investment in a tertiary degree still pays off over a lifetime, students may start to question the value of paying high fees to study abroad in uncertain times, particularly if that learning is to happen on line and they are no longer able to benefit from networking and access to a foreign labour market. Students are already demanding a partial refund of their tuition fees and many institutions have made pro-rata refunds on room and board, or have offered fee deferrals. With the enrolment of international students for the next academic year severely compromised, this will cut into universities' bottom line, affecting not only their core education services, but also the financial support they provide domestic students, as well as research and development activities.

The financial losses are not limited to higher education institutions. Countries have traditionally relied on international student mobility to facilitate the immigration of foreign talent and contribute to both knowledge production and innovation nationally. Australia, New Zealand and the United Kingdom, for example, have reduced barriers to the migration of highly qualified students, facilitating their entry into the labour market after graduation (OECD, 2019[16]) (OECD, 2016[17]). The decline in international mobility in these countries risks affecting productivity in advanced sectors related to innovation and research in coming years.

Higher education has often been considered a refuge in periods of low employment, enabling adults to develop their skills. In contrast to previous economic downturns, the lockdown measures of this current crisis has affected the delivery of learning and the experience of studying abroad in ways that extend well beyond the classroom. It has also raised awareness on the vulnerability of international students in times of crisis. All of this is likely to influence the value students perceive they will get from their degree in relation to the price they are willing to pay. As a result, international student mobility is expected to decline in the coming years as students reassess their options. Faced with these challenges, higher education institutions will need to develop a new value proposition that reassesses the quality of learning and delivery mechanisms in the classroom, and that address the needs of an international student population that may be less willing to cross borders for the sole purpose of study.

Profile of internationally mobile students

By level of education

Students are more likely to travel abroad for more advanced education programmes. In all but a few countries, the share of international students enrolled in tertiary programmes increases gradually with education level. In total across OECD countries, international students account for 6% of total enrolment in tertiary programmes. International enrolment in bachelor's or equivalent programmes remains relatively low (below 5% in nearly half of the countries for which data are available). However, a few countries have a more international profile at this level. In Australia, Austria, Luxembourg, New Zealand and the United Kingdom, 15% or more of students at bachelor's level are international (Figure B6.4).

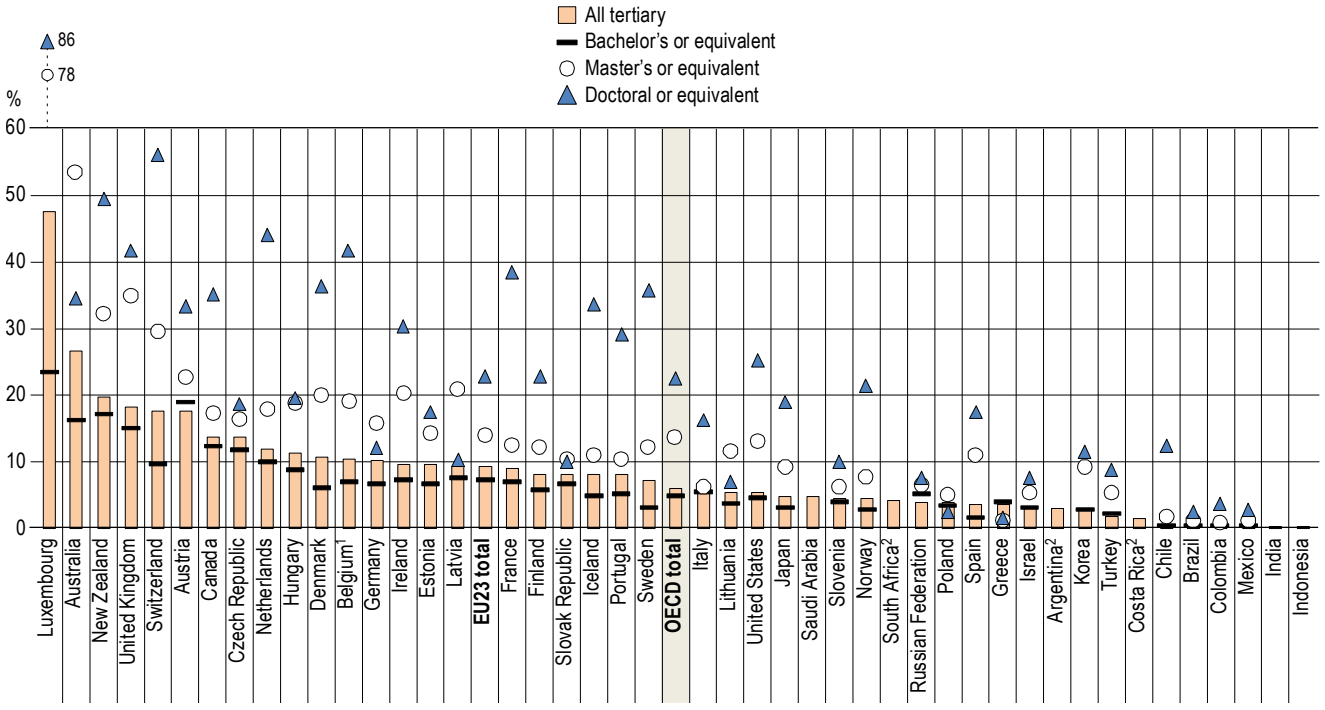
International enrolment increases significantly at master's or equivalent level. In total across the OECD, 13% of students are international or foreign at this level. The proportion of incoming students at least doubles between bachelor's and master's levels in nearly two-thirds of OECD countries. Among countries with more than 1% international or foreign tertiary students, the share of international students in Spain and Sweden is at least four times higher at master's than at bachelor's level. Greece is the only country where the inflow of foreign students at master's level is slightly lower than at bachelor's level (Figure B6.4).

At doctoral or equivalent level, international students represent 22% of enrolled students. The countries with the highest shares are Belgium, Luxembourg, the Netherlands New Zealand, Switzerland and the United Kingdom, which all have 40% or more of their doctoral students coming from abroad. In Luxembourg and Switzerland, there are more international students in doctoral programmes than national students (86% in Luxembourg and 56% in Switzerland). While most countries have higher shares of international students at doctoral than at master's level, a number of countries show the opposite pattern.

This is particularly striking in Australia (53% at master's level and 34% at doctoral level) and Latvia (20% at master's and 10% at doctoral level) (Figure B6.4 and Table B6.1).

Figure B6.4. Incoming student mobility in tertiary education, by level of study (2018)

International or foreign student enrolment as a percentage of total enrolment in tertiary education



Note: All tertiary education includes short-cycle tertiary programmes, which are not presented separately in the figure.
1. Data on short-cycle tertiary programmes are based on nationality and refer to the Flemish community only.
2. Year of reference 2017.
Countries are ranked in descending order of the percentage of international or foreign students in tertiary education.
Source: OECD (2020), Table B6.1. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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By field of study

Fields of study are a key consideration for students choosing to pursue a tertiary degree abroad. Some countries devote more resources to research in certain fields and therefore benefit from strong international recognition particularly at higher levels of tertiary education. In total across OECD countries, the distribution of fields among mobile students mirrors the distribution among national ones, with in both cases the largest share entering the broad field of business, administration and law, followed by engineering, manufacturing and construction. However, there are also notable exceptions. The field of social sciences, information and journalism attracts 12% of mobile students compared to 9% of national students in total. Similarly, the field of natural sciences, mathematics and statistics attracts 8% of mobile students compared to 5% of national ones. In contrast, internationally mobile students are less likely to enrol in the fields of education and health and welfare than national students in total across the OECD (Table B6.2).

There are also striking differences between countries, highlighting potential specialisations and the attractiveness in some countries for a given field of study. More than half of foreign students in the Slovak Republic entered a health and welfare programme, three times more than the share of national students. In Denmark, Germany and Turkey, the share of international or foreign students entering engineering, manufacturing or construction is 10 percentage points higher than the share among national students. Among countries with the largest share of mobile students, such as Australia, Luxembourg, New Zealand

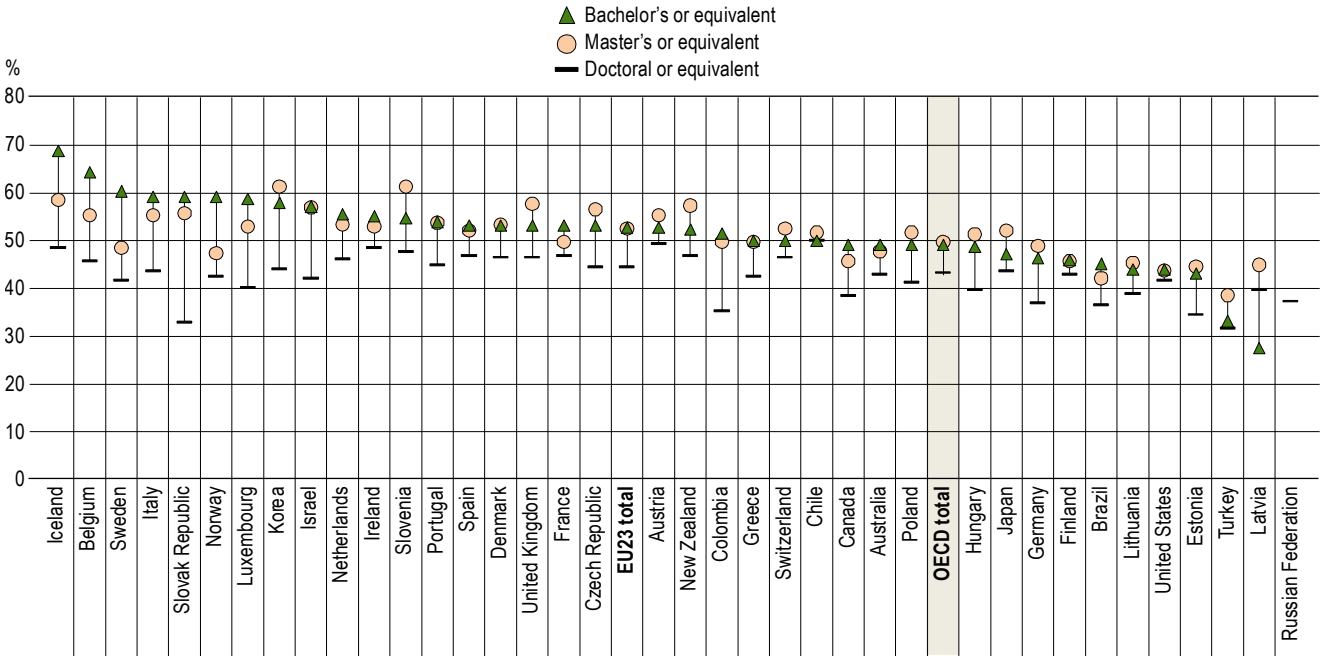
and the United Kingdom, business, administration and law is the most attractive field for international and foreign students (Table B6.2).

By gender

While women outnumber men among entrants and graduates from tertiary education, they are about as likely as men to travel abroad for a bachelor's or master's degree on average across OECD countries. However, they are less likely to do so to enrol in a doctoral programme: at doctoral level, the share of women among mobile students decreases to 43% on average (Figure B6.5).

Across OECD countries, the share of women among mobile students generally decreases with higher tertiary level, and the difference between the share of women among internationally mobile bachelor's and doctoral students exceeds 15 percentage points in about a quarter of them. Only in Latvia is the share of women among mobile doctoral students higher than among mobile bachelor's students. The fall in the share of women among mobile students tends to be more pronounced between master's and doctoral programmes than between bachelor's and master's. While the share of women among mobile students decreases by 6 percentage points between master's and doctoral levels in total across OECD countries, the drop is 15 percentage points or more in Israel, Korea and the Slovak Republic. In contrast, the share of women among mobile students across all three levels of education is very similar in Chile, Finland and the United States although gender parity is only achieved at all three levels in Chile (Figure B6.5).

Figure B6.5. Share of women among international or foreign students, by level of education (2018)



Countries are ranked in descending order of the percentage of women among mobile students enrolled in bachelor's or equivalent programmes.
Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934164085

In most countries, the share of women tends to be greater among mobile students enrolled in bachelor's programmes than in any other degree. However the share of women among mobile students also displays the greatest variation across countries at bachelor's level. While 49% of mobile bachelor's students are women in total across OECD countries, this varies from close to 70% in Iceland to less than 30% in Latvia. In master's programmes, the share varies across countries, although to a lesser extent than in bachelor's programmes. In Korea and Slovenia, women account for more than 60% of mobile students in master's programmes, the largest share across all OECD countries, but account for less than 40% in Turkey. At doctoral level, less than half of mobile students are women in all OECD countries except Chile (Figure B6.).

Definitions

Foreign students are those who are not citizens of the country in which they are enrolled and where the data are collected. Although they are counted as internationally mobile, they may be long-term residents or even be born in the "host" country. While pragmatic and operational, this classification may be inappropriate for capturing student mobility because of differing national policies regarding the naturalisation of immigrants. For instance, Australia has a greater propensity than Switzerland to grant permanent residence to its immigrant populations. This implies that even when the proportion of foreign students in tertiary enrolment is similar for both countries, the proportion of international students in tertiary education will be smaller in Switzerland than in Australia. Therefore, for student mobility and bilateral comparisons, interpretations of data based on the concept of foreign students should be made with caution. In general, international students are a subset of foreign students.

International students are those who left their country of origin and moved to another country for the purpose of study. The country of origin of a tertiary student is defined according to the criterion of "country of upper secondary education", "country of prior education" or "country of usual residence" (see below). Depending on country-specific immigration legislation, mobility arrangements (such as the free mobility of individuals within the European Union and the European Economic Area) and data availability, international students may be defined as students who are not permanent or usual residents of their country of study, or alternatively as students who obtained their prior education in a different country.

Mobile students are students who are either **international** or **foreign.**

National students are students who are not internationally mobile. Their number is computed as the difference between the total number of students in each destination country and the number of international or foreign students.

The **country of prior education** is the country in which students obtained their upper secondary qualification (upper secondary or post-secondary non-tertiary completion with access to tertiary education programmes) or the qualification required to enrol in their current level of education. Where countries are unable to operationalise this definition, it is recommended that they use the country of usual or permanent residence to determine the country of origin. Where this too is not possible and no other suitable measure exists, the country of citizenship may be used.

Permanent or usual residence in the reporting country is defined according to national legislation. In practice, this means holding a student visa or permit, or electing a foreign country of domicile in the year prior to entering the education system of the country reporting the data.

Country-specific operational definitions of international students are indicated in the tables as well as in Annex 3 (https://doi.org/10.1787/69096873-en).

Methodology

Defining and identifying mobile students, as well as their types of learning mobility, are a key challenge for developing international education statistics, since current international and national statistical systems only report domestic educational activities undertaken within national boundaries (OECD, 2018[18]).

Data on international and foreign students are therefore obtained from enrolments in their countries of destination. This is the same method used for collecting data on total enrolments, i.e. records of regularly enrolled students in an education programme. Students enrolled in countries that did not report to the OECD or to the UNESCO Institute for Statistics are not included and, for their countries of origin, the total number of national students enrolled abroad may be underestimated.

The total number of students enrolled abroad refers to the count of international students, unless data are not available and the count of foreign students is used instead. Enrolment numbers are computed using a snapshot method, i.e. counting enrolled students at a given period of time (e.g. a specific day or period of the year).

This methodology has some limits. OECD international statistics on education tend to overlook the impact of distance and e-learning, especially fast-developing massively online open courses (MOOCs), students who commute from one country to another on a daily basis and short-term exchange programmes that take place within an academic year and are therefore under the radar. Other concerns arise from the classification of students enrolled in foreign campuses and European schools in host countries' student cohorts.

Current data for international students can only help track student flows involving OECD and partner countries as receiving countries. It is not possible to assess extra-OECD flows and, in particular, the contributions of South-South exchanges to global brain circulation.

For more information, please see the OECD *Handbook for Internationally Comparative Education Statistics 2018: Concepts, Standards, Definitions and Classifications* (OECD, 2018[18]) and Annex 3 for country-specific notes (https://doi.org/10.1787/69096873-en).

Source

Data refer to the academic year 2017/18 and are based on the UNESCO-UIS/OECD/EUROSTAT data collection on education statistics administered by the OECD in 2019 (for details, see Annex 3 at https://doi.org/10.1787/69096873-en).

The UNESCO Institute of Statistics (UIS) provided data 1) for Argentina, China, India, Indonesia, Saudi Arabia and South Africa; 2) for all countries beyond the OECD and partner countries; and 3) for OECD countries for the period not covered by OECD statistics (2005 and 2010-18).

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Indicator B6 Tables

Table B6.1	International and foreign student mobility in tertiary education (2010, 2014 and 2018)
Table B6.2	Distribution of national and international or foreign students by field of study (2018)
Table B6.3	Mobility patterns of foreign and international students (2018)
WEB Table B6.4	*Distribution of international and foreign students, by country of origin (2018)*
WEB Table B6.5	*Distribution of international and foreign students, by country of destination (2018)*

Cut-off date for the data: 19 July 2020. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en. More breakdowns can also be found at http://stats.oecd.org/, Education at a Glance Database.

StatLink: https://doi.org/10.1787/888934163933

Table B6.1. International and foreign student mobility in tertiary education (2010, 2014 and 2018)

International or foreign student enrolment as a percentage of total tertiary enrolment

Reading the sixth column of the upper section of the table (international): 27% of all students in tertiary education in Australia are international students and 18% of all students in tertiary education in Switzerland are international students.

Reading the sixth column of the lower section of the table (foreign): 3% of all students in tertiary education in Greece are not Greek citizens, and 3% of all students in tertiary education in Korea are not Korean citizens.

		Number of international or foreign students (in thousands)	Share of international or foreign students by level of tertiary education						
			Short-cycle tertiary	Bachelor's or equivalent	Master's or equivalent	Doctoral or equivalent	All tertiary		
		2018					2018	2014	2010
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		International students							
OECD	Countries								
	Australia	445	32	16	53	34	27	18	22
	Austria	75	1	19	22	33	17	15	15
	Belgium[1]	54	8	7	19	42	10	11	7
	Canada	225	13	12	17	35	14	10	m
	Chile	6	0	0	1	12	0	0	m
	Denmark	33	13	6	20	36	11	10	8
	Estonia	4	a	7	14	17	10	4	2
	Finland	24	a	5	12	23	8	7	6
	France[2]	230	3	7	12	38	9	10	m
	Germany	312	0	7	16	12	10	8	9
	Hungary	32	1	9	19	19	11	7	5
	Iceland	1	28	5	11	33	8	7	5
	Ireland	22	4	7	20	30	10	7	m
	Israel	11	m	3	5	7	3	3	1
	Japan	183	8	3	9	19	5	3	m
	Latvia	8	1	8	20	10	9	5	2
	Lithuania	6	a	3	11	7	5	3	1
	Luxembourg	3	10	23	78	86	48	44	m
	Mexico	7	0	0	1	2	0	0	m
	Netherlands	105	3	10	17	44	12	10	4
	New Zealand	53	19	17	32	49	20	19	15
	Norway	12	1	3	7	21	4	4	3
	Poland	54	0	3	5	2	4	2	1
	Portugal	28	3	5	10	29	8	4	3
	Slovenia	3	2	4	6	10	4	3	2
	Spain	71	1	1	11	17	3	2	3
	Sweden	31	0	3	12	36	7	6	7
	Switzerland	54	0	10	29	56	18	17	17
	United Kingdom	452	4	15	35	41	18	18	16
	United States	987	2	5	13	25	5	4	3
		Foreign students							
	Colombia	5	0	0	1	3	0	0	m
	Costa Rica[3]	3	x(6)	x(6)	x(6)	x(6)	1	m	m
	Czech Republic	45	5	12	16	18	14	10	m
	Greece	26	a	4	1	1	3	4	m
	Italy	107	7	5	6	16	6	5	m
	Korea	85	1	2	9	11	3	2	2
	Slovak Republic	12	1	7	10	10	8	6	4
	Turkey	125	0	2	5	8	2	1	m
	OECD total	3 939	3	5	13	22	6	5	m
	Average for countries with available data for all reference years						8	6	5
	EU23 total	1 738	3	7	14	23	9	8	m
		Foreign students							
Partners	Argentina[3]	89	x(6)	x(6)	x(6)	x(6)	3	m	m
	Brazil	21	0	0	1	2	0	0	0
	China	178	m	m	m	m	m	m	m
	India	45	a	x(6)	x(6)	x(6)	0	0	
	Indonesia	8	x(6)	x(6)	x(6)	x(6)	0	m	m
	Russian Federation	262	1	5	6	7	4	3	2
	Saudi Arabia	74	x(6)	x(6)	x(6)	x(6)	5	5	m
	South Africa[3]	45	x(6)	x(6)	x(6)	x(6)	4	4	m

1. Data on short-cycle tertiary programmes are based on nationality and refer to the Flemish community only.
2. Break in series between 2017 and 2018. See Annex 3 for more information.
3. Year of reference 2017.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934163952

Table B6.2. Distribution of international or foreign students by field of study (2018)

All tertiary programmes

		Share of students enrolled in selected broad fields of study, by mobility status													
		Education		Arts and humanities		Social sciences, journalism and information		Business, administration and law		Natural sciences, mathematics and statistics		Engineering, manufacturing and construction		Health and welfare	
		International or foreign	National	International or foreign	National	International or foreign	National	International or foreign	National	International or foreign	National	International or foreign	National	International or foreign	National
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
		International students													
OECD	Countries														
	Australia	2	12	6	13	3	9	49	23	4	7	12	8	9	23
	Austria	6	14	15	10	19	9	17	23	11	8	16	17	9	8
	Belgium	5	11	13	9	11	9	13	24	5	4	10	11	37	26
	Canada	1	6	10	13	12	15	29	22	12	9	19	11	5	16
	Chile	8	11	6	4	6	5	31	22	6	2	18	21	13	22
	Denmark	2	9	11	11	9	10	28	23	7	5	21	11	8	24
	Estonia	2	7	13	13	11	6	39	21	6	6	11	16	3	13
	Finland	3	6	10	12	5	7	24	17	6	5	20	18	10	19
	France	2	4	16	13	12	9	27	28	12	9	16	13	7	16
	Germany	2	9	16	13	8	8	18	23	9	10	29	19	7	8
	Hungary	m	13	m	8	m	8	m	25	m	4	m	16	m	8
	Iceland	6	13	43	9	8	16	7	21	18	4	8	9	4	16
	Ireland	1	7	11	15	7	6	22	21	9	10	11	11	25	16
	Israel	8	19	16	8	20	18	18	14	10	6	9	20	13	8
	Japan	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Latvia	1	8	3	7	6	8	32	27	1	3	11	17	30	14
	Lithuania	2	5	10	9	18	8	26	26	2	4	15	19	21	17
	Luxembourg	5	17	7	16	12	11	43	24	9	5	8	10	4	11
	Mexico	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Netherlands	2	11	12	8	19	10	28	27	7	6	12	9	8	18
	New Zealand	3	9	7	14	8	13	36	19	9	9	12	9	6	17
	Norway	4	16	19	10	12	11	15	19	16	5	12	10	10	18
	Poland	2	10	11	9	18	11	27	22	2	4	8	17	16	12
	Portugal	5	3	12	10	12	11	24	21	6	6	20	21	12	16
	Slovenia	5	10	10	9	15	8	16	19	8	6	21	18	9	13
	Spain	5	12	9	11	11	10	27	20	5	6	13	14	22	15
	Sweden	3	15	13	12	13	12	13	14	13	4	26	17	12	19
	Switzerland	5	11	14	9	12	8	20	27	17	7	18	15	8	17
	United Kingdom	2	7	13	15	12	11	33	18	12	16	14	8	7	18
	United States	m	m	m	m	m	m	m	m	m	m	m	m	m	m
		Foreign students													
	Colombia	7	8	10	4	12	9	28	39	2	2	15	20	16	8
	Costa Rica	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	2	12	9	9	10	9	20	19	7	6	14	15	19	13
	Greece	4	5	18	13	14	12	13	21	11	9	17	22	13	7
	Italy	2	5	25	16	14	14	15	18	6	8	22	16	11	15
	Korea	2	6	21	16	14	6	30	14	3	5	13	23	4	14
	Slovak Republic	10	13	7	8	5	11	10	19	2	6	8	13	51	16
	Turkey	6	5	13	12	14	10	19	41	5	2	25	12	12	8
	OECD total	3	8	13	11	12	9	27	27	8	5	17	16	9	13
	EU23 total	3	8	14	12	12	10	25	22	9	8	18	14	11	15
		Foreign students													
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	11	19	8	2	8	5	17	30	7	2	21	14	15	18
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table B6.3. Mobility patterns of foreign and international students (2018)

		Percentage of national tertiary students enrolled abroad	Number of international or foreign students per national student abroad	Number of international or foreign students for every hundred national students home and abroad	Percentage of international or foreign students coming from neighbouring countries	International education market shares
		Total tertiary				
		(1)	(2)	(3)	(4)	(5)
OECD	Countries					
	Australia	1	33	36	3	8
	Austria	6	4	20	58	1
	Belgium	3	3	11	38	1
	Canada	3	5	16	4	4
	Chile	1	0	0	34	0
	Colombia	2	0	0	59	0
	Costa Rica[3]	1	1	1	50	0
	Czech Republic[1]	4	4	15	52	1
	Denmark	2	6	12	37	1
	Estonia	8	1	10	43	0
	Finland	4	2	8	13	0
	France	4	2	9	14	4
	Germany	4	3	11	15	6
	Greece[1]	5	1	3	60	0
	Hungary	5	3	12	22	1
	Iceland	17	0	7	7	0
	Ireland	7	1	10	7	0
	Israel[2]	4	1	3	5	0
	Italy[1]	4	1	6	19	2
	Japan	1	6	5	54	3
	Korea[1]	3	1	3	62	2
	Latvia	7	1	10	17	0
	Lithuania	9	1	5	24	0
	Luxembourg	76	0	22	54	0
	Mexico	1	0	0	34	0
	Netherlands	2	6	13	28	2
	New Zealand	2	10	24	6	1
	Norway	6	1	4	20	0
	Poland	2	2	4	68	1
	Portugal	4	2	8	4	1
	Slovak Republic[1]	19	0	7	57	0
	Slovenia	4	1	4	27	0
	Spain	2	2	4	29	1
	Sweden	4	2	7	20	1
	Switzerland	6	3	20	54	1
	Turkey[1]	1	3	2	47	2
	United Kingdom	2	11	22	11	8
	United States	0	12	5	5	18
	OECD total	2	3	6		70
	EU23 total	4	3	10		31
Partners	Argentina[3]	0	10	3	49	2
	Brazil[1]	1	0	0	37	0
	China	2	0	0	m	3
	India	1	0	0	46	1
	Indonesia	1	0	0	73	0
	Russian Federation[1]	1	4	4	51	5
	Saudi Arabia	5	1	5	32	1
	South Africa[3]	1	5	4	44	1

Note: Neighbouring countries are considered to be those with land or maritime borders with the host country. International education market shares refer to the number of mobile students enrolled in each destination country as a share of all mobile students.

1. National tertiary students are calculated as total enrolment minus foreign students instead of total enrolment minus international students.
2. Excluding internationally mobile students enrolled in short-cycle tertiary programmes.
3. Year of reference 2017.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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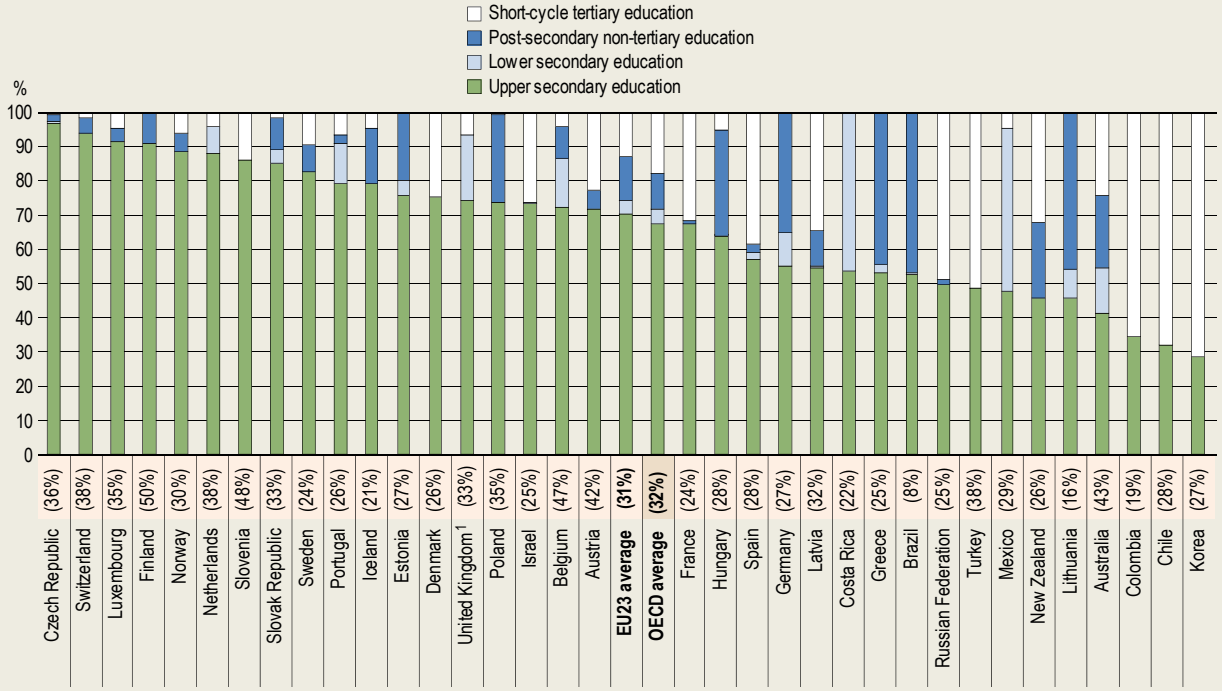
Indicator B7. How do vocational education systems differ around the world?

Highlights

- About one in three students from lower secondary to short-cycle tertiary level are enrolled in a vocational education and training (VET) programme on average across OECD countries. However, there are wide variations between countries, ranging from less than 20% of students in Brazil, Colombia and Lithuania to more than 40% in Australia, Austria, Belgium, Finland and Slovenia.
- Upper secondary education plays a central role in VET systems and accommodate adult population increasingly. On average, more than two-thirds of students in vocational education (from lower secondary to short-cycle tertiary) are enrolled in upper secondary programmes, while 42% of all upper secondary students opt for VET programmes.
- On average, about two-thirds of upper secondary vocational students are in programmes that theoretically give them the opportunity to enter tertiary education directly. Usually, this is at short-cycle tertiary level but in about two-thirds of countries with available data, graduates from upper secondary vocational programmes can go straight into bachelor's or equivalent programmes.

Figure B7.1. Distribution of students enrolled in vocational education by level of education (2018)

Full- and part-time students enrolled in public and private institutions



Note: Figures in parentheses refer to the share of students enrolled in vocational education from lower secondary to short-cycle tertiary (ISCED 2 to 5) as a percentage of all students enrolled at these levels.

1. Short-cycle tertiary programmes include a small number of bachelor's professional programmes.

Countries are ranked in descending order of the share of students enrolled in upper secondary vocational programmes.

Source: OECD (2020), Table B7.1. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Context

Vocational education and training (VET) is formed of programmes that attracts a diverse range of students, mainly including those seeking technical skills to enter the labour market, adults wishing to increase their employability by developing their skills further, and students who may seek entry into higher education later on (OECD, 2019[1]). VET programmes can also be an attractive option for students who struggle academically and are at risk of dropping out of education. VET systems can boost economic development and help countries remain competitive in the globalised world by adapting to evolving skill needs, through the expansion of a workforce with mid-level trade or technical and professional skills (OECD, 2015[2]). Evidence shows that countries with well-established vocational and apprenticeship programmes have been more effective in holding the line on youth unemployment and in providing the skills needed by the labour market (OECD, 2010[3]). In high-quality VET systems, cooperation with employers is key. The skills taught in the programmes are aligned with the labour-market demands, and young people also gain generic and transferable skills, and have sufficient career guidance. Teachers have access to initial education and professional development to keep their skills up to date and have industry experience.

VET programmes can be either mainly school-based or work-based. The combination of learning in the work environment and in school provides numerous advantages. Learners get an education that combines practical and theoretical learning. Firms benefit because education can be tailored to workplace needs, and students become familiar with firm-specific procedures (OECD, 2010[3]; OECD, 2014[4]; OECD, 2018[5]). In many countries, VET has been neglected and marginalised in policy discussions, often overshadowed by the emphasis on general academic education (OECD, 2011[6]). Nevertheless, almost all countries have recently changed their policies and have implemented significant VET reforms since 2013. They have often been aimed at:

1. improving the overall quality of VET programmes by updating curricula and improving the quality of teachers
2. supporting students' transitions after graduation from upper secondary education into post-secondary non-tertiary or tertiary education or the labour market
3. improving access to VET and its attractiveness to students and employers
4. strengthening apprenticeship systems by increasing the number of places available, enhancing workplace training and encouraging employer engagement ((OECD, 2018[5]) and (OECD, 2018[7])).

Other findings

- Although they provide labour-market advantages, about one-third of all students in upper secondary vocational education are enrolled in combined school- and work-based programmes on average across the OECD.
- The typical actual duration of work-based learning in combined school- and work-based programmes differ widely across countries and programmes. The work-based component forms less than 30% of such programmes' duration in Estonia and Israel, compared to 80% in Finland and Switzerland.
- On average across OECD countries, the average age of enrolment in upper secondary education is higher for students in vocational education (21 years) than for students enrolled in general education (17 years).
- On average across OECD countries, women make up 45% of vocational upper secondary students, with wide variations across sectors and occupations. In contrast, at post-secondary non-tertiary level, more than 55% of students enrolled in vocational programmes are women.

Note

VET programmes are classified as school-based or combined school- and work-based in this indicator. In school-based programmes, at least 75% of the curriculum is presented in the school environment. In combined school- and work-based programmes, at least 10% (but less than 75%) of the curriculum is presented in the school environment, with the remainder is organised as work-based learning in enterprises. Entirely work-based programmes (i.e. over 90% of the curriculum is presented in a work-based environment) are not included in the scope of this indicator.

The ISCED 2011 classification does not define academic and professional programmes for bachelor's, master's, doctoral or equivalent degrees (ISCED 6 to 8) (OECD/Eurostat/UNESCO Institute for Statistics, 2015[8]). In the absence of internationally agreed definitions for these categories of tertiary education, no analysis of vocational programmes at these ISCED levels can be carried out. For this reason, this indicator focuses on vocational programmes from lower secondary to short-cycle tertiary education (ISCED levels 2 to 5), where vocational programmes are clearly defined. Work is being undertaken to address this limitation in the future.

Analysis

Overview of vocational education from lower secondary to tertiary level

The organisation and structure of vocational education varies considerably from one country to another, both in terms of the opportunities available to students to enrol in it, the content of the programmes and the possibilities for further study and employment. On average across OECD countries, about one in three students from lower secondary to short-cycle tertiary level are enrolled in a VET programme. However, there are wide variations between countries, ranging from less than 20% of students in Brazil, Colombia and Lithuania to more than 40% in Australia, Austria, Belgium, Finland and Slovenia (Figure B7.1).

These relatively low figures are largely explained by the fact that lower secondary vocational programmes exist in only half of the countries with available data, which explains why only 6% of lower secondary students enrol in vocational programmes on average across OECD countries. VET programmes at this level are often designed for adults and are not part of initial education. The share of students enrolled in VET at lower secondary level exceeds 10% only in Australia, Belgium, Costa Rica, Ireland, Mexico and the United Kingdom. Most VET students enrolled in lower secondary vocational education can directly access upper secondary vocational programmes except in Estonia, Mexico and the Slovak Republic. The other exceptions include the few students enrolled in special education in Belgium and students in the Netherlands enrolled in practical training designed for students who do not have the skills needed to go on into further education. Vocational lower secondary programmes generally offer options for young people wishing to prepare for direct entry to the labour market in low- or semi-skilled jobs, or provide adults and students with special educational needs with the basic skills necessary for further learning (Table B7.1, Figure B7.1 and (OECD/Eurostat/UNESCO Institute for Statistics, 2015[8])).

Upper secondary education is the most common level at which VET programmes are provided across countries. All countries except the United States have some students enrolled in vocational upper secondary education. In the United States, there is no distinct vocational path at upper secondary level, although optional vocational courses are offered within the general track and VET programmes start at the post-secondary level. On average across OECD countries, more than two-thirds of all VET students are enrolled in upper secondary education and 42% of all upper secondary students are in vocational programmes. However, the importance of VET systems within the educational landscape varies widely across countries. In some, VET plays a central role in the initial education of young people whereas in other systems most students follow a general education programme. In more than one-quarter of countries with available data, more than half of upper secondary students participate in vocational programmes. In Austria, the Czech Republic, Finland, the Netherlands, the Slovak Republic and Slovenia, more than 65% of upper secondary students follow this track. In Finland, the high proportion of students enrolled in vocational education at this level is partly explained by the large number of adults participating in VET. In contrast, over 80% of upper secondary students are enrolled in general programmes in Brazil, Canada, Chile, Korea and Saudi Arabia. In Canada, the proportion of young people expected to enrol in an upper secondary vocational programme is considerably smaller because vocational programmes are often provided within the post-secondary system, and in Quebec (Canada), vocational training at the secondary level is largely through second-chance programmes for older students (Table B7.1).

For students looking to continue their vocational education, the two most common options after upper secondary are post-secondary non-tertiary and short-cycle tertiary programmes. But these programmes are also for students who come from the general education path. Just over one-quarter of all students in any kind of VET programme are enrolled in one of these two levels. Specifically, 10% of these students are enrolled in post-secondary non-tertiary level programmes and 17% in short-cycle tertiary programmes. Two observations can be made. First, the countries with the most students enrolled in vocational short-cycle tertiary programmes – Chile, Colombia, Korea, Spain, the Russian Federation and Turkey – either have no post-secondary non-tertiary options, or, for example in the Russian Federation and Spain, have few students enrolled at this level. In these countries, short-cycle tertiary programmes are the best option for further education. Similarly, those with the most students in post-secondary non-tertiary programmes are those with no or few short-cycle tertiary programmes (e.g. Brazil, Greece and Lithuania). Second, there are some countries – Chile, Colombia, Korea and Turkey – where a larger share of VET students are enrolled at short-cycle tertiary level than at upper secondary level (Table B7.1 and Figure B7.1). This might be explained by the fact that even though short-cycle tertiary programmes are often vocational, they also enrol students from upper secondary general programmes, which may create a shortage of places for students graduating from vocational tracks. As a result, some countries have recently implemented reforms to improve upper secondary vocational graduates' access to short-cycle tertiary programmes. For example, Chile and Portugal have strengthened networking and co-ordination with higher education institutions to help students with the transition from upper secondary VET to tertiary education. Similarly, Chile, Italy and Japan have opened new technical institutes to increase the opportunities for vocational upper secondary graduates

to undertake further studies in short-cycle tertiary education while France has introduced quotas to ensure graduates from upper secondary vocational education have more places in short-cycle tertiary programmes (OECD, 2018[5]).

Short-cycle tertiary programmes are often designed to prepare students to enter the labour market. However, these programmes may also provide a pathway to other tertiary education programmes (see Indicator B4). The absence of or very low enrolment levels in vocational short-cycle tertiary programmes, as seen for instance in Estonia, Finland and Germany, does not mean that these countries' VET systems do not offer students the opportunity to continue their studies at other tertiary levels. On the contrary, in about two-thirds of OECD member and partner countries with data, students who have completed upper secondary vocational education have the opportunity to enrol directly in bachelor's (or equivalent) programmes (ISCED 6). However, the lack of internationally agreed definitions to distinguish between "academic" and "professional" programmes at the bachelor's (or equivalent) level make it impossible to measure the importance of professional programmes at this level in OECD countries to date (Table B7.2 and Figure B7.1).

Transition from upper secondary vocational education

Upper secondary education builds on students' basic skills and knowledge to prepare them for tertiary education or the labour market. In many countries, this level of education is not compulsory and it can last from two to five years. Most education systems provide different types of programmes at this level to cater to students' different interests and competencies, which will prepare them to contribute fully to society. Developing and strengthening both general and vocational programmes in upper secondary education can make education more inclusive, and strengthen the transition from school to work (OECD, 2019[1]; OECD/Eurostat/UNESCO Institute for Statistics, 2015[8]).

Pathways to higher levels of learning are likely to be particularly important in the near future. VET students may be particularly at risk here. The OECD predicts that 14% of jobs are at high risk of automation and a further 32% are likely to change radically in the coming years (OECD, 2019[9]). Recognising the importance of creating opportunities for further learning, many countries have created (or are in the process to create) pathways to higher levels of education for VET graduates. For instance, as part of the Portuguese Higher Education Admission Process 2020/2021, a new special competition for the admission to higher education of graduates of specialised vocational and artistic education will be introduced. Pathways between upper secondary VET, post-secondary non-tertiary and tertiary education can be either through direct access or through bridging programmes.

Transition to tertiary education

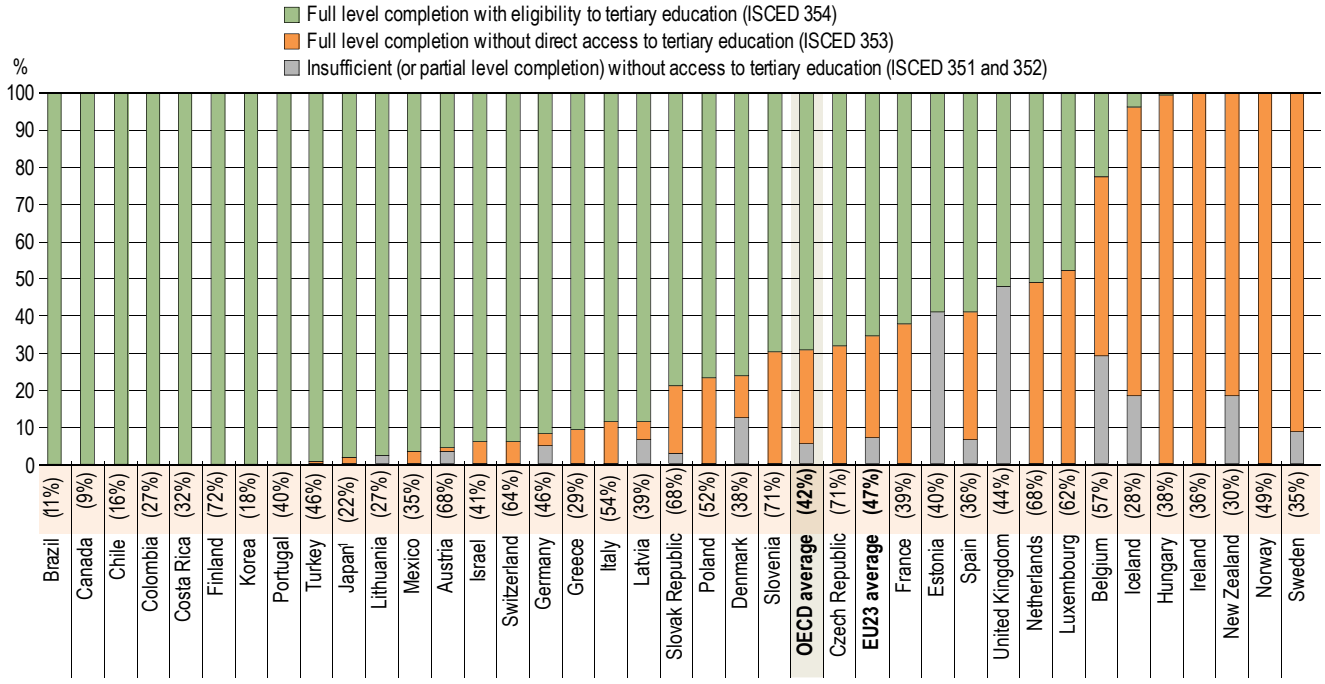
The number of students enrolled in upper secondary vocational education varies widely across countries. The type of upper secondary vocational programmes also differs greatly, as do the opportunities they offer young people to continue their studies in tertiary education. Even if upper secondary VET programmes are not academically oriented, they still provide eligibility to tertiary education for many students in most countries. On average, about two-thirds of students enrolled in upper secondary vocational education are receiving an education that theoretically provides them with the opportunity to directly enter a higher education level, often short-cycle tertiary but also at bachelor's or equivalent level (Table B7.2 and Figure B7.2).

Despite these opportunities, they are more limited than those offered to general upper secondary students in more than two-thirds of the countries with available data. On average across countries, more than 90% of students in general upper secondary education are enrolled in programmes that provide, in theory, eligibility to tertiary education. Only Austria, Israel, Switzerland and the United Kingdom have a larger share of vocational upper secondary students enrolled in a programme leading directly to tertiary education than the share of general upper secondary students. Among these countries, Austria, Israel and the United Kingdom offer many opportunities for young upper secondary vocational graduates to continue their studies in vocational programmes at the short-cycle tertiary level. Switzerland is one of the few countries with Germany where a large proportion of upper secondary vocational students directly go on to enter tertiary institutions that award qualifications equivalent to bachelor's level (Table B7.2).

However, starting tertiary education does not guarantee completion, particularly for upper secondary vocational graduates. Students with a general upper secondary qualification have higher completion rates (within the theoretical duration of the programme plus three years) at bachelor's or equivalent level (70%) than students with a vocational upper secondary qualification (58%). Only in one country – Austria – are bachelor's students from vocational upper secondary programmes more likely to graduate than their peers who attended general programmes (OECD, 2019[10]).

Figure B7.2. Distribution of students enrolled in upper secondary vocational education by type of vocational programme (2018)

Full- and part-time students enrolled in public and private institutions



Note: Figures in parentheses refer to the share of students enrolled in upper secondary vocational education as a percentage of all students enrolled at this level.
1. Vocational programmes sufficient for level completion, with eligibility to tertiary (ISCED 354) include all vocational programmes insufficient for level completion, without direct access to tertiary education (ISCED 351).
Countries are ranked in descending order of the share of students enrolment in upper secondary vocational programmes sufficient for level completion, with eligibility to tertiary education (ISCED 354).
Source: OECD (2020), Table B7.2. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Transition to post-secondary non-tertiary education or the labour market

Supporting students' transitions after graduation from upper secondary education into post-secondary education is an important challenge for countries. A small group of countries including Belgium, Hungary, Iceland, Ireland, New Zealand, Norway and Sweden present a different pattern for the transition between upper secondary and post-secondary education (Figure B7.2). In these countries, upper secondary vocational programmes are not designed to provide to students eligibility to tertiary education, but rather to offer them either direct entry to the labour market, or the option to pursue their studies in post-secondary non-tertiary education before entering tertiary education or the labour market (Figure B7.3 and Table B7.2). Among these countries, Norway has recently changed its policy and most of the upper secondary vocational programmes provide access to tertiary education from 2018. Sweden is also a special case. The country abolished certain mandatory academic content in VET programmes and the automatic eligibility of VET students for tertiary education through the 2011 reforms. However, despite this change, students enrolled in upper secondary vocational programmes have the right to choose, if they wish, to add more academic courses to their timetable in order to access higher education.

Interestingly, these countries have common characteristics. Young adults with upper secondary vocational attainment have excellent employment and earnings prospects in all of them, significantly higher than those with general qualifications, but also higher than OECD average employment rates. For example, three of these countries (Iceland, Norway and Sweden) have the highest employment rates for young adults with an upper secondary vocational qualification, all over 90% (see Indicator A3). Another common feature of all these countries, with the exception of Hungary, is that upper secondary VET programmes offer their graduates opportunities to continue their education at the post-secondary non-tertiary level (ISCED 4),

often in the form of one-year training courses that allow them to deepen their technical skills to specialise in occupations in fields as diverse as health and welfare, agriculture, crafts, and building and construction (Figure B7.2, Table B7.2 and (OECD/Eurostat/UNESCO Institute for Statistics, 2015[8])).

Well-established VET systems can aid in the transition to the labour market by giving young people opportunities to gain professional experience, and by providing them with a combination of specific and general skills that will help them to evolve professionally as their own interests and labour-market requirements change. Italy, New Zealand and Slovenia reported examples of policies aiming to strengthen these synergies. Italy has implemented a major labour-market reform which includes measures to support more effective transitions and support the labour market. New Zealand introduced in 2020 a major Reform of Vocational Education legislation designed to bring together industry and educators into a single vocational education system for developing the skills of the current and future workforce. In Slovenia, following the reform of vocational education (2008-11), 20% of the curriculum can now be designed in co-operation with social partners, particularly local companies. More globally, more than one-third of the 31 countries with available data – Belgium, Chile, Estonia, Finland, France, Germany, Israel, Italy, Latvia, Korea, the Netherlands, Slovenia, Spain, and the United Kingdom – declared that their curricula have been reviewed and improved since 2013 (often in co-operation with enterprises) to align the skills and certification of VET systems with labour-market demands (INES ad-hoc survey on VET and (OECD, 2018[5])).

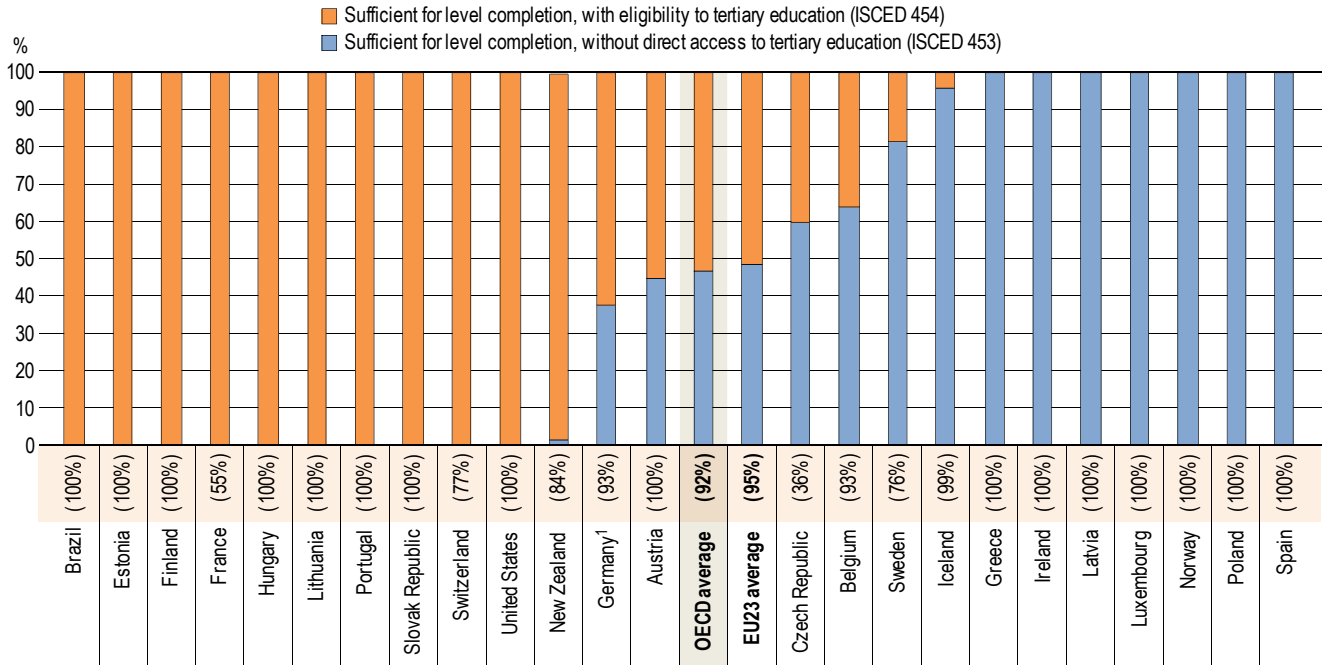
Not all countries offer students a choice between attending a post-secondary non-tertiary education programme or entering tertiary education after they complete upper secondary vocational education. For example, post-secondary non-tertiary programmes do not exist in about one-third of OECD and partner countries with data, preventing students in these countries from accessing programmes that could build on their upper secondary education. This also limits their choices to entering the labour market or continuing their studies at the tertiary level. The other 24 countries with available data do have such programmes. They are mainly vocationally oriented: on average, 92% of all post-secondary non-tertiary students enrol in vocational programmes (Table B7.1). However, in a few countries there are general programmes at post-secondary non-tertiary level which are aimed at students who completed a vocational upper secondary programme and want to increase their chances of entering tertiary education. For instance, in Switzerland, a one-year general programme – *Programme Passerelle DUBS* – prepares graduates from vocational upper secondary education to enter general programmes at the tertiary level. In the same vein, a large proportion of students enrolled at this level in the Czech Republic take one-year general courses that help them prepare for university entrance. These courses are also delivered by universities (OECD/Eurostat/UNESCO Institute for Statistics, 2015[8]).

Although post-secondary non-tertiary vocational education is designed to prepare students for entry into the labour market, it should not lock participants out of further learning options. Thus, in half of the 24 countries with data on this level, all or most students are enrolled in post-secondary non-tertiary vocational education that theoretically gives them the opportunity to access tertiary education if they wish or if the requirement for accessing tertiary education is completion of upper-secondary education. In nine other countries, a majority of students are enrolled in post-secondary non-tertiary programmes that are theoretically designed for direct entry into the labour market by taking advantage of one or two years training courses that allow them to deepen their technical skills. Among these countries, Germany is an interesting case. The majority of students are enrolled in programmes that are theoretically designed for direct entry into the labour market. However, students have eligibility to tertiary academic programmes by the given university entrance qualification obtained at upper secondary level of education. The few remaining countries offer a more mixed profile of programmes, some of which are designed to lead to further study and some of which do not (Figure B7.3).

Analysis of the transition between upper secondary, post-secondary non-tertiary and tertiary education shows large differences between countries. In Hungary, for example, non-tertiary post-secondary education is a stepping stone to tertiary education and there is in general no direct access to tertiary education for graduates of upper secondary education. Conversely, in countries such as Ireland, Norway and Sweden, vocational programmes at the post-secondary non-tertiary level offer no more opportunities for further study at tertiary level than those at the upper secondary level (Figure B7.2 and Figure B7.3).

Figure B7.3. Distribution of students enrolled in post-secondary non-tertiary vocational education by type of vocational programme (2018)

Full- and part-time students enrolled in public and private institutions



Note: Figures in parentheses refer to the share of students enrolled in post-secondary non-tertiary vocational education as a percentage of all students enrolled at this level.
1. The majority of students enrolled in ISCED 453 have eligibility to tertiary academic programmes by the given university entrance qualification obtained at upper secondary level of education (ISCED 344).
Countries are ranked in descending order of the share of students enrolment in post-secondary non-tertiary vocational programmes sufficient for level completion, with eligibility *to tertiary education (ISCED 454).*
Source: OECD (2020), Table B7.2. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Box B7.1. Upper secondary graduates from vocational programmes, by field of study and gender

Participating in a vocational education and training (VET) programme has both personal and societal beneficial outcomes: the opportunity to acquire qualifications, integration into the labour market with a satisfactory wage, further career development opportunities, professional status and economic competitiveness (Cedefop, 2011[11]).

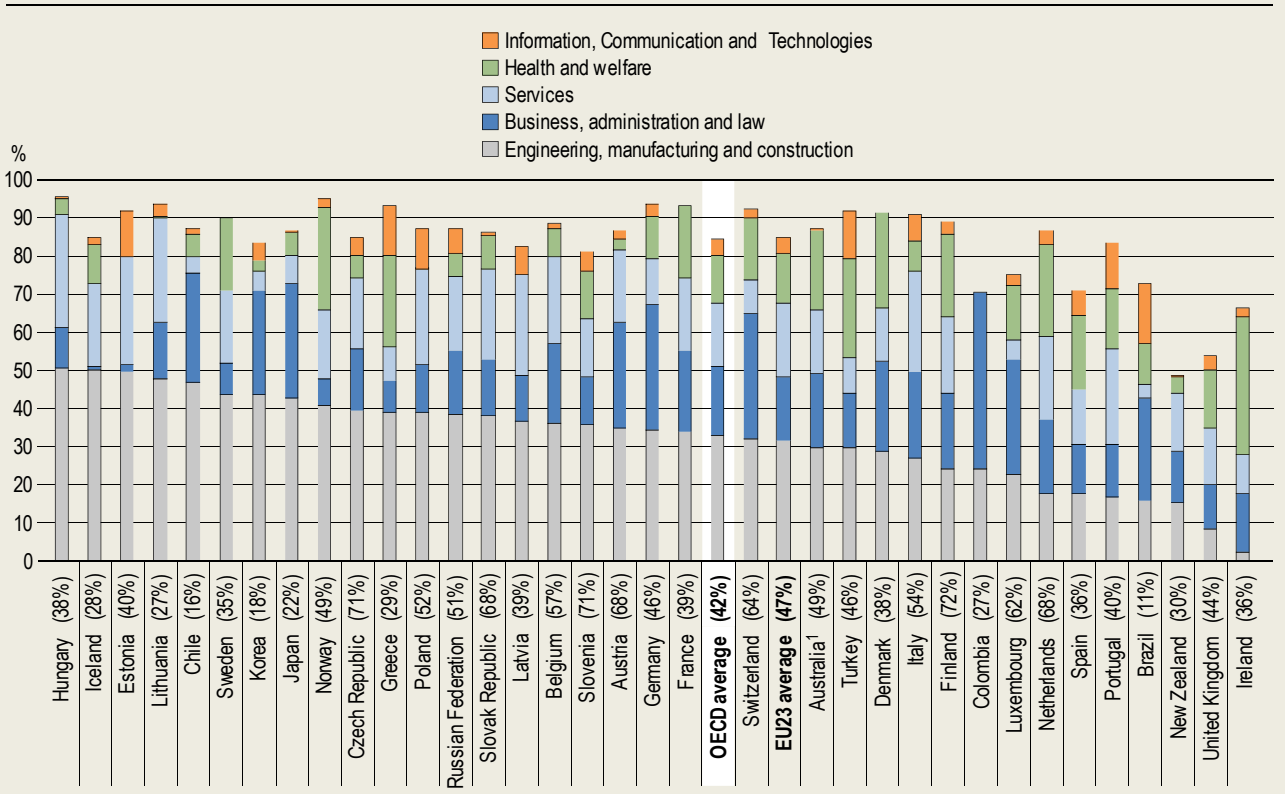
VET is an important part of upper secondary education in many OECD countries. However, certain fields of study are more common at this level. On average across OECD countries, 33% of those graduating from upper secondary vocational programmes in 2018 earned a qualification in the broad field of engineering, manufacturing and construction. The share falls to 18% for business, administration and law; 17% for services; 13% for health and welfare; and 4% for information and communication technologies (ICT). However, this pattern does not hold for every country. In Estonia, Hungary and Iceland, 50% or more of students graduate with a specialisation in engineering, manufacturing and construction. In contrast, business, administration and law is the most popular field in at this level for Brazil, Luxembourg and Switzerland. In Ireland, the Netherlands, Spain and the United Kingdom, the field of health and welfare is the most popular out of the selected fields in Figure B7.4.

The cost of VET programmes varies greatly depending on the fields of study followed by the students. For example, some VET programmes require expensive equipment or sophisticated infrastructure to train students. This is particularly the case for programmes in science or technology. Countries where a large share of VET students graduate with a specialisation in

engineering, manufacturing and construction, such as Chile, Estonia, Iceland and Sweden tend to spend more per student in vocational programmes than in general ones. The differences are also significant in countries where the field of health and welfare is the most popular, such as Greece, the Netherlands and Spain (see Figure C1.2 and Box C1.1).

Upper secondary graduation patterns by field of study also reveal a strong gender bias. The share of women pursuing an upper secondary vocational qualification in engineering, manufacturing and construction is low: only 13% of graduates in this field of study are women. On the other hand, women are over-represented in health and welfare, where they make up 81% of graduates on average. In fact, in health and welfare, the share of female graduates exceeds 75% in all countries except Latvia (where it is 71%) and Sweden (73%). Between these two extremes, there is more gender balance: in the field of services, on average, 57% of graduates are women, and in business, administration and law, 64% of graduates are women (OECD, 2019[12]).

Figure B7.4. Share of upper secondary vocational graduates, by selected field of study (2018)



Note: Figures in parentheses refer to the share of students enrolled in upper secondary vocational education as a percentage of all students enrolled at this level.
1. Year of reference 2018.
Countries are ranked in descending order of the share of graduates in engineering, manufacturing and construction field.
Source: OECD/UIS/Eurostat (2020) See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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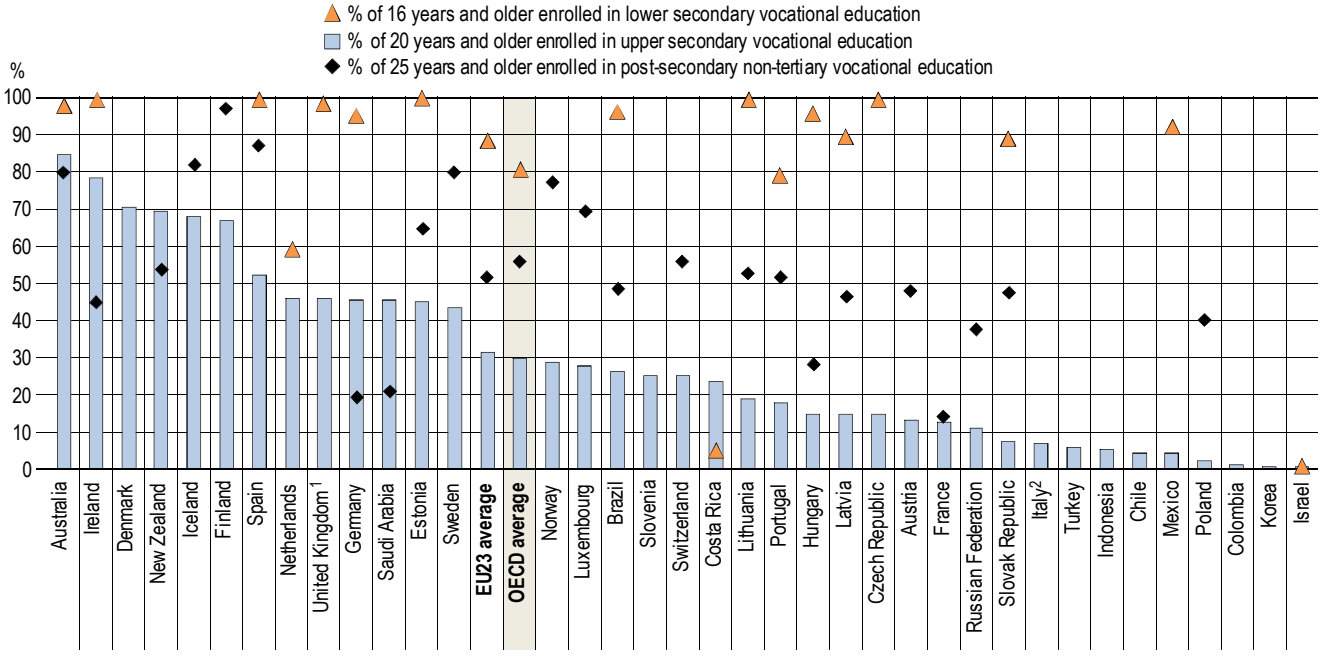
Gender gaps in fields of study may be partly due to social perceptions of what women and men excel at and the careers they can pursue. For example, the low share of women in the field of engineering, manufacturing and construction may result from the social perception of science as being a masculine domain, which may discourage women from pursuing studies in that field (OECD, 2015[13]). In contrast, their over-representation in health-related fields seems to mirror their supposed aptitude for caring positions, as women make up a large share of frontline healthcare workers. In the context of the current sanitary crisis, their exposure to infectious diseases is exacerbated, which in turn represents a high psychological burden on women healthcare workers.

Share of students beyond the typical enrolment age in vocational education, by education level

The proportion of students who are older than the typical enrolment age for their level of education tends to be higher in vocational education than in general education from lower secondary to post-secondary non-tertiary levels. In 10 of the 37 countries for which data are available, less than 10% of vocational upper secondary students are over 20 years old. However, in Australia, Denmark, Ireland and New Zealand, 70% or more are over the typical enrolment age, i.e. older than 20. Overall, the average age of enrolment is 21 years old for vocational upper secondary programmes and 17 years old for general programmes. The average age of enrolment in upper secondary vocational programmes is 25-29 years old in Denmark, Finland, Iceland and Spain while in Australia, Ireland and New Zealand it is over 30 years. In contrast, the country with the highest average age of enrolment in general education is Sweden, where it is 21 years of age (Table B7.2 and Figure B7.5).

Figure B7.5. Share of students beyond the typical enrolment age in vocational education, by education level (2018)

Full- and part-time students enrolled in public and private institutions



Note: The absence of a symbol for a level of education means that there are no VET programmes at that level in the country concerned.
1. Short-cycle tertiary programmes include a small number of bachelor's professional programmes.
2. Upper secondary vocational programmes include post-secondary non-tertiary programmes.
Countries are ranked in descending order of the share of students beyond the typical enrolment age in upper secondary vocational education.
Source: OECD (2020), Table B7.1. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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There are two main reasons that might explain the higher average age of students in vocational programmes. First, vocational systems are often flexible enough to allow students who left the education system early to re-enter later on. Thus, VET systems from lower secondary to post-secondary non-tertiary education often have programmes designed to offer a second chance for some students to acquire basic skills and for others to re-enter a learning environment, developing skills that will subsequently increase their employability. This trend is particularly pronounced in lower secondary education where, except in Costa Rica and, to a lesser extent, Greece and the Netherlands, the majority of students enrolled in lower secondary VET programmes are over 16 years old, which is over the typical enrolment age at this level (Table B7.1 and Figure B7.5). VET systems in these countries are flexible and able to satisfy different needs at different stages of people's lives, whether they are preparing for a first career, seeking additional skills to assist in their work or catching up on educational attainment (OECD/Eurostat/UNESCO Institute for Statistics, 2015[8]).

A second reason for these differences is that VET programmes also tend to cater for students with greater difficulties who also graduate from earlier levels of education at a later age. Moreover, the completion rate of upper secondary education (within the theoretical duration of the programme) is lower among students enrolled in vocational education (62%) than among those in general education (76%). In this context, male students and/or those enrolled in upper secondary vocational programmes that do not give direct access to tertiary education are less likely to complete upper secondary education, even three years after the typical duration, than others (see Indicator B3 and Box B7.1).

Share of women enrolled in vocational education, by education level

Women have historically been under-represented in certain fields of study at upper secondary level such as engineering, manufacturing and construction or ICT, and continue to be so despite undeniable political efforts to reduce gender gaps (Box B7.1). Women's under-representation is not just limited to particular fields of study at upper secondary level; they are also clearly under-represented in vocational education overall. This may be a cause for concern in view of the Sustainable Development Goal (SDG) of ensuring equal access for all women and men to high-quality and affordable technical and vocational education by 2030 (see SDG chapter). On average across OECD countries, women make up 45% of enrolment into upper secondary vocational programmes. Only in about one-quarter of the 40 countries for which data are available is the proportion of women above 50%. There is, however, significant variations among countries: the share of women ranges from less than 37% in Germany, Greece, Iceland and Lithuania to over 55% in Brazil, Costa Rica, Ireland and New Zealand (Table B7.1).

The pattern changes when focusing on post-secondary non-tertiary education. At that level, more than 55% of students are women. They account for more than half of enrolments in most of the countries for which data are available. The only exceptions are the Czech Republic, Ireland, Luxembourg, Portugal and the Russian Federation. The same applies to the short-cycle tertiary level, but the trend towards the over-representation of women is less pronounced. On average in OECD countries, women account for 52% of all students enrolled at this level and make up more than 50% in about two-thirds of countries for which data are available. However, there are wide variations between countries, with the share of female students ranging from less than 30% in Italy and Norway to 65% or more in Brazil, Germany, Poland and the Slovak Republic (Table B7.1). The proportion of women in VET programmes is closely related to differences between countries in the predominant fields of study at this level (Box B7.1). The number of students enrolled in the different levels of education must also be taken into account in the analysis of these results. For example, the proportion of women is very high in short-cycle tertiary programmes in Germany, but the level itself only enrols a minority of students.

There are two main reasons for the under-representation of women in upper secondary vocational education but not in post-secondary education. First, women have a higher completion rate for upper secondary vocational education than men and therefore are more likely to continue their studies in post-secondary education (Indicator B3). Second, women are more strongly represented in certain broad fields of study such as health and social welfare, and business, administration and law, fields which are very prevalent in short-cycle tertiary vocational education at tertiary level, but especially in post-secondary non-tertiary education (OECD, 2019[12]). In contrast, the share of women in short-cycle tertiary education tends to be lower in countries where science, technology, engineering and mathematics (STEM) fields are prominent at this level (Indicator B4).

School-based and combined school- and work-based vocational programmes

The content of VET programmes and the way they are organised and delivered in upper secondary education varies considerably from country to country. In general, VET programmes are divided into school-based programmes and combined school- and work-based programmes, and countries often have VET systems that offer several types of programmes in parallel. In school-based programmes, at least 75% of the curriculum is presented in the school environment. This includes special training centres run by public or private authorities, or enterprise-based special training centres if they qualify as educational institutions. In combined school- and work-based programmes, at least 10%, but less than 75%, of the curriculum is presented in the school environment or through distance learning, with the remainder is organised as work-based learning in enterprises. Such programmes are in some national context called “apprenticeships”. These programmes can be organised in conjunction with education authorities or institutions. They include apprenticeship programmes that involve concurrent school-based and work-based training (e.g. in Denmark and Norway), and programmes that involve alternating periods of attendance at educational institutions and participation in work-based training, as in the dual systems in Austria, Germany and Switzerland (see *Definitions* section and Table B7.3).

Through work-based learning, students acquire the skills that are valued in the workplace. Work-based learning is also a way to develop public-private partnerships and to involve social partners and employers in the development of VET programmes, often including the definition of curricular frameworks (OECD, 2018[7]). The combination of learning in school and in the work environment through combined school- and work-based programmes offers numerous advantages. Learners get an education that combines practical and theoretical learning, and gain soft skills from engaging in actual workplaces. Employers benefit because students' education can be tailored to workplace needs and students become familiar with firm-specific procedures. Combined school- and work-based programmes therefore reduce skill mismatches and provide hiring opportunities for firms, which also provides a smooth transition into working life for students (see Indicator A3 and Box B7.2).

For all these reasons, apprenticeships and other forms of work-based learning have received much attention from policy makers, and about two-thirds of countries with available data have implemented recent reforms to strengthen the quality of their combined school- and work-based programmes. The nature of these reforms differ across countries. Some have strengthened their apprenticeship training and other forms of work-based learning. For some countries (Australia, Belgium, Chile, Finland, Ireland, Israel, Italy, Korea, Norway and the United Kingdom) this meant creating new places in apprenticeship programmes. For others, sometimes the same countries (e.g. Australia, Belgium, Canada, Hungary and Korea), additional attention has focused on public support for students to access VET and on the provision of tax reductions to enterprises taking part (OECD, 2018[7]).

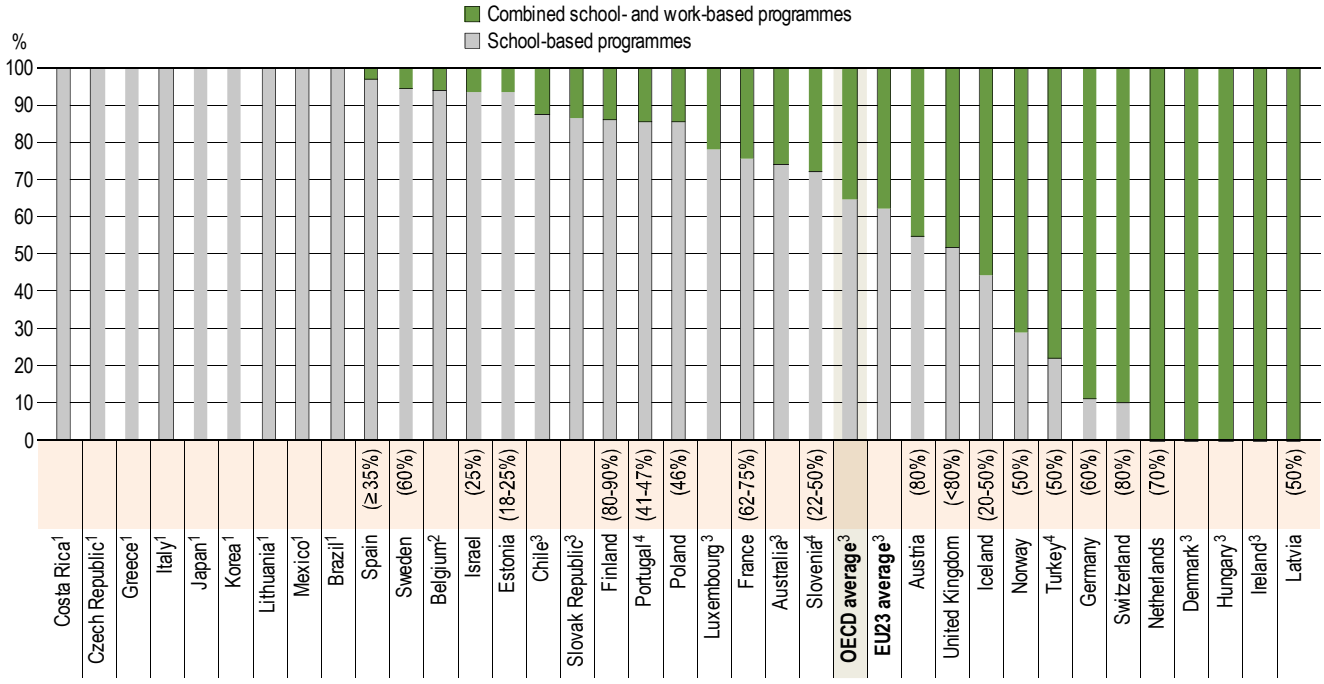
The governance of VET programs has also been an important focus of recent reforms. In Canada, for instance, Federal, provincial and territorial governments in most jurisdictions reconfirmed their commitment to harmonise apprenticeship training across regions for key trades. Finally, some countries have recently reformed their combined school- and work-based programmes in greater depth and created a new model of apprenticeship, as in the Flemish Community of Belgium, Estonia, France, Latvia, Mexico, the Slovak Republic, Slovenia and Spain. In France, for example, the 2018 law for the "freedom to choose one's professional future" reinforces the weight of professional branches in the governance of apprenticeship. It also strengthens apprenticeship training opportunities by improving financial assistance to students and companies, increasing the number of apprenticeship training centres and developing bridges between school education and apprenticeship (INES ad-hoc survey and (OECD, 2018[7]).

Although programmes combining learning in both the school and work environment provide numerous labour-market advantages and received a surge of policy attention over the last decade, about one-third of all students in upper secondary vocational education are enrolled in these programmes on average across OECD countries. The rest are enrolled in school-based programmes. Overall, school-based VET programmes account for more than 90% of students in 14 out of the 35 countries for which data are available. There are only school-based VET programmes in countries as diverse as Brazil, Costa Rica, the Czech Republic, Greece, Italy, Japan, Korea, Lithuania and Mexico. The rest of these countries have a largely school-based system alongside some apprenticeships. Even where school-based programmes predominate, however, that does not mean that vocational education does not have a work-based component. For instance, vocational school-based programmes in France have a work-based component that accounts for 17-23% of the programmes' duration (Table B7.3 and Figure B7.6). Some countries have well-developed combined school- and work-based upper secondary VET systems, although the form that the work-based component may take differs between them. Overall, more than 44% of upper secondary VET students are enrolled in combined school- and work-based programmes in 12 out of the 35 countries with available data. Of these countries, the proportion of students enrolled in these programmes exceeds 89% in Denmark, Germany, Hungary, Ireland, Latvia, the Netherlands and Switzerland. Interestingly, among the 26 countries with at least some students enrolled in combined school- and work-based programmes, the work-based component is mandatory in all of them except Latvia, where it depends on training contracts among the VET schools and enterprises. Combined school- and work-based programmes can also differ in cost models. For instance, only the French Community of Belgium, Chile, Estonia, the Netherlands, Portugal, Slovenia, Spain and Sweden declared that "some" or "most" students enrolled in these programmes do not receive remuneration on the work-based component, which is common in all other countries (Table B7.3 and Figure B7.6).

There are other major differences among combined school- and work-based programmes. First, combined school- and work-based programmes can be quite different in terms of their practical arrangements. Work and study periods alternate continually over the course of the programmes, with varying proportions of study and work across countries. For example, the work-based component is less than 30% of the programme's duration in Estonia and Israel, while it is 80% or more in Finland and Switzerland. In some VET systems, school-based study and work-based study may be consecutive instead of parallel. The Norwegian 2+2 Model, for instance, divides a four-year vocational training course into a two-year school-based learning period and a two-year work-based learning period (Table B7.3 and (OECD, 2016[14])).

Figure B7.6. Distribution of upper secondary vocational students by type of vocational programme (2018)

Full- and part-time students enrolled in public and private institutions



Note: Figures in parentheses refer to the most typical duration of the work-based component as a percentage of the total programme duration for combined school- and work-based programmes. For example, in Germany, more than 98% of students in combined school- and work-based programmes are enrolled in a programme where the duration of the work component accounts for about 60% of the total programme duration. See Table B7.3 for more information.

1. Data on typical duration of the work-based component are not applicable because the category does not apply.
2. The most typical duration of the work-based component is at least 46% for the Flemish Community of Belgium and 60% for the French Community of Belgium.
3. Data on the most typical duration of the work-based component are missing.
4. The share of students enrolled in combined school- and work-based programmes as a percentage of all student enrolled in upper secondary vocational education is estimated based on the results of the INES ad-hoc survey on VET.

Countries are ranked in descending order of the share of students enrolled in school-based vocational programmes.

Source: OECD (2020), Table B7.3. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Second, the duration of upper secondary VET programmes also varies widely across countries. For example, in Germany, more than 95% of students in upper secondary combined school- and work-based are enrolled programmes which last three years, with the work component accounting for about 60% of the total duration of the programme. In contrast, the main upper secondary VET programme in Ireland lasts only one year, which means that number of months worked is much smaller than in Germany. This is an important parameter to take into account when analysing the results (Table B7.3 and Figure B7.6).

Box B7.2. Vocational education during the COVID-19 lockdown

The unprecedented health crisis that we are experiencing, linked to the rapid spread of COVID-19 throughout the world, has strong consequences for the economy and consequently on education systems, which are themselves vectors of economic growth. Schools have had to close for several months in most countries, resulting in the loss of about 14 weeks (though it may include school and public holidays) in the first half of 2020 on average across countries (see Box D1.2). Firms also suffered during this period, as the crisis led to an almost general lockdown of companies and a slowdown in economic activity. Governments have reacted to ensure pedagogical continuity over this period, and distance learning has taken over rather effectively. In many cases, this had to be done immediately and without specific preparation, which also challenged teachers to use new techniques and methods. However, it is not necessarily the most appropriate

response for the most disadvantaged students who need more individualised support, nor for the less well-off families who do not necessarily have sufficient equipment or material comfort to provide their children with the conditions they need to follow their courses and not drop out. In contrast to the more academic streams which have been able to offer more flexible learning options and, therefore, distance learning, vocational education and training (VET) programmes face challenges in the search for new forms of e-learning that will allow their students to continue to develop their skills.

VET programmes suffer from a double disadvantage compared to general ones. First, whether they are school-based or combined school- and work-based programmes, practical teaching forms an important part of their curricula, which is difficult to do at a distance. Some fields such as agriculture, health, engineering, construction or crafts, require specific equipment, learning in small groups for practical demonstrations, and careful attention from teachers to ensure that the actions performed by the students are the right ones. This type of learning does not correspond to what distance education offers, or does so only in a limited way, which raises questions about educational loss. Another problem faced by VET education, particularly work-study programmes, is the size of the work-based component, which accounts for more than 60% of total learning time in some countries (Table B7.3). The consequences of the lockdown for these programmes are therefore serious, even though they are normally the most sought-after by companies and offer better employability. The situation is less clear today. For example, apprentices who were placed in companies and sectors that have come to a standstill as a result of border closures and the confinement of populations, such as catering or tourism, have largely stopped their working activities. With an economic crisis looming, it is also an open question whether companies will wish to continue to take on apprentices when their priorities will be to relaunch their businesses.

This situation raises doubts about what will happen in the coming months, but some initiatives have already been announced and governments seem to have grasped how much is at stake. For example, according to the OECD/Harvard study published in June 2020 (OECD/Harvard, 2020[15]), in 70% of countries for which data are available, plans to reopen schools generally include provisions and remedial measures, particularly for students in vocationally oriented programmes. The measures do not stop at the early reopening of schools for VET students; in many countries there is a genuine understanding that apprenticeship streams should not be the first victims of the current situation. For example, according to a policy brief produced by the VET team of the OECD Centre for Skills (OECD, 2020[16]), many measures have already been taken in OECD countries. These include:

- increasing the use of online and virtual platforms more appropriate to VET to ensure continuity of learning
- financing training breaks or extensions to avoid breaks in learning resulting in fees, repayments or other penalties for both learners and providers
- providing wage support for apprentice retention to allow apprentices to maintain contact with employers and if possible continue working through remote working or virtual meetings
- leveraging links between work-based and school-based VET to provide alternative school-based VET in cases where upper secondary VET students are unable to secure an apprenticeship, including work-based components
- offering flexible skills assessment and awarding of qualifications as, in many sectors, particularly healthcare, a direct route to qualification may need to be established quickly in response to the COVID-19 crisis
- informing, engaging and communicating with learners, providers and social partners about new guidance on the delivery of assessment, or to ensure apprentices are informed of changes to regulations and practices
- investing in VET to mitigate future skills shortages and minimise the shock of the crisis.

All these actions confirm the importance that decision makers attach to VET, and the coming months will be crucial in assessing the effectiveness of these measures.

Definitions

General education programmes are designed to develop learners' general knowledge, skills and competencies, as well as literacy and numeracy skills, often to prepare participants for more advanced education programmes at the same or a higher ISCED level and to lay the foundation for lifelong learning. These programmes are typically school- or college-based. General education includes education programmes that are designed to prepare participants for entry into vocational education but do not prepare for employment in a particular occupation, trade or class of occupations or trades, nor lead directly to a labour market-relevant qualification.

Vocational education programmes are designed for learners to acquire the knowledge, skills and competencies specific to a particular occupation, trade, or class of occupations or trades. Such programmes may have work-based components (e.g. apprenticeships or dual-system education programmes). Successful completion of such programmes leads to labour market-relevant, vocational qualifications acknowledged as occupationally oriented by the relevant national authorities and/or the labour market.

Both general and vocational programmes can contain some courses or subjects that are common to both programmes. For example, a vocational programme may contain courses on mathematics or the national language which are also taught to students in general programmes. When reporting data on certain statistical units, in particular educational personnel, by programme orientation it is the classification of the programme that determines the orientation and not the subject being studied or taught.

The data in this chapter cover formal education programmes that represent at least the equivalent of one semester (or one-half of a school/academic year) of full-time study and take place entirely in educational institutions or are delivered as a combined school- and work-based programme. At the upper secondary level and the non-tertiary post-secondary level, vocational programmes are further divided into **school-based programmes** and **combined school- and work-based programmes** on the basis of the amount of training that is provided in school as opposed to the workplace.

In **school-based programmes** instruction takes place (either partly or exclusively) in educational institutions. These include special training centres for vocational education run by public or private authorities or enterprise-based special training centres if these qualify as educational institutions. These programmes can have an on-the-job training component, i.e. a component of some practical experience at the workplace. Programmes should be classified as school-based if at least 75% of the curriculum is presented in the school environment (covering the whole educational programme) or through distance education.

Programmes are classified as **combined school- and work-based programmes** if less than 75% of the curriculum is presented in the school environment or through distance education. The 75% cut-off point should be regarded as a general guideline that may need to be operationalised differently across countries. These programmes include:

- **apprenticeship programmes** organised in conjunction with educational authorities or educational institutions that involve concurrent school-based and work-based training

- dual-system programmes organised in conjunction with educational authorities or educational institutions that involve alternating intervals of attendance at educational institutions and participation in work-based training (**programmes of training in alternation**, sometimes referred to as **sandwich programmes**).

Note that programmes of dual-system apprenticeships are usually considered part of upper secondary (ISCED 3) education, but other programmes under this heading may be classifiable not just as ISCED 3 but also ISCED levels 4-6.

The amount of instruction provided in school should be counted over the whole duration of the programme. An institution providing school- and work-based programmes is classified as either public or private according only to the school-based component.

Source

Data refer to the academic year 2017/18 and are based on the UNESCO-UIS/OECD/EUROSTAT data collection on education statistics administered by the OECD in 2019. Data for some countries may have a different reference year. For details, see Annex 3 at https://doi.org/10.1787/69096873-en.

Data on main characteristics of combined school- and work-based programmes in upper secondary education (Table B7.3) are based on a special survey on VET administered by the OECD in 2020 and on UNESCO-UIS/OECD/EUROSTAT ISCED 2011 mappings at http://uis.unesco.org/en/isced-mappings.

Data from Argentina, the People's Republic of China, India, Indonesia, Saudi Arabia and South Africa are from the UNESCO Institute of Statistics (UIS).

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Indicator B7 Tables

Table B7.1 Profile of students enrolled in vocational education from lower secondary to short-cycle tertiary, by type of programme, age and gender (2018)

Table B7.2 Pathways between upper secondary or post-secondary non-tertiary education and higher levels of education, by type of programme and programme orientation (2018)

Table B7.3 Main characteristics of combined school- and work-based programmes in upper secondary education (2018)

Cut-off date for the data: 19 July 2020. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en. More breakdowns can also be found at http://stats.oecd.org/, Education at a Glance Database.

StatLink: https://doi.org/10.1787/888934164104

Table B7.1. Profile of students enrolled in vocational education from lower secondary to short-cycle tertiary, by type of programme, age and gender (2018)

Full- and part-time students enrolled in public and private institutions

		Distribution of students in vocational education and training (VET) (total is 100%)				Enrolment in vocational lower secondary education			Enrolment in vocational upper secondary education				
							Of which:			Of which:			
		Lower secondary	Upper secondary	Post-secondary non-tertiary	Short-cycle tertiary	Share of students enrolled in VET as a percentage of all students enrolled at this level	% who are female	% aged 16 and older	Share of students enrolled in VET as a percentage of all students enrolled at this level	% of VET students enrolled in combined school- and work-based programmes	% who are female	% aged 20 and older	% aged 25 and older
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD	Countries												
	Australia	13	41	21	24	13	34	98	49	26	44	85	62
	Austria	a	72	5	23	a	a	a	68	45	43	13	4
	Belgium	14	72	10	4	19	48	m	57	6	51	m	m
	Canada	a	m	m	m	a	a	a	9	m	46	m	m
	Chile	a	32	a	68	a	a	a	16	12	47	5	2
	Colombia	a	35	a	65	a	a	a	27	m	53	1	0
	Costa Rica	47	53	a	a	17	49	5	32	a	55	24	12
	Czech Republic	1	97	2	0	1	44	100	71	a	45	15	6
	Denmark	a	75	a	25	a	a	a	38	100	41	71	35
	Estonia	4	76	20	a	3	43	100	40	6	41	45	29
	Finland	a	91	9	a	a	a	a	72	14	51	67	51
	France	a	67	1	32	a	a	a	39	25	42	13	4
	Germany	10	55	35	0	5	33	95	46	89	36	46	11
	Greece	3	53	45	a	1	33	59	29	a	35	m	m
	Hungary	0	64	31	5	0	46	96	38	100	41	15	9
	Iceland	a	79	16	4	a	a	a	28	56	36	68	40
	Ireland	m	m	m	m	17	56	100	36	100	61	79	64
	Israel	1	73	a	26	0	16	1	41	6	50	0	0
	Italy[1]	a	m	m	m	a	a	a	54	a	37	7	3
	Japan	a	m	m	m	a	a	a	22	a	43	m	m
	Korea	a	29	a	71	a	a	a	18	a	41	0	0
	Latvia	1	54	11	34	1	27	90	39	100	41	15	5
	Lithuania	9	46	46	a	2	26	99	27	a	35	19	11
	Luxembourg	a	92	4	4	a	a	a	62	22	48	28	6
	Mexico	48	48	a	4	23	59	93	35	a	48	5	2
	Netherlands	8	88	a	4	6	43	60	68	100	49	46	22
	New Zealand	a	46	22	32	a	a	a	30	m	56	70	56
	Norway	a	89	5	6	a	a	a	49	71	39	29	10
	Poland	a	74	26	0	a	a	a	52	14	38	2	0
	Portugal	12	79	2	6	7	40	79	40	14	43	18	8
	Slovak Republic	4	85	9	2	2	44	89	68	13	45	7	3
	Slovenia	a	86	a	14	a	a	a	71	28	45	25	7
	Spain	2	57	2	39	1	44	100	36	3	46	52	34
	Sweden	a	83	8	10	a	a	a	35	6	51	43	31
	Switzerland	a	94	4	2	a	a	a	64	90	41	25	7
	Turkey	a	49	a	51	a	a	a	46	74	47	6	2
	United Kingdom[2]	19	74	a	7	15	45	99	44	48	51	46	30
	United States	a	a	m	m	a	a	a	a	a	a	a	a
	OECD average	6	67	10	17	4	41	80	42	34	45	30	17
	EU23 average	4	70	13	13	3	41	89	47	38	45	31	17
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	0	53	47	0	0	55	96	11	a	55	26	17
	China	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	a	a	a	m	m	m	m	m
	Indonesia	m	m	m	m	a	a	a	44	m	43	5	0
	Russian Federation	a	50	2	49	a	a	a	51	m	41	11	2
	Saudi Arabia	m	m	m	m	a	a	a	1	m	m	45	26
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m

		Enrolment in post-secondary non-tertiary vocational education				Enrolment in short-cycle tertiary vocational education	
		Share of students enrolled in VET as a percentage of all students enrolled at this level	Of which:			Share of students enrolled in VET as a percentage of all students enrolled at this level	Of which:
			% of VET students enrolled in combined school- and work-based programmes	% who are female	% aged 25 and older		% who are female
		(13)	(14)	(15)	(16)	(17)	(18)
OECD	Countries						
	Australia	100	6	54	80	96	59
	Austria	100	55	79	48	100	53
	Belgium	93	m	50	55	100	61
	Canada	m	m	m	m	m	m
	Chile	a	a	a	a	100	54
	Colombia	a	a	a	a	100	48
	Costa Rica	a	a	a	a	a	a
	Czech Republic	36	a	45	m	100	64
	Denmark	a	a	a	a	100	46
	Estonia	100	5	72	65	a	a
	Finland	100	62	57	97	a	a
	France	55	a	72	14	100	48
	Germany	93	54	56	20	100	65
	Greece	100	2	54	30	a	a
	Hungary	100	100	55	28	100	62
	Iceland	99	9	35	82	60	41
	Ireland	100	95	40	45	m	m
	Israel	a	a	a	a	100	49
	Italy[1]	x(8)	x(9)	x(10)	x(12)	100	27
	Japan	m	a	m	m	81	56
	Korea	a	a	a	a	100	40
	Latvia	100	100	63	47	100	60
	Lithuania	100	a	54	53	a	a
	Luxembourg	100	100	23	70	100	57
	Mexico	a	a	a	a	100	40
	Netherlands	a	a	a	a	100	55
	New Zealand	84	m	50	54	95	53
	Norway	100	a	71	77	100	17
	Poland	100	a	71	40	100	84
	Portugal	100	100	33	52	100	37
	Slovak Republic	100	11	56	48	100	65
	Slovenia	a	a	a	a	100	40
	Spain	100	20	60	88	100	48
	Sweden	76	81	60	80	89	50
	Switzerland	77	a	61	56	100	62
	Turkey	a	a	a	a	100	49
	United Kingdom[2]	a	a	a	a	50	56
	United States	100	m	60	54	m	m
	OECD average	92	53	55	56	96	52
	EU23 average	95	60	56	52	97	53
Partners	Argentina	m	m	m	m	m	m
	Brazil	100	a	58	49	100	65
	China	m	m	m	m	m	m
	India	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m
	Russian Federation	100	m	34	38	100	51
	Saudi Arabia	100	m	56	21	m	m
	South Africa	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m

1. Upper secondary vocational programmes include post-secondary non-tertiary programmes.
2. Short-cycle tertiary programmes include a small number of bachelor's professional programmes.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table B7.2. Pathways between upper secondary or post-secondary non-tertiary education and higher levels of education, by type of programme and programme orientation (2018)

Full- and part-time students enrolled in public and private institutions

		Average age of enrolment in upper secondary education		Distribution of students enrolled in upper secondary education by type of programme and orientation					
				General education			Vocational education		
		General education	Vocational education	Insufficient (or partial level completion) without access to tertiary education (ISCED 341 and 342)	Full level completion without direct access to tertiary education (ISCED 343)	Full level completion with direct access to tertiary education (ISCED 344)	Insufficient (or partial level completion) without access to tertiary education (ISCED 351 and 352)	Full level completion without direct access to tertiary education (ISCED 353)	Full level completion with direct access to tertiary education (ISCED 354)
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OECD	Countries								
	Australia	17	32	a	a	a	a	a	a
	Austria	16	17	14	2	84	4	1	95
	Belgium	m	m	43	22	35	29	48	23
	Canada	m	m	a	a	100	a	a	100
	Chile	17	17	a	a	100	a	a	100
	Colombia	16	16	a	a	100	a	a	100
	Costa Rica	20	20	a	a	100	a	a	100
	Czech Republic	17	18	7	a	93	a	32	68
	Denmark	19	25	5	a	95	12	12	76
	Estonia	18	24	a	a	100	41	a	59
	Finland	18	28	a	a	100	a	a	100
	France	16	18	a	a	100	a	38	62
	Germany	17	20	a	a	100	5	3	92
	Greece	16	m	a	a	100	a	9	91
	Hungary	19	18	a	a	100	a	100	0
	Iceland	19	26	11	4	85	18	78	4
	Ireland	17	35	27	23	50	a	100	a
	Israel	16	16	1	11	88	a	6	94
	Italy	16	17	a	a	100	a	11	89
	Japan[1]	16	16	x(6)	a	100 [d]	x(9)	2	98 [d]
	Korea	16	16	a	a	100	a	a	100
	Latvia	19	19	a	a	100	6	5	89
	Lithuania	18	20	1	a	99	3	a	97
	Luxembourg	17	19	a	a	100	a	52	48
	Mexico	17	16	a	a	100	a	3	97
	Netherlands	16	23	a	a	100	a	49	51
	New Zealand	17	31	a	a	100	18	82	a
	Norway	18	20	a	a	100	a	100	a
	Poland	19	17	a	a	100	a	23	77
	Portugal	19	19	a	a	100	0	a	100
	Slovak Republic	17	18	a	a	100	3	18	79
	Slovenia	17	19	a	a	100	a	30	70
	Spain	17	25	38	a	62	6	34	59
	Sweden	21	24	13	a	87	9	91	a
	Switzerland	17	19	15	1	84	a	6	94
	Turkey	19	16	a	a	100	a	1	99
	United Kingdom	15	24	67	a	33	48	a	52
	United States	16	a	a	a	100	a	a	a
	OECD average	17	21	7	2	92	5	25	70
	EU23 average	17	21	9	2	89	7	27	66
Partners	Argentina	m	m	m	m	m	m	m	m
	Brazil	18	20	a	a	100	a	a	100
	China	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m
	Indonesia	17	17	m	m	m	m	m	m
	Russian Federation	17	18	m	m	m	m	m	m
	Saudi Arabia	17	20	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m

		Pathways between upper secondary vocational programmes and higher levels of education				Distribution of students enrolled in vocational post-secondary non-tertiary education	
		Full level completion, without direct access to tertiary education (ISCED 353)		Full level completion, with direct access to tertiary education (ISCED 354)			
		Students who graduate from these programmes have direct access to:					
		General programmes in upper secondary education	Post-secondary non-tertiary education	General programmes in upper secondary education	Post-secondary non-tertiary education (ISCED 4) or/and tertiary education (ISCED 5 to 8)	Sufficient for level completion, without direct access to tertiary (ISCED 453)	Sufficient for level completion, with direct access to tertiary (ISCED 454)
		(9)	(10)	(11)	(12)	(13)	(14)
OECD	Countries						
	Australia	No	a	a	a	a	a
	Austria	No	No	No	ISCED 5	45	55
	Belgium	Some	Some	Some	ISCED 6	64	36
	Canada	a	a	Yes	ISCED 4	m	m
	Chile			No	ISCED 5, 6	a	a
	Colombia	a	a	Yes	ISCED 5	a	a
	Costa Rica	m	a	a	m	a	a
	Czech Republic		No	m	ISCED 5, 6, 7	60	40
	Denmark	m	No	m	ISCED 5	a	a
	Estonia	No	No	No	ISCED 6	a	100
	Finland	a	a	Yes	ISCED 4, 6, 7	a	100
	France	No	a	Yes	ISCED 5, 6	a	100
	Germany	No	Some	No	ISCED 4, 6	38	62
	Greece		Yes	m	ISCED 4, 6	100	a
	Hungary		No	a	a	a	100
	Iceland	Yes	Yes	Yes	ISCED 5	96	4
	Ireland		Yes	a	a	100	a
	Israel	Yes	No	Yes	ISCED 4, 5, 6	a	a
	Italy		No	m	ISCED 5, 6	m	m
	Japan[1]	Yes	No	Yes	ISCED 4, 5, 6, 7	m	m
	Korea	a	a	No	ISCED 5, 6	a	a
	Latvia	Yes	No	Yes	ISCED 4, 5, 6 ,7	100	a
	Lithuania	a	a	m	ISCED 4, 6	a	100
	Luxembourg	m	m	m	m	100	a
	Mexico	No	No	Yes	ISCED 5, 6	a	a
	Netherlands	Yes	Some	Yes	ISCED 4, 5, 6	a	a
	New Zealand	a	Some	a	a	1	98
	Norway	Yes	Some	a	a	100	a
	Poland	No	No	No	ISCED 4, 5, 6 ,7	100	a
	Portugal	a	a	No	ISCED 5, 6, 7	a	100
	Slovak Republic	Yes	Yes	Yes	ISCED 5, 6	a	100
	Slovenia	Yes	No	Yes	ISCED 5, 6	a	a
	Spain	Some	No	Yes	ISCED 5	100	a
	Sweden	No	Yes	m	a	81	19
	Switzerland		No	m	ISCED 6	a	100
	Turkey		No	Yes	ISCED 5, 6	a	a
	United Kingdom	a	a	m	ISCED 5	a	a
	United States	a	a	a	a	a	100
	OECD average	m	m	m	m	47	53
	EU23 average	m	m	m	m	49	51
Partners	Argentina	m	m	m	m	m	m
	Brazil	a	a	a	ISCED 4, 5, 6	a	100
	China	m	m	m	m	m	m
	India	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m
	Saudi Arabia	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m

1. ISCED 7 in column 12 includes only Master's long first degree programmes.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table B7.3. Main characteristics of combined school- and work-based programmes in upper secondary education (2018)

Full- and part-time students enrolled in public and private institutions

	Share of students enrolled in combined school- and work-based programmes as a percentage of all students enrolled in vocational education	Of which: % enrolled in combined school- and work-based programmes (into brackets), by name of programme and ISCED levels (total is 100%)[1]
	(1)	(2)
OECD Countries		
Australia	26	Certificate III apprenticeships and traineeships – ISCED 35 (100%)
Austria	45	Courses for medical staff – ISCED 351 (4%) Courses for qualified medical staff – ISCED 353 (1%) Apprenticeship – ISCED 354 (95%)
Flemish Comm. (Belgium)[2]	3	Apprenticeship – ISCED 354 (100%)
French Comm. (Belgium)	m	Regular education (2nd stage) – ISCED 351 or 352 (18%) Regular education (3rd stage) – ISCED 353 or 354 (38%) Adult programmes – ISCED 353 (44%)
Canada	a	a
Chile	12	Technical Education – ISCED 354 (100%)
Colombia	a	a
Costa Rica	a	a
Czech Republic	a	a
Denmark	100	Vocational educational training, basic course 1 – ISCED 351 (12%) Vocational educational training, main course – ISCED 353 (12%) or 354 (76%)
Estonia[3]	6	Basic vocational training provision (initial and further) -ISCED 351 (41%) Regular education – ISCED 354 (59%)
Finland	14	Initial vocational qualifications – ISCED 354 (52%) Programmes for further vocational qualification – ISCED 354 (48%)
France[3]	25	Certificate of vocational ability (CAP) – ISCED 353 (58%) Vocational qualification of craftsmanship (BP) – ISCED 353 (18%) Professional baccalaureate (Bac Pro) – ISCED 354 (19%)
Germany	89	Training for civil servants – ISCED 353 (2%) Dual System – ISCED 354 (98%)
Greece	a	a
Hungary	100	Initial vocational qualifications – ISCED 353 (100%)
Iceland	56	Specific Skills Training – 351 (17%) Initial vocational qualifications – ISCED 353 (83%)
Ireland	100	Specific Skills Training – ISCED 351 (100%)
Israel	6	Apprenticeship & Industrial schools – ISCED 353 (18%) Apprenticeship & Industrial schools – ISCED 353 (82%)
Italy	a	a
Japan	a	a
Korea	a	a
Latvia	100	Programme to acquire the 2nd level professional qualification – ISCED 351 (6%) Programme to acquire the 2nd level professional qualification – ISCED 353 (5%) Programme to acquire the 3rd level professional qualification – ISCED 354 (89%)
Lithuania	a	a
Luxembourg	22	m
Mexico	a	a
Netherlands[2, 4]	100	Vocational education, basic vocational training (level 2) – ISCED 353 (7%) Vocational education, professional training (level 3) – ISCED 353 (31%) Vocational education, middle-management training (level 4) – ISCED 354 (62%)
New Zealand	m	Certificates on the National Qualifications Framework – ISCED 351 or 353 or 354 (100%)
Norway	71	Initial vocational qualifications – ISCED 353 (100%)
Poland	14	Stage I sectoral VET school (for youth), young workers – ISCED 353 (100%)
Portugal[2]	14	Apprenticeship – ISCED 354 (96%) Vocational courses (Dual) – ISCED 354 (4%)
Slovak Republic	13	Apprenticeship centers and specialised schools – ISCED 352 or 353 or 354 (100%)
Slovenia[2]	28	Initial vocational qualifications – ISCED 353 (100%)
Spain	3	Professional Certificate, level 2 – ISCED 351 (7%) Basic vocational training provision – ISCED 353 (15%) Vocational training, intermediate level – ISCED 354 (79%)
Sweden	6	Adult education for people with learning disabilities – ISCED 353 (17%) Programmes for pupils with learning disabilities – ISCED 353 (83%)
Switzerland[1]	90	Vocational education, in dual system 2 years – ISCED 353 (7%) Vocational education, in school and in the dual system – ISCED 354 (93%)
Turkey[2, 3]	74	Vocational and Technical Upper Secondary School – ISCED 354 (85%) Open Vocational High School – ISCED 354 (10%) Vocational Education Centers – ISCED 354 (5%)
United Kingdom	48	Apprentices work towards work-based learning qualifications – ISCED 352 (50%) and ISCED 354 (50%)
United States	a	a
OECD average	34	m
EU23 average	38	m

		Main characteristics of combined school- and work-based programmes in upper secondary education				
		Theoretical starting age	Theoretical duration of the programme (in years)	Status of the work-based component (mandatory/ optional)	Duration of the work-based component as a percentage of the programme duration	Do participants receive remuneration for the work-based component?
		(3)	(4)	(5)	(6)	(7)
OECD	Countries					
	Australia	a	1-4	Varies	Varies	Sometimes
	Austria	15-17	0.5-1	Mandatory	40-67	Never or in few cases
		15-17	2-2.5	Mandatory	40-75	Never or in few cases
		15	2-4	Mandatory	80	Yes
	Flemish Comm. (Belgium)[2]	15-16	3	Mandatory	At least 46% for 81% of students; at least 70% for the others	Yes
	French Comm. (Belgium)	14	2	Mandatory	60	Yes
		16	2	Mandatory	60	Yes
		>=15	m	Mandatory	m	Never or in few cases
	Canada	a	a	a	a	a
	Chile	16	2	Mandatory	Varies	Never or in few cases
	Colombia	a	a	a	a	a
	Costa Rica	a	a	a	a	a
	Czech Republic	a	a	a	a	a
	Denmark	15-18	6 months	m	m	m
		15-30	3-5 years	m	m	m
	Estonia[3]	17-19	3 months – 1 years	Mandatory	25	Sometimes
		16	3-4	Mandatory	18-25	Sometimes
	Finland	16	3	Mandatory	80-90	Yes
		18-65	1-3	Mandatory	80-90	Yes
	France[3]	15	2	Mandatory	75	Yes
		18-22	2	Mandatory	75	Yes
		15	3	Mandatory	62	Yes
	Germany	16-18	2	Mandatory	50	Yes
		16-18	3	Mandatory	60	Yes
	Greece	a	a	a	a	a
	Hungary	14-16	3-4	m	m	m
	Iceland	16	0.5-1.5	Mandatory	33	Yes
		16	3-4	Mandatory	20-50	Yes
	Ireland	16-35	1	m	m	m
	Israel	15	3	Mandatory	25	Yes
		14	4	Mandatory	20	Yes
	Italy	a	a	a	a	a
	Japan	a	a	a	a	a
	Korea	a	a	a	a	a
	Latvia	17	1	Optional	Practical training share is 65%	Yes
		16	3	Optional	Practical training share is 65%	Yes
		16	4	Optional	Practical training share is 50%	Yes
	Lithuania	a	a	a	a	a
	Luxembourg	m	m	m	m	m
	Mexico	a	a	a	a	a
	Netherlands[2, 4]	16	2-3	Mandatory	70	Yes
		16	3	Mandatory	70	Sometimes
		16	3-4	Mandatory	70	Sometimes
	New Zealand	a	<=1	Varies	Varies	m
	Norway	16	3-5.5	Mandatory	50	Yes
	Poland	under 18	3	Mandatory	46	Yes
	Portugal[2]	15	3	Mandatory	41	Never or in few cases
		16	2	Mandatory	47	Never or in few cases
	Slovak Republic	15	2-4	m	m	m
	Slovenia[2]	15	3	Mandatory	22-50	Sometimes
	Spain	>=16	0.5	Mandatory	m	Yes
		>=15	2	Mandatory	At least 35%	Never or in few cases
		16	2	Mandatory	At least 35%	Never or in few cases
	Sweden	16	m	m	m	m
		16-17	4	Mandatory	60	Never or in few cases
	Switzerland[1]	15-17	2	Mandatory	80	Yes
		15-17	3-4	Mandatory	80	Yes
	Turkey[2, 3]	13-14	4	Mandatory	50	Yes
		a	4	m	33	m
		13-14	4	Mandatory	90	Yes
	United Kingdom	14-18 or	Varies	Mandatory	<80	Yes
		19+		Mandatory	<80	Yes
	United States	a	a	a	a	a
	OECD average	m	m	m	m	m
	EU23 average	m	m	m	m	m

Note: This table includes only combined school- and work-based programmes. In these programmes, at least 10%, but less than 75%, of the curriculum is presented in the school environment or through distance learning, with the remainder organised as work-based learning.

1. ISCED 351 includes all vocational programmes insufficient for level completion. ISCED 352 includes all vocational programmes sufficient for partial level completion, without access to tertiary education. ISCED 353 includes all vocational programmes sufficient for level completion, without direct access to tertiary education. ISCED 354 includes all vocational programmes sufficient for level completion, with direct access to tertiary education. See *Definitions* section for more information.

2. The share of students enrolled in combined school- and work-based programmes as a percentage of all student enrolled in vocational education is estimated based on the results of the INES ad-hoc survey on VET.

3. Additional combined school- and work-based programmes exist but they represent only a small proportion of total enrolment in combined school- and work-based programmes.

4. The share of students enrolled in combined school- and work-based programmes as a percentage of all student enrolled in vocational education is for public institutions only.

Source: 2020 INES ad-hoc survey on vocational education and training (VET). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Chapter C. Financial resources invested in education

Introduction

Educational expenditure indicators help to show what, how and where financial resources are directed to education. Every year, governments, private companies, students and their families make decisions about the financial resources invested in education. These investments are made with the well-established idea that expenditure on education enhances labour productivity by improving the skills of the workforce (Mallick, Das and Pradhan, 2016[1]) which might affect economic growth and social development. Therefore, analysing various aspects of educational finance helps clarify the efforts made by countries in education as well as its possible impact on future national economic and social perspectives.

The framework for international educational finance indicators

At the national level, educational institutions are the most common defining unit of analysis for analysing expenditure on education. This approach reflects the traditional interest in knowing how much schools, colleges and universities cost, and how much of that is paid by the government or by students, for instance. However, this does not take into account that educational systems around the world might spend their resources differently. For instance, the goods and services provided by educational institutions in one country may be provided outside educational institutions in another. Another example arises when comparing the educational goods and services associated with educational institutions. There are some goods and services they provide that are not associated with education or instruction, so considering them might affect comparability across countries. Finally, educational systems are funded differently; in some countries public sources might be more relevant, in others private sources might be an important source of funding. Therefore, a framework for international educational expenditure is needed to make comparisons across countries.

The framework for international educational expenditure is built around three dimensions:

- **The location of service providers (within or outside of educational institutions)**. Spending on educational institutions includes spending on teaching institutions such as schools and universities, and non-teaching institutions such as education ministries and other agencies directly involved in providing and supporting education. Spending on education outside these institutions covers expenditure on educational good and services purchased outside institutions, such as books, computers and fees for private tutoring. It also covers student living costs and the cost of student transport not provided by educational institutions.
- **The type of goods and services provided or purchased (core or peripheral goods and services)**. Educational core goods and services include all expenditure directly related to instruction and education. It covers all expenditure on teachers, maintenance of school buildings, teaching materials, books, tuition outside schools and administration of schools. However, not all expenditure on educational institutions can be classified as direct educational or instructional expenditure. Educational institutions in many OECD countries offer various ancillary services – such as meals, transport and housing – in addition to teaching services to support students and their families. At the tertiary level, spending on research and development can be significant. Additionally, not all spending on educational goods and services occurs within educational institutions. For example, families may purchase textbooks and materials themselves or seek private tutoring for their children. In this sense, "non-instruction" expenditure covers all expenditure broadly related to student living costs or services provided by institutions for the general public. Differentiating the spending devoted to educational and non-educational goods and services offered by institutions also provides for an analysis of the expenditure devoted to core educational purposes.
- **The source of funds that finance the provision or purchase of these goods and services (from public, private and international sources).** Considering the source of funds dedicated to education spending assesses who the major contributors are and the impact this may have on the access and provision of education. Public expenditure refers to spending by public authorities (central, regional and local governments). Private expenditure refers to

expenditure by households and other private entities. International funds consist of funds from public multilateral organisations for development aid to education. These sources of funds can be analysed from the perspective of either the initial or the final payer, depending on when the transaction is made. The initial source of funds is the original source of the funds before transfers have taken place, while the final source of funds is after transfers have taken place. Public transfers of funds to private entities fall into two distinct categories: public subsidies to households (e.g. scholarships and grants), and public subsidies to other private entities (e.g. subsidies to private companies for the provision of training at the workplace as part of combined school and work-based programmes, including apprenticeship programmes). Other type of transactions are the intergovernmental transfers of funds.

International classification of educational expenditure in this chapter

Public and international funds
Private funds
Publicly subsidised private funds

		Location of service providers	
Types of goods and services		**Spending on educational institutions** (e.g. schools, universities, educational administration and student welfare services)	**Spending on education outside educational institutions** (e.g. private purchases of educational goods and services, including private tutoring)
Spending on core educational goods and services		Public and international funds *e.g. public spending on instructional services in educational institutions*	Publicly subsidised private funds *e.g. subsidised private spending on books, materials or fees for private tutoring*
		Publicly subsidised private funds *e.g. subsidised private spending on instructional services in educational institutions*	Private funds *e.g. private spending on books and other school materials or private tutoring*
		Private funds *e.g. private spending on tuition fees*	
Educational peripheral goods and services	**Spending on research and development**	Public and international funds *e.g. public spending on university research*	
		Private funds *e.g. funds from private industry for research and development in educational institutions*	
	Spending on educational services other than instruction	Public and international funds *e.g. public spending on ancillary services such as meals, transport to schools, or housing on the campus*	Publicly subsidised private funds *e.g. subsidised private spending on student living costs or reduced prices for transport*
		Publicly subsidised private funds *e.g. public subsidies for lodging, meals, health services, or other welfare services furnished to students by the educational institutions*	
		Private funds *e.g. private spending on fees for ancillary services*	Private funds *e.g. private spending on student living costs or transport*

Classification of educational expenditure

According to the international framework for educational expenditure presented above, educational expenditure in this chapter is also classified into three dimensions:

- The first dimension – represented by the horizontal axis in the diagram below – relates to the location where spending occurs (within or outside educational institutions).
- The second dimension – represented by the vertical axis in the diagram below – classifies the type of goods and services that are purchased (core or peripheral goods and services).

- The third dimension – represented by the colours in the diagram below – distinguishes the sources from which funding originates. These include the funds from the public sector and international agencies (indicated by light blue), and the private funds such as funds from households and other private entities (indicated by medium blue). Where private expenditure on education is subsidised by public funds, this is indicated by grey cells. The uncoloured cells indicate the parts of the framework that are excluded from the coverage of the finance indicators in Education at a Glance.

Accounting principle

In keeping with the system used by many countries to record government expenditures and revenues, educational expenditure data are compiled on a cash accounting rather than an accrual accounting basis. That is to say that expenditure (both capital and current) is recorded in the year in which the payments occurred. This means in particular that:

- Capital acquisitions are counted fully in the year in which the expenditure occurs.
- Depreciation of capital assets is not recorded as expenditure, although expenditure on repairs and maintenance is recorded in the year it occurs. This can result in sharp fluctuations in expenditure from year to year owing to the onset or completion of school building projects which, by their nature, are sporadic.
- Expenditure on student loans is recorded as the gross loan outlay in the year in which the loans are made, without subtracting repayments or interest payments from existing borrowers.

A notable exception to the cash accounting rules is the treatment of the retirement costs of educational personnel in situations where there are no (or only partial) ongoing employer contributions towards the future retirement benefits of the personnel. In these cases, countries are asked to impute these expenditures in order to arrive at a more internationally comparable cost of employing the personnel.

International educational finance indicators

This chapter provides a comprehensive and comparative analysis on education expenditure across OECD and partner countries, focusing on five aspects of educational spending:

- Financial resources invested in educational institutions, relative to the number of students (Indicator C1), and relative to national wealth (Indicator C2).
- The source of funds devoted to educational institutions (Indicator C3).
- Total public resources invested in education, both inside and outside educational institutions, relative to total government spending (Indicator C4).
- Students' costs and the financial support for tertiary studies (Indicator C5).
- The distribution of educational expenditure across resource categories (Indicator C6).

Reference

Mallick, L., P. Das and K. Pradhan (2016), “Impact of educational expenditure on economic growth in major Asian countries: Evidence from econometric analysis”, *Theoretical and Applied Economics*, Vol. XXIII/2, pp. 173-186. [1]

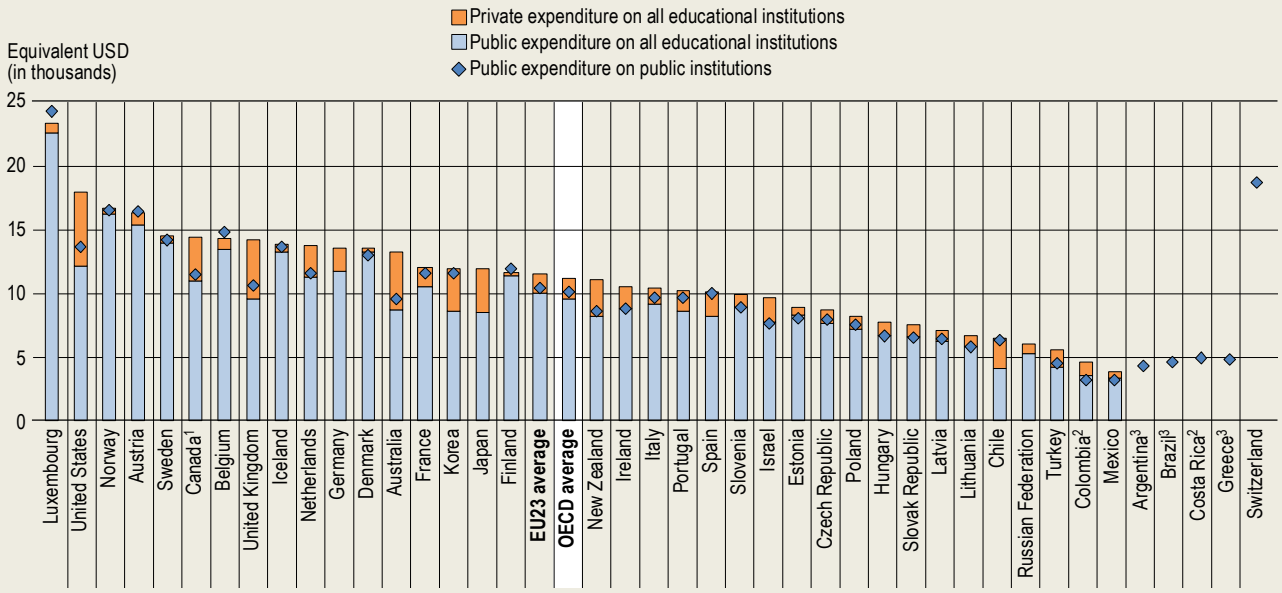
Indicator C1. How much is spent per student on educational institutions?

Highlights

- On average, OECD countries spend USD 11 200 per student on primary to tertiary educational institutions. This represents about USD 10 000 per student at primary, secondary and post-secondary non-tertiary level, and USD 16 300 at tertiary level.
- Excluding activities peripheral to instruction (research and development and ancillary services such as student welfare services), OECD countries spend an average of USD 10 000 per student per year from primary to tertiary education.
- The orientation of secondary school programmes influences expenditure on educational institutions per student in most countries. On average, across the 27 OECD countries with available data, the expenditure per student in a vocational programme was almost USD 1 500 more than in a general programme in 2017.

Figure C1.1. Total expenditure on educational institutions per full-time equivalent student, by source of funds (2017)

From primary to tertiary education, in equivalent USD converted using PPPs, direct expenditure within educational institutions (final source of funds)



Note: International expenditure is aggregated with public expenditure for display purposes.
1. Primary education includes pre-primary programmes.
2. Year of reference 2018.
3. Data only available for government expenditure on public educational institutions.
Countries are ranked in descending order of total expenditure on educational institutions per full-time equivalent student.
Source: OECD/UIS/Eurostat (2020), Table C1.5 and C1.6 (web tables). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Context

The willingness of policy makers to expand access to educational opportunities and to provide high-quality education can translate into higher costs per student and must be balanced against other demands on public expenditure and the overall tax burden. As a result, the question of whether the resources devoted to education yield adequate returns features prominently in public debate. Although it is difficult to assess the optimal resources needed to prepare each student for life and work in modern societies, international comparisons of spending on educational institutions per student can provide useful reference points.

This indicator provides an assessment of the investment in each student. Expenditure per student on educational institutions is influenced by teachers' salaries (see Indicator D3), pension systems, instructional and teaching hours (see Indicators D1 and D4), the cost of teaching materials and facilities (see Indicator C6), the programme provided (e.g. general or vocational), and the number of students enrolled in the education system (see Indicator B1). Policies to attract new teachers, reduce average class sizes or change staffing patterns (see Indicator D2) have also affected per-student expenditure. Ancillary services and research and development (R&D) activities also influence the level of expenditure per student.

In general, at primary and secondary levels, educational expenditure is dominated by spending on instructional services. At the tertiary level, other services, particularly those related to ancillary services or R&D activities, can account for a significant proportion of educational spending.

Other findings

- On average, total expenditure per student is higher in private institutions than in public ones. Total expenditure on public institutions amounts to just over USD 11 000 per student from primary to tertiary level, compared to USD 11 200 in private ones.
- Public expenditure on public institutions averaged about USD 10 100 per student from primary to tertiary education across OECD countries. The public expenditure per student in primary, secondary and post-secondary non-tertiary programmes was almost USD 3 800 lower than at the tertiary level.
- From 2012 to 2017, expenditure on non-tertiary educational institutions grew at a rate of 1.6% a year on average across OECD countries, while the number of students remained fairly stable. This resulted in an average annual growth rate of 1.4% in expenditure per student over this period.
- On average, OECD countries spent the equivalent of 23% of gross domestic product (GDP) per capita per student on primary, secondary and post-secondary non-tertiary educational institutions in 2017. The figure is much higher at tertiary level, where countries spent, on average, 36% of GDP per capita on funding each short-cycle tertiary, bachelor's, master's and doctoral student.

Analysis

Expenditure per student on educational institutions at different levels of education

Annual expenditure per student on educational institutions from primary to tertiary level provides an assessment of the investment made in each student. In 2017, the average annual spending per student from primary to tertiary education in OECD countries as a whole was USD 11 200. But this average masks a broad range of figures across OECD and partner countries. Annual spending per student at these levels ranged from around USD 3 300 in Mexico, to more than USD 16 000 in Austria, Norway and the United States, and to more than USD 23 000 in Luxembourg (Table C1.1 and Figure C1.1). The drivers of expenditure per student vary across countries and by level of education: the countries with the highest expenditure per student enrolled in primary through tertiary education (e.g. Austria, Luxembourg and the United States) are also among those that tend to pay their teachers at secondary level the most (see Indicator D3), whereas Mexico has one of the highest ratios of students to teaching staff (see Indicator D2).

The way resources are allocated across the different levels of education varies widely from level to level and largely reflects the mode of educational provision. Education still essentially takes place in settings with generally similar organisation, curricula, teaching style and management. These shared features have tended to result in similar patterns of expenditure per student from primary to post-secondary non-tertiary levels. OECD countries as a whole spend on average around USD 9 100 per student at the primary level, and USD 10 500 per student at secondary level. At secondary level, and particularly at upper secondary, the level of expenditure is strongly influenced by the programme orientation. Vocational education and training (VET) programmes, which may require specific equipment and infrastructure, typically cost more per student than general ones. The size of the work-based component of VET programmes also influences their cost through expenditure on training and wages (Box C1.1).

Box C1.1. The cost of vocational education and training

Vocational education and training (VET) programmes form an important part of the curriculum in OECD countries. Their structure varies across countries (see Indicator B7), but in general, they are two or three year programmes (Kuczera, 2017[1]) that develop skills targeted at specific trades and occupations, and which can take place from lower secondary to tertiary level.

In most OECD countries, expenditure per student at upper secondary level varies according to programme orientation. In the 28 countries for which data are available, VET programmes are often more expensive than general educational programmes across OECD countries: expenditure per student in upper secondary vocational programmes in 2017 was, on average, USD 1 500 higher than in general programmes (Figure C1.2).

Various factors such as the size or structure of VET systems, the programmes offered, and also recent investments to upgrade the programmes, can influence the cost of vocational programmes:

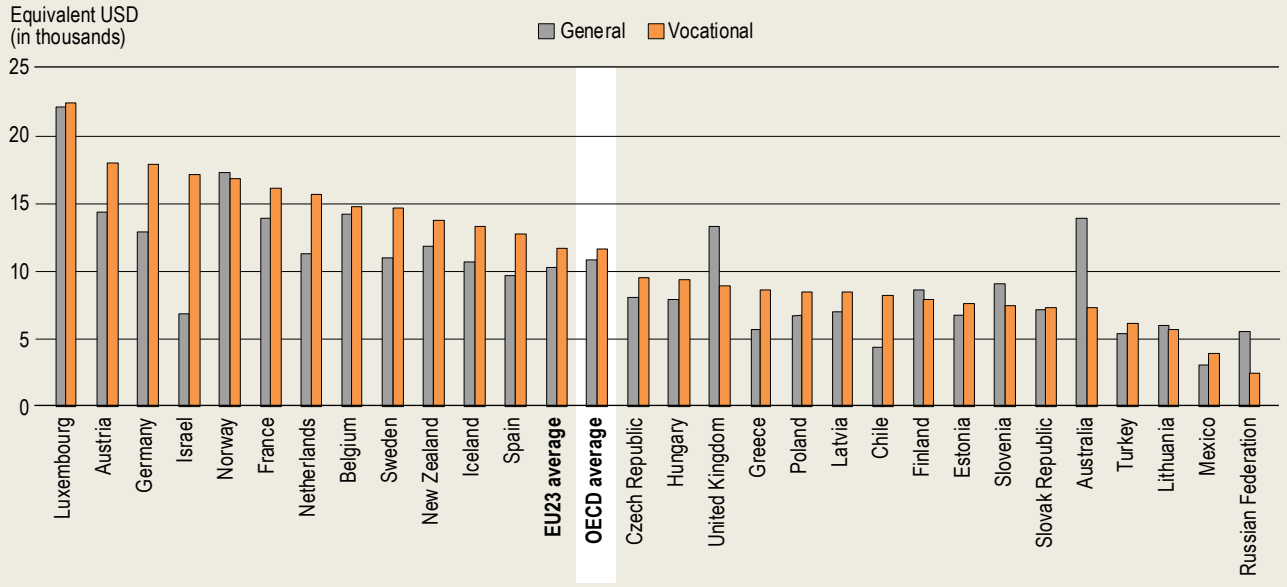
- **The share of students enrolled**: countries with a smaller share of students enrolled in vocational programmes (see Figure B7.2a in Indicator B7) tend to spend more per student in VET programmes than on general programmes. In contrast, in Finland and Slovenia, where more than 70% of students are in VET programmes, these programmes are less expensive than general ones (Figure C1.2).
- **The structure of the programmes**: VET programmes with work-based components require additional expenditure related to training in the workplace. This could be direct expenditure by private companies or the private sector could be subsidised by the government. Countries where all or most VET students are enrolled in school-based programmes, such as Lithuania, tend to show small differences in expenditure per student between VET and general programmes. But in Iceland and Germany, where more than half of upper secondary VET students are enrolled in combined school- and work-based programmes, the differences are larger (Figure C1.2 and Figure B7.6 in Indicator B7).
- **The field of study**: some VET programmes require expensive equipment or sophisticated infrastructure to train students (Hoeckel, 2008[2]). This is particularly the case for programmes in science or technology. Countries where a large share of VET students graduate with a specialisation in engineering, manufacturing and construction, such as Chile, Estonia, Iceland and Sweden (above 40%, see Box B7.1 in Indicator B7) tend to spend more per student in vocational programmes than in general ones. The differences are also significant in countries where the field of health and welfare is the most popular, such as Greece, the Netherlands and Spain.

In contrast, differences are smaller in countries such as Luxembourg where business, administration and law is the most popular field in upper secondary vocational programmes (Figure C1.2 and Box B7.1).

- **Recent investment in VET programmes and curricula**: while digitalisation might impact the future of VET, the evidence is that demand for VET graduates remains significant and that salaries of VET graduates are rising (Meer, 2007[3]). Therefore, the cost and the resources invested in VET programmes might be affected by the increasing demand, and the need to adapt VET programmes to the evolving skills needed in the labour market. For example, the Netherlands has engaged in initiatives to strengthen the link between the content of VET curricula and the job market. Consortia of vocational schools and business received additional funding from the business community, the education sector and the government in 2018 to invest in innovative VET training in regions (Eurydice, 2020[4]).

Figure C1.2. Total expenditure on educational institutions per full-time equivalent student, in vocational and general upper secondary education programmes (2017)

In equivalent USD converted using PPPs



Countries are ranked in descending order of the total expenditure per full-time equivalent student in vocational programmes.
Source: OECD/UIS/Eurostat (2020), Table C1.1. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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The greater reliance on private funding in tertiary education has led to higher expenditure at this level than in lower ones (see Indicator C3, and Table C1.5, available on line). In 2017, while OECD countries spent on average around USD 10 000 per student at the primary, secondary and post-secondary non-tertiary levels, expenditure per student reached USD 16 300 at the tertiary level. However, the average expenditure at this level is driven up by high values in a few countries, most notably Canada, Luxembourg, Norway, Sweden, the United Kingdom and the United States (Table C1.1). Significant differences are also observed at the subnational level (Box C1.2).

Expenditure per student on educational institutions rises with the level of education in almost all countries, but the range varies markedly across countries (Table C1.1). OECD countries spend on average 16% more per secondary student than they do per primary student. This percentage is near 50% or more in the Czech Republic, France and the Netherlands. However, Chile, Denmark, Estonia, Iceland, Israel, Lithuania, Poland, the Slovak Republic and the United Kingdom all invest more per primary student than on each secondary student, despite the fact that teacher's salaries, a strong driver of total expenditure, tend to increase with higher levels of education. Similarly, educational institutions in OECD countries spend an average of 24% more on each tertiary student (excluding R&D) than on each primary student. Hungary, Ireland, Turkey, the United Kingdom and the United States spend about twice as much on a tertiary student (excluding R&D) than on a primary student (Table C1.1).

Box C1.2. Subnational variation in annual expenditure per student on educational institutions

Annual expenditure per student can be quite heterogeneous across countries with large differences between regions, due to their economic circumstances and geographic challenges. Among the six countries with available data at subnational level, Canada and the United States have the highest variation in annual expenditure per student on educational institutions at primary and secondary levels combined: in Canada, the region with the highest value (USD 24 000) spends almost three times as much per student as the region with the lowest value (almost USD 9 000). Smaller regional differences are found in Germany and Switzerland, while in Belgium and Lithuania expenditure per student on primary and secondary educational institutions is almost identical across the regions.

There are also regional differences in spending on education personnel in Switzerland. While expenditure on teaching and non-teaching staff per student at primary and lower secondary is over USD 20 000 in Zürich, it is USD 13 000 in Ticino.

Note: To ensure comparability across countries, expenditure figures were converted into common currency (USD) using national purchasing power parities (PPPs). However, differences in the cost of living within countries were not taken into account.

Expenditure per student on core education services, ancillary services and R&D

On average across OECD countries, expenditure on core education services (such as teaching costs and other expenditure related to education) represents 89% of total expenditure per student from primary to tertiary educational institutions and it exceeds 90% in Chile, Latvia and Poland. In about one-third of OECD and partner countries with available data, annual expenditure on R&D and ancillary services per student accounts for around 11% or more of the total annual expenditure per student on primary to tertiary institutions. In the Slovak Republic and Sweden, this reaches 23% (Table C1.2).

However, this overall picture masks large variations across levels of education (Table C1.2 and Figure C1.3). At non-tertiary levels (primary, secondary and post-secondary non-tertiary education), expenditure is dominated by spending on core education services. On average, OECD countries spend 96% of their total per-student expenditure (about USD 9 500) on core educational services at these levels. However, in Finland, France, Hungary, the Slovak Republic, and Sweden ancillary services account for 10% or slightly more of the expenditure per student (Table C1.2).

The share of total expenditure on educational institutions per student devoted to core services differs more widely at tertiary level, as R&D expenditure can account for a significant proportion of educational spending (Table C1.2). On average across OECD countries, 69% of total expenditure on educational institutions at tertiary level goes to core services. Excluding R&D activities, expenditure per student across OECD countries averages aboutr USD 11 200, ranging from about USD 2 000 in Colombia and Greece to USD 29 000 or more in Luxembourg and the United States (Table C1.2).

OECD countries in which R&D is mostly conducted in tertiary education institutions tend to report higher levels of expenditure per student than those where a large proportion of R&D is performed in other public institutions or in industry (Table C1.2). On average across OECD countries, expenditure on R&D and ancillary services at the tertiary level represents 31% of all tertiary expenditure on educational institutions per student. In eight of the OECD and partner countries for which data are available, expenditure on R&D and ancillary services in tertiary institutions is at least 40% of total expenditure on educational institutions per student, with Denmark and Sweden recording the highest shares, at around 52% (Table C1.2).

The share of expenditure on ancillary services tends to be lower in tertiary education than at lower levels of education (Table C1.2). On average, only 5% of expenditure on tertiary institutions goes towards ancillary services, and the amount is negligible (below USD 100 per student) in the Czech Republic, Denmark, Finland, Israel, Sweden. Luxembourg, the Slovak Republic and the United States spend the most in ancillary services per student at tertiary level among OECD countries, over USD 2 000 per student (Table C1.2).

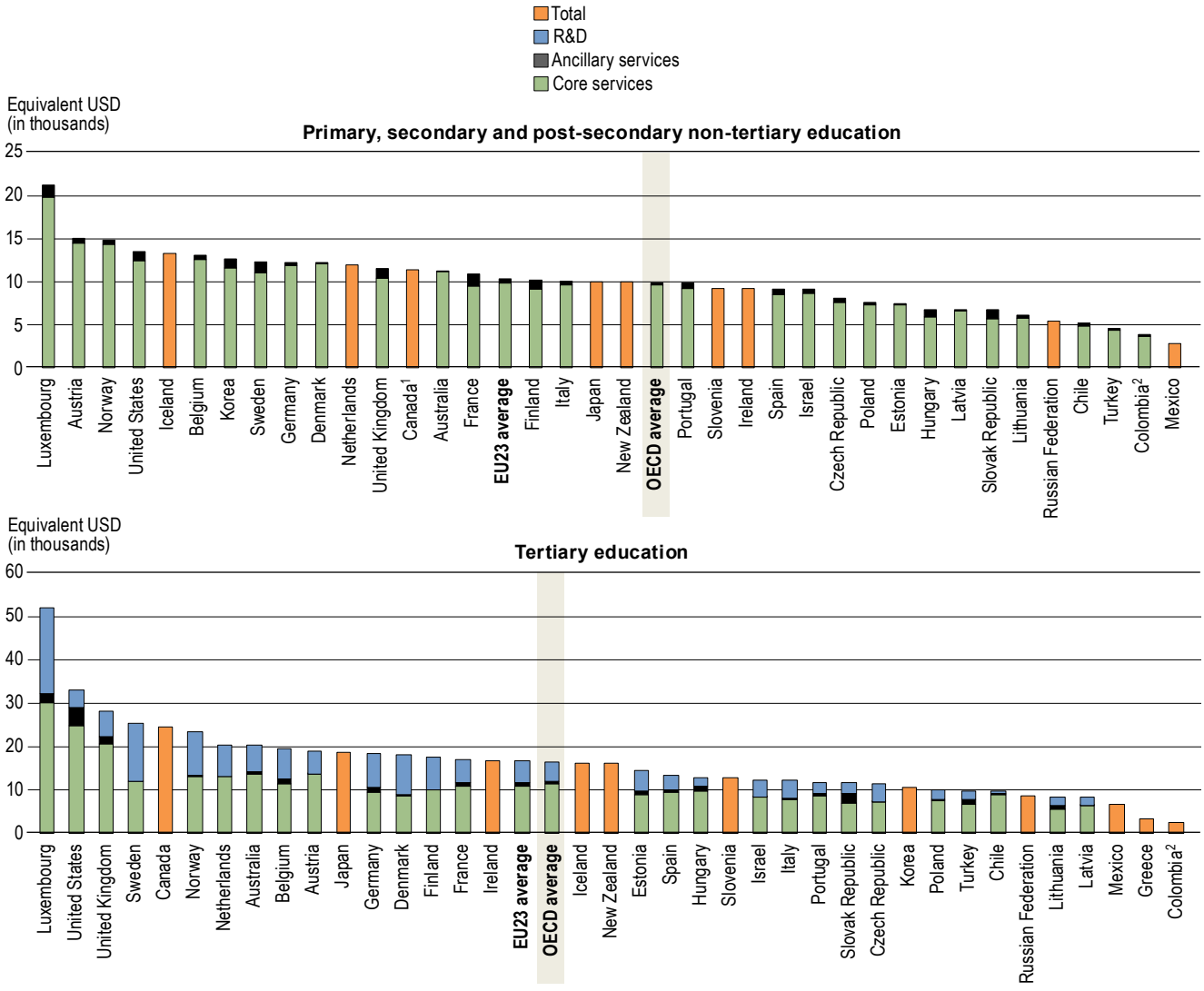
Expenditure per student on educational institutions relative to per capita GDP

Expenditure on educational institutions per student relative to GDP per capita is a measure of spending that takes into account the relative wealth of OECD countries. Since access to education in most OECD countries is universal (and usually compulsory) at lower levels of schooling, the amount spent per student as a share of per capita GDP can indicate whether the resources spent per student are proportionate to the country's ability to pay. At higher levels of education, where student enrolment varies sharply among countries, the link is less clear. At tertiary level, for example, OECD countries may rank

relatively high on this measure, even when a large proportion of their wealth is spent on educating a relatively small number of students.

Figure C1.3. Total expenditure on educational institutions per full-time equivalent student, by type of service (2017)

In equivalent USD converted using PPPs



1. Primary, secondary and post-secondary non-tertiary education includes pre-primary programmes.
2. Year of reference 2018.
Countries are ranked in descending order of total expenditure on educational institutions per full-time equivalent student.
Source: OECD/UIS/Eurostat (2020), Table C1.2. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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In OECD countries, overall expenditure per student on educational institutions from primary to tertiary levels averages 26% of per capita GDP, which can be broken down into 23% at primary, secondary and post-secondary non-tertiary levels and 36% at the tertiary level (Table C1.4, available on line). Countries with low levels of expenditure per student may still be investing relatively large amounts as a share of per capita GDP. For example, Portugal's expenditure per student for most educational levels and its per capita GDP are both below the OECD average and it spends an above-average share of its per capita GDP per student at most educational levels (Table C1.4, available on line).

The relationship between per capita GDP and expenditure per student on educational institutions is difficult to interpret. There is a clear positive relationship between the two at non-tertiary educational levels. In other words, less wealthy countries tend to spend less per student than richer countries. Although the relationship is generally positive at these levels, there are variations even between countries with similar levels of per capita GDP, especially among countries where per capita GDP exceeds USD 30 000. Austria and the Netherlands, for example, have similar levels of per capita GDP (around USD 40 000; see Table X2.1 in Annex 2) but they allocate very different shares of their wealth to primary, secondary and post-secondary non-tertiary education. Austria spends 28% of per capita GDP on non-tertiary institutions (above the OECD average of 23%) while the Netherlands spends 22% (Table C1.4, available on line).

At tertiary level, there is more variation in spending and in the relationship between countries' relative wealth and their level of tertiary expenditure. Canada, the United Kingdom and the United States spend more than 50% of per capita GDP on each student in tertiary institutions (Table C1.4, available on line). The high share for the United Kingdom is mostly the result of its high expenditure on R&D, which accounts for about one-fifth of total expenditure per student at this level (Table C1.2).

Change in expenditure per student on educational institutions between 2012 and 2017

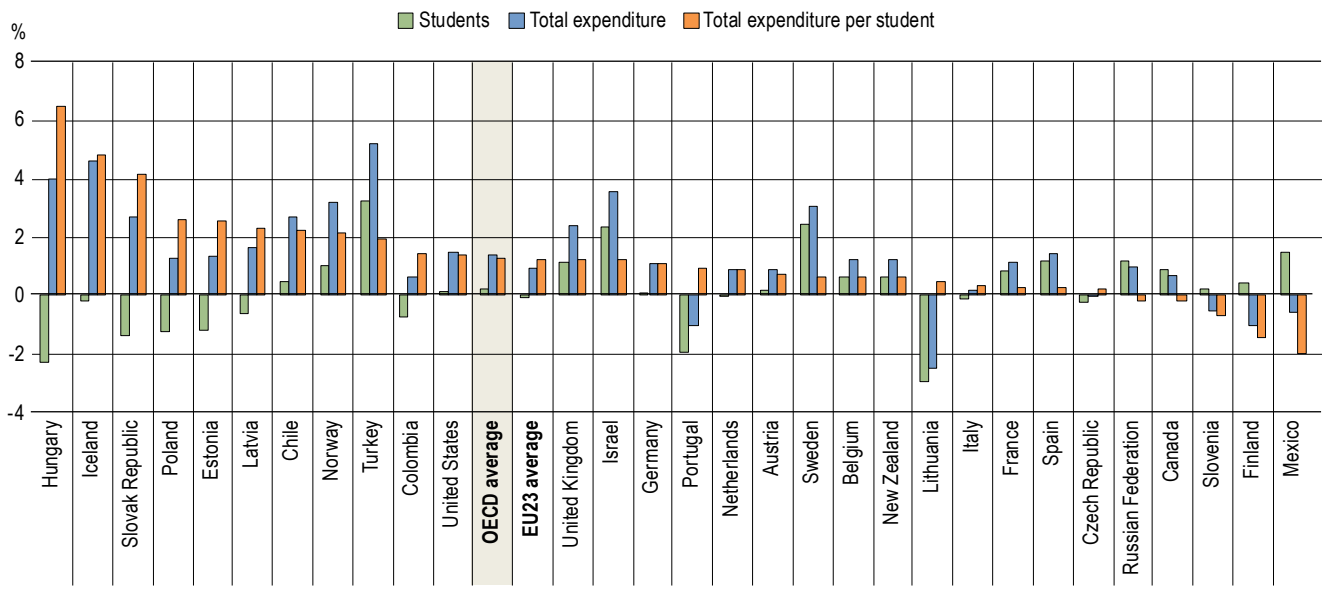
Changes in expenditure on educational institutions largely reflect changes in the size of the school-age population and the expenditure allocated to teachers' compensation, which is a function of the number of teachers and teachers' salaries. Teachers' salaries, the main component of educational costs, have increased in the majority of countries over the past decade (see Indicator D3). The size of the school-age population influences both enrolment levels and the amount of resources and organisational effort a country must invest in its education system. The larger this population, the greater the potential demand for education services. Changes in expenditure per student over the years may also vary between levels of education within countries, as both enrolment and expenditure may follow different trends at different levels of education.

Between 2012 and 2017, expenditure per student on primary to tertiary educational institutions grew by an average rate of 1.3% per year in OECD countries while the number of students remained stable (Table C1.3 and Figure C1.4). Over this period, the average annual growth in spending per student was positive in all countries with data, with the exception of Canada, Finland, Mexico and Slovenia. The decrease in expenditure per student observed in these countries (between 0.2% and 2.0%) is either the combined effect of a reduction on spending on educational institutions and a slight increase in the number of students or, as in the case in Canada, the result of lower expenditure than student growth over this period. In some countries within the European Union, such as Estonia, Hungary, Latvia, Poland and the Slovak Republic, the strong annual growth rates in expenditure per student (around or above 2%) are explained by significant increases in expenditure accompanied by significant decreases in the growth of the number of students over the period under analysis. Outside the European Union, Chile, Iceland, Norway and Turkey have also reported increases in spending per student of around 2% per year in real terms since 2012 (Table C1.3).

At non-tertiary levels, the number of students remained fairly stable on average across OECD countries between 2012 and 2017. During the same period, expenditure on non-tertiary educational institutions increased by an annual average growth rate of 1.6% (Table C1.3). As a result, expenditure per student at these levels increased by 1.4% per year on average between 2012 and 2017. Most OECD countries spent more per student in 2017 than they did in 2012, with the exception of Denmark, Finland, Luxembourg, Mexico and Slovenia. Expenditure per student increased by more than 4% per year in Colombia, Hungary, Iceland and the Slovak Republic. This resulted from stable or slight annual reductions in student enrolments combined with significant annual increases (above 3%) in total spending on non-tertiary institutions between 2012 and 2017. In contrast, the increase in number of students enrolled was accompanied by a reduction in spending on educational institutions per student in Finland, Mexico and Slovenia (Table C1.3).

Expenditure at tertiary level increased at a slightly smaller rate than at lower levels of education, rising on average by 0.9% annually between 2012 and 2017. It also increased faster than the number of students enrolled over this period (annual average growth rate of 0.5%). As a result, OECD countries recorded an average increase in expenditure per student of 0.4% per year over this period. However, there are stark differences across countries. Among OECD and partner countries with available data, Canada, Colombia, the Czech Republic, Finland, France, Germany, Greece, Israel, Lithuania, Mexico, the Netherlands, Spain and Turkey recorded a decrease in expenditure on tertiary education per student. In most of these countries, the decline was mainly the result of a rapid increase in the number of tertiary students. In contrast, expenditure per tertiary student increased by more than 4% in Estonia, Hungary, Iceland and the Slovak Republic due to an increase in total expenditure and a reduction in the number of students (Table C1.3).

Figure C1.4. Average annual growth in total expenditure on primary to tertiary educational institutions per full-time equivalent student (2012 to 2017)



Countries are ranked in descending order of annual growth in total expenditure on primary to tertiary educational institutions per full-time equivalent student.
Source: OECD/UIS/Eurostat (2020), Table C1.3. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Public expenditure on educational institutions per student, by type of institution

The resources devoted to private educational institutions are higher than the ones devoted to public institutions. On average across OECD countries, total expenditure on primary to tertiary public institutions amounts to just over USD 11 000 per student, compared to USD 11 200 in private ones (Table C1.6, available on line). The differences are significant in countries such as Israel, the Netherlands, Turkey and the United States where expenditure per student in private institutions is at least USD 5 000 higher than in public ones. In contrast, in countries such as Austria, Canada, Luxembourg, and Iceland, more resources are invested per student in public institutions than in private ones (above USD 4 000) (Table C1.6, available on line).

Focusing on public sources of expenditure goes some way to show how much governments value education (see Indicator C4). Naturally, public funds go to public institutions; but in some cases a significant part of the public budget may be spent on private educational institutions. On average among OECD countries, public expenditure per student on primary to tertiary public educational instructions (USD 10 100) is nearly twice the public expenditure per student on private institutions (USD 5 500). However, the difference varies at different levels of education (Table C1.6, available on line). At non-tertiary level, average public expenditure per student on public institutions is USD 9 500, about 50% more than the expenditure on private institutions (USD 6 100), whereas at tertiary level it averages USD 13 300 on public institutions, more than three times the expenditure on private institutions (USD 4 400) (Table C1.6, available on line).

Definitions

Ancillary services are services provided by educational institutions that are peripheral to their main educational mission. The main component of ancillary services is student welfare. In primary, secondary and post-secondary non-tertiary education, student welfare services include meals, school health services and transportation to and from school. At the tertiary level, they include residence halls (dormitories), dining halls and health care.

Core educational services include all expenditure that is directly related to instruction in educational institutions, including teachers' salaries, construction and maintenance of school buildings, teaching materials, books, and school administration.

Research and development includes research performed at universities and other tertiary educational institutions, regardless of whether the research is financed from general institutional funds or through separate grants or contracts from public or private sponsors.

Methodology

The annual average growth rate is calculated using the compound annual growth rate which shows the geometric progression ratio that provides a constant rate of return over the time period under analysis.

Expenditure per student on educational institutions at a particular level of education is calculated by dividing total expenditure on educational institutions at that level by the corresponding full-time equivalent enrolment. Only educational institutions and programmes for which both enrolment and expenditure data are available are taken into account. Expenditure in national currencies is converted into equivalent USD by dividing the national currency figure by the purchasing power parity (PPP) index for GDP. The PPP conversion factor is used because the market exchange rate is affected by many factors (interest rates, trade policies, expectations of economic growth, etc.) that have little to do with current relative domestic purchasing power in different OECD countries (see Annex 2 for further details).

Data on subnational regions on how much is spent per student are adjusted using national purchasing power parities (PPPs). Future work on the cost of living at subnational level would be required to fully adjust the expenditure per student used in this section.

Expenditure per student on educational institutions relative to per capita GDP is calculated by dividing expenditure per student on educational institutions by the per capita GDP. In cases where the educational expenditure data and the GDP data pertain to different reference periods, the expenditure data are adjusted to the same reference period as the GDP data, using inflation rates for the OECD country in question (see Annex 2).

Full-time equivalent student: The ranking of OECD countries by annual expenditure on educational services per student is affected by differences in how countries define full-time, part-time and full-time equivalent enrolment. Some OECD countries count every participant at the tertiary level as a full-time student, while others determine students' intensity of participation by the credits that they obtain for the successful completion of specific course units during a specified reference period. OECD countries that can accurately account for part-time enrolment have higher apparent expenditure per full-time equivalent student on educational institutions than OECD countries that cannot differentiate between the different types of student attendance.

Vocational education and training expenditure: Expenditure on workplace training provided by private companies is only included when it is part of combined school- and work-based programmes, provided that the school-based component represents at least 10% of the study over the whole programme duration. Other types of employer-provided workplace training (e.g. entirely work-based training or employee training that takes place 95% at work) are excluded. Expenditure on VET programmes include the expenditure on training (e.g. salaries and other compensation of instructors and other personnel, as well as the cost of instructional materials and equipment). However, it excludes apprentices' wages and other compensations to students or apprentices.

For more information please see the *OECD Handbook for Internationally Comparative Education Statistics 2018* (OECD, 2018[5]) and Annex 3 for country-specific notes (https://doi.org/10.1787/69096873-en).

Source

Data refer to the financial year 2017 (unless otherwise specified) and are based on the UNESCO, OECD and Eurostat (UOE) data collection on education statistics administered by the OECD in 2019 (for details see Annex 3 at https://doi.org/10.1787/69096873-en). Data from Argentina, the People's Republic of China, India, Indonesia, Saudi Arabia and South Africa are from the UNESCO Institute of Statistics (UIS).

The data on expenditure for 2012 to 2017 were updated based on a survey in 2019-20, and expenditure figures for 2012 to 2017 were adjusted to the methods and definitions used in the current UOE data collection.

Data on subnational regions are currently available for six countries: Belgium, Canada, Germany, Lithuania, Switzerland and the United States. Subnational estimates were provided by countries using national data sources. Subnational data are based on a special survey administrated by the OECD in 2020.

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Indicator C1 Tables

Table C1.1	Total expenditure on educational institutions per full-time equivalent student (2017)
Table C1.2	Total expenditure on educational institutions per full-time equivalent student for core educational services, ancillary services and R&D (2017)
Table C1.3	Average annual growth in total expenditure on educational institutions per full-time equivalent student (2012 to 2017)
WEB Table C1.4	*Total expenditure on educational institutions per full-time equivalent student relative to GDP per capita (2017)*
WEB Table C1.5	*Total expenditure on educational institutions per full-time equivalent student, by source of funds (2017)*
WEB Table C1.6	*Public and total expenditure on educational institutions per full-time equivalent student, by type of institution (2017)*

Cut-off date for the data: 19 July 2020. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en. More breakdowns can also be found at http://stats.oecd.org/, Education at a Glance Database.

StatLink: https://doi.org/10.1787/888934164294

Table C1.1. Total expenditure on educational institutions per full-time equivalent student (2017)

In equivalent USD converted using PPPs for GDP, direct expenditure within educational institutions, by level of education

		Primary	Secondary					Post-secondary non-tertiary	Primary, secondary and post-secondary non-tertiary	Tertiary				Primary to tertiary	Primary to tertiary (excluding R&D)
			Lower secondary	Upper secondary			All secondary			Short-cycle tertiary	Long-cycle tertiary	All tertiary	All tertiary (excluding R&D)		
				General programmes	Vocational programmes	All programmes									
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
OECD	**Countries**														
	Australia	10 238	13 181	14 019	7 371	11 825	12 640	8 504	11 270	10 943	23 261	20 436	14 314	13 272	11 935
	Austria	12 754	16 794	14 425	18 054	16 593	16 705	5 700	15 097	18 457	19 206	19 089	13 711	16 319	14 672
	Belgium	11 106	14 524	14 210 [d]	14 896 [d]	14 606 [d]	14 578 [d]	x(3, 4, 5, 6)	13 054	12 965	19 649	19 422	12 539	14 287	12 954
	Canada[1, 2]	10 238 [d]	x(1)	x(5)	x(5)	13 891	13 891	m	11 380 [d]	18 820	27 948	24 671	m	14 428 [d]	m
	Chile	5 259	5 440	4 393	8 342	5 033	5 167	a	5 213	4 821	11 503	9 610	9 079	6 487	6 333
	Colombia[2, 3]	3 494	4 468	x(5)	x(5)	3 436	4 177	m	3 855	x(11)	x(11)	2 335	1 331	3 538	3 328
	Costa Rica[3]	m	m	m	m	m	m	a	m	m	m	m	m	m	m
	Czech Republic	5 971	10 081	8 174	9 645	9 246	9 666	2 763	8 052	18 866	11 462	11 484	7 217	8 732	7 887
	Denmark	13 278	13 127	x(5)	x(5)	9 526	11 164	a	12 163	17 623	18 116	18 062	8 778	13 499	11 396
	Estonia	7 481	7 622	6 878	7 670	7 208	7 404	8 053	7 462	a	14 580	14 580	9 618	8 946	7 912
	Finland	9 633	15 400	8 719	7 985 [d]	8 180 [d]	10 454 [d]	x(4, 5, 6)	10 133	a	17 730	17 730	9 874	11 637	10 082
	France	8 319	11 252	13 944	16 227	14 743	12 748	9 897	10 867	15 359	17 442	16 952	11 638	12 080	11 020
	Germany	9 572	11 975	12 963	17 960	15 466	13 283	12 403	12 195	11 284	18 487	18 486	10 436	13 529	11 822
	Greece	6 085	6 951	5 834	8 756	6 638	6 789	m	m	a	3 294	3 294	2 137	m	m
	Hungary	5 491	5 259	7 961	9 494	8 465	6 867	13 642	6 780	4 675	13 256	12 878	10 838	7 797	7 457
	Iceland	13 333	15 620	10 785	13 426	11 503	13 122	15 532	13 254	9 682	16 497	16 270	m	13 819	m
	Ireland	8 215	10 054	x(5)	x(5)	8 890	9 445	35 312	9 218	x(11)	x(11)	16 794	16 185	10 489	10 386
	Israel	9 155	x(3, 4, 5)	6 940 [d]	17 258 [d]	9 079 [d]	9 079	1 205	9 064	5 584	15 795	12 310	8 382	9 671	8 936
	Italy	9 160	10 073	x(5)	x(5)	10 883 [d]	10 574 [d]	x(5, 6)	10 036	4 240	12 277	12 226	8 131	10 473	9 655
	Japan	8 824	10 511	x(5)	x(5)	11 510 [d]	11 024 [d]	x(5, 6, 9, 10, 11)	9 963	13 617 [d]	20 209 [d]	18 839 [d]	m	11 896	m
	Korea	11 702	12 597	x(5)	x(5)	14 394	13 579	a	12 704	5 791	11 948	10 633	8 400	11 981	11 202
	Latvia	6 379	6 492	7 048	8 628	7 680	7 102	8 585	6 766	8 141	8 381	8 346	6 379	7 121	6 679
	Lithuania	6 340	5 994	6 066	5 832	6 002	5 997	5 857	6 094	a	8 428	8 428	6 353	6 652	6 156
	Luxembourg	19 690	23 073	22 236	22 546	22 427	22 724	1 951	21 244	27 920	55 433	52 089	32 325	23 324	22 053
	Mexico	2 782	2 438	3 115	3 980	3 418	2 823	a	2 803	x(11)	x(11)	6 586	5 263	3 320	3 139
	Netherlands	9 301	13 527	11 365	15 776	14 274	13 889	a	11 931	11 467	20 493	20 445	13 104	13 809	12 190
	New Zealand	8 533	10 059	12 004	13 859	12 401	11 117	10 059	9 937	11 279	17 096	16 068	12 755	11 098	10 471
	Norway	13 906	13 906	17 398	16 982	17 191	15 735	21 168	14 848	20 615	23 522	23 439	13 414	16 644	14 548
	Poland	7 806	7 286	6 798	8 639	7 838	7 577	3 742	7 597	27 938	10 041	10 044	7 843	8 144	7 652
	Portugal	8 766	10 993	x(5)	x(5)	10 463 [d]	10 721 [d]	x(5, 6)	9 836	7 451	11 941	11 788	9 126	10 220	9 696
	Slovak Republic	6 836	6 121	7 217	7 441	7 370	6 652	6 383	6 711	8 345	11 776	11 715	9 075	7 562	7 113
	Slovenia	9 062	11 336	9 199	7 599	8 110	9 370	a	9 223	3 757	14 100	12 787	10 302	9 897	9 427
	Spain	8 161	9 567	9 732	12 851 [d]	10 711 [d]	10 134 [d]	x(4, 5, 6)	9 166	9 795	14 387	13 446	10 052	10 105	9 360
	Sweden	12 189	12 894	11 078	14 723	12 427	12 634	5 883	12 339	6 874	27 167	25 584	11 928	14 505	12 271
	Switzerland	m	m	x(5)	x(5)	18 966 [d]	m	x(5)	m	m	m	m	m	m	m
	Turkey	4 002	3 912	5 448	6 159	5 776	4 859	a	4 594	x(11)	x(11)	9 708	7 857	5 586	5 227
	United Kingdom	11 604	11 749	13 429	8 978	11 480	11 592	a	11 597	19 093	29 131	28 144	22 291	14 209	13 285
	United States	12 592	13 654	x(5)	x(5)	15 202	14 411	15 908	13 511	x(11)	x(11)	33 063	29 153	17 993	17 096
	OECD average	9 090	10 527	10 051	11 521	10 888	10 547	m	9 999	12 422	17 566	16 327	11 234	11 231	10 104
	EU23 average	9 269	10 963	10 383	11 774	10 836	10 786	m	10 344	13 014	17 126	16 688	11 339	11 515	10 506
Partners	**Argentina**	m	m	m	a	m	m	a	m	m	m	m	m	m	m
	Brazil	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia[3]	m	m	m	m	m	m	a	m	m	m	m	m	m	m
	Russian Federation	x(3, 4, 5, 6)	x(3, 4, 5, 6)	5 651 [d]	2 582 [d]	5 382 [d]	5 382 [d]	x(3, 4, 5, 6)	5 382	5 379	9 776	8 629	7 750	6 090	5 898
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See *Definitions* and *Methodology* sections for more information. Data and more breakdowns available at http://stats.oecd.org/, Education at a Glance Database.

1. Primary education includes pre-primary programmes.
2. Post-secondary non-tertiary figures are treated as negligible.
3. Year of reference 2018.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934164313

Table C1.2. Total expenditure on educational institutions per full-time equivalent student for core educational services, ancillary services and R&D (2017)

In equivalent USD converted using PPPs for GDP, direct expenditure within educational institutions, by level of education

		Primary, secondary and post-secondary non-tertiary			Tertiary					Primary to tertiary				
		Core services	Ancillary services	All services	Core services	Ancillary services	R&D	All services	All services excluding R&D	Core services	Ancillary services	R&D	All services	All services excluding R&D
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
OECD	Countries													
	Australia	11 120	150	11 270	13 568	746	6 121	20 436	14 314	11 655	280	1 337	13 272	11 935
	Austria	14 429	668	15 097	13 528	183	5 378	19 089	13 711	14 153	520	1 646	16 319	14 672
	Belgium	12 587	467	13 054	11 480	1 059	6 883	19 422	12 539	12 372	582	1 332	14 287	12 954
	Canada[1]	x(3)	x(3)	11 380 [d]	x(7)	x(7)	x(7)	24 671	m	x(12)	x(12)	x(12)	14 428 [d]	m
	Chile	4 800	413	5 213	8 766	313	531	9 610	9 079	5 950	384	154	6 487	6 333
	Colombia[2]	3 683	172	3 855	x(7)	x(7)	1 004	2 335	1 331	x(12)	x(12)	210	3 538	3 328
	Costa Rica[2]	m	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	7 542	510	8 052	7 130	87	4 268	11 484	7 217	7 460	427	845	8 732	7 887
	Denmark	12 029	133	12 163	8 682	96	9 284	18 062	8 778	11 271	125	2 104	13 499	11 396
	Estonia	7 365	97	7 462	8 949	669	4 962	14 580	9 618	7 695	217	1 034	8 946	7 912
	Finland	9 086	1 047	10 133	9 874	0	7 856	17 730	9 874	9 242	839	1 555	11 637	10 082
	France	9 513	1 353	10 867	10 831	807	5 313	16 952	11 638	9 776	1 244	1 059	12 080	11 020
	Germany	11 878	316	12 195	9 421	1 015	8 051	18 486	10 436	11 357	464	1 707	13 529	11 822
	Greece	m	m	m	x(7)	x(7)	1 157	3 294	2 137	m	m	409	m	m
	Hungary	5 905	875	6 780	9 787	1 051	2 041	12 878	10 838	6 553	904	340	7 797	7 457
	Iceland	x(3)	x(3)	13 254	x(7)	x(7)	x(7)	16 270	m	x(12)	x(12)	x(12)	13 819	m
	Ireland	x(3)	x(3)	9 218	x(7)	x(7)	609	16 794	16 185	x(12)	x(12)	103	10 489	10 386
	Israel	8 623	441	9 064	8 338	44	3 929	12 310	8 382	8 569	367	735	9 671	8 936
	Italy	9 550	486	10 036	7 675	456	4 096	12 226	8 131	9 175	480	818	10 473	9 655
	Japan	x(3, 7)	x(3, 7)	9 963	x(7)	x(7)	x(7)	18 839 [d]	m	x(12)	x(12)	x(12)	11 896	m
	Korea	11 636	1 068	12 704	x(7)	x(7)	2 233	10 633	8 400	x(12)	x(12)	780	11 981	11 202
	Latvia	6 651	115	6 766	6 245	134	1 968	8 346	6 379	6 560	119	443	7 121	6 679
	Lithuania	5 804	290	6 094	5 537	816	2 075	8 428	6 353	5 740	416	496	6 652	6 156
	Luxembourg	19 845	1 399	21 244	31 232	2 001	18 855	52 089	33 234	20 613	1 440	1 271	23 324	22 053
	Mexico	x(3)	x(3)	2 803	x(7)	x(7)	1 323	6 586	5 263	x(12)	x(12)	181	3 320	3 139
	Netherlands	11 931	a	11 931	13 104	a	7 341	20 445	13 104	12 190	a	1 619	13 809	12 190
	New Zealand	x(3)	x(3)	9 937	x(7)	x(7)	3 313	16 068	12 755	x(12)	x(12)	627	11 098	10 471
	Norway	14 351	497	14 848	13 072	343	10 024	23 439	13 414	14 083	465	2 096	16 644	14 548
	Poland	7 343	254	7 597	7 572	271	2 201	10 044	7 843	7 394	258	492	8 144	7 652
	Portugal	9 207	629	9 836	8 714	412	2 663	11 788	9 126	9 110	586	524	10 220	9 696
	Slovak Republic	5 621	1 090	6 711	6 979	2 096	2 640	11 715	9 075	5 852	1 261	449	7 562	7 113
	Slovenia	x(3)	x(3)	9 223	x(7)	x(7)	2 485	12 787	10 302	x(12)	x(12)	470	9 897	9 427
	Spain	8 489	677	9 166	9 506	546	3 394	13 446	10 052	8 712	648	745	10 105	9 360
	Sweden	11 064	1 275	12 339	11 928	0	13 657	25 584	11 928	11 205	1 066	2 234	14 505	12 271
	Switzerland	m	m	m	m	m	17 444	m	m	m	m	3 319	m	m
	Turkey	4 354	240	4 594	6 755	1 102	1 851	9 708	7 857	4 820	407	359	5 586	5 227
	United Kingdom	10 527	1 071	11 597	20 637	1 654	5 853	28 144	22 291	12 122	1 163	924	14 209	13 285
	United States	12 440	1 071	13 511	24 839	4 314	3 911	33 063	29 153	15 282	1 814	896	17 993	17 096
	OECD average	9 549	354	9 999	11 313	809	4 205	16 327	11 234	9 958	659	537	11 231	10 104
	EU23 average	9 818	525	10 344	10 940	703	5 044	16 688	11 339	9 928	671	916	11 515	10 506
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	m	m	m	m	m	m	m	m	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia[2]	m	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	x(3)	x(3)	5 382	x(7)	x(7)	879	8 629	7 750	x(12)	x(12)	192	6 090	5 898
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: Some levels of education are included with others. Refer to "x" code in Table C1.1 for details. See *Definitions* and *Methodology* sections for more information. Data and more breakdowns available at http://stats.oecd.org/, Education at a Glance Database.

1. Primary, secondary and post-secondary non-tertiary education includes pre-primary programmes.
2. Year of reference 2018.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table C1.3. Average annual growth in total expenditure on educational institutions per full-time equivalent student (2012 to 2017)

GDP deflator 2015 = 100, constant prices and constant PPPs, by level of education

		Primary, secondary and post-secondary non-tertiary					Tertiary					Primary to tertiary				
		Total expenditure per student in constant prices and constant PPPs		Average annual growth between 2012 and 2017 (%)			Total expenditure per student in constant prices and constant PPPs		Average annual growth between 2012 and 2017 (%)			Total expenditure per student in constant prices and constant PPPs		Average annual growth between 2012 and 2017 (%)		
		2012	2017	Number of students	Total expenditure	Total expenditure per student	2012	2017	Number of students	Total expenditure	Total expenditure per student	2012	2017	Number of students	Total expenditure	Total expenditure per student
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD	**Countries**															
	Australia	m	10 611	m	m	m	m	19 242	m	m	m	m	12 496	m	m	m
	Austria	13 508	14 164	-0.1	0.9	1.0	17 831	17 909	0.7	0.8	0.1	14 794	15 310	0.2	0.8	0.7
	Belgium	12 017	12 189	0.4	0.7	0.3	16 995	18 135	1.4	2.8	1.3	12 942	13 340	0.6	1.2	0.6
	Canada[1]	10 408[d]	10 642[d]	0.9[d]	1.4[d]	0.4[d]	24 378	23 071	0.7	-0.4	-1.1	13 640[d]	13 492[d]	0.9[d]	0.6[d]	-0.2[d]
	Chile	4 560	4 994	-0.3	1.5	1.8	8 402	9 207	2.5	4.4	1.8	5 568	6 215	0.4	2.7	2.2
	Colombia	2 417	3 045	-1.1	3.6	4.7	5 616	5 535	0.9	0.6	-0.3	948	1 015	-0.7	0.6	1.4
	Costa Rica	m	m	0.4	m	m	m	m	1.7	m	m	m	m	0.6	m	m
	Czech Republic	7 008	7 501	1.0	2.3	1.4	11 267	10 698	-4.4	-5.4	-1.0	8 053	8 135	-0.3	-0.1	0.2
	Denmark	12 168	11 254	-0.3	-1.9	-1.6	m	16 713	1.0	m	m	m	12 491	0.0	m	m
	Estonia	6 861	7 029	0.6	1.1	0.5	8 915	13 734	-6.7	1.7	9.0	7 432	8 427	-1.2	1.3	2.5
	Finland	10 023	9 553	0.4	-0.6	-1.0	19 143	16 714	0.5	-2.2	-2.7	11 820	10 970	0.4	-1.1	-1.5
	France	9 969	10 201	0.5	1.0	0.5	16 478	15 914	2.1	1.4	-0.7	11 188	11 340	0.8	1.1	0.3
	Germany	10 521	11 355	-0.7	0.8	1.5	18 334	17 214	3.1	1.8	-1.3	11 946	12 597	0.0	1.1	1.1
	Greece	6 451	m	0.6	m	m	4 094	3 106	2.7	-2.8	-5.4	5 674	m	1.3	m	m
	Hungary	4 613	6 565	-1.7	5.4	7.3	9 366	12 470	-4.9	0.7	5.9	5 521	7 550	-2.3	4.0	6.5
	Iceland	9 974	12 514	0.1	4.7	4.6	11 763	15 362	-1.3	4.1	5.5	10 329	13 048	-0.2	4.6	4.8
	Ireland	m	8 935	2.2	m	m	m	16 279	1.9	m	m	m	10 167	2.2	m	m
	Israel	7 572	8 538	1.9	4.4	2.4	13 468	11 596	4.1	1.0	-2.9	8 583	9 110	2.3	3.5	1.2
	Italy	8 980	9 161	0.0	0.4	0.4	11 129	11 161	-0.5	-0.5	0.1	9 418	9 561	-0.1	0.2	0.3
	Japan	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Korea	m	12 390	-3.1	m	m	m	10 370	-1.4	m	m	m	11 685	-2.6	m	m
	Latvia	5 367	6 342	0.0	3.4	3.4	7 802	7 824	-2.6	-2.5	0.1	5 973	6 676	-0.6	1.6	2.3
	Lithuania	4 994	5 703	-2.7	0.0	2.7	9 320	7 887	-3.9	-7.0	-3.3	6 079	6 225	-3.0	-2.5	0.5
	Luxembourg	21 485	19 866	1.6	0.0	-1.6	m	48 708	m	6.9	m	m	21 810	m	0.9	m
	Mexico	2 907	2 657	0.8	-1.0	-1.8	8 422	6 244	6.9	0.7	-5.8	3 490	3 148	1.5	-0.6	-2.0
	Netherlands	10 769	11 277	-0.6	0.4	0.9	19 540	19 323	2.2	1.9	-0.2	12 508	13 051	0.0	0.9	0.9
	New Zealand	8 999	9 280	0.6	1.2	0.6	14 641	15 006	0.7	1.2	0.5	10 062	10 365	0.6	1.2	0.6
	Norway	13 212	14 288	0.5	2.1	1.6	19 613	22 554	3.2	6.2	2.8	14 413	16 016	1.0	3.2	2.1
	Poland	6 577	7 320	-0.9	1.3	2.2	7 993	9 678	-2.7	1.1	3.9	6 917	7 847	-1.3	1.2	2.6
	Portugal	8 953	9 366	-1.9	-1.0	0.9	10 656	11 225	-2.3	-1.3	1.0	9 294	9 731	-2.0	-1.1	0.9
	Slovak Republic	5 531	6 818	-1.1	3.1	4.3	9 539	11 902	-2.9	1.5	4.5	6 266	7 682	-1.4	2.7	4.2
	Slovenia	9 290	8 595	1.1	-0.4	-1.5	10 526	11 916	-3.2	-0.8	2.5	9 568	9 223	0.2	-0.5	-0.7
	Spain	8 387	8 544	1.0	1.3	0.4	12 727	12 535	1.9	1.6	-0.3	9 304	9 420	1.2	1.4	0.2
	Sweden	11 142	11 719	2.7	3.8	1.0	23 744	24 299	0.9	1.4	0.5	13 359	13 777	2.4	3.0	0.6
	Switzerland	18 255	m	1.4	m	m	26 901	m	2.9	m	m	19 803	m	1.7	m	m
	Turkey	3 764	4 526	2.1	5.9	3.8	12 127	9 562	8.9	3.9	-4.6	5 003	5 502	3.2	5.2	1.9
	United Kingdom	10 540	10 979	0.8	1.6	0.8	25 500	26 643	3.3	4.2	0.9	12 664	13 451	1.1	2.4	1.2
	United States	12 284	13 126	0.5	1.8	1.3	28 825	32 120	-1.2	0.9	2.2	16 336	17 479	0.1	1.5	1.4
	OECD average	9 076	9 442	0.2	1.6	1.4	14 357	15 482	0.5	0.9	0.4	9 642	10 540	0.2	1.4	1.3
	EU23 average	9 325	9 747	0.1	1.1	1.1	13 545	15 739	-0.6	0.2	0.7	9 536	10 854	-0.1	0.9	1.2
Partners	**Argentina**	m	m	0.3	m	m	m	m	2.9	m	m	m	m	0.9	m	m
	Brazil	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	3.2	m	m	m	m	m	m	m
	Indonesia	m	m	0.5	m	m	m	m	5.0	m	m	m	m	1.1	m	m
	Russian Federation	4 984	5 048	2.8	3.1	0.3	7 799	8 094	-3.8	-3.1	0.7	5 772	5 712	1.2	0.9	-0.2
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	2.2	m	m	m	m	m	m	m

Note: See *Definitions* and *Methodology* sections for more information. Data and more breakdowns available at http://stats.oecd.org/, Education at a Glance Database.

1. Primary, secondary and post-secondary non-tertiary education includes pre-primary programmes.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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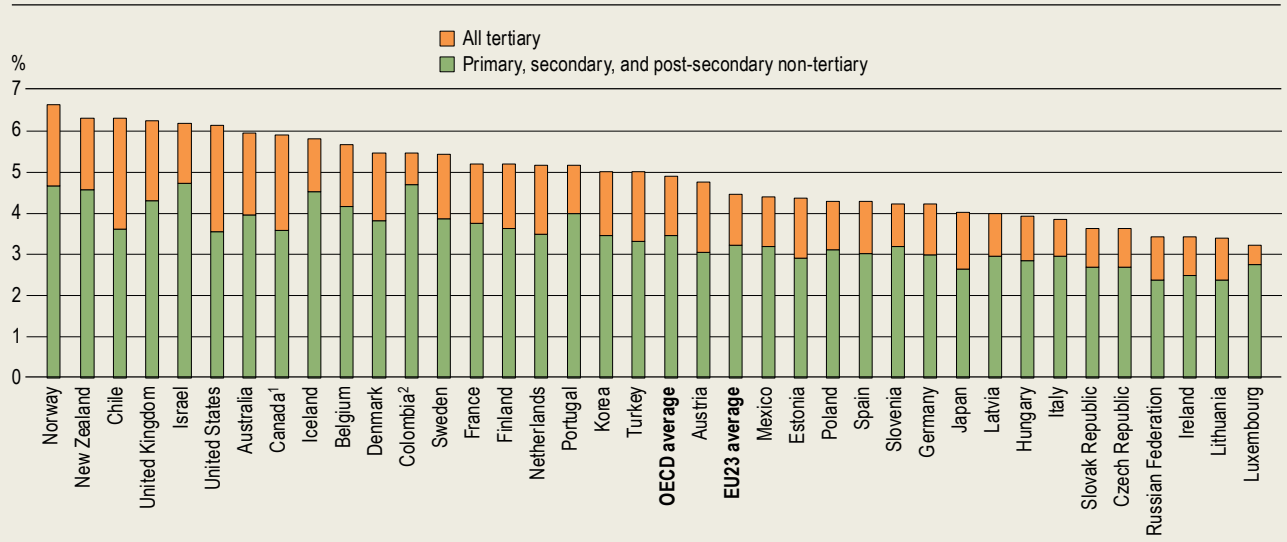
Indicator C2. What proportion of national wealth is spent on educational institutions?

Highlights

- In 2017, OECD countries spent an average of 4.9% of their gross domestic product (GDP) on educational institutions from primary to tertiary levels, with wide variations across OECD and partner countries. On average, the share of national resources devoted to non-tertiary education (primary, secondary and post-secondary non-tertiary levels) was 3.5% of GDP, much larger than the share devoted to tertiary education (1.4% of GDP).
- Private sources play a crucial role in financing tertiary education, accounting on average for around one-third of expenditure on educational institutions or 0.4% of GDP, after transfers between government and the private sector. At non-tertiary levels, private spending on education represents only one-tenth of the total expenditure on institutions, or 0.3% of GDP.
- Between 2012 and 2017, total expenditure on primary to tertiary educational institutions as a share of GDP decreased in more than two-thirds of OECD and partner countries, mainly due to total expenditure on educational institutions increasing more slowly than GDP.

Figure C2.1. Total expenditure on educational institutions as a percentage of GDP (2017)

From public, private and international sources, by level of education



1. Primary, secondary and post-secondary non-tertiary education includes pre-primary programmes.
2. Year of reference 2018.

Countries are ranked in descending order of total expenditure on educational institutions as a percentage of GDP.

Source: OECD/UIS/Eurostat (2020), Table C2.1. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Context

Countries invest in educational institutions to help foster economic growth, enhance productivity, contribute to personal and social development, and reduce social inequality, among other reasons. The level of expenditure on educational institutions is affected by the size of a country's school-age population, enrolment rates, levels of teachers' salaries, and the organisation and delivery of instruction. At primary and lower secondary levels (which correspond broadly to the population aged 6 to 14), enrolment rates are close to 100% in most OECD countries. Changes in the number of students are therefore closely related to demographic changes. This is less the case in upper secondary and tertiary education, as part of the relevant population will have left the education system (see Indicator B1).

In order to account for these issues, this indicator measures the proportion of a nation's wealth that is invested in educational institutions. This measure demonstrates the priority given to educational institutions as a function of countries' overall resources. National wealth is based on GDP, while expenditure on educational institutions includes spending by governments, enterprises, and individual students and their families. This indicator covers expenditure on schools, universities and other public and private institutions involved in delivering or supporting educational services.

Public budgets are heavily scrutinised by governments and during economic downturns even core sectors like education can be subject to budget cuts. This indicator provides a point of reference, by showing how the volume of spending on educational institutions, relative to national GDP, has evolved over time in OECD countries. In deciding how much to allocate to educational institutions, governments must balance demands for increased spending in areas such as teachers' salaries and educational facilities with other areas of investment.

Other findings

- The largest share of expenditure on educational institutions is devoted to primary and secondary levels (69% of all OECD educational expenditure or 3.4% of GDP), and is a function of the total number of students enrolled.
- Spending by the private sector on primary to tertiary educational institutions, represented 0.8% of GDP on average across OECD countries, after transfers between government and the private sector.
- Between 2015 and 2017, public expenditure on educational institutions as a share of GDP decreased slightly at non-tertiary levels (1.2% on average across OECD countries). However, at the tertiary level the reduction has been more significant, at just over 5.1% on average across OECD countries.

Analysis

Overall investment relative to GDP

The share of national wealth devoted to educational institutions is substantial in all OECD and partner countries. In 2017, OECD countries spent on average 4.9% of their GDP on educational institutions from primary to tertiary levels (Table C2.1).

Expenditure on primary to tertiary educational institutions relative to GDP varies between 6% or more in Australia, Chile, Israel, New Zealand, Norway, the United Kingdom and the United States, to 3-4% in the Czech Republic, Hungary, Ireland, Italy, Japan, Latvia, Lithuania, Luxembourg, the Russian Federation and the Slovak Republic (Figure C2.1 and Table C2.1). Many factors influence the relative position of countries on this measure including the relative number of students enrolled, the duration of studies and the effective allocation of funds. At the tertiary level, spending may be influenced by the criteria for accessing higher levels of education, the number of students enrolled across sectors and fields of study as well as the scale of investment in research activities.

Expenditure on educational institutions by level of education

In all OECD and partner countries with available data, the share of national resources devoted to educational institutions in non-tertiary education (primary, secondary and post-secondary non-tertiary levels) is much larger than the share devoted to tertiary education (Table C2.1 and Figure C2.1). On average across OECD countries, 71% of expenditure on educational institutions, or 3.5% of GDP, is directed to non-tertiary levels, due to the high enrolment rates at these levels. The share of resources devoted to educational institutions at non-tertiary levels is at 4.5% or more of GDP in Colombia, Iceland, Israel, New Zealand and Norway while it accounts for 2.4% of GDP in Lithuania and the Russian Federation (Table C2.1).

On average across OECD countries, expenditure on educational institutions amounts to 1.5% of GDP at the primary level and 1% at lower secondary level. However, the share of expenditure on educational institutions is strongly influenced by the demographic composition of the country, as well as the duration of each level of education. Countries with relatively low fertility rates are more likely to spend a smaller share of their wealth on primary and lower secondary education. Indeed, the countries where investment in primary education is 1% of GDP or lower also tend to be those with low birth rates (e.g. Austria, the Czech Republic, Germany, Hungary, Italy, Lithuania, and the Slovak Republic; Table C2.1). At upper secondary level, expenditure on educational institutions accounts for 0.5% of GDP in vocational programmes and 0.6% of GDP in general programmes on average across OECD countries. However, these figures vary widely between countries. Around one-third of countries with available data spend more on vocational programmes than on general programmes, with the largest differences found in the Czech Republic, Finland and the Netherlands (0.5 percentage points) (Table C2.1).

Tertiary education accounts for 1.4% of GDP on average. At this level, the various pathways and programmes available to students, the duration of programmes, the organisation of teaching, and research and development (R&D) activity all influence the level of expenditure. In 2017, Australia, Canada, Chile, Norway, the United Kingdom and the United States were the countries that spent the largest share of GDP on tertiary educational institutions (2-3%). Unsurprisingly, these countries also have some of the highest levels of expenditure from private sources of educational funding after public-to-private transfers have been accounted for (1.1-1.7% of GDP) (Table C2.2 and Figure C2.2).

R&D spending in tertiary educational institutions can represent a significant share of total spending at this level and is a function of how the structure for publicly funded research is organised as well as the infrastructure and facilities available. Expenditure levels tend to be higher in Australia, Finland, the Netherlands, Norway, Sweden and other OECD countries where most publicly funded R&D is performed by tertiary educational institutions than in countries where R&D is mostly performed in other institutions. If R&D activities are excluded, expenditure on tertiary educational institutions as a share of GDP decreases by 0.4 percentage points on average across OECD countries, although the difference is at least 0.7 percentage points in Denmark, Finland, Norway and Sweden (Table C2.1).

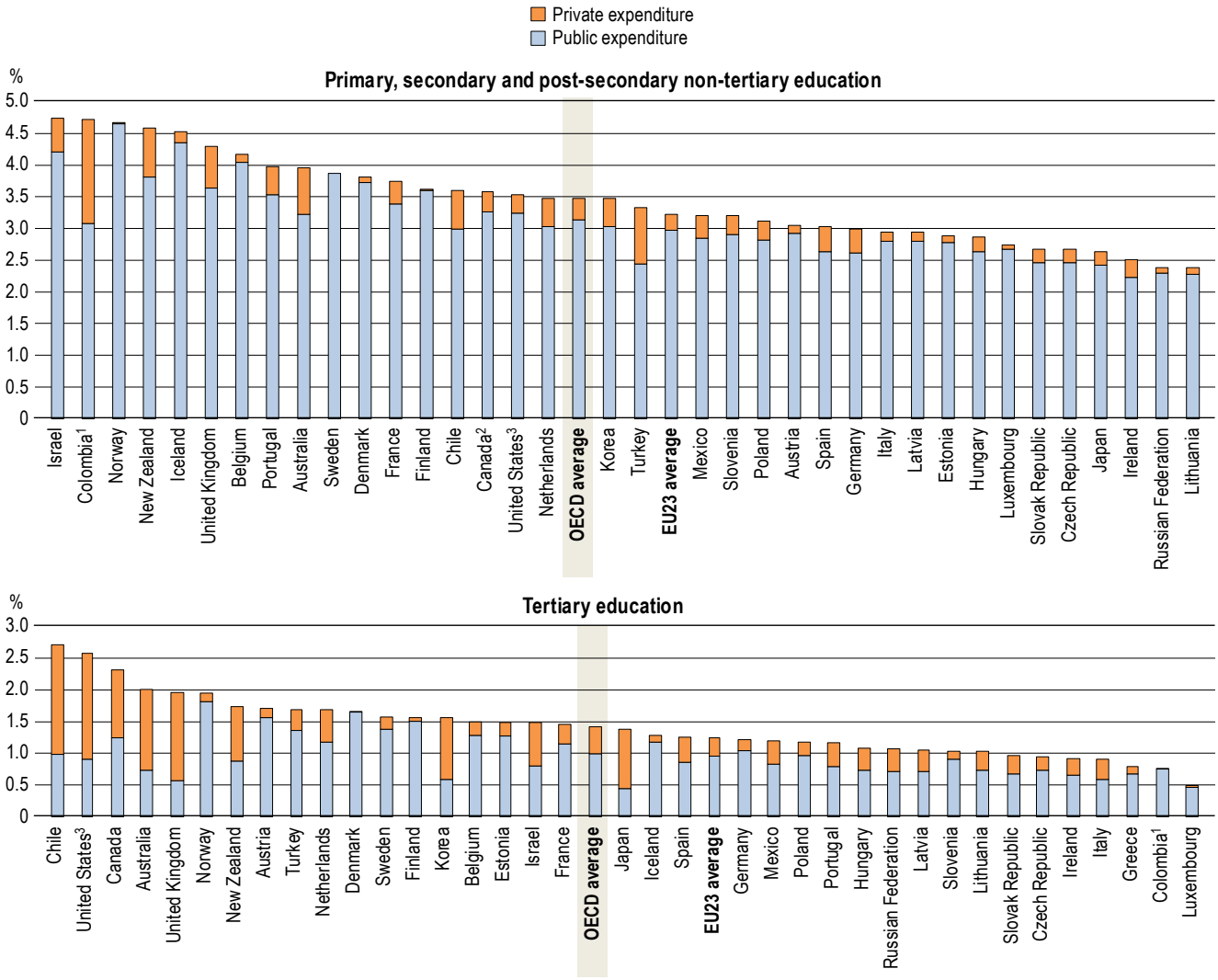
Expenditure on educational institutions by source of funds

Public spending remains the main source of educational funding in OECD countries. On average, public expenditure on educational institutions from primary to tertiary educational levels (after transfers to the private sector) accounts for 4.1% of GDP. However, large differences are observed across countries with available data. In the Czech Republic, Greece, Ireland, Japan, Lithuania, Luxembourg, the Slovak Republic and the Russian Federation, public investment represents around 2.8-

3.2% of GDP, while Belgium, Brazil, Costa Rica, Denmark, Finland, Iceland, Israel, Norway and Sweden devote around 5.0-6.4% of their GDP to direct public expenditure on educational institutions (Table C2.2).

Figure C2.2. Total expenditure on educational institutions as a percentage of GDP, by source of funds (2017)

After transfers; from public, private and international sources



Note: International expenditure is aggregated with public expenditure for display purposes.
1. Year of reference 2018.
2. Primary, secondary and post-secondary non-tertiary education includes pre-primary programmes.
3. Figures are for net student loans rather than gross, thereby underestimating public transfers.
Countries are ranked in descending order of total expenditure on educational institutions as a percentage of GDP.
Source: OECD/UIS/Eurostat (2020), Table C2.2. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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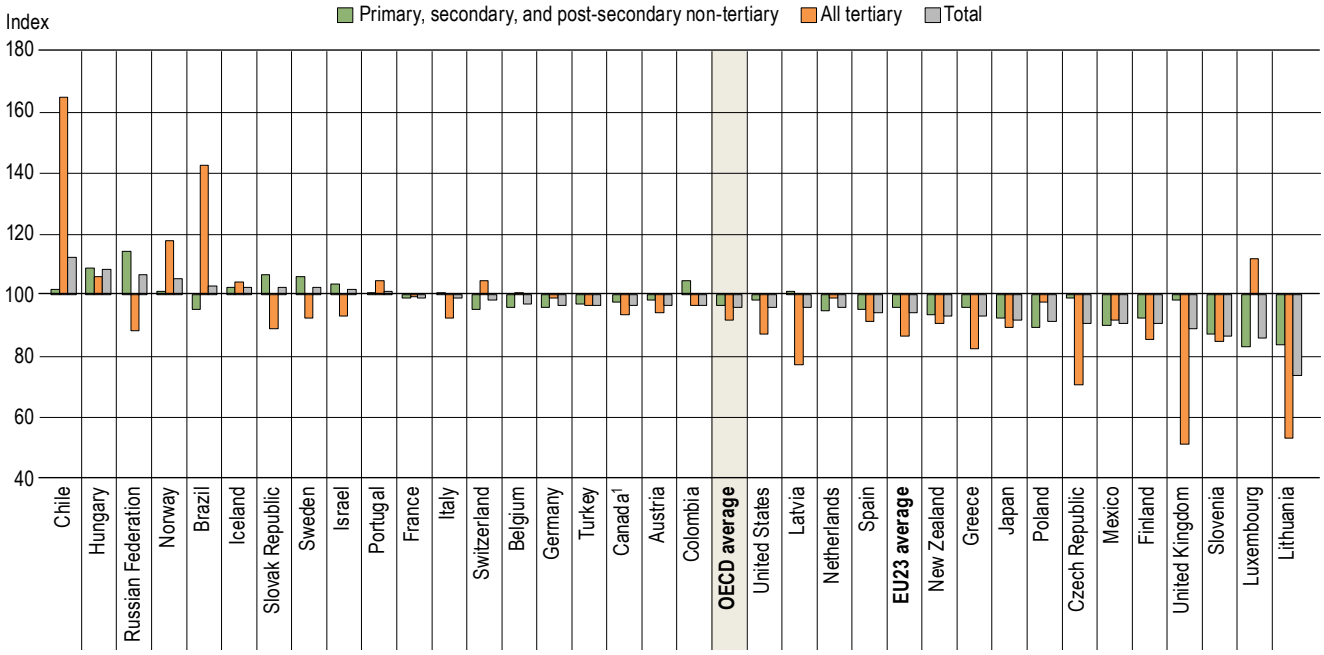
Public transfers to households (such as scholarships and loans to students for tuition and other fees) and subsidies to other private entities for education (e.g. to firms or labour organisations operating apprenticeship programmes) comprise 0.2% of GDP on average across OECD countries from primary to tertiary level. They account for 0.3% of GDP or more in Australia, Chile, Korea and New Zealand and reach 0.6% in the United Kingdom, mainly driven by public transfers at tertiary level (Table C2.2).

With public budgets tightening, many educational systems are turning increasingly towards the private sector for additional investment, particularly at tertiary level. After transfers, private sector expenditure on primary to tertiary educational institutions accounts for 0.8% of GDP on average. Countries nevertheless differ considerably in the contribution of private expenditure on educational institutions, ranging from 0.1% of GDP or less in Denmark, Finland and Luxembourg, to 2% or more in Australia, Chile, the United Kingdom and the United States (Figure C2.2).

At non-tertiary levels of education, private investment is low and accounts for 0.3% of GDP on average across OECD countries after public-to-private transfers. However, it amounts to at least 0.7% of GDP in Australia, Colombia, New Zealand, Turkey and the United Kingdom, the countries with the largest relative shares of private funding of non-tertiary education. At the tertiary level, private investment plays a more significant role, accounting for 0.4% of GDP after transfers on average. In some countries, private sources contribute a larger share of the GDP even before public transfers to households are taken into account. Countries such as Australia, Chile, Korea, New Zealand and the United Kingdom devote 0.6% of GDP or more in private spending before transfers. After public transfers are taken into account, private investment represents more than 1% of the GDP in these countries. In Chile and the United States, it amounts to 1.7% of GDP, the highest among OECD countries (Table C2.2 and Figure C2.2).

Figure C2.3. Index of change in public expenditure on educational institutions as a percentage of GDP (2012 and 2017)

Final source of funds, by level of education, (reference year 2012 = 100)



1. Primary, secondary and post-secondary non-tertiary education includes pre-primary programmes.
Countries are ranked in descending order of the index of change in public expenditure on educational institutions as a percentage of GDP.
Source: OECD/UIS/Eurostat (2020), Table C2.4, available on line. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934164560

Changes in educational expenditure between 2012 and 2017

Between 2012 and 2017, OECD countries have increased public expenditure on educational institutions across all levels of education, but at a slower pace than average GDP growth (Table C2.4, available on line, and Figure C2.3). This pattern also holds when private sources are included in the equation. On average, total expenditure from all sources on primary to tertiary educational institutions increased by 6.6% between 2012 and 2017, but since GDP grew at a higher pace (13.1%) total expenditure as a percentage of GDP fell by 5.2% (Table C2.3). More than two-thirds of OECD and partner countries with

available data experienced a reduction in the total expenditure on educational institutions as a share of GDP. Colombia, the Czech Republic, Ireland, Lithuania, Luxembourg, Mexico and Slovenia were among the countries with the largest negative adjustments; all them saw increases in GDP of over 10% over that period combined with reductions in total expenditure on educational institutions. In contrast, Norway was the major exception, with an increase of 17% in total expenditure on educational institutions outstripping its significant increase in GDP (Table C2.3)

Spending on the various levels of education evolved similarly between 2012 and 2017. Expenditure on educational institutions at the non-tertiary levels decreased by 3.9% relative to GDP. However, this average masks significant changes in some countries. In Sweden and the Russian Federation, for example, expenditure on non-tertiary education as a share of GDP increased by at least 6% over this period. Over the same period, Lithuania, Luxembourg, Mexico, Portugal and Slovenia experienced some of the largest decreases in the share of expenditure on these educational levels (over 11%), mainly explained by a decrease in public expenditure (Table C2.3).

At the tertiary level, about one-fifth of countries with available data increased their investment in tertiary education relative to GDP between 2012 and 2017, even though their spending at non-tertiary levels declined or remained fairly stable. Clear examples of this trend are Chile, Luxembourg and the United Kingdom, which increased the share of GDP invested in tertiary educational institutions by over 10% but reduced the share invested in non-tertiary educational institutions by at least 2% during this period (Table C2.3).

Definitions

Expenditure on educational institutions refers to public, private and international expenditure on entities that provide instructional services to individuals or education-related services to individuals and other educational institutions (schools, universities and other public and private institutions).

Initial public spending includes both direct public expenditure on educational institutions and transfers to the private sector and excludes transfers from the international sector. **Initial private spending** includes tuition fees and other student or household payments to educational institutions, minus the portion of such payments offset by public subsidies. **Initial international spending** includes both direct international expenditure for educational institutions (for example a research grant from a foreign corporation to a public university) and international transfers to governments.

Final public spending includes direct public purchases of educational resources and payments to educational institutions. **Final private spending** includes all direct expenditure on educational institutions (tuition fees and other private payments to educational institutions), whether partially covered by public subsidies or not. Private spending also includes expenditure by private companies on the work-based element of school- and work-based training of apprentices and students. **Final international spending** includes direct international payments to educational institutions such as research grants or other funds from international sources paid directly to educational institutions.

Public subsidies to households and other private entities for educational institutions include public and international transfers, such as scholarships and other financial aid to students, plus certain subsidies to other private entities. Therefore, they are composed of government transfers and certain other payments to households, insofar as these translate into payments to educational institutions for educational services (for example, fellowships, financial aid or student loans for tuition). They also include government transfers and some other payments (mainly subsidies) to other private entities, including subsidies to firms or labour organisations that operate apprenticeship programmes and interest subsidies to private financial institutions that provide student loans, etc.

Direct public expenditure on educational institutions can take the form of either purchases by the government agency itself of educational resources to be used by educational institutions or payments by the government agency to educational institutions that have responsibility for purchasing educational resources.

Direct private (from households and other private entities) expenditure on educational institutions includes tuition fees and other private payments to educational institutions, whether partially covered by public subsidies or not.

Methodology

Expenditure on educational institutions as a percentage of GDP at a particular level of education is calculated by dividing total expenditure on educational institutions at that level by GDP. Expenditure and GDP values in national currency are converted into equivalent USD by dividing the national currency figure by the purchasing power parity (PPP) index for GDP. The PPP conversion factor is used because the market exchange rate is affected by many factors (interest rates, trade policies, expectations of economic growth, etc.) that have little to do with current relative domestic purchasing power in different OECD countries (see Annex 2 for further details).

All entities that provide funds for education are classified as either governmental (public) sources, non-governmental (private) sources or international sources, such as international agencies and other foreign sources. The figures presented here group together public and international expenditure for display purposes. As the share of international expenditure is relatively small compared to other sources, its integration into public sources does not affect the analysis of the share of public spending.

Not all spending on instructional goods and services occurs within educational institutions. For example, families may purchase commercial textbooks and materials or seek private tutoring for their children outside educational institutions. At the tertiary level, students' living expenses and foregone earnings can also account for a significant proportion of the costs of education. All expenditure outside educational institutions, even if publicly subsidised, is excluded from this indicator. Public subsidies for educational expenditure outside institutions are discussed in Indicators C4 and C5.

A portion of the budgets of educational institutions is related to ancillary services offered to students, including student welfare services (student meals, housing and transport). Part of the cost of these services is covered by fees collected from students and is included in the indicator.

Expenditure on educational institutions is calculated on a cash-accounting basis and, as such, represents a snapshot of expenditure in the reference year. Many countries operate a loan payment/repayment system at the tertiary level. While public loan payments are taken into account, loan repayments from private individuals are not, and so the private contribution to education costs may be under-represented.

For more information please see the *OECD Handbook for Internationally Comparative Education Statistics 2018* (OECD, 2018[1]) and Annex 3 for country-specific notes (https://doi.org/10.1787/69096873-en).

Source

Data refer to the financial year 2017 (unless otherwise specified) and are based on the UNESCO, OECD and Eurostat (UOE) data collection on education statistics administered by the OECD in 2019 (for details see Annex 3 at https://doi.org/10.1787/69096873-en). Data from Argentina, the People's Republic of China, India, Indonesia, Saudi Arabia and South Africa are from the UNESCO Institute of Statistics (UIS).

The data on expenditure for 2005 and 2012 to 2017 were updated based on a survey in 2019-20, and expenditure figures for 2005 to 2017 were adjusted to the methods and definitions used in the current UOE data collection.

References

OECD (2018), *OECD Handbook for Internationally Comparative Education Statistics 2018*, OECD Publishing, Paris, https://doi.org/10.1787/9789264304444-en (accessed on 16 April 2020). [1]

Indicator C2 Tables

Table C2.1 Total expenditure on educational institutions as a percentage of GDP (2017)

Table C2.2 Total expenditure on educational institutions as a percentage of GDP, by source of funds (2017)

Table C2.3 Index of change in total expenditure on educational institutions as a percentage of GDP (2005, 2012 and 2017)

WEB Table C2.4 *Index of change in public expenditure on educational institutions as a percentage of GDP (2005, 2012 and 2017)*

Cut-off date for the data: 19 July 2020. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en. More breakdowns can also be found at http://stats.oecd.org/, Education at a Glance Database.

StatLink: https://doi.org/10.1787/888934164446

Table C2.1. Total expenditure on educational institutions as a percentage of GDP (2017)

Direct expenditure within educational institutions, by level of education

		Primary	Secondary					Post-secondary non-tertiary	Primary, secondary and post-secondary non-tertiary	Tertiary				Primary to tertiary	Primary to tertiary (excluding R&D)
			Lower secondary	Upper secondary			All secondary			Short-cycle tertiary	Long-cycle tertiary	All tertiary	All tertiary (excluding R&D)		
				General programmes	Vocational programmes	All programmes									
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
OECD	**Countries**														
	Australia	1.8	1.3	0.6	0.2	0.8	2.0	0.1	4.0	0.2	1.8	2.0	1.4	6.0	5.4
	Austria	0.9	1.2	0.3	0.6	0.9	2.1	0.0	3.1	0.3	1.5	1.7	1.2	4.8	4.3
	Belgium	1.6	0.9	0.7 d	1.0 d	1.7 d	2.6 d	x(3, 4, 5, 6)	4.2	0.0	1.5	1.5	1.0	5.7	5.1
	Canada[1, 2]	2.2 d	x(1)	x(5)	x(5)	1.4	1.4	m	3.6 d	0.6	1.7	2.3	m	5.9 d	m
	Chile	1.8	0.6	0.9	0.3	1.2	1.8	a	3.6	0.4	2.3	2.7	2.6	6.3	6.2
	Colombia[2, 3]	2.0	2.1	x(5)	x(5)	0.6	2.7	m	4.7	x(11)	x(11)	0.8	0.4	5.5	5.1
	Costa Rica[3]	m	m	m	m	m	m	a	m	m	m	m	m	m	m
	Czech Republic	0.8	1.0	0.2	0.7	0.9	1.8	0.0	2.7	0.0	0.9	0.9	0.6	3.6	3.3
	Denmark	2.0	1.0	x(5)	x(5)	0.9	1.8	a	3.8	0.2	1.5	1.7	0.8	5.5	4.6
	Estonia	1.5	0.7	0.4	0.3	0.7	1.3	0.1	2.9	a	1.5	1.5	1.0	4.4	3.9
	Finland	1.3	1.1	0.3	0.9 d	1.2 d	2.3 d	x(4, 5, 6)	3.6	a	1.6	1.6	0.9	5.2	4.5
	France	1.2	1.3	0.8	0.5	1.2	2.5	0.0	3.7	0.3	1.1	1.5	1.0	5.2	4.7
	Germany	0.7	1.2	0.4	0.5	0.9	2.1	0.2	3.0	0.0	1.2	1.2	0.7	4.2	3.7
	Greece	1.3	0.7	0.5	0.3	0.7	1.4	m	m	a	0.8	0.8	0.5	m	m
	Hungary	0.7	0.7	0.7	0.4	1.1	1.8	0.3	2.9	0.0	1.1	1.1	0.9	3.9	3.8
	Iceland	2.2	1.0	0.8	0.4	1.2	2.2	0.1	4.5	0.0	1.3	1.3	m	5.8	m
	Ireland	1.2	0.6	x(5)	x(5)	0.5	1.1	0.2	2.5	x(11)	x(11)	0.9	0.9	3.4	3.4
	Israel	2.5	x(3, 4, 5)	1.4 d	0.9 d	2.2 d	2.2	0.0	4.7	0.2	1.3	1.5	1.0	6.2	5.7
	Italy	1.0	0.7	x(5)	x(5)	1.2 d	1.9 d	x(5, 6)	3.0	0.0	0.9	0.9	0.6	3.9	3.6
	Japan	1.1	0.7	x(5)	x(5)	0.8 d	1.5 d	x(5, 6, 9, 10, 11)	2.6	0.2 d	1.2 d	1.4 d	m	4.0	m
	Korea	1.5	0.8	x(5)	x(5)	1.1	2.0	a	3.5	0.2	1.4	1.6	1.2	5.0	4.7
	Latvia	1.4	0.7	0.5	0.4	0.8	1.5	0.1	2.9	0.1	0.9	1.1	0.8	4.0	3.8
	Lithuania	0.8	1.0	0.3	0.1	0.4	1.5	0.1	2.4	a	1.0	1.0	0.8	3.4	3.2
	Luxembourg	1.1	0.8	0.3	0.5	0.9	1.6	0.0	2.7	0.0	0.5	0.5	0.3	3.2	3.1
	Mexico	1.6	0.8	0.5	0.3	0.8	1.6	a	3.2	x(11)	x(11)	1.2	1.0	4.4	4.2
	Netherlands	1.2	1.2	0.3	0.8	1.2	2.3	a	3.5	0.0	1.7	1.7	1.1	5.2	4.6
	New Zealand	1.8	1.3	1.0	0.3	1.4	2.7	0.1	4.6	0.2	1.5	1.7	1.4	6.3	6.0
	Norway	2.2	1.0	0.8	0.7	1.5	2.4	0.0	4.7	0.0	1.9	2.0	1.1	6.6	5.8
	Poland	1.6	0.7	0.3	0.5	0.8	1.5	0.0	3.1	0.0	1.2	1.2	0.9	4.3	4.0
	Portugal	1.6	1.2	x(5)	x(5)	1.2 d	2.4 d	x(5, 6)	4.0	0.0	1.1	1.2	0.9	5.2	4.9
	Slovak Republic	0.9	0.9	0.3	0.6	0.8	1.7	0.0	2.7	0.0	0.9	1.0	0.7	3.6	3.4
	Slovenia	1.5	0.8	0.3	0.6	0.9	1.7	a	3.2	0.0	1.0	1.0	0.8	4.2	4.0
	Spain	1.3	0.8	0.6	0.3 d	0.9 d	1.7 d	x(4, 5, 6)	3.0	0.2	1.1	1.3	0.9	4.3	4.0
	Sweden	1.9	0.9	0.6	0.5	1.1	2.0	0.0	3.9	0.0	1.5	1.6	0.7	5.4	4.6
	Switzerland	m	m	x(5)	x(5)	1.3 d	m	x(5)	m	m	m	m	m	m	m
	Turkey	0.9	1.0	0.7	0.7	1.5	2.4	a	3.3	x(11)	x(11)	1.7	1.4	5.0	4.7
	United Kingdom	1.9	1.0	0.9	0.5	1.4	2.4	a	4.3	0.1	1.8	2.0	1.6	6.3	5.9
	United States	1.7	0.9	x(5)	x(5)	1.0	1.9	0.0	3.6	x(11)	x(11)	2.6	2.3	6.1	5.8
	OECD average	1.5	1.0	0.6	0.5	1.1	1.9	m	3.5	0.1	1.3	1.4	1.0	4.9	4.5
	EU23 average	1.3	0.9	0.5	0.5	1.0	1.9	m	3.2	0.1	1.2	1.2	0.9	4.5	4.1
Partners	**Argentina**	m	m	m	m	m	m	a	m	m	m	m	m	m	m
	Brazil	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia[3]	m	m	m	m	m	m	a	m	m	m	m	m	m	m
	Russian Federation	x(3, 4, 5, 6)	x(3, 4, 5, 6)	2.3 d	0.1 d	2.4 d	2.4 d	x(3, 4, 5, 6)	2.4	0.2	0.9	1.1	1.0	3.4	3.3
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See *Definitions* and *Methodology* sections for more information. Data and more breakdowns available at http://stats.oecd.org/, Education at a Glance Database.

1. Primary education includes pre-primary programmes.
2. Post-secondary non-tertiary figures are treated as negligible.
3. Year of reference 2018.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table C2.2. Total expenditure on educational institutions as a percentage of GDP, by source of funds (2017)

Direct expenditure within educational institutions, by level of education

		Primary, secondary and post-secondary non-tertiary						Tertiary						Primary to tertiary					
		Initial funds (before transfers between public and private sectors)			Final funds (after transfers between public and private sectors)			Initial funds (before transfers between public and private sectors)			Final funds (after transfers between public and private sectors)			Initial funds (before transfers between public and private sectors)			Final funds (after transfers between public and private sectors)		
		Public	Private	International	Public	Private	International	Public	Private	International	Public	Private	International	Public	Private	International	Public	Private	International
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
OECD	**Countries**																		
	Australia	3.3	0.7	0.0	3.2	0.7	0.0	1.1	0.9 d	x(8)	0.7	1.3 d	x(11)	4.4	1.6 d	x(14)	3.9	2.0 d	x(17)
	Austria	3.0	0.1	a	2.9	0.1	a	1.6	0.1	a	1.6	0.2	a	4.5	0.2	a	4.5	0.3	a
	Belgium	4.1	0.1	0.0	4.0	0.1	0.0	1.3	0.2	0.1	1.2	0.2	0.0	5.4	0.2	0.1	5.2	0.4	0.1
	Canada 1	m	m	m	3.3 d	0.3 d	x(5)	m	m	m	1.2	1.1 d	x(11)	m	m	m	4.5 d	1.4 d	x(17)
	Chile	3.0	0.6	a	3.0	0.6	a	1.2	1.5	a	1.0	1.7	a	4.2	2.1	a	4.0	2.4	a
	Colombia 2	m	m	0.0	3.1	1.6	0.0	m	m	0.0	0.8	0.0	0.0	m	m	0.0	3.8	1.6	0.0
	Costa Rica 2	m	m	m	4.0	m	m	m	m	m	1.6	m	m	m	m	m	5.6	m	m
	Czech Republic	2.5	0.2	0.0	2.5	0.2	0.0	0.7	0.2	0.0	0.7	0.2	0.0	3.2	0.4	0.0	3.2	0.4	0.0
	Denmark	3.7	0.1	0.0	3.7	0.1	0.0	1.6	0.0	0.0	1.6	0.0	0.0	5.4	0.1	0.0	5.4	0.1	0.0
	Estonia	2.5	0.1	0.2	2.8	0.1	0.0	0.9	0.2	0.3	1.1	0.2	0.2	3.5	0.3	0.6	3.8	0.3	0.2
	Finland	3.6	0.0	0.0	3.6	0.0	0.0	1.4	0.1	0.1	1.4	0.1	0.1	5.0	0.1	0.1	5.0	0.1	0.1
	France	3.5	0.3	0.0	3.4	0.3	0.0	1.2	0.3	0.0	1.1	0.3	0.0	4.6	0.5	0.0	4.5	0.7	0.0
	Germany	m	m	m	2.6	0.4	0.0	m	m	m	1.0	0.2	0.0	m	m	m	3.6	0.6	0.0
	Greece	m	m	0.0	2.5	m	0.0	0.6	0.1	0.1	0.6	0.1	0.1	m	m	0.1	3.1	m	0.1
	Hungary	m	m	0.0	2.6	0.2	0.0	m	m	0.0	0.7	0.4	0.0	m	m	0.0	3.3	0.6	0.0
	Iceland	4.4	0.2	0.0	4.4	0.2	0.0	1.2	0.1	0.0	1.2	0.1	0.0	5.5	0.3	0.0	5.5	0.3	0.0
	Ireland	2.2	0.3	0.0	2.2	0.3	0.0	0.8	0.1	0.0	0.6	0.3	0.0	3.0	0.3	0.0	2.8	0.5	0.0
	Israel	4.3	0.5	0.0	4.2	0.5	0.0	m	m	0.0	0.8	0.7	0.0	m	m	0.0	5.0	1.2	0.0
	Italy	2.8	0.2	0.0	2.8	0.2	0.0	0.7	0.2	0.0	0.6	0.3	0.0	3.4	0.4	0.1	3.3	0.5	0.1
	Japan	m	m	0.0	2.4	0.2	0.0	m	m	0.0 d	0.4 d	1.0 d	0.0 d	m	m	0.0	2.9	1.2	0.0
	Korea	3.1	0.4 d	x(2)	3.0	0.4 d	x(5)	0.8	0.7 d	x(8)	0.6	1.0 d	x(11)	3.9	1.1 d	x(14)	3.6	1.4 d	x(17)
	Latvia	m	m	0.1	2.8	0.1	0.0	m	m	0.1	0.6	0.3	0.1	m	m	0.2	3.4	0.5	0.1
	Lithuania	2.2	0.1	0.0	2.3	0.1	0.0	0.6	0.3	0.1	0.7	0.3	0.1	2.8	0.4	0.2	2.9	0.4	0.1
	Luxembourg	2.6	0.1	0.1	2.6	0.1	0.1	0.4	0.0	0.0	0.4	0.0	0.0	3.0	0.1	0.1	3.0	0.1	0.1
	Mexico	2.9	0.3	0.0	2.8	0.4	0.0	0.9	0.3	0.0	0.8	0.4	0.0	3.7	0.7	0.0	3.7	0.7	0.0
	Netherlands	m	m	0.0	3.0	0.4	0.0	m	m	0.1	1.1	0.5	0.1	m	m	0.1	4.2	0.9	0.1
	New Zealand	3.9	0.7	0.0	3.8	0.8	0.0	1.1	0.6	0.0	0.9	0.9	0.0	5.0	1.3	0.0	4.7	1.6	0.0
	Norway	4.7	0.0	0.0	4.7	0.0	0.0	1.8	0.1	0.0	1.8	0.1	0.0	6.5	0.1	0.0	6.4	0.2	0.0
	Poland	2.7	0.3	0.1	2.8	0.3	0.1	1.1	0.1	0.0	1.0	0.2	0.0	3.8	0.4	0.1	3.7	0.5	0.1
	Portugal	3.5	0.4	0.0	3.5	0.4	0.0	0.7	0.4	0.1	0.7	0.4	0.1	4.2	0.8	0.1	4.2	0.8	0.1
	Slovak Republic	2.5	0.1	0.0	2.5	0.2	0.0	0.6	0.2	0.1	0.7	0.3	0.0	3.1	0.4	0.1	3.1	0.5	0.0
	Slovenia	2.9	0.3	0.0	2.9	0.3	0.0	0.8	0.1	0.1	0.9	0.1	0.0	3.7	0.4	0.1	3.8	0.4	0.1
	Spain	2.6	0.4	0.0	2.6	0.4	0.0	0.9	0.4	0.0	0.8	0.4	0.0	3.5	0.8	0.0	3.5	0.8	0.0
	Sweden	3.9	a	a	3.9	a	a	1.3	0.2	0.1	1.3	0.2	0.1	5.2	0.2	0.1	5.2	0.2	0.1
	Switzerland	3.2	m	0.0	3.2	m	0.0	1.3	m	0.0	1.3	m	0.0	4.6	m	0.0	4.5	m	0.0
	Turkey	2.4	0.9	0.0	2.4	0.9	0.0	1.3	0.3	0.0	1.3	0.3	0.0	3.8	1.2	0.0	3.8	1.2	0.0
	United Kingdom	3.7	0.6	0.0	3.6	0.7	0.0	1.0	0.9	0.1	0.5	1.4	0.1	4.7	1.5	0.1	4.1	2.1	0.1
	United States 3	m	m	a	3.2	0.3	a	m	m	a	0.9	1.7	a	m	m	a	4.2	2.0	a
	OECD average	3.2	0.3	0.0	3.1	0.3	0.0	1.0	0.3	0.1	1.0	0.4	0.0	4.2	0.6	0.1	4.1	0.8	0.0
	EU23 average	3.0	0.2	0.0	3.0	0.3	0.0	1.0	0.2	0.1	0.9	0.3	0.1	4.0	0.4	0.1	3.9	0.6	0.1
Partners	Argentina	m	m	m	3.7	m	a	m	m	m	1.2	m	a	m	m	m	4.9	m	a
	Brazil	m	m	m	4.0	m	m	m	m	m	1.1	m	m	m	m	m	5.1	m	m
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia 2	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	m	m	m	2.3	0.1	0.0	m	m	m	0.7	0.3	0.0	m	m	m	3.0	0.4	0.0
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	4.1	m	m	m	m	m	0.6	m	m	m	m	m	4.7	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: Some levels of education are included with others. Refer to "x" code in Table C2.1 for details. See *Definitions* and *Methodology* sections for more information. Data and more breakdowns available at http://stats.oecd.org/, Education at a Glance Database.

1. Primary, secondary and post-secondary non-tertiary education includes pre-primary programmes.
2. Year of reference 2018.
3. Figures are for net student loans rather than gross, thereby underestimating public transfers.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table C2.3. Index of change in total expenditure on educational institutions as a percentage of GDP (2005, 2012 and 2017)

GDP deflator 2015 = 100, constant prices, by level of education

		Primary, secondary and post-secondary non-tertiary			Tertiary			Primary to tertiary						GDP		
		Change in total expenditure on educational institutions as a percentage of GDP (2015 = 100)			Change in total expenditure on educational institutions as a percentage of GDP (2015 = 100)			Change in total expenditure on educational institutions (2015 = 100)			Change in total expenditure on educational institutions as a percentage of GDP (2015 = 100)			Change in GDP (2015 = 100)		
		2005	2012	2017	2005	2012	2017	2005	2012	2017	2005	2012	2017	2005	2012	2017
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD	Countries															
	Australia	m	m	101.4	m	m	99.0	m	m	104.7	m	m	100.6	73.7	92.6	104.1
	Austria	m	100.0	98.1	m	100.2	98.1	m	98.4	102.6	m	100.1	98.1	88.9	98.3	104.6
	Belgium	97.3	103.4	99.4	84.6	96.8	102.9	81.9	97.6	103.8	94.1	101.7	100.3	87.1	96.0	103.5
	Canada[1]	98.1 [d]	103.0 [d]	101.8 [d]	99.1	104.0	94.0	79.7 [d]	95.3 [d]	98.4 [d]	98.5 [d]	103.4 [d]	98.6 [d]	80.9	92.2	99.8
	Chile	114.2	118.4	114.3	95.3	121.5	134.8	73.4	110.4	125.9	106.8	119.6	122.3	68.7	92.3	103.0
	Colombia	m	97.2	99.3	m	108.2	95.7	m	96.0	99.0	m	108.2	95.7	63.9	88.7	103.5
	Costa Rica	m	m	m	m	m	m	m	m	m	m	m	m	66.1	91.2	107.8
	Czech Republic	104.4	104.0	101.4	82.5	124.4	81.8	79.7	102.4	102.1	97.7	110.2	95.5	81.6	92.9	106.9
	Denmark	m	m	m	m	m	m	m	m	m	m	m	m	92.8	95.3	105.3
	Estonia	117.9	109.1	100.0	65.4	91.0	85.8	84.7	96.3	102.7	98.2	102.4	94.7	86.3	94.1	108.5
	Finland	93.1	98.7	91.5	96.6	107.4	91.6	89.6	102.1	96.8	94.2	101.3	91.5	95.1	100.7	105.8
	France	103.9	101.4	100.3	88.7	98.7	99.6	90.9	98.0	103.4	99.6	100.6	100.1	91.2	97.4	103.4
	Germany	109.5	104.5	99.4	83.9	99.7	99.5	88.3	98.7	104.2	102.1	103.1	99.5	86.5	95.7	104.8
	Greece	96.3	101.5	m	148.3	91.5	80.8	136.4	101.9	m	109.7	98.9	m	124.4	103.0	101.3
	Hungary	118.5	90.7	100.6	124.2	141.9	124.7	109.4	93.1	113.3	119.8	102.7	106.2	91.3	90.6	106.6
	Iceland	117.3	100.7	102.3	95.8	104.2	102.7	92.7	91.1	114.0	112.6	101.4	102.4	82.3	89.8	111.3
	Ireland	m	m	96.8	m	m	90.4	m	m	106.5	m	m	95.0	70.7	72.6	112.1
	Israel	83.5	101.5	105.6	110.2	116.3	102.7	61.2	94.9	112.9	90.0	105.1	104.9	68.0	90.3	107.7
	Italy	99.9	98.4	98.3	91.3	101.7	97.4	102.8	100.3	101.1	97.9	99.2	98.1	105.0	101.1	103.0
	Japan	99.0	103.0	95.0	100.0 [d]	103.6 [d]	96.8 [d]	96.0	101.5	99.3	99.4	103.2	95.6	96.7	98.4	103.8
	Korea	m	m	m	m	m	91.0	m	m	m	m	m	m	69.7	91.4	106.2
	Latvia	99.1	85.3	88.6	93.7	91.1	70.4	83.8	80.9	87.6	97.4	87.1	82.9	86.1	92.9	105.6
	Lithuania	m	114.0	97.3	89.3	115.7	68.7	m	104.8	92.4	m	114.6	86.4	78.5	91.4	106.9
	Luxembourg	m	112.0	93.3	m	79.5	92.5	m	95.0	99.2	m	107.1	93.1	76.9	88.7	106.5
	Mexico	99.2	99.0	83.1	81.2	92.3	84.4	75.8	90.3	87.7	94.4	97.2	83.4	80.3	92.9	105.1
	Netherlands	98.6	103.2	96.7	84.3	97.4	98.7	84.5	98.1	102.4	94.0	101.3	97.4	90.0	96.8	105.2
	New Zealand	m	104.2	97.1	m	102.1	94.9	m	96.2	102.1	m	103.6	96.5	79.8	92.8	105.9
	Norway	105.2	99.2	100.7	m	90.6	112.0	m	91.3	106.8	m	96.8	103.8	78.9	94.3	102.9
	Poland	114.8	106.3	96.3	114.4	96.0	86.2	78.3	94.9	100.9	114.7	103.2	93.3	68.3	91.9	108.2
	Portugal	90.6	114.4	101.3	98.5 [d]	104.3 [d]	91.0 [d]	93.7	110.1	104.3	92.6	111.9	98.7	101.3	98.4	105.6
	Slovak Republic	99.0	92.9	94.9	57.3	65.4	61.7	58.4	76.6	87.4	84.2	83.1	83.1	69.3	92.2	105.2
	Slovenia	125.9	112.3	97.7	122.3	116.8	99.9	111.7	109.1	106.2	125.1	113.4	98.2	89.3	96.2	108.1
	Spain	92.4	101.4	98.5	85.1	98.9	97.6	86.1	97.0	104.1	90.2	100.7	98.2	95.5	96.4	106.0
	Sweden	110.7	101.5	107.3	96.3	104.0	98.0	87.2	94.3	109.5	106.3	102.3	104.4	82.0	92.2	104.9
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	82.7	94.6	103.6
	Turkey	m	101.1	100.4	m	104.5	94.1	m	84.5	108.9	m	102.3	98.2	60.5	82.6	110.9
	United Kingdom	93.4	99.5	97.1	m	93.0	103.1	m	90.8	102.0	m	97.6	98.9	86.5	93.1	103.2
	United States	108.3	103.6	101.6	95.0	107.6	100.9	86.9	97.9	105.2	102.7	105.3	101.3	84.6	93.0	103.9
	OECD average	103.5	102.7	98.7	95.3	102.2	94.9	88.1	96.6	102.9	100.9	102.8	97.5	83.2	93.3	105.5
	EU23 average	103.6	102.6	97.8	94.8	100.7	91.8	91.0	97.2	101.5	101.0	102.0	95.9	88.0	94.3	105.7
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m	73.2	97.5	100.5
	Brazil	m	m	m	m	m	m	m	m	m	m	m	m	75.9	100.1	98.2
	China	m	m	m	m	m	m	m	m	m	m	m	m	40.1	80.9	113.9
	India	m	m	m	m	m	m	m	m	m	m	m	m	48.3	80.9	113.8
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m	57.7	86.0	110.4
	Russian Federation	90.0	107.5	122.7	64.2	110.5	92.6	62.4	108.4	113.7	80.4	108.6	111.5	77.6	99.8	102.0
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	58.6	90.2	100.9
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	77.0	94.7	101.8
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	74.9	92.7	104.7

Note: See *Definitions* and *Methodology* sections for more information. Data and more breakdowns available at http://stats.oecd.org/, Education at a Glance Database.

1. Primary, secondary and post-secondary non-tertiary education includes pre-primary programmes.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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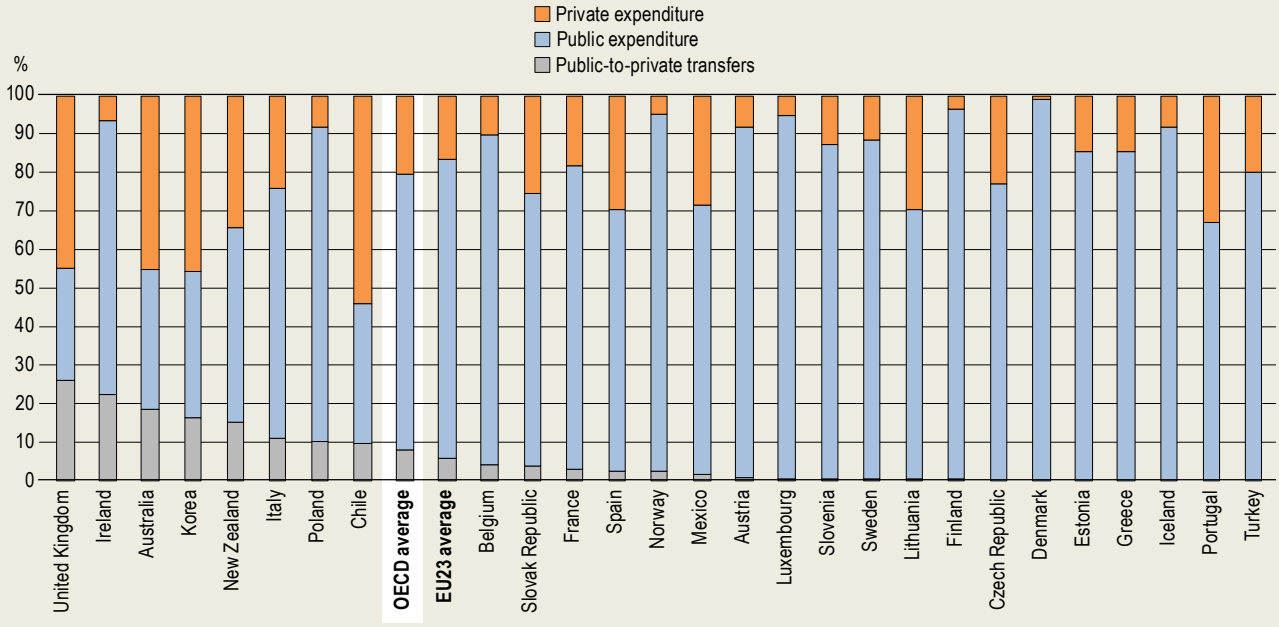
Indicator C3. How much public and private investment in educational institutions is there?

Highlights

- On average across OECD countries, public funds account for a larger share of total spending at primary, secondary and post-secondary non-tertiary level (90%) than at the tertiary level of education (68%).
- The share of private spending on tertiary educational institutions depends mostly on the tuition fees charged to students. More than 60% of total expenditure is privately sourced in Australia, Chile, Japan, Korea, the United Kingdom and the United States.
- Public-to-private transfers for tertiary education provide financial support to the private sector and represents 8% of total spending on tertiary institutions on average across OECD countries. However, they reach or exceed 15% of spending in Australia, Ireland, Korea, New Zealand and the United Kingdom.

Figure C3.1. Distribution of transfers and public and private expenditure on educational institutions (2017)

Tertiary educational levels



Note: International expenditure is aggregated with public expenditure for display purposes.
Countries are ranked in descending order of the proportion of public-to-private transfers.
Source: OECD/UIS/Eurostat (2020), Table C3.2. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Context

Today, more people than ever before are participating in a wide range of educational programmes offered by an increasing number of providers. In the current economic environment, many governments are finding it difficult to provide the necessary resources to support this increased demand for education through public funds alone. In addition, some policy makers assert that those who benefit the most from education – the individuals who receive it – should bear at least some of the costs. While public funding still represents a large part of countries' investment in education, private sources of funding play an increasingly prominent role at some educational levels.

Public sources dominate much of the funding of non-tertiary education, which is usually compulsory in most countries. Across OECD countries, the balance between public and private financing varies most at the pre-primary (see Indicator C2) and tertiary levels of education, where full or nearly full public funding is less common. At these levels, private funding comes mainly from households, raising concerns about equity in access to education. The debate is particularly intense over funding for tertiary education. Some stakeholders are concerned that the balance between public and private funding might discourage potential students from entering tertiary education. Others believe that countries should significantly increase public support to students such as student loans, while still others support efforts to increase the amount of funding to tertiary education provided by private enterprises. Student loans can reduce the barriers to education created by the need for direct private spending and reduce the cost to taxpayers of direct government spending. In particular, student loans transfer the cost of education in time from when students have little or no income before graduation to when they generally have a larger income after graduation.

This indicator examines the proportion of public, private and international funding allocated to educational institutions at different levels of education. It also breaks down private funding by households and other private entities. It sheds some light on the widely debated issue of how the financing of educational institutions should be shared between public and private entities, particularly at the tertiary level. Finally, it looks at the relative share of public transfers provided to private institutions and individual students and their families to meet the costs of tertiary education.

Other findings

- Households account for the largest share of private expenditure devoted to tertiary educational institutions (74% on average across OECD countries).
- Between 2012 and 2017, the share of expenditure coming from private sources on educational institutions from primary to tertiary level increased by 0.5 percentage point, while the share from public sources decreased by almost the same amount on average across OECD countries.
- The share of private expenditure on educational institutions varies across non-tertiary education levels. At the primary and lower secondary levels, around 7-9% of expenditure on educational institutions comes from private sources. This share reaches 13% at upper secondary level.

Analysis

Share of public and private expenditure on educational institutions

The largest share of funding on primary to tertiary educational institutions in OECD countries comes from public sources, although private funding at the tertiary level is substantial. Within this overall average, however, the share of public, private and international funding varies widely among countries.

In 2017, on average across OECD countries, 83% of the funding for primary to tertiary educational institutions came directly from public sources and 16% from private sources, being the remaining 1% from international sources (Table C3.1). However, there are many disparities across countries. In Denmark, Finland, Luxembourg, Norway and Sweden, private funds constitute 3% or less of expenditure on educational institutions. In contrast, they make up around one-third of educational expenditure in Australia, Chile, Colombia, Japan, Korea, the United Kingdom and the United States. International sources provide a very small share of total expenditure on educational institutions. On average across OECD countries, they account for 1% of total expenditure, reaching around 2% or more in Estonia, Latvia, Lithuania, Luxembourg, Poland and Portugal (Table C3.1).

Non-tertiary educational institutions

Public funding dominates non-tertiary education (primary, secondary and post-secondary non-tertiary) in all countries. In 2017, private funding accounts for 10% of expenditure at these levels of education on average across OECD countries, although it exceeds 20% in Colombia and Turkey. In most countries, the largest share of private expenditure at these levels comes from households and goes mainly towards tuition fees (Table C3.1 and Figure C3.2).

The share of private expenditure on educational institutions varies across countries and according to the level of education. At the primary level, 7% of expenditure on educational institutions comes from private sources on average across OECD countries. However in Norway and Sweden, all educational funding of primary institutions is public, while in Chile, Colombia, Spain and Turkey, more than 15% of funds come from private sources (OECD, 2019[1]).

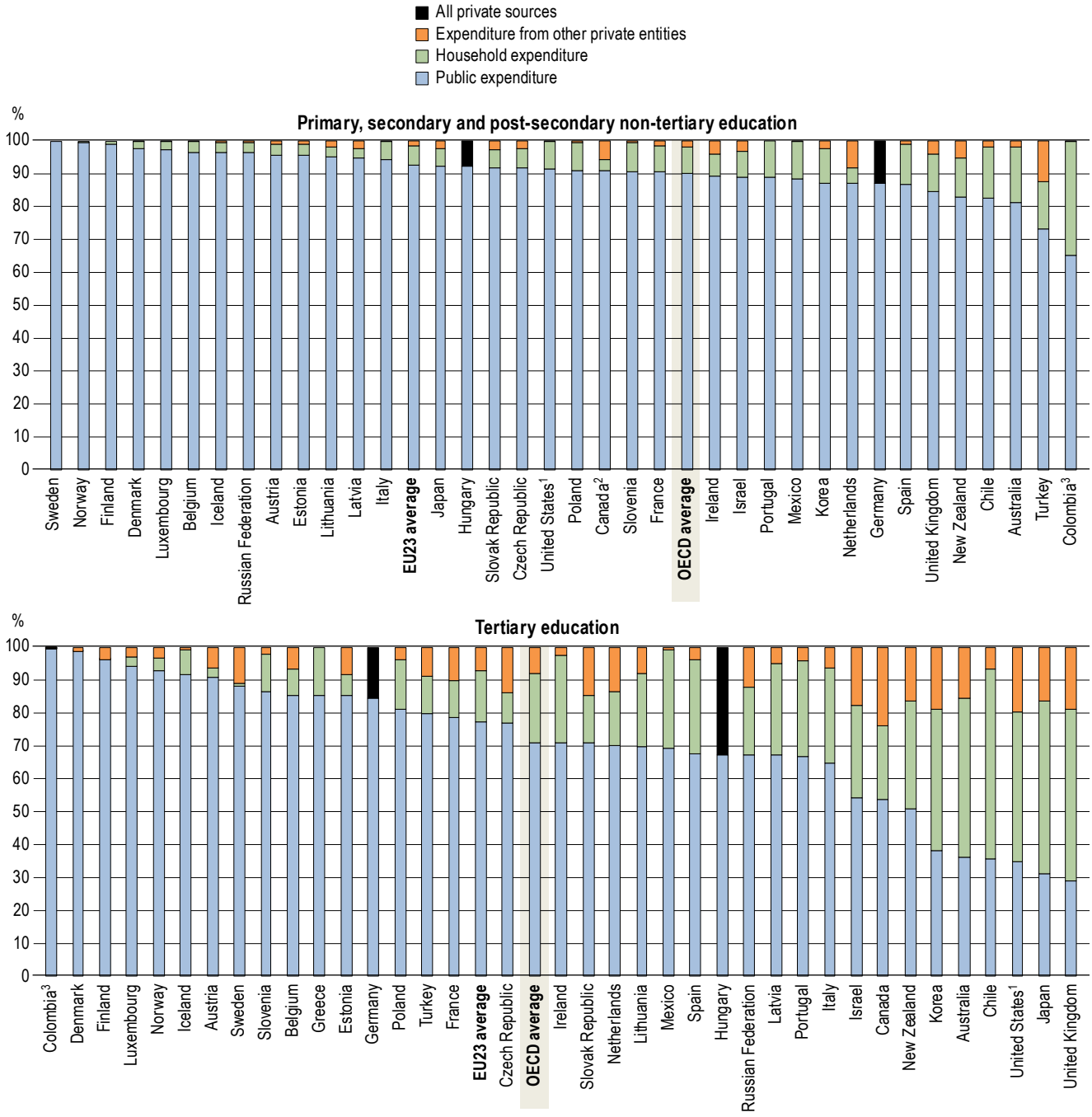
The share of private funding at the lower secondary level is similar to the share at primary level. Around 9% of educational expenditure on lower secondary institutions is privately sourced on average across OECD countries. In around three-quarters of OECD countries for which data are available, private expenditure accounts for less than 10% of total expenditure at this level compared to more than 20% in Australia, Colombia, Ireland and Turkey (OECD, 2019[1]).

Upper secondary education relies more on private funding than the primary and lower secondary levels, reaching an average of 13% across OECD countries. Private sources contribute a similar share to the spending on vocational and general programmes, at around 13% of spending on upper secondary institutions on average across OECD countries. However, in Germany, the Netherlands and New Zealand, the share of private funding in vocational upper secondary education is at least 28 percentage points higher than in general education. In Germany, private companies have a long tradition of involvement in the provision of dual training (combined work- and school-based programmes), helping to improve the availability of the skilled individuals needed in the labour market. On the other hand, in Chile, Spain, Turkey and the United Kingdom the share of private funding of general programmes exceeds that of vocational programmes by at least 10 percentage points (OECD, 2019[1]). In several countries, the share of public funds they currently devote to vocational programmes is the result of various national policy developments on vocational education designed to improve the transition from school to work. For example, in the 1990s, France, the Netherlands, Norway and Spain introduced financial incentives to employers offering apprenticeships to secondary students. As a result of these policies, programmes combining work and learning were introduced more widely in a number of OECD countries (OECD, 1999[2])

The level of public funding in post-secondary non-tertiary education stands at only 69% on average across OECD countries. Unlike the three lower levels presented above, post-secondary non-tertiary education in Germany, Ireland, New Zealand, Poland and the United States relies more heavily on private than public sources of funding (OECD, 2019[1]).

Figure C3.2. Distribution of public and private expenditure on educational institutions (2017)

Final source of funds



Note: International expenditure is aggregated with public expenditure for display purposes.

1. Figures are for net student loans rather than gross, thereby underestimating public transfers.
2. Primary, secondary and post-secondary non-tertiary education includes pre-primary programmes.
3. Year of reference 2018.

Countries are ranked in descending order of the proportion of public and international expenditure on educational institutions.

Source: OECD/UIS/Eurostat (2020), Table C3.1. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Tertiary educational institutions

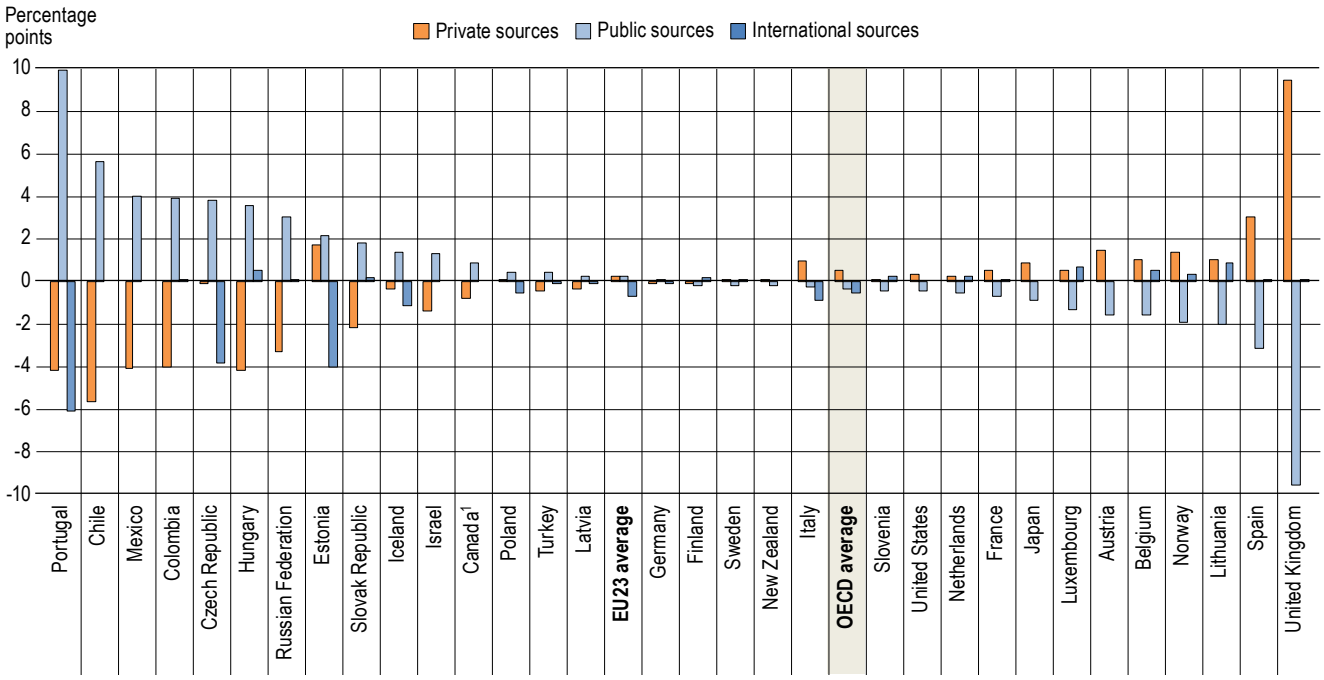
The high private returns to tertiary education (see Indicator A5) have led a number of countries to expect individuals to make a greater financial contribution to their education at tertiary level. Some countries have implemented financial support mechanisms to ease the burden on individuals when private contributions are expected, although this is not always the case (see Indicator C5). In all OECD and partner countries, the proportion of private expenditure on education after public-to-private transfers is far higher at tertiary level than at lower levels of education. In 2017, on average across OECD countries, nearly 29% of total expenditure on tertiary institutions was sourced from the private sector after transfers (Table C3.1 and Figure C3.2).

The share of private funding is strongly related to the level of tuition fees charged by tertiary institutions (see Indicator C5). In countries where tuition fees tend to be low or negligible, such as Austria, Denmark, Finland, Iceland, Luxembourg and Norway, the share of expenditure on tertiary institutions sourced through the private sector (including subsidised private payments such as tuition fee loans) is less than 10%. In contrast, more than 60% of funding on tertiary institutions is privately sourced in Australia, Chile, Japan, Korea, the United Kingdom and the United States, which also tend to charge students higher fees.

On average across OECD countries, households account for 74% of private expenditure on tertiary institutions. While household expenditure is the biggest source of private funds in the majority of OECD countries, almost all private funding comes from other private entities (mainly for research and development) in Finland and Sweden (Figure C3.2).

Figure C3.3. Change in the relative share of public, private and international expenditure on educational institutions (2012 and 2017)

Final source of funds; primary to tertiary education



1. Primary to tertiary education includes pre-primary programmes.

Countries are ranked in descending order of the percentage-point change in the share of public expenditure on educational institutions.

Source: OECD/UIS/Eurostat (2020), Table C3.3. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Trends in the share of public and private expenditure on educational institutions

Although educational institutions from primary to tertiary level are still predominantly publicly funded, their reliance on private funding is growing (Table C3.3). Between 2012 and 2017, the share of private spending after transfers on primary to tertiary educational institutions increased by 0.5 percentage points on average across OECD countries, while the share of public spending fell by about the same amount. Increases in the share of private funding were observed in more than half of OECD and partner countries, with the United Kingdom showing the largest increase (10 percentage points). In contrast, Chile experienced the largest decrease in the share of private spending (at least 6 percentage points), balanced by an equivalent increase from public sources (Figure C3.3).

In many OECD countries, the increase in the share of funding from private sources between 2012 and 2017 was moderate at non-tertiary level (0.4 percentage points), the share from public sources remained stable. There are, however, some variations across countries: in Estonia, Hungary, Latvia, Lithuania, Spain and Turkey, the share of private funding for non-tertiary education increased by approximately 2 percentage points between 2012 and 2017. In other countries, large increases were observed during the same period in the share of public funds, notably in Chile, Mexico, Portugal and the Slovak Republic, where the increases were over 4 percentage points (Table C3.3).

At tertiary level, although the share of public funding on institutions increased in some countries between 2012 and 2017, they have fallen below their 2012 levels in others. In many cases, these reductions have been matched by an equivalent increase in the share of private funding. This is the case for example for Belgium, Greece, Lithuania, Norway, Spain and the United Kingdom, where the share of public funds decreased by at least 5 percentage points in 2017 compared to 2012 but the share of private funds increased by the same amount. On the other hand, countries such as Chile, the Czech Republic, Estonia, Hungary, Iceland, Poland, Portugal and Turkey have seen increases in the share of public funds of at least 5 percentage points (Table C3.3).

Public transfers to the private sector

A large share of government spending goes directly to educational institutions, but governments also transfer funds to educational institutions through various other allocation mechanisms (tuition subsidies or direct public funding of institutions based on student enrolments or credit hours) or by subsidising students, households and other private entities (through scholarships, grants or loans to cover tuition fees to educational institutions).

Governments use transfers to provide institutions with incentives to organise their educational programmes and teaching to better meet student requirements, as well as to increase access to education and reduce social inequalities. Channelling funding for institutions through students helps increase competition among institutions and results in greater efficiency in the funding of education.

Public transfers to the private sector are not a significant feature at non-tertiary educational levels. In 2017, on average across OECD countries, 1% of the total funds devoted to these educational levels are transfers from the public to the private sector. France and the Slovak Republic are the only countries where this share exceeds 1% (Table C3.2). Upper secondary education accounts for a larger share of public transfers to the private sector, reaching an average of 2% across OECD countries, mainly driven by public-to-private transfers in vocational programmes (4%) (Table C3.2).

Public transfers to the private sector play an important role in the financing of tertiary education in some countries (Figure C3.1). In countries where tertiary education is expanding, and particularly in those where students are charged tuition fees, public-to-private transfers of funds are often seen as a means of expanding access for lower-income students. However, there is no single allocation model across OECD countries (OECD, 2017[3]). Despite the considerable impact of public transfers on reducing the financial burden of access to tertiary education, government and international support seems to cover only a relatively small share of the private costs of tertiary education in some countries while in othersprivate spending is largely covered by public transfers. This creates challenges for access and learning as higher private spending could deter students from participating in tertiary education, particularly in countries with high tuition fees and limited financial support mechanisms (Table C3.2).

In 2017, on average across OECD countries, 8% of the total funds devoted to tertiary institutions were transfers from the public to the private sector. The countries with the highest transfers are also those that tend to have the highest tuition fees. Transfers exceed 18% in Australia and the United Kingdom, both of which have high tuition fees. In contrast, public transfers were below 1% in countries with no or lower fees, such as Austria, Denmark, Estonia, Finland, Greece, Norway, Slovenia and Sweden. However, some countries, such as Lithuania, Portugal and Spain, have high levels of private spending (above 30%)

without high levels of support from the government in forms of public transfers to the private sector (below 3%) (Figure C3.1 and Table C3.2).

Definitions

Initial public, private and international shares of educational expenditure are the percentages of total education spending originating in, or generated by, the public, private and international sectors before transfers have been taken into account. **Initial public spending** includes both direct public expenditure on educational institutions and transfers to the private sector, and excludes transfers from the international sector. **Initial private spending** includes tuition fees and other student or household payments to educational institutions, minus the portion of such payments offset by public subsidies. **Initial international spending** includes both direct international expenditure for educational institutions (for example a research grant from a foreign corporation to a public university) and international transfers to governments.

Final public, private and international shares are the percentages of educational funds expended directly by public, private and international purchasers of educational services after the flow of transfers. **Final public spending** includes direct public purchases of educational resources and payments to educational institutions. **Final private spending** includes all direct expenditure on educational institutions (tuition fees and other private payments to educational institutions), whether partially covered by public subsidies or not. Private spending also includes expenditure by private companies on the work-based element of school- and work-based training of apprentices and students. **Final international spending** includes direct international payments to educational instructions such as research grants or other funds from international sources paid directly to educational institutions.

Households refer to students and their families.

Other private entities include private businesses and non-profit organisations (e.g. religious organisations, charitable organisations, business and labour associations, and other non-profit organisations).

Public subsidies include public and international transfers such as scholarships and other financial aid to students plus certain subsidies to other private entities.

Methodology

All entities that provide funds for education, either initially or as final payers, are classified as either government (public) sources, non-government (private) sources or international sources such as international agencies and other foreign sources. The figures presented here group together public and international expenditures for display purposes. As the share of international expenditure is relatively small compared to other sources, its integration into public sources does not affect the analysis of the share of public spending.

Not all spending on instructional goods and services occurs within educational institutions. For example, families may purchase commercial textbooks and materials or seek private tutoring for their children outside educational institutions. At the tertiary level, students' living expenses and foregone earnings can also account for a significant proportion of the costs of education. All expenditure outside educational institutions, even if publicly subsidised, are excluded from this indicator. Public subsidies for educational expenditure outside institutions are discussed in Indicators C4 and C5.

A portion of the budgets of educational institutions is related to ancillary services offered to students, including student welfare services (student meals, housing and transport). Part of the cost of these services is covered by fees collected from students and is included in the indicator.

Expenditure on educational institutions is calculated on a cash-accounting basis and, as such, represents a snapshot of expenditure in the reference year. Many countries operate a loan payment/repayment system at the tertiary level. While public loan payments are taken into account, loan repayments from private individuals are not, and so the private contribution to education costs may be under-represented.

Student loans provided by private financial institutions (rather than directly by a government) are counted as private expenditure, although any interest rate subsidies or government payments on account of loan defaults are captured as public funding.

For more information please see the *OECD Handbook for Internationally Comparative Education Statistics 2018* (OECD, 2018[4])and Annex 3 for country-specific notes (https://doi.org/10.1787/69096873-en).

Source

Data refer to the financial year 2017 (unless otherwise specified) and are based on the UNESCO, OECD and Eurostat (UOE) data collection on education statistics administered by the OECD in 2019 (for details see Annex 3 at https://doi.org/10.1787/69096873-en). Data from Argentina, the People's Republic of China, India, Indonesia, Saudi Arabia and South Africa are from the UNESCO Institute of Statistics (UIS).

The data on expenditure for 2005, 2012 to 2017 were updated based on a survey in 2019-20, and expenditure figures for 2005 to 2017 were adjusted to the methods and definitions used in the current UOE data collection.

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OECD (2018), *OECD Handbook for Internationally Comparative Education Statistics 2018*, OECD Publishing, Paris, https://doi.org/10.1787/9789264304444-en (accessed on 16 April 2020). [4]

OECD (2017), "Who really bears the cost of education? : How the burden of education expenditure shifts from the public to the private sector", *Education Indicators in Focus*, No. 56, OECD Publishing, Paris, https://dx.doi.org/10.1787/4c4f545b-en. [3]

OECD (1999), *Implementing the OECD Jobs Strategy: Assessing Performance and Policy*, The OECD Jobs Strategy, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264173682-en. [2]

Indicator C3 Tables

Table C3.1 Relative share of public, private and international expenditure on educational institutions, by final source of funds (2017)

Table C3.2 Relative share of public, private and international expenditure on educational institutions, by source of funds and public-to-private transfers (2017)

Table C3.3 Trends in the share of public, private and international expenditure on educational institutions (2005, 2012 and 2017)

Cut-off date for the data: 19 July 2020. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en. More breakdowns can also be found at http://stats.oecd.org/, Education at a Glance Database.

StatLink: https://doi.org/10.1787/888934164579

Table C3.1. Relative share of public, private and international expenditure on educational institutions, by final source of funds (2017)

After transfers between public and private sectors, by level of education

		Primary, secondary and post-secondary non-tertiary					Tertiary					Primary to tertiary				
			Private sources					Private sources					Private sources			
		Public sources	Household expenditure	Expenditure by other private entities	All private sources	International sources	Public sources	Household expenditure	Expenditure by other private entities	All private sources	International sources	Public sources	Household expenditure	Expenditure by other private entities	All private sources	International sources
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD	Countries															
	Australia	81	17	2	19	0	36	49	15 d	64 d	x(8, 9)	66	28	6 d	34 d	x(13, 14)
	Austria	96	3	1	4	a	91	3	6	9	a	94	3	3	6	a
	Belgium	96	3	0	3	1	82	8	6	14	3	92	4	2	6	1
	Canada 1	91 d	4 d	6 d	9 d	x(3, 4)	54	22	24 d	46 d	x(8, 9)	76 d	11 d	13 d	24 d	x(13, 14)
	Chile	83	16	2	17	a	36	58	7	64	a	63	34	4	37	a
	Colombia 2	65	35	0	35	0	100	0	0	0	0	70	30	0	30	0
	Costa Rica 2	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	92	6	2	8	0	73	9	14	23	4	87	7	5	12	1
	Denmark	98	2	0	2	0	99	0	1	1	0	98	2	0	2	0
	Estonia	95	3	1	4	0	72	7	8	15	13	88	5	3	8	5
	Finland	99	1	0	1	0	92	0	3	4	5	97	1	1	2	1
	France	91	8	1	9	0	77	11	10	21	2	87	9	4	13	1
	Germany	87	x(4)	x(4)	13	0	83	x(9)	x(9)	15	2	86	x(14)	x(14)	14	1
	Greece	m	m	m	m	m	77	15	a	15	8	m	m	m	m	m
	Hungary	92	x(4)	x(4)	8	0	65	x(9)	x(9)	33	2	85	x(14)	x(14)	15	1
	Iceland	96	3	0	4	0	90	7	1	8	2	95	4	0	5	0
	Ireland	89	7	4	11	0	67	26	2	29	4	83	12	3	16	1
	Israel	89	8	3	11	0	54	28	17	46	0	81	13	7	19	0
	Italy	94	5	0	5	1	62	29	6	35	3	86	11	2	12	1
	Japan	92	6	2	8	0	31 d	53 d	16 d	69 d	0 d	71	22	7	29	0
	Korea	87	11	2 d	13 d	x(3, 4)	38	43	19 d	62 d	x(8, 9)	72	21	7 d	28 d	x(13, 14)
	Latvia	95	3	2	5	0	60	28	5	33	8	85	10	3	12	2
	Lithuania	95	3	2	5	0	64	22	8	30	6	86	9	4	12	2
	Luxembourg	94	2	0	3	3	89	3	3	6	5	94	3	0	3	3
	Mexico	89	11	0	11	0	70	30	0	30	0	84	16	0	16	0
	Netherlands	87	5	8	13	0	67	17	13	30	3	80	9	10	18	1
	New Zealand	83	12	5	17	0	51	33	16	49	0	74	18	8	26	0
	Norway	99	1	0	1	0	92	4	3	7	1	97	2	1	2	0
	Poland	89	9	0	9	2	81	15	4	19	1	87	10	1	12	2
	Portugal	89	11	0	11	0	60	29	4	33	7	82	15	1	16	2
	Slovak Republic	92	6	2	8	0	68	15	14	29	3	86	8	6	14	1
	Slovenia	91	9	0	9	0	83	11	2	13	4	89	9	1	10	1
	Spain	87	12	1	13	0	66	29	3	32	2	81	17	2	19	0
	Sweden	100	a	a	a	a	84	1	11	12	4	95	0	3	3	1
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Turkey	73	14	13	27	0	80	11	9	20	1	75	13	11	24	0
	United Kingdom	84	11	4	15	0	25	52	19	71	4	66	24	9	33	1
	United States 3	91	9	0	9	a	35	45	19	65	a	68	24	8	32	a
	OECD average	90	8	2	10	0	68	21	9	29	3	83	12	4	16	1
	EU23 average	92	6	2	7	0	73	16	7	22	4	87	8	3	12	1
Partners	Argentina	m	m	m	m	a	m	m	m	m	a	m	m	m	m	a
	Brazil	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia 2	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	96	3	1	4	0	66	21	12	33	1	87	8	4	13	0
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: Some levels of education are included with others. Refer to "x" code in Table C1.1 for details. Private expenditure figures include tuition fee loans and scholarships (subsidies attributable to payments to educational institutions received from public sources). Loan repayments from private individuals are not taken into account, and so the private contribution to education costs may be under-represented. Public expenditure figures presented here exclude undistributed programmes. See *Definitions* and *Methodology* sections for more information. Data and more breakdowns available at http://stats.oecd.org/, Education at a Glance Database.

1. Primary, secondary and post-secondary non-tertiary education includes pre-primary programmes.
2. Year of reference 2018.
3. Figures are for net student loans rather than gross, thereby underestimating public transfers.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table C3.2. Relative share of public, private and international expenditure on educational institutions, by source of funds and public-to-private transfers (2017)

By level of education and source of funding

		Primary, secondary and post-secondary non-tertiary							Tertiary						
		Initial funds (before transfers between public and private sectors)			Final funds (after transfers between public and private sectors)			Public-to-private transfers	Initial funds (before transfers between public and private sectors)			Final funds (after transfers between public and private sectors)			Public-to-private transfers
		Public	Private	International	Public	Private	International		Public	Private	International	Public	Private	International	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
OECD	Countries														
	Australia	82	18	0	81	19	0	1	55	45 d	9	36	64 d	x(12)	19
	Austria	97	3	a	96	4	a	1	92	8	a	91	9	a	1
	Belgium	97	2	1	96	3	1	1	87	10	3	82	14	3	4
	Canada 1	m	m	m	91 d	9 d	x(5)	m	m	m	m	54	46 d	x(12)	m
	Chile	83	17	a	83	17	a	0	46	54	a	36	64	a	10
	Colombia 2	m	m	0	65	35	0	m	m	m	0	100	0	0	m
	Costa Rica 2	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	92	8	0	92	8	0	0	73	23	4	73	23	4	0
	Denmark	98	2	0	98	2	0	0	99	1	0	99	1	0	0
	Estonia	88	4	8	95	4	0	0	64	15	22	72	15	13	0
	Finland	99	1	0	99	1	0	0	92	3	5	92	4	5	0
	France	93	7	0	91	9	0	2	80	18	2	77	21	2	3
	Germany	m	m	m	87	13	0	m	m	m	m	83	15	2	m
	Greece	m	m	m	m	m	m	m	76	15	10	77	15	8	0
	Hungary	m	m	0	92	8	0	m	m	m	2	65	33	2	m
	Iceland	96	4	0	96	4	0	0	90	8	2	90	8	2	0
	Ireland	89	11	0	89	11	0	0	89	6	4	67	29	4	23
	Israel	90	10	0	89	11	0	1	m	m	0	54	46	0	m
	Italy	94	5	1	94	5	1	0	73	24	3	62	35	3	11
	Japan	m	m	0	92	8	0	m	m	m	0 d	31 d	69 d	0 d	m
	Korea	88	12 d	x(2)	87	13 d	x(5)	1	54	46 d	x(9)	38	62 d	x(12)	16
	Latvia	m	m	2	95	5	0	m	m	m	14	60	33	8	m
	Lithuania	94	4	1	95	5	0	0	58	30	12	64	30	6	0
	Luxembourg	95	3	3	94	3	3	0	89	5	5	89	6	5	1
	Mexico	90	10	0	89	11	0	1	71	28	0	70	30	0	2
	Netherlands	m	m	0	87	13	0	m	m	m	3	67	30	3	m
	New Zealand	84	16	0	83	17	0	1	66	34	0	51	49	0	15
	Norway	100	0	0	99	1	0	0	94	5	1	92	7	1	2
	Poland	87	9	4	89	9	2	0	91	8	1	81	19	1	10
	Portugal	89	11	0	89	11	0	0	58	33	9	60	33	7	0
	Slovak Republic	93	5	2	92	8	0	3	67	25	8	68	29	3	4
	Slovenia	90	9	1	91	9	0	0	80	13	7	83	13	4	0
	Spain	87	13	0	87	13	0	0	69	30	2	66	32	2	2
	Sweden	100	a	a	100	a	a	a	84	11	4	84	12	4	0
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Turkey	73	27	0	73	27	0	0	80	20	1	80	20	1	0
	United Kingdom	86	14	0	84	15	0	1	51	45	4	25	71	4	26
	United States 3	m	m	a	91	9	a	m	m	m	a	35	65	a	m
	OECD average	91	8	1	90	10	0	1	75	21	4	68	29	3	8
	EU23 average	93	6	1	92	7	0	1	77	17	6	73	22	4	6
Partners	Argentina	m	m	m	m	m	a	m	m	m	m	m	m	a	m
	Brazil	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia 2	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	m	m	m	96	4	0	m	m	m	m	66	33	1	m
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See *Definitions* and *Methodology* sections for more information. Relative share of public, private and international expenditure on primary to tertiary education (i.e. Columns 15 to 21) are available for consultation on line (see StatLink below). Data and more breakdowns available at http://stats.oecd.org/, Education at a Glance Database.

1. Primary to tertiary education includes pre-primary programmes (Columns 15 to 21, available on line).

2. Year of reference 2018.

3. Figures are for net student loans rather than gross, thereby underestimating public transfers.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table C3.3. Trends in the share of public, private and international expenditure on educational institutions (2005, 2012 and 2017)

Final source of funds

		Primary to tertiary											
		Share of public expenditure on educational institutions (%)				Share of private expenditure on educational institutions (%)				Share of international expenditure on educational institutions (%)			
		2005	2012	2017	Percentage-point difference between 2012 and 2017	2005	2012	2017	Percentage-point difference between 2012 and 2017	2005	2012	2017	Percentage-point difference between 2012 and 2017
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD	Countries												
	Australia	m	m	66	m	m	m	34 d	m	m	m	x(7)	m
	Austria	m	96	94	-2	m	4	6	2	a	a	a	m
	Belgium	93	94	92	-2	6	5	6	1	1	1	1	1
	Canada 1	75 d	75 d	76 d	1 d	24 d	24 d	24 d	-1 d	x(5)	x(6)	x(7)	x(8)
	Chile	50	57	63	6	50	43	37	-6	a	a	a	a
	Colombia	m	45	49	4	m	55	51	-4	m	0	0	0
	Costa Rica	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	88	83	87	4	12 d	12	12	0	x(5)	5	1	-4
	Denmark	98	m	98	m	2 d	m	2	m	x(5)	m	0	m
	Estonia	91	85	88	2	8 d	6	8	2	x(5)	9	5	-4
	Finland	98	97	97	0	2 d	2	2	0	x(5)	1	1	0
	France	89	88	87	-1	11	12	13	1	0	0	1	0
	Germany	86	86	86	0	14	14	14	0	0	1	1	0
	Greece	94	89	m	m	6 d	9	m	m	x(5)	2	m	m
	Hungary	91	81	85	4	9	19	15	-4	0	0	1	1
	Iceland	95	94	95	1	5 d	5	5	0	x(5)	2	0	-1
	Ireland	m	m	83	m	m	m	16	m	m	m	1	m
	Israel	82	79	81	1	18	21	19	-1	0	0	0	0
	Italy	94	87	86	0	9 d	11	12	1	x(5)	2	1	-1
	Japan	70	72	71	-1	30	28	29	1	0	0	0	0
	Korea	m	m	72	m	m	m	28 d	m	m	m	x(7)	m
	Latvia	83	85	85	0	15	13	12	0	2	2	2	0
	Lithuania	m	88	86	-2	m	11	12	1	m	1	2	1
	Luxembourg	m	95	94	-1	m	3	3	1	m	3	3	1
	Mexico	80	79	84	4	20	21	16	-4	0	0	0	0
	Netherlands	83	81	80	-1	17	18	18	0	0	1	1	0
	New Zealand	m	74	74	0	m	26	26	0	m	0	0	0
	Norway	m	99	97	-2	m	1	2	1	m	0	0	0
	Poland	91	86	87	1	9 d	12	12	0	x(5)	2	2	-1
	Portugal	m	72	82	10	m	20	16	-4	m	8	2	-6
	Slovak Republic	83	84	86	2	16 d	16	14	-2	x(5)	1	1	0
	Slovenia	87	89	89	0	12	10	10	0	1	1	1	0
	Spain	89	84	81	-3	11	16	19	3	m	0	0	0
	Sweden	96	96	95	0	3	3	3	0	1	1	1	0
	Switzerland	m	91	m	m	m	m	m	m	m	m	m	m
	Turkey	m	75	75	0	m	25	24	0	m	0	0	0
	United Kingdom	m	76	66	-10	m	23	33	10	m	1	1	0
	United States 2	72	68	68	0	28	32	32	0	a	a	a	a
	OECD average	86	83	82	0	14	16	17	1	m	2	1	0
	EU23 average	90	87	87	0	10	11	12	0	m	2	1	-1
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	a	m
	Brazil	m	m	m	m	m	m	m	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m	m	m	m
	India	73	m	m	m	27	m	m	m	0	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	m	84	87	3	m	16	13	-3	m	0	0	0
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m

Note: Private expenditure figures include tuition fee loans and scholarships (subsidies attributable to payments to educational institutions received from public sources). Loan repayments from private individuals are not taken into account, and so the private contribution to education costs may be under-represented. Public expenditure figures presented here exclude undistributed programmes. See *Definitions* and *Methodology* sections for more information. Data and more breakdowns available at http://stats.oecd.org/, Education at a Glance Database.

1. Primary to tertiary education includes pre-primary programmes.
2. Figures are for net student loans rather than gross, thereby underestimating public transfers.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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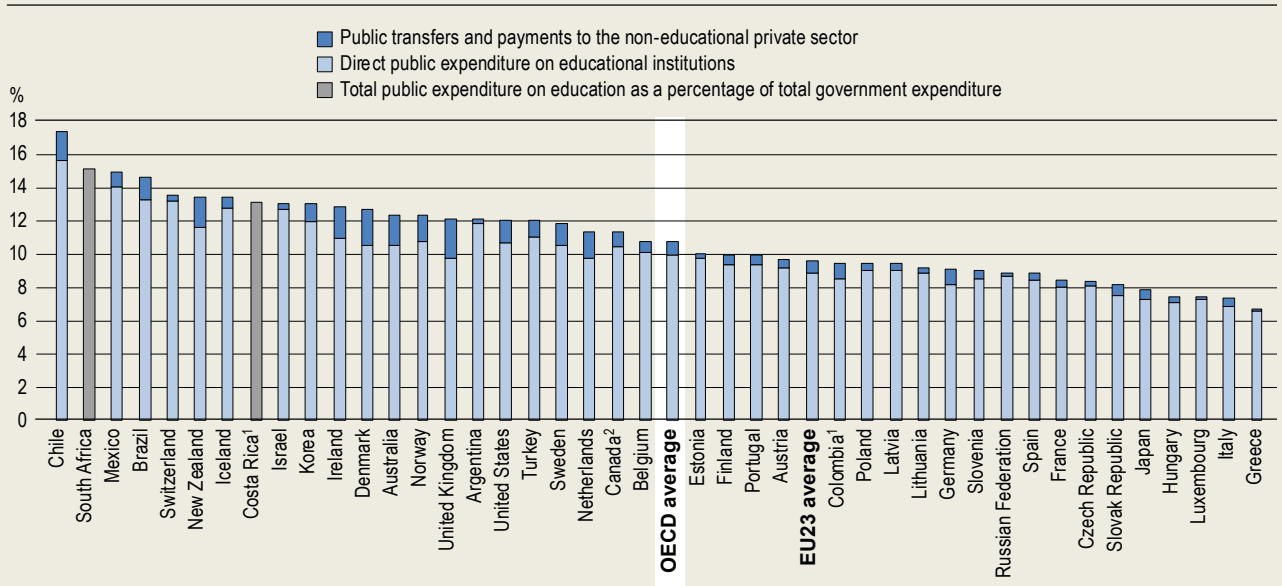
Indicator C4. What is the total public spending on education?

Highlights

- Total public spending on primary to tertiary education as a percentage of total government expenditure averages 11% across OECD countries, ranging from around 7% to around 17%.
- In 2017, public transfers and payments to the non-educational private sector for primary to tertiary education represented on average less than 1% of total government expenditure. This represents 8% of public expenditure on education, with the remaining 92% consisting of direct public expenditure on education.
- Spending on non-tertiary education (primary, secondary and post-secondary non-tertiary levels) is mostly decentralised, with 56% of final funds (after transfers between levels of government) managed by regional and local governments. In contrast, spending at tertiary level is more centralised with only 13% of final public funds sourced from the regional and local level.

Figure C4.1. Composition of total public expenditure on education as a percentage of total government expenditure (2017)

Primary to tertiary education



1. Year of reference 2018.
2. Primary education includes pre-primary programmes.

Countries are ranked in descending order of total public expenditure on education as a percentage of total government expenditure.

Source: OECD/UIS/Eurostat (2020), Table C4.1. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934164788

Context

Decisions concerning budget allocations to various sectors (including education, healthcare, social security and defence) depend on countries' priorities and the options for private provision of these services. Government funding is appropriate in situations where the public benefit is high but private costs are greater than private benefits. Education is one area in which all governments intervene to fund or direct the provision of services. As there is no guarantee that markets will provide equal access to educational opportunities, government funding of educational services is necessary to ensure that education is not beyond the reach of some members of society.

Government funding on education can also be affected by an external shock. In this respect, the COVID-19 pandemic could also influence the public funds available for education. Past economic crises have put pressure on public budgets with a result that less public funding has been allocated to education in some countries. Budget cuts can represent improved allocation of government funds and may generate gains in efficiency and economic dynamism, but they can also affect the quality of government-provided education, particularly at a time when investment in education is important to support learning adquisition and economic growth.

This indicator compares total public spending on education with total government expenditure across OECD and partner countries. This indicates the priority placed on education relative to other public areas of investment, such as health care, social security, defence and security. It also includes data on the different sources of public funding in education (central, regional and local governments) and on transfers of funds between these levels of government. Finally it also covers how public expenditure has changed over time.

Other findings

- Governments in OECD and partner countries spend more than twice as much on non-tertiary education (primary, secondary and post-secondary non-tertiary levels) as they do on tertiary education, mainly as a result of near-universal enrolment at lower levels.
- Between 2012 and 2017, the proportion of government expenditure devoted to public expenditure on primary to tertiary education slightly increased across OECD countries (0.3%). However, in 56% of the OECD and partner countries with available data for both years this share increased over the same period, most notably in Greece and Spain, where the increases were over 9%, but in many countries increases in educational expenditure did not keep pace with the growth in government expenditure overall.
- There are greater levels of transfers of public funds from central to regional and local levels of government at primary, secondary and post-secondary non-tertiary level than there are at tertiary level. At non-tertiary levels, 42% of public funds come from local sources after transfers between levels of government, compared to 26% before transfers. At the tertiary level, local sources represent around 1% of public funds, before and after transfers between levels of government.

Analysis

Overall level of public resources invested in education

Countries differ in the share of total public expenditure they devote to education. In 2017, total public expenditure on primary to tertiary education as a percentage of total government expenditure for all services averaged 11% in OECD countries. However, this share varies across OECD and partner countries, ranging from around 7% in Greece to around 17% in Chile (Table C4.1and Figure C4.1).

Overall, significant government funding was devoted to non-tertiary levels of education in 2017. In most countries, and on average across OECD countries, roughly three-quarters of the total public expenditure on primary to tertiary education (about 8% of total government expenditure) was devoted to non-tertiary education (Table C4.1). This is largely explained by the near-universal enrolment rates at non-tertiary levels of education (see Indicator B1), the demographic structure of the population and the fact that in OECD countries, on average, the funding structure for tertiary education depends more on private funding sources than non-tertiary levels (primary, secondary and post-secondary non-tertiary levels).

In 2017, the share of total public expenditure devoted to tertiary education varied widely among countries. On average across OECD countries, total public expenditure on tertiary education amounted to 27% of the total public expenditure on primary to tertiary education. The share ranges from 15-20% in Greece, Israel, Latvia, Luxembourg and Portugal to over 35% in Austria, Denmark and Turkey (Table C4.1).

Total public expenditure on education includes direct expenditure on institutions (such as the operating costs of public schools), transfers to the non-educational private sector that are attributable to educational institutions, and public subsidies to households for living costs that are not spent in educational institutions. Public transfers and payments to the non-educational private sector for primary to tertiary education (such as public student loans, grants, scholarships and subsidies to private student loans) represent a small share of total government expenditure in OECD and partner countries, but significant differences are observed across countries (Figure C4.1). In 2017, on average across OECD countries, this public expenditure represented less than 1% of total government expenditure and 8% of public expenditure on education, with the remaining 92% corresponding to direct public expenditure on education. However, the percentage varies by country: public transfers and payments to the non-educational private sector represent 1.5-2.4% of total government expenditure in Australia, Chile, Denmark, Ireland, the Netherlands, New Zealand, Norway and the United Kingdom, and less than 0.3% in Argentina, the Czech Republic, Estonia, Greece, Luxembourg and the Russian Federation (Figure C4.1).

The relative size of public budgets must be taken into account when considering public spending on education as a share of total government expenditure. The share of total government expenditure as a proportion of gross domestic product (GDP) varies greatly among countries (Table C4.1 – web columns). In 2017, around 11% of countries with available data reported that total government expenditure on all services accounted for more than 50% of GDP. A high share of total government expenditure devoted to public expenditure on education does not necessarily translate into a high share relative to a country's GDP. For example, Korea allocates 13% of its total government expenditure on primary to tertiary education (more than the OECD average of 11%), but total public expenditure on education as a share of GDP is relatively low (3.9% compared to the OECD average of 4.4%). This can be explained by Korea's relatively low total government expenditure as a share of GDP (30%) (Table C4.1 – web columns).

The economic crisis associated with the spread of the COVID-19 pandemic is likely to affect the availability of public funding for education in OECD and partner countries, as emergency funds have been funnelled to support increasing healthcare and welfare costs. While the longer-term impact on education funding is still uncertain, some countries have implemented immediate financial measures to support students and education systems cope with the disruptions and economic impact of school and university closures (Box C4.1).

Box C4.1. Impact of COVID-19 on the financing of education in OECD countries

The global COVID-19 pandemic has triggered one of the most significant economic and financial crises of the century (OECD, 2020[1]). This crisis, as with the financial crisis in 2008, is expected to significantly impact our societies and education might be one of the sectors affected.

While the 2008 financial crisis severely impacted public budgets, cuts to education budgets were delayed in many countries (OECD, 2013[2]). Between 2008 and 2009, despite severe budget cuts in all OECD countries, public spending on education continued to increase in the majority of them. The first signs of slowdown appeared in 2010 following austerity measures that imposed cuts in the education budgets of about one-third of OECD countries (OECD, 2013[2]).

However, the current crisis is expected to affect education budgets more quickly as public revenues decline and governments review the prioritisation of education in national budgets (IIEP-UNESCO, 2020[3]). Forecasts predict that the pandemic will lead to slower growth in government spending in the coming year. If the share of government spending devoted to education were to remain unchanged, education spending would continue to grow but at significantly lower rates than before the pandemic(Al-Samarrai, Gangwar and Gala, 2020[4]).

Some countries are also putting in place immediate financial measures to support their education systems during the COVID-19 crisis. Examples include:

- In April 2020, the Australian Government announced the Higher Education Relief Package which provided funding to Australians who have been displaced as a result of the COVID-19 crisis and who were looking to upskill or retrain. This package reduced the cost of studying short online courses, provided exemptions from loan fees for domestic students for a period of six months starting in May and guaranteed funding for domestic students, even if enrolments dropped. (Australian Government, 2020[5]).
- The launch of the Canada Emergency Student Benefit announced in April 2020 which seeks to provide financial support to post-secondary students and recent high school graduates who are unable to find work due to COVID-19 over the summer months. The Canada Student Service Grant will also provide financial support to students who do national service and serve their communities during the pandemic crisis. Finally, the government has also announced plans to double student grants and broaden the eligibility for financial assistance (Trudeau, 2020[6]), as well as additional support in the form of scholarship funding extensions for students and postdoctoral researchers impacted by the COVID-19 pandemic (Ministry of Education, 2020[7]).
- Distance learning support measures announced by the Italian government in March 2020 to equip schools with digital platforms and tools for distance learning, lend digital devices to less well-off students, and train school staff in methodologies and techniques for distance learning (Republic of Italy, 2020[8]). In May 2020 new measures were announced which seek to provide extra funding to cover costs derived from responses to the pandemic crisis at the school and university level (Republic of Italy, 2020[9]). This extra funding will cover among others the costs associated to special services, safety equipment and cleaning material needed in schools and universities for the next academic year. Additional financial resources were approved to recruit new teachers for primary to secondary level for the next school year. Emergency financial grants to cover partial or total course-related costs were announced for less well-off tertiary students.
- Support packages for tertiary students announced by the New Zealand government in April 2020 to help students continue their studies after the crisis. Measures include increasing the amount of student loans and providing additional support to students to cover extra course-related costs (Ministry of Education, 2020[10]).
- England's (The United Kingdom) financial support for schools launched in April 2020, which provides additional funding to schools to support them with costs associated with coronavirus. The additional costs covered by the fund include utilities and resources needed to keep the school open during holidays for priority groups of children, support for free school meals for eligible children not attending school, as well as additional cleaning costs, where schools had suspected or confirmed cases of the virus (Department for Education, 2020[11]).
- The announcement of the CARES Act Higher Education Emergency Relief Fund by the education authorities in the United States which provides funding to institutions to provide emergency financial aid grants to students whose lives have been disrupted (U.S. Department of Education, 2020[12]). The CARES Act Elementary and Secondary School Emergency Relief Fund aims to provide financial support to school districts impacted by the disruption and closure of schools from COVID-19 (New Jersey Department of Education, 2020[13]).

Trends in public expenditure on education as a percentage of total government expenditure, 2012-17

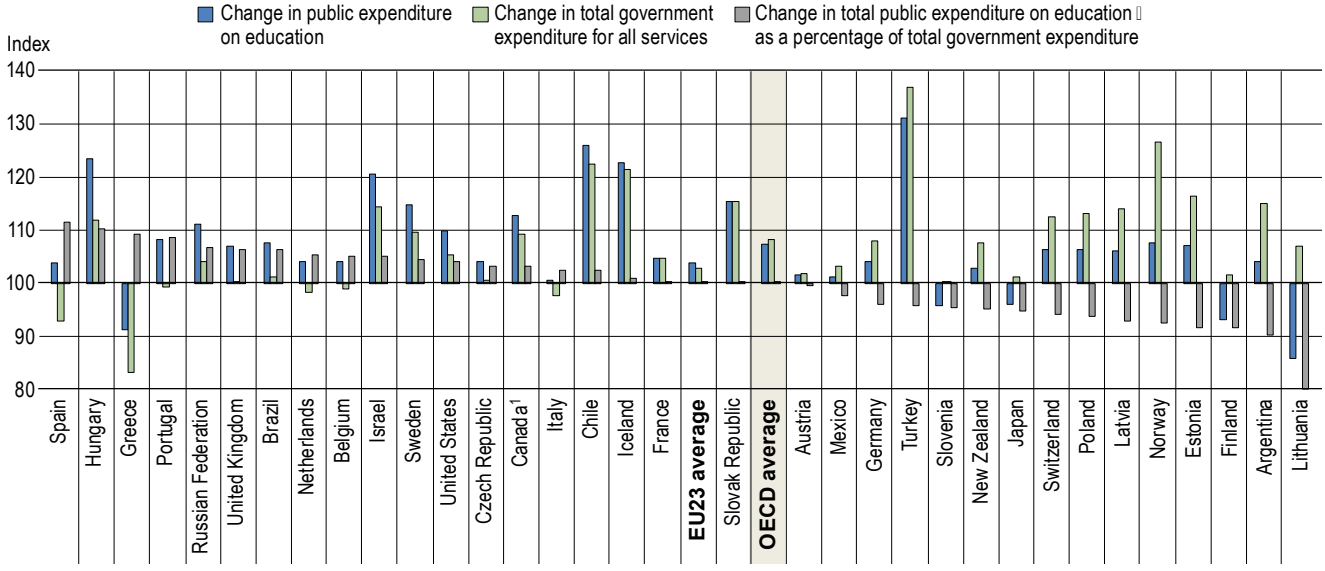
Total public spending on primary to tertiary education increased by 7.5% across OECD countries between 2012 and 2017 (Table C4.3), however this increase was less than the increase in total government expenditure (8.4%) over the same period.

As a result, over this period, total government expenditure on primary to tertiary education as a share of total government expenditure increased by 0.1% on average across OECD countries (Table C4.3).

A similar trend is observed at country level (Table C4.3 and Figure C4.2). Despite the fact that public expenditure on primary to tertiary education increased over that period in a large number of countries, there were also large increases in total government expenditure. Over this five-year period, about 56% of countries with available data increased their public expenditure on education as a share of total government expenditure, with Greece and Spain showing the greatest increase (over 9%) while 81% of countries increased total government expenditure on all goods and services. However, in about half of OECD and partner countries, the increase in public expenditure on education was smaller than the increase in government spending overall. The most notable examples are Estonia and Latvia, where the relative increase in total government expenditure was more than 8 percentage points higher than the increase in public expenditure on education (Table C4.3).

Figure C4.2. Index of change in total public expenditure on education as a share of total government expenditure (2012 and 2017)

Primary to tertiary education (2012 = 100); 2015 constant prices



1. Primary education includes pre-primary programmes.

Countries are ranked in descending order of the change in total public expenditure on education as a percentage of total government expenditure.

Source: OECD/UIS/Eurostat (2020), Table C4.3. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934164807

Sources of public funding invested in education

The division of responsibility for education funding between levels of government (central, regional and local) is an important factor in education policy. Indeed, important decisions regarding education funding are made at both the initial level of government, where the funds originate, and the final level of government, where they are ultimately spent. At the initial level, decisions are made about how much funding should be allocated and any restrictions on how that money can be spent. At the final level of government, additional restrictions may be attached to the funds, or this level of government may even pay directly for educational resources (e.g. teachers' salaries).

In some countries, education funding is centralised, while in others it is decentralised but with funds transferred between levels of government. Complete centralisation can cause delays in decision making. Decisions that are far removed from those affected can also fail to address changes in local needs and desired practices. Under complete decentralisation, however, units of government may differ in the level of educational resources they spend on students, either due to differences in priorities related to education, or to differences in their ability to raise funding for education. Wide variations in education

standards and resources can also lead to inequality of educational opportunities and insufficient attention being paid to long-term national requirements.

In recent years, many schools have become more autonomous and decentralised, as well as more accountable to students, parents and the wider public for their outcomes. The results of the OECD Programme for International Student Assessment (PISA) suggest that when autonomy and accountability are intelligently combined, they tend to be associated with better student performance (OECD, 2016[14]).

The levels of government responsible for funding education differ at different levels of education. Typically, public funding is more centralised at the tertiary level than at lower levels of education. In 2017, on average across OECD countries, 59% of the public funds for non-tertiary education came from the central government before transfers to the various levels of government, compared to 88% of the funds for tertiary education (Table C4.2).

The division of responsibility for public funding in non-tertiary levels of education varies greatly among countries (Table C4.2 and Figure C4.3):

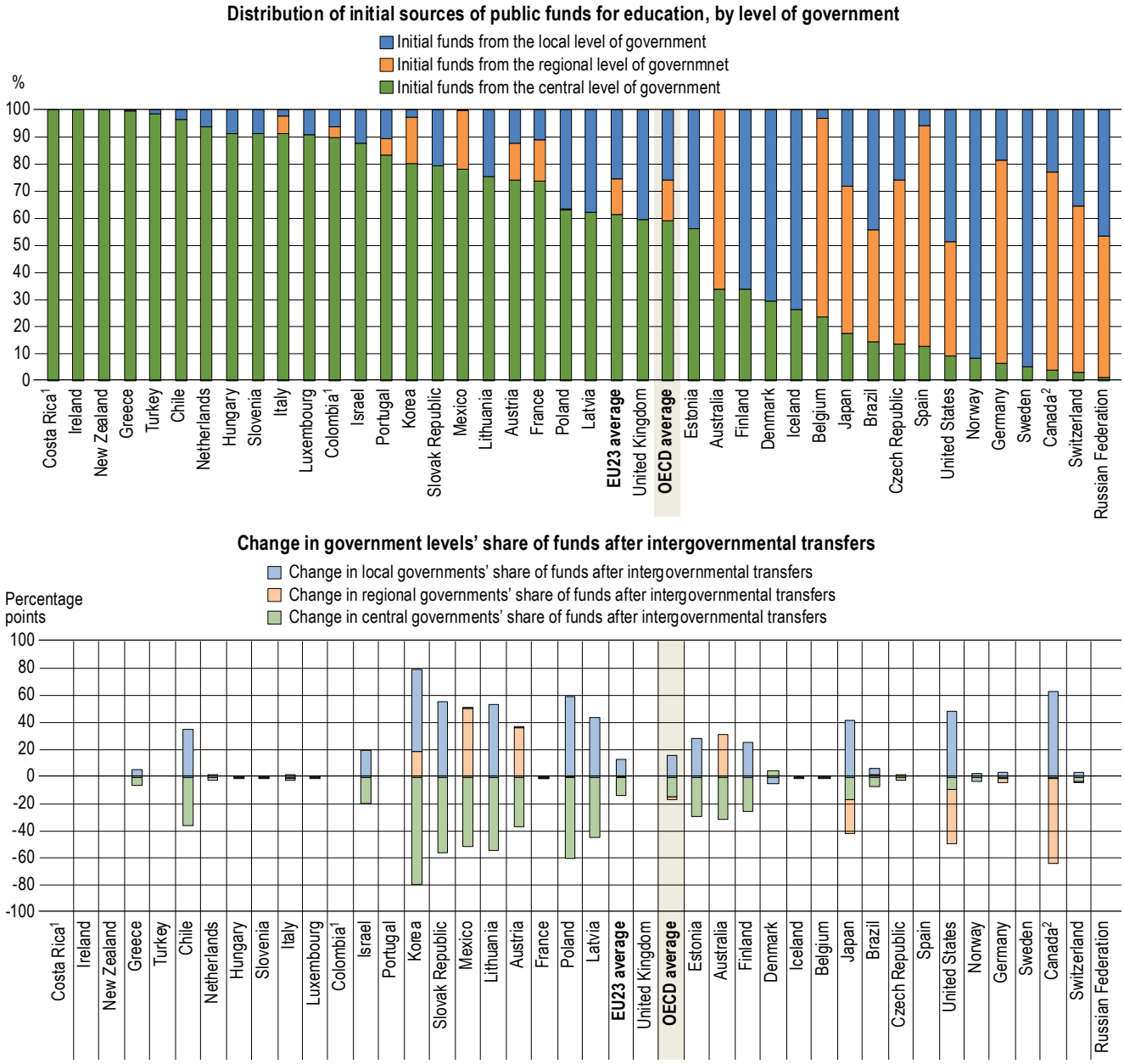
- On average, central and regional governments are the main initial and final sources of funds in non-tertiary education. However, the central government is the only main initial source of funds and the only final purchaser of educational services in Costa Rica, Ireland and New Zealand. In countries such as Chile, Colombia, France, Greece, Hungary, Israel, Italy, Luxembourg, the Netherlands, Portugal, Slovenia, Turkey and the United Kingdom, the central government is the source of the majority of initial funds and the main final purchaser of educational goods and services.
- In Austria, Estonia, Korea, Latvia, Lithuania, Mexico, Poland and the Slovak Republic, the central government is the main initial source of funds, but regional and local authorities are the main final purchasers of educational services in non-tertiary education.
- Regional governments are both the main initial source and the main final spender of education funds in Australia, Belgium, the Czech Republic, Germany, the Russian Federation, Spain and Switzerland. In Canada and Japan, regional governments are the predominant source of initial funds, but local authorities are the main final purchasers of educational services.
- In Denmark, Finland, Iceland, Norway and Sweden, local authorities are both the main initial source of funds and the main final purchasers of educational services. In the United States, both regional and local governments are the main initial sources of funds, but local governments are the main final purchasers.

On average across OECD countries, more funds are transferred from central to regional and local levels of government for non-tertiary education than for tertiary education. This extends the scope for decentralisation at non-tertiary levels of education. On average across OECD countries, the share of public funds for non-tertiary education provided by the central government falls from 59% to 44% after transfers to other levels of government have been accounted for, while the share of local funds rises as a result from 26% to 42%. There is a great deal of variation in the sources of funds before and after transfers from central to lower levels of government. In Korea, Lithuania, Mexico, Poland and the Slovak Republic, the difference is more than 50 percentage points after transfers to regional and local governments, while in Australia, Austria, Chile, Estonia and Finland, the difference is between 25 and 40 percentage points. In Canada and the United States, where the regional level is mostly responsible for transferring funds to schools, the share of regional funding falls by 40 percentage points or more after transfers to local levels of government (Table C4.2 and Figure C4.3).

Tertiary education is much more centralised than non-tertiary education, as the proportion of public funds coming from the central government is relatively large, both before and after transfers to lower levels of government (Table C4.2). On average across the OECD, the central government manages 88% of funds before transfers and this barely changes once intergovernmental transfers are taken into account. In most OECD and partner countries with data available, central government directly provides more than 60% of public funds in tertiary education; in 32 countries, the central government is the main source of initial funding and there are no or small transfers to regional or local governments. In contrast, countries such as Belgium, Germany and Spain source over 60% of tertiary-level funding from regional governments with little or nothing transferred down to local governments. Local authorities typically do not have an important role in financing tertiary education representing around 1% of public funds, with the exception of the United States, where it generates and spends 11% of the funds.

Figure C4.3. Distribution of initial sources of public funds for education and change in government levels' share of funds after intergovernmental transfers (2017)

Primary, secondary and post-secondary non-tertiary education



1. Year of reference 2018.
2. Primary, secondary and post-secondary non-tertiary education includes pre-primary programmes.

Countries are ranked in descending order of the share of initial sources of funds from the central level of government.

Source: OECD/UIS/Eurostat (2020), Table C4.2. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Definitions

Intergovernmental transfers are transfers of funds designated for education from one level of government to another. They are defined as net transfers from a higher to a lower level of government. **Initial funds** refer to the funds before transfers between levels of government, while **final funds** refer to the funds after such transfers.

Public expenditure on education covers expenditure on educational institutions and expenditure outside educational institutions such as support for students' living costs and other private expenditure outside institutions, in contrast to Indicators C1, C2 and C3, which focus only on spending on educational institutions. Public expenditure on education includes expenditure by all public entities, including the education ministry and other ministries, local and regional governments, and other public agencies. OECD countries differ in the ways in which they use public money for education. Public funds may flow directly to institutions or may be channelled to institutions via government programmes or via households. Public funds may be restricted to the purchase of educational services or may be used to support students' living costs.

All government sources of expenditure on education, apart from international sources, can be classified under three levels of government: 1) central (national) government; 2) regional government (province, state, *Bundesland*, etc.); and 3) local government (municipality, district, commune, etc.). The terms "regional" and "local" apply to governments with responsibilities exercised within certain geographical subdivisions of a country. They do not apply to government bodies with roles defined in terms of responsibility for particular services, functions or categories of students that are not geographically circumscribed.

Total government expenditure corresponds to non-repayable current and capital expenditure on all functions (including education) of all levels of government (central, regional and local), including non-market producers (e.g. providing services and goods free of charge, or at prices that are not economically significant) that are controlled by government units, and social security funds. It does not include expenditure derived from public corporations, such as publicly owned banks, harbours and airports. It includes direct public expenditure on educational institutions (as defined above), as well as public support to households (e.g. scholarships and loans to students for tuition fees and student living costs) and to other private entities for education (e.g. subsidies to companies or labour organisations that operate apprenticeship programmes).

Methodology

Figures for total government expenditure and GDP have been taken from the OECD National Accounts Database (see Annex 2).

Public expenditure on education is expressed as a percentage of a country's total government expenditure. The statistical concept of total government expenditure by function is defined by the National Accounts' Classification of the Functions of Government (COFOG). There are strong links between the COFOG classification and the UNESCO, OECD and Eurostat (UOE) data collection, although the underlying statistical concepts differ to some extent (Eurostat (European Commission), 2011[15]).

Expenditure on debt servicing (e.g. interest payments) is included in total government expenditure, but it is excluded from public expenditure on education, because some countries cannot separate interest payments for education from those for other services. This means that public expenditure on education as a percentage of total government expenditure may be underestimated in countries in which interest payments represent a large proportion of total government expenditure on all services.

For more information please see the *OECD Handbook for Internationally Comparative Education Statistics 2018* (OECD, 2018[16]) and Annex 3 for country-specific notes (https://doi.org/10.1787/69096873-en).

Source

Data refer to the financial year 2017 (unless otherwise specified) and are based on the UNESCO, OECD and Eurostat (UOE) data collection on education statistics administered by the OECD in 2019 (for details see Annex 3 at https://doi.org/10.1787/69096873-en). Data from Argentina, the People's Republic of China, India, Indonesia, Saudi Arabia and South Africa are from the UNESCO Institute of Statistics (UIS).

The data on expenditure for 2005, 2012 to 2017 were updated based on a survey in 2019-20, and expenditure figures for 2005 to 2017 were adjusted to the methods and definitions used in the current UOE data collection.

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Indicator C4 Tables

Table C4.1 Total public expenditure on education as a percentage of total government expenditure (2017)

Table C4.2 Distribution of sources of total public funds devoted to education, by level of government (2017)

Table C4.3 Index of change in total public expenditure on education as a percentage of total government expenditure (2005, 2012 and 2017)

Cut-off date for the data: 19 July 2020. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en. More breakdowns can also be found at http://stats.oecd.org/, Education at a Glance Database.

StatLink: https://doi.org/10.1787/888934164712

Table C4.1. Total public expenditure on education as a percentage of total government expenditure (2017)

Initial sources of funds, by level of education

		Secondary					Post-secondary non-tertiary	Primary, secondary and post-secondary non-tertiary	Tertiary				Primary to tertiary (including R&D)		Primary to tertiary (excluding R&D)
		Primary	Lower secondary	Upper secondary			All secondary									
				General programmes	Vocational programmes	All programmes										
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD	**Countries**															
	Australia	4.4	2.7	1.2	0.4	1.6	4.3	0.3	9.0	0.6	2.7	3.3	1.9	12.3	1.8	10.9
	Austria	1.8	2.4	0.6	1.3	1.9	4.3	0.0	6.2	0.6	2.9	3.5	2.6	9.7	0.5	8.8
	Belgium	2.9	1.7	1.3 d	2.0 d	3.4 d	5.1 d	x(3, 4, 5, 6)	8.0	0.1	2.7	2.8	2.0	10.8	0.7	10.0
	Canada[1, 2]	4.7 d	x(1)	x(5)	x(5)	2.9	2.9	m	7.6 d	1.2	2.6	3.8	m	11.3 d	0.9 d	m
	Chile	5.9	2.2	2.7	1.2	3.9	6.1	a	12.0	0.7	4.7	5.4	5.0	17.4	1.8	17.0
	Colombia[2, 3]	3.3	2.8	x(5)	x(5)	1.0	3.8	m	7.1	x(11)	x(11)	2.3	m	9.4	0.9	m
	Costa Rica[3]	4.7	3.1	0.7	0.9	1.6	4.7	a	9.4	x(11)	x(11)	3.7	m	13.1	a	m
	Czech Republic	2.1	2.4	0.5	1.6	2.1	4.4	0.0	6.5	0.0	1.8	1.8	1.0	8.3	0.2	7.5
	Denmark	3.8	2.0	x(5)	x(5)	2.1	4.1	a	7.9	0.5	4.3	4.8	3.1	12.7	2.2	11.0
	Estonia	3.5	1.6	0.9	0.8	1.7	3.3	0.3	7.1	a	2.9	2.9	2.0	10.0	0.2	9.1
	Finland	2.5	2.0	0.7	1.7 d	2.4 d	4.4 d	x(4, 5, 6)	6.9	a	3.1	3.1	2.0	9.9	0.6	8.9
	France	2.1	2.1	1.3	0.7	2.0	4.2	0,0	6.3	0.5	1.7	2.2	1.5	8.4	0.4	7.8
	Germany	1.4	2.6	0.9	0.9	1.9	4.5	0,3	6.3	0.0	2.8	2.8	1.8	9.1	0.9	8.1
	Greece	2.5	1.4	0.9	0.6	1.4	2.8	0,0	5.4	a	1.3	1.3	0.9	6.7	0.0	6.3
	Hungary	1.4	1.4	1.5	0.8	2.3	3.7	0,6	5.7	0.0	1.7	1.7	1.4	7.4	0.3	7.1
	Iceland	5.2	2.4	1.7	0.8	2.5	4.9	0,1	10.2	0.1	3.1	3.2	m	13.4	0.6	m
	Ireland	4.7	1.8	x(5)	x(5)	2.3	4.2	0,4	9.2	x(11)	x(11)	3.7	m	12.9	2.0	m
	Israel	6.0	x(3, 4, 5)	3.0 d	1.7 d	4.7 d	4.7	0,0	10.8	0.5	1.8	2.3	m	13.1	0.4	m
	Italy	2.0	1.4	x(5)	x(5)	2.4 d	3.8 d	x(5, 6)	5.8	0.0	1.5	1.5	1.0	7.3	0.5	6.8
	Japan	2.8	1.7	x(5)	x(5)	1.7 d	3.4 d	x(5, 6, 9, 10, 11)	6.2	0.2 d	1.4 d	1.6 d	m	7.8	0.5	m
	Korea	4.6	2.6	x(5)	x(5)	3.0	5.6	a	10.2	0.3	2.5	2.8	2.0	13.0	1.1	12.2
	Latvia	3.5	1.7	1.2	1.0	2.2	3.9	0.2	7.6	0.3	1.5	1.8	1.4	9.4	0.4	9.0
	Lithuania	2.2	3.1	1.0	0.3	1.3	4.3	0.4	6.9	a	2.3	2.3	1.7	9.2	0.4	8.6
	Luxembourg	2.5	1.8	0.7	1.3	2.0	3.8	0.0	6.3	0.1	1.0	1.1	0.7	7.4	0.1	7.0
	Mexico	5.7	3.1	1.7	1.0	2.7	5.8	a	11.5	x(11)	x(11)	3.5	2.6	15.0	0.9	14.1
	Netherlands	2.7	2.6	0.7	1.6	2.3	4.9	0.0	7.6	0.0	3.7	3.7	2.7	11.4	1.6	10.3
	New Zealand	4.0	2.8	2.1	0.7	2.8	5.6	0.3	9.8	0.4	3.2	3.7	3.1	13.5	1.9	13.0
	Norway	3.7	1.6	1.4	1.4	2.8	4.4	0.1	8.1	0.1	4.1	4.2	2.9	12.3	1.5	11.1
	Poland	3.5	1.6	0.6	1.1	1.7	3.3	0.0	6.8	0.0	2.6	2.6	2.1	9.4	0.4	8.9
	Portugal	3.3	2.5	x(5)	x(5)	2.4 d	4.9 d	x(5, 6)	8.2	0.0	1.7	1.8	1.3	9.9	0.6	9.5
	Slovak Republic	2.1	2.2	0.6	1.3	1.9	4.1	0.1	6.3	0.0	1.9	1.9	1.4	8.2	0.7	7.7
	Slovenia	3.1	1.7	x(5)	x(5)	2.1	3.7	a	6.8	0.1	2.1	2.1	1.8	9.0	0.5	8.7
	Spain	2.7	1.8	1.2	0.8 d	2.0 d	3.8 d	x(4, 5, 6)	6.5	0.4	1.9	2.3	1.6	8.8	0.4	8.1
	Sweden	3.8	1.8	1.4	1.1	2.5	4.3	0.1	8.2	0.2	3.5	3.6	2.4	11.9	1.4	10.6
	Switzerland	4.4	2.6	1.0 d	1.6 d	2.6 d	5.2 d	x(3, 4, 5, 6)	9.6	x(11)	x(11)	4.0	2.0	13.6	0.3	11.6
	Turkey	2.1	2.2	1.2	1.9	3.1	5.3	a	7.4	x(11)	x(11)	4.6	3.8	12.0	1.0	11.2
	United Kingdom	4.1	2.0	1.6	1.0	2.7	4.7	a	8.7	0.3	3.1	3.4	2.8	12.1	2.4	11.5
	United States	4.0	2.1	x(5)	x(5)	2.3	4.4	0.0	8.4	x(11)	x(11)	3.7	3.2	12.1	1.4	11.6
	OECD average	3.4	2,1	1,2	1,1	2,3	4,4	m	7.9	0.3	2.5	2.9	2.1	10.8	0.9	9.8
	EU23 average	2.8	2.0	1.0	1.1	2.1	4.1	0.2	7.0	0.2	2.4	2.6	1.8	9.6	0.8	8.7
Partners	Argentina	3.9	3.1	x(5)	x(5)	2.2	5.2	a	9.2	x(11)	x(11)	2.9	m	12.1	0.2	m
	Brazil	4.1	3.4	x(5)	x(5)	3.1 d	6.5 d	x(5, 6)	10.6	x(11)	x(11)	4.0	3.6	14.6	1.3	14.2
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia[3]	m	m	m	m	m	m	a	m	m	m	m	m	m	m	m
	Russian Federation	x(3, 4, 5, 6)	x(3, 4, 5, 6)	6.4 d	0.3 d	6.6 d	6.6 d	x(3, 4, 5, 6)	6.6	0.5	1.8	2.2	2.1	8.9	0.2	8.7
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	6.8	2.1	x(5)	x(5)	3.0	5.2	0.6	12.6	x(11)	x(11)	2.5	m	15.1	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: Public expenditure presented in this table includes both public transfers and payments to the non-educational private sector which are attributable to educational institutions, and those to households for living costs, which are not spent in educational institutions. Therefore, the data presented here (before transfers) exceed those from public spending on institutions found in Indicators C1, C2 and C3. Data on public expenditure as a share of GDP (i.e. Columns 16 to 19) are available for consultation on line (see StatLink below). See *Definitions* and *Methodology* sections for more information. Data and more breakdowns available at http://stats.oecd.org/, Education at a Glance Database.

1. Primary education includes pre-primary programmes.
2. Post-secondary non-tertiary figures are treated as negligible.
3. Year of reference 2018.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934164731

Table C4.2. Distribution of sources of total public funds devoted to education, by level of government (2017)

Before and after transfers, by level of education

		Primary, secondary and post-secondary non-tertiary						Tertiary						Primary to tertiary					
		Initial funds (before transfers between levels of government)			Final funds (after transfers between levels of government)			Initial funds (before transfers between levels of government)			Final funds (after transfers between levels of government)			Initial funds (before transfers between levels of government)			Final funds (after transfers between levels of government)		
		Central	Regional	Local	Central	Regional	Local	Central	Regional	Local	Central	Regional	Local	Central	Regional	Local	Central	Regional	Local
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
OECD	Countries																		
	Australia	34	66 d	x(2)	3	97 d	x(5)	90	10 d	x(8)	87	13 d	x(13)	49	51 d	x(14)	26	74 d	x(17)
	Austria	74	14	12	37	50	13	96	4	1	96	3	1	82	10	8	58	33	8
	Belgium	24	73	3	24	73	3	15	84	1	14	85	1	21	76	2	21	76	2
	Canada[1]	4 d	73 d	23 d	3 d	10 d	86 d	m	m	m	m	m	m	m	m	m	m	m	m
	Chile	97	a	3	61	a	39	100	a	0	100	a	0	98	a	2	73	a	27
	Colombia[2]	90	4	6	90	4	6	97	3	0	97	3	0	92	4	4	92	4	4
	Costa Rica[2]	100	a	a	100	a	a	100	a	a	100	a	a	100	a	a	100	a	a
	Czech Republic	14	60	26	12	62	26	97	2	2	97	2	2	32	48	21	30	49	21
	Denmark	29	0	71	34	0	66	92	0	8	92	0	8	53	0	47	56	0	44
	Estonia	56	a	44	28	a	72	100	a	0	100	a	0	69	a	31	48	a	52
	Finland	34	a	66	8	a	92	99	a	1	99	a	1	54	a	46	36	a	64
	France	74	16	11	73	15	12	86	10	5	86	10	5	77	14	9	76	14	10
	Germany	6	75	18	6	72	22	30	68	2	20	78	2	14	73	13	10	74	16
	Greece	100	a	0	94	a	6	100	a	a	100	a	a	100	a	0	95	a	5
	Hungary	91	a	9	91	a	9	100	a	0	100	a	0	93	a	7	93	a	7
	Iceland	26	a	74	26	a	74	100	a	a	100	a	a	44	a	56	43	a	57
	Ireland	100	a	a	100	a	a	100	a	a	100	a	a	100	a	a	100	a	a
	Israel	88	a	12	68	a	32	97	a	3	97	a	3	89	a	11	73	a	27
	Italy	91	7	2	91	6	4	86	14	0	84	16	0	90	8	2	89	8	3
	Japan	17	55	28	1	30	70	91 d	9 d	0 d	90 d	9 d	0 d	33	45	22	19	25	55
	Korea	80	17	2	1	36	63	96	2	2	96	2	2	84	14	2	21	29	50
	Latvia	62	a	38	18	a	82	100	a	0	100	a	0	69	a	31	34	a	66
	Lithuania	75	a	25	22	a	78	99	a	1	99	a	1	81	a	19	41	a	59
	Luxembourg	91	a	9	91	a	9	100	a	0	100	a	0	92	a	8	92	a	8
	Mexico	78	22	0	27	73	0	82	18	0	80	20	0	79	21	0	39	61	0
	Netherlands	94	0	6	92	0	8	100	0	a	100	0	a	96	0	4	94	0	5
	New Zealand	100	a	a	100	a	a	100	a	a	100	a	a	100	a	a	100	a	a
	Norway	8	a	92	5	a	95	98	a	2	98	a	2	39	a	61	37	a	63
	Poland	63	1	36	4	2	95	100	0	0	100	0	0	73	0	26	30	1	69
	Portugal	83	6	11	83	6	11	100	0	0	100	0	0	86	5	9	86	5	9
	Slovak Republic	80	a	20	24	a	76	100	a	0	99	a	1	84	a	16	41	a	59
	Slovenia	91	a	9	91	a	9	99	a	1	99	a	1	93	a	7	93	a	7
	Spain	12	82	6	12	82	6	18	81	1	18	81	1	14	82	4	14	82	4
	Sweden	5	a	95	5	a	95	98	2	1	98	2	1	34	1	66	34	1	66
	Switzerland	3	62	35	0	60	39	35	65	0	18	82	0	13	62	25	6	67	28
	Turkey	99	a	1	99	a	1	100	a	0	100	a	0	99	a	1	99	a	1
	United Kingdom	60	a	40	60	a	40	100	a	0	100	a	0	71	a	29	71	a	29
	United States	9	42	49	1	2	98	53	36	11	53	36	11	23	40	37	17	12	71
	OECD average	59	15	26	44	13	42	88	11	1	87	12	1	68	13	19	56	13	30
	EU23 average	61	13	25	48	14	38	87	11	1	87	12	1	69	13	18	58	14	28
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	14	42	44	7	43	50	75	24	1	75	24	1	31	37	32	26	38	36
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia[2]	m	m	m	m	m	m	m	a	a	m	a	a	m	m	m	m	m	m
	Russian Federation	1	52	46	1	52	46	79	21	0	79	21	0	21	44	35	21	44	35
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: Some levels of education are included with others. Refer to "x" code on Table C4.1 for details. See *Definitions* and *Methodology* sections for more information. Data and more breakdowns available at http://stats.oecd.org/, Education at a Glance Database.

1. Primary, secondary and post-secondary non-tertiary education includes pre-primary programmes.

2. Year of reference 2018.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table C4.3. Index of change in total public expenditure on education as a percentage of total government expenditure (2005, 2012 and 2017)

Initial sources of funds, by level of education and year

		Primary, secondary and post-secondary non-tertiary			Tertiary			Primary to tertiary								
		Change in public expenditure on education as a percentage of total government expenditure (2015 = 100)			Change in public expenditure on education as a percentage of total government expenditure (2015 = 100)			Change in public expenditure on education (2015 = 100)			Change in public expenditure on education as a percentage of total government expenditure (2015 = 100)			Change in total government expenditure (2015 = 100)		
		2005	2012	2017	2005	2012	2017	2005	2012	2017	2005	2012	2017	2005	2012	2017
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD	**Countries**															
	Australia	m	m	m	m	m	m	m	m	m	m	m	m	70.7	89.9	103.2
	Austria	m	100.9	102.1	m	102.3	99.8	m	99.9	101.7	m	101.4	101.2	89.0	98.5	100.5
	Belgium	98.0	98.0	101.9	93.1	95.8	105.1	81.4	98.4	102.7	96.7	97.4	102.7	84.1	101.0	100.0
	Canada[1]	x(10)	100.0 [d]	96.7 [d]	x(10)	94.3	112.4	83.2 [d]	94.8 [d]	107.0 [d]	101.7 [d]	98.3 [d]	101.5 [d]	81.8	96.4	105.5
	Chile	114.9	118.4	111.4	44.9	82.5	106.9	51.5	91.7	115.4	92.6	107.0	110.0	55.6	85.7	105.0
	Colombia	m	m	103.7	m	m	110.0	37.2	89.2	110.5	m	m	110.0	m	m	100.4
	Costa Rica	m	101.7	m	m	87.9	m	m	85.3	m	m	98.4	m	66.1	86.7	142.4
	Czech Republic	m	97.1	108.7	m	121.0	97.8	85.3	101.8	106.0	103.2	102.7	106.2	82.7	99.1	99.8
	Denmark	m	m	m	m	m	m	m	m	m	m	m	m	87.2	101.3	99.0
	Estonia	x(10)	118.8	102.3	x(10)	74.5	82.1	93.0	97.1	104.0	125.4	103.9	95.5	74.2	93.4	108.8
	Finland	107.3	101.1	95.5	117.7	107.0	92.7	91.3	101.9	95.3	110.5	103.0	94.6	82.6	98.9	100.7
	France	110.9	100.8	100.8	99.7	98.7	99.3	92.4	98.1	103.0	108.0	100.2	100.4	85.6	97.9	102.6
	Germany	100.6	102.9	98.2	82.7	100.4	98.9	87.5	99.7	104.0	95.1	102.1	98.4	92.0	97.6	105.6
	Greece	x(10)	95.6	107.9	x(10)	99.6	96.8	145.8	103.6	94.7	137.8	96.5	105.5	105.8	107.3	89.7
	Hungary	125.5	94.2	105.3	159.3	125.9	133.3	117.6	88.5	109.4	132.0	100.2	110.6	89.1	88.4	98.9
	Iceland	x(10)	95.1	97.9	x(10)	98.0	93.3	92.7	91.2	112.0	112.8	95.8	96.8	82.2	95.1	115.7
	Ireland	m	m	106.3	m	m	97.3	m	m	104.7	m	m	103.5	81.6	105.7	101.1
	Israel	76.1	94.8	101.9	87.0	95.9	92.5	61.5	91.8	110.8	78.2	95.0	100.1	78.7	96.6	110.7
	Italy	x(10)	99.2	102.7	x(10)	102.6	102.6	110.9	101.5	102.3	112.6	99.9	102.7	98.6	101.6	99.6
	Japan	109.3	102.4	98.1	92.3 [d]	105.3 [d]	97.7 [d]	90.5	102.7	99.0	105.8	103.0	98.0	85.5	99.6	101.0
	Korea	m	m	m	m	m	95.3	m	m	m	m	m	m	63.9	92.6	105.8
	Latvia	111.9	86.3	86.2	78.9	81.7	59.1	80.1	78.9	83.7	103.3	85.1	79.1	77.6	92.7	105.8
	Lithuania	141.3	112.7	102.3	89.5	113.7	67.6	94.5	106.6	91.7	124.1	113.0	90.8	76.1	94.3	101.0
	Luxembourg	m	m	92.1	m	m	89.0	m	96.3	98.3	m	m	91.6	m	m	107.3
	Mexico	132.0	98.3	95.5	100.2	87.4	87.6	74.8	89.8	90.9	124.1	95.6	93.6	60.3	93.9	97.2
	Netherlands	105.1	98.2	100.9	90.9	92.2	103.6	85.6	97.7	101.8	100.5	96.3	101.7	85.2	101.5	100.1
	New Zealand	m	99.5	96.7	m	98.1	89.4	m	97.3	100.2	m	99.1	94.6	77.4	98.2	105.9
	Norway	x(10)	107.0	99.1	x(10)	112.7	105.1	91.5	98.0	105.6	122.0	108.9	101.0	75.5	83.7	105.9
	Poland	117.0	103.3	95.3	91.4	89.9	89.4	79.4	94.0	100.1	109.6	99.4	93.6	72.4	94.5	107.0
	Portugal	x(10)	102.3	112.6	x(10)	92.2	95.2	104.7	99.9	108.3	106.7	100.2	109.1	98.2	99.7	99.3
	Slovak Republic	x(10)	101.8	108.2	x(10)	75.3	63.0	56.1	76.6	88.6	93.2	92.8	92.8	60.2	82.6	95.5
	Slovenia	134.8	110.5	108.2	132.9	120.8	107.2	114.2	110.1	105.6	134.3	113.0	108.0	85.0	97.5	97.8
	Spain	113.4	93.5	105.6	110.3	95.7	103.9	94.2	100.5	104.6	112.6	94.1	105.1	83.7	106.8	99.5
	Sweden	104.6	98.9	107.1	91.1	99.6	97.0	87.3	94.3	108.4	100.2	99.2	103.8	87.2	95.1	104.4
	Switzerland	108.3	107.9	99.8	103.8	101.2	101.0	87.9	97.9	104.1	107.0	105.9	100.1	82.1	92.4	104.0
	Turkey	m	95.9	90.8	m	99.5	97.5	m	84.2	110.6	m	97.2	93.3	m	86.7	118.6
	United Kingdom	m	92.8	95.7	m	93.1	108.7	m	93.3	100.0	m	92.9	99.0	86.0	100.4	101.0
	United States	109.9	97.6	101.4	100.0	101.3	106.0	89.3	97.4	107.1	107.0	98.7	102.8	83.5	98.7	104.2
	OECD average	m	100.9	101.1	m	98.3	96.7	87.9	95.6	102.7	109.5	99.9	99.9	80.8	95.9	104.0
	EU23 average	m	100.4	102.1	m	99.1	95.0	94.5	97.1	100.9	111.4	99.7	99.8	84.7	98.0	101.1
Partners	**Argentina**	120.3	105.2	92.0	89.5	101.0	102.2	49.0	90.5	94.4	113.4	104.3	94.3	43.2	86.8	100.1
	Brazil	75.8	105.7	98.4	61.7	66.1	114.0	56.6	92.7	99.9	72.4	96.1	102.2	78.2	96.5	97.7
	China	m	m	m	m	m	m	m	m	m	m	m	m	23.0	71.4	114.1
	India	m	m	m	m	m	m	m	m	m	m	m	m	48.6	81.8	115.0
	Indonesia	m	86.0	m	m	95.9	m	m	81.4	m	m	87.8	m	57.2	92.7	104.6
	Russian Federation	m	113.1	126.4	m	102.6	97.1	m	105.9	117.9	m	109.9	117.5	64.6	96.4	100.4
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	40.4	73.5	82.4
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	65.9	90.2	100.9
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	68.3	91.8	103.1

Note: Public expenditure presented in this table includes both public transfers and payments to the non-educational private sector which are attributable to educational institutions, and those to households for living costs, which are not spent in educational institutions. Therefore, the figures presented here (before transfers) exceed those from public spending on institutions found in Indicators C1, C2 and C3. See *Definitions* and *Methodology* sections for more information. Data and more breakdowns available at http://stats.oecd.org/, Education at a Glance Database.

1. Primary, secondary and post-secondary non-tertiary education includes pre-primary programmes.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Indicator C5. How much do tertiary students pay and what public support do they receive?

Highlights

- Public institutions charge no tuition fees for bachelor's or equivalent programmes in nearly one-third of OECD countries and economies with data. In a similar number of countries, annual tuition fees are below USD 2 000, while in the remaining countries, tuition fees range from about USD 2 600 to over USD 8 000 per year.
- Short-cycle tertiary programmes often represent a cheaper alternative to bachelor's programmes and tend to be more oriented towards specific professions.
- In Australia, Denmark, New Zealand, Norway and Sweden, at least 80% of national students receive public financial support in the form of student loans, scholarships or grants. In the last decade, the share of students receiving public financial support increased by at least 14 percentage points in Chile, Denmark and Italy, while the share remained stable in all other OECD countries and economies with available data.

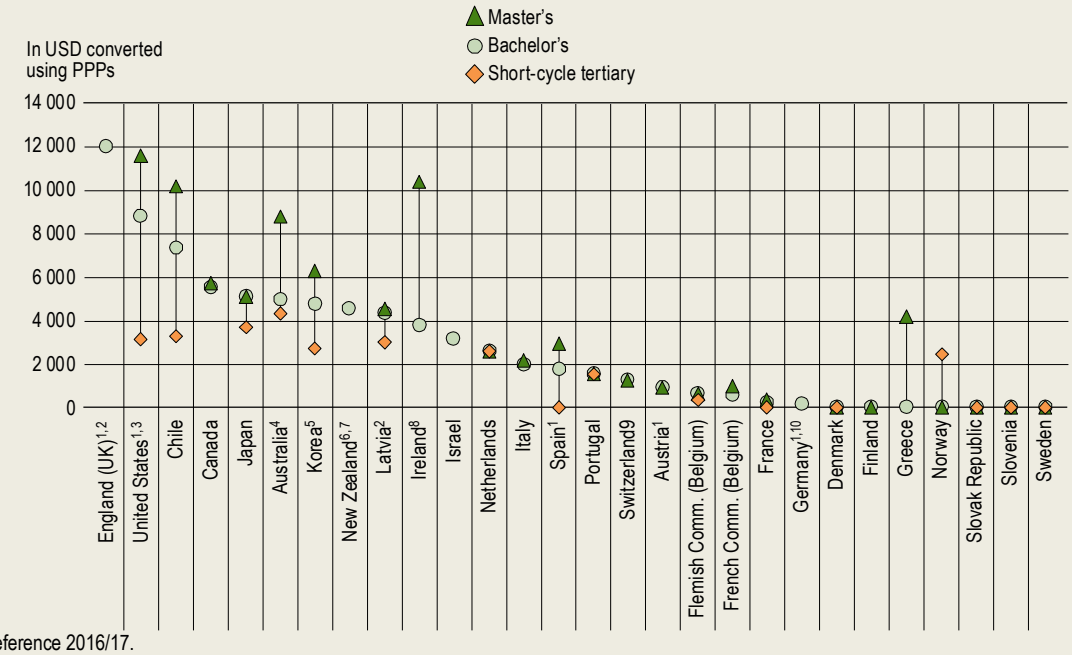
Context

OECD and partner countries have different approaches to providing financial support to students and to sharing the costs of tertiary education among governments, students and their families, and other private entities.

Tuition fees bridge the gap between the costs incurred by tertiary educational institutions and the revenues they receive from sources other than students and their families. Many factors may influence the level of costs, including the salaries of teachers and researchers, development of digital learning and non-teaching services, changes in demand for tertiary education, investments to support internationalisation, and the amount and type of research activities undertaken by faculty and staff. Tertiary institutions partly cover their costs through internal resources (endowments) or revenue from private sources other than students and their families (see Indicator C3). The remainder is covered by student tuition fees and public sources.

Public support to students and their families can be a way to encourage participation in education, while also indirectly funding tertiary institutions. Channelling funding to institutions through students may also help to increase competition among institutions and encourage them to better respond to student needs. Support for students comes in many forms, including means-based subsidies, family allowances for students, tax allowances for students or their parents and other household transfers. Governments strive to strike the right balance among these different subsidies, especially in periods of financial crisis. For a given amount of subsidies, public support such as tax reductions may provide less support for low-income students than means-tested subsidies, as tax reductions are not targeted specifically at low-income students. However, such measures may still help to reduce the financial disparities between households with and without children in education.

Figure C5.1. Annual average (or most common) tuition fees charged by tertiary public educational institutions to national students, by level of education (2017/18)



1. Year of reference 2016/17.
2. Government-dependent private instead of public institutions.
3. Figures for master's and doctoral programmes combined.
4. Year of reference 2017.
5. Year of reference 2018.
6. Bachelor's programmes refer to both short-cycle tertiary and bachelor's programmes combined.
7. Estimates include universities only and exclude postgraduate certificates and diplomas.
8. Tuition fees paid by students instead of fees charged by institutions. Figures cover universities only.
9. Figures refer to both public and government-dependent private institutions combined.
10. Bachelor's programmes refer to bachelor's, master's and doctoral academic programmes combined.

Countries and economies are ranked in descending order of the annual tuition fees charged by public institutions for bachelor's or equivalent programmes.

Source: OECD (2020), Table C5.1. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Other findings

- In over one-third of countries with available data, tuition fees are at least twice as high in independent private institutions as in public institutions.
- In recent years, OECD countries and economies have passed several reforms to improve access to tertiary education. Chile, Italy, Greece, Korea and Portugal implemented measures to expand access to tertiary education to students from disadvantaged backgrounds, while New Zealand increased public subsidies to make the first year of tertiary education free of tuition fees for new students or trainees. England (United Kingdom) has expanded its income-contingent loan programmes.
- Among countries with data available, the average amount that students borrow ranges from USD 2 400 a year in Latvia to over USD 10 000 in England (United Kingdom) and Norway (where tuition is free of charge and loans finance students' living costs). Scholarships or grants received by students range from less than USD 1 000 a year in Estonia and the Slovak Republic to over USD 7 000 in Australia, Austria, Denmark, Switzerland and the United States.
- In over half of the countries with available data, tuition fees for bachelor's degrees in public institutions have increased by at least 15% over the past decade. In Canada, Italy, Spain and the United States, tuition fees for the academic year 2016/17 (2017/18 for Canada and Italy) were between 25% and 46% higher than in 2007/08 while the largest increase was observed in England (United Kingdom), where tuition fees tripled over this period.

Analysis

Differentiation of tuition fees

Differentiation by type of degree

Entry into tertiary education often means costs for students and their families, both in terms of tuition fees and living expenses, although they may also receive financial support to help them afford it. Most national students entering tertiary programmes enrol at bachelor's or equivalent level in OECD countries (see Indicator B4). Public institutions charge no tuition fees to national students in nearly one-third of countries, including Denmark, Finland, Greece, Norway, the Slovak Republic, Slovenia and Sweden (Figure C5.1). In a similar number of countries, tuition fees are moderate, with the average cost for students below USD 2 000. In the remaining countries, tuition fees range from about USD 2 600 to over USD 8 000 per year. They exceed USD 10 000 in England (United Kingdom), where the majority of students enrol in government-dependent private institutions (Figure C5.1).

In many OECD countries, short-cycle tertiary programmes are expanding, with higher first-time graduation rates at this level in 2018 than in 2010 (see Indicator B5). These programmes consist mostly of tertiary-level vocational education and training and therefore prepare students for specific occupations. Short-cycle tertiary programmes offer slightly less positive employment prospects and earnings than other tertiary qualifications (see Indicators A3 and A4), but they provide a shorter and cheaper tertiary education and, in a number of countries, a better benefit-to-cost ratio than long-cycle tertiary programmes such as bachelor's and master's (OECD, 2019[1]). Tuition fees for short-cycle tertiary programmes in public institutions are generally much lower than for bachelor's programmes. Generally, they are free of charge in Denmark, France, the Slovak Republic, Slovenia, Spain and Sweden and they amount to less than half the tuition fees for bachelor's programmes in Chile and the United States, where they are below USD 3 500. In contrast, tuition fees for short-cycle tertiary programmes in public institutions are the same as for bachelor's programmes in the Netherlands and Portugal. In Norway, short-cycle tertiary is the only tertiary programme that is not free of charge (Figure C5.1).

Higher tertiary education after a bachelor's degree leads to better labour-market outcomes. Graduates with a master's or doctoral or equivalent degree have better employment opportunities and earnings prospects (see Indicator A4). However, despite the earnings advantage from completing a master's programme or a doctorate, tuition fees in public institutions for full-time national students in these programmes are similar to those for bachelor's programmes in the majority of OECD countries (Table C5.1). The additional expenses that master's and doctoral students face are limited to the additional years of education and the foregone earnings due to the delayed entry into the labour market. In most countries where tuition is free of charge at bachelor's level, there are also no fees at master's and doctoral levels. In other countries, similar tuition fees are charged on average across the different levels of tertiary education, as in Austria, Canada, the Flemish Community of Belgium, Italy, Japan, the Netherlands, Portugal and Switzerland (Table C5.1).

In contrast, tuition fees for master's programmes in public institutions are about 30% higher than for bachelor's programmes in Chile, France, Korea and the United States, while in Australia, the French Community of Belgium and Spain they are over 50% higher (Table C5.1). These higher fees may limit participation at this level, if they are not paired with financial support to students. In a few countries (e.g. Australia, Italy and Switzerland), public institutions charge lower fees for doctoral programmes than for bachelor's and master's programmes to promote enrolment in doctoral programmes and attract talent for research and innovation. In Australia, for example, the annual average tuition fees in public institutions for doctoral programmes are about 15 times lower than for bachelor's programmes (less than USD 300 compared to about USD 5 000). In fact, very few national doctoral students are charged any fees in Australia (less than 5% of doctoral students in public institutions). However, public institutions in Chile, France, Korea, New Zealand and the United States charge higher tuition fees for doctoral programmes than for bachelor's programmes (data for the United States refer to master's and doctoral programmes combined) (Table C5.1).

Differentiation by type of institution

Some institutions may struggle to strike a balance between offering an affordable education and their need for financial resources, leading to different levels of tuition fees in different types of institutions (see Definitions section). Independent private institutions are often less affected by government regulation and less reliant on public funds than public institutions. In some cases, they are also more pressed by competition to provide the best possible services to students. As a result, they charge higher annual tuition fees than public institutions for bachelor's programmes in all OECD countries with available data (Table C5.1). In addition, countries may differentiate tuition fees by field of study in order to attract students to certain fields or to reflect differences in labour-market opportunities (see Box C5.1).

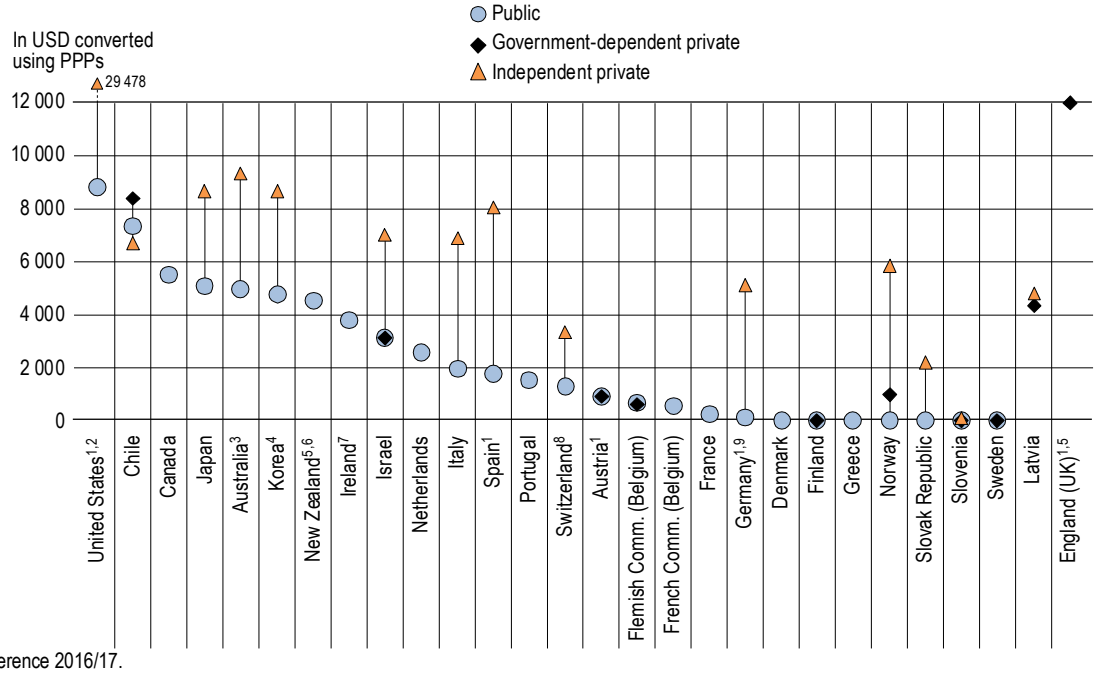
In most OECD countries and economies with available data, over 80% of all students in bachelor's programmes enrol in public institutions. In only about one-fifth of OECD countries and economies are the majority of students enrolled in private institutions. The share exceeds 85% in England (United Kingdom), Israel and Latvia, where the majority of students at this level are enrolled in government-dependent private institutions (Table C5.1).

In over one-third of countries with available data, tuition fees for bachelor's or equivalent programmes are at least twice as high in independent private institutions as in public institutions (Figure C5.2). In the United States, the average annual tuition fee charged by independent private institutions for national students at the bachelor's or equivalent level is USD 29 500, more than three times the average annual tuition fee in public institutions (USD 8 800). In Japan and Korea, average annual tuition fees at this level are between USD 8 500 and USD 8 600 in independent private institutions, while they are closer to USD 5 000 in public institutions. Tuition fees are about four times higher in independent private institutions than in public institutions in Spain, about three times higher in Italy, and about twice as high in Israel and Switzerland. In the Slovak Republic, tuition fees for bachelor's or equivalent programmes are around USD 2 100 in independent private institutions, while public institutions do not charge tuition fees. Similarly, in Norway, the annual average tuition fees for bachelor's and master's degrees combined are around USD 5 800 in independent private institutions, while there are no tuition fees in public institutions (Table C5.1).

In contrast, the difference in average annual tuition fees at the bachelor's or equivalent level between public institutions and government-dependent private institutions is relatively small in most countries with available data. Neither type of institution charges fees in Finland, Slovenia and Sweden, and government-dependent private and public institutions charge very similar average tuition fees in Austria, Chile, the Flemish Community of Belgium and Israel (Table C5.1).

Figure C5.2. Tuition fees charged by tertiary educational institutions to national students for bachelor's or equivalent programmes, by type of institution (2017/18)

Annual average (or most common) tuition fees charged to full-time national students



1. Year of reference 2016/17.
2. Figures typically refer to tuition fees for out-of-state national students. However, in a minority of institutions, tuition fees can be lower for out-of-state national students.
3. Year of reference 2017.
4. Year of reference 2018.
5. Figures refer to short-cycle tertiary and bachelor's programmes combined.
6. Estimates include universities only and exclude postgraduate certificates and diplomas.
7. Tuition fees paid by students instead of fees charged by institutions. Figures cover universities only.
8. Figures for public institutions refer to both public and government-dependent private institutions combined.
9. Figures refer to bachelor's, master's and doctoral academic programmes combined.

Countries and economies are ranked in descending order of the annual tuition fees charged by public institutions for bachelor's or equivalent programmes.

Source: OECD (2020), Table C5.1. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

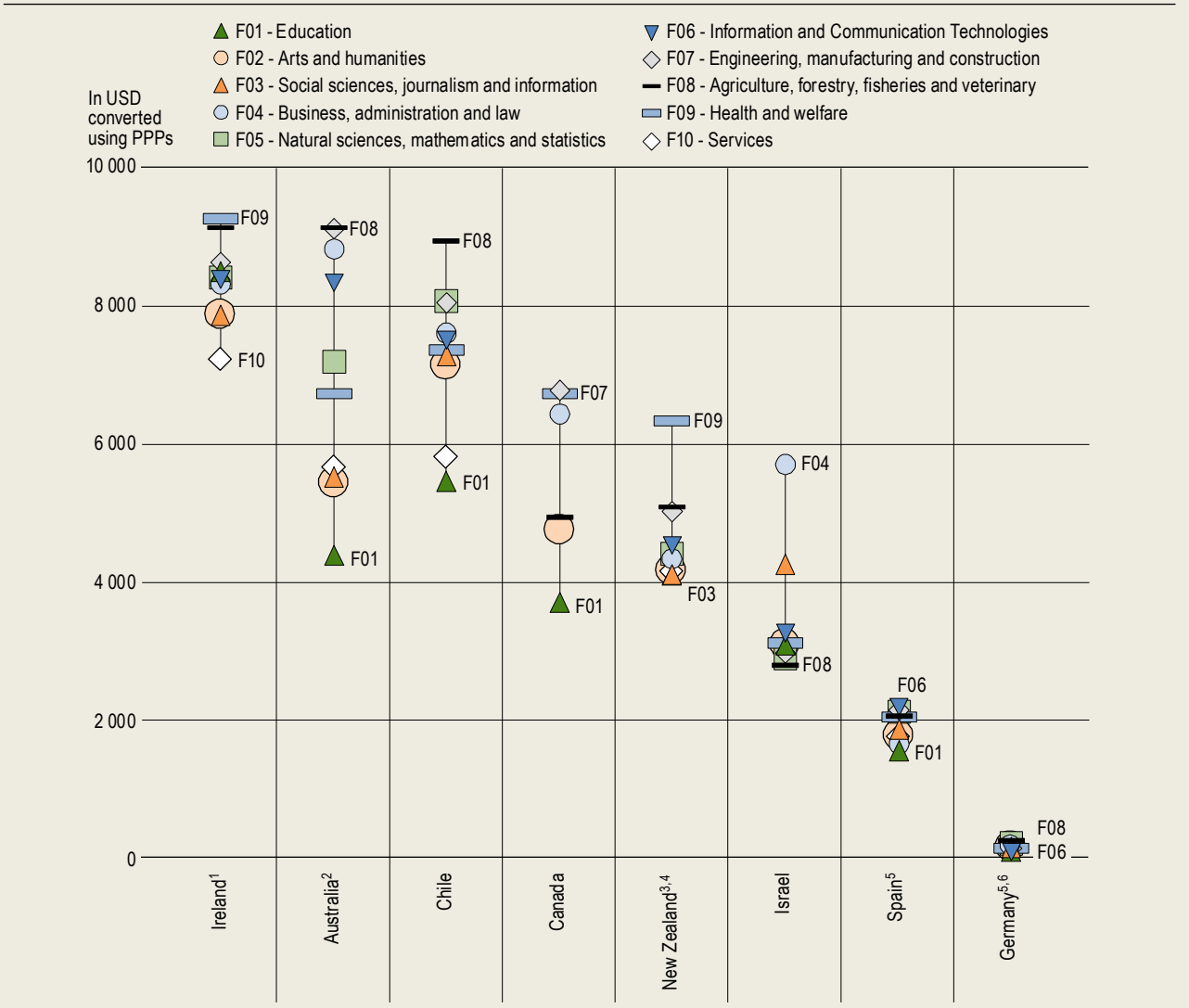
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Box C5.1. Tuition fees by fields of study

OECD countries often differentiate tuition fees by field of study in order to attract students to fields that are less in demand and to account for differences in costs and labour-market opportunities. The latter is one of the main reasons for introducing differentiated fees, although in some countries differences in tuition fees between fields of study may result from differences in tuition fees and enrolment between institutions rather than differences within institutions.

Figure C5.3. Tuition fees charged by tertiary public educational institutions to national students for first-cycle tertiary programmes, by field of study (2017/18)

Annual average (or most common) tuition fees charged to full-time national students



1. Tuition fees charged by institutions differ significantly from those paid by students. See Figure C5.6 for more information.
2. Year of reference 2017.
3. Figures refer to both short-cycle tertiary and bachelor's programmes combined.
4. Estimates include universities only and exclude postgraduate certificates and diplomas.
5. Year of reference 2016/17.
6. Figures refer to bachelor's, master's and doctoral academic programmes combined.

Countries are ranked in descending order of the fields in which the highest average annual tuition fees are charged.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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The differences in fees charged by public institutions for different fields of study are limited for first-cycle degree programmes (bachelor's and long first master's degrees) in Germany and Spain, while Australia, Canada, Chile and Ireland have the largest range of tuition fees across fields of study. Australia has the greatest variation: public institutions charge over USD 9 000 per year on average for first-cycle tertiary programmes in the two broad fields of engineering, manufacturing and construction, and agriculture, forestry, fisheries and veterinary compared with just over USD 4 000 per year for programmes in the field of education (Figure C5.3).

The fees charged by public institutions for programmes in the field of education are among the lowest in four out of the seven countries with data available (Australia, Canada, Chile and Israel). Fields such as engineering, manufacturing and construction; agriculture, forestry, fisheries and veterinary; and health and welfare are among the most expensive, as some of them often have the highest market returns (Figure C5.3).

Differentiation for foreign students

Tuition fee policies generally cover all students studying in the country's educational institutions, including foreign students (see *Definitions* section). However, tuition fees may be higher for foreign students, and differences in fees for national and foreign students can have an impact on the international flows of students (see Indicator B6), among other factors such as public support from their home countries (OECD, 2017[2]). An increasing number of OECD countries charge higher tuition fees to foreign students than to national ones.

National and foreign students are generally charged similar tuition fees in Chile, the Flemish Community of Belgium, France, Israel, Italy, Japan, Korea and Spain. This is also the case in Greece, Norway and the Slovak Republic, where tuition is free of charge for both national and foreign students. In the European Union (EU) and European Economic Area (EEA), countries charge the same tuition fees to nationals and students from other EU and EEA countries. In some countries, however, the difference in tuition fees for national and foreign students can be significant. For instance, in Australia, Canada, and the United States, public institutions charge on average over USD 13 500 more per year for foreign students than for national students at the bachelor's level (Table C5.1). In the United States, national students who study outside their state also pay higher tuition fees than in-state students. In Austria, although the average tuition fees charged by public institutions to students who are not citizens of EU or EEA countries are twice as high as those for national students (for bachelor's, master's and doctoral programmes), these fees remain relatively moderate. In Sweden, tuition fees for non-EU bachelor's students reach USD 14 900 per year, while tuition is free for national students and citizens of EU countries. In Finland, as of the academic year 2017/18, tuition fees were introduced for students who are not citizens of EU or EEA countries and who are enrolled in bachelor's or master's programmes taught in English (Table C5.1).

Higher tuition fees do not necessarily discourage foreign students from studying abroad, however. Tertiary education in countries with higher fees for foreign students can still be attractive because of the quality and prestige of their educational institutions or the expected labour-market opportunities in the country after graduation. For instance, in Australia, Austria and Canada, international or foreign students make up at least 12% of students enrolled at the bachelor's level, compared to only 5% across OECD countries (see Indicator B6).

Public reforms to tuition fees and public financial support to students

Reforms related to the level of tuition fees and the availability of scholarships, grants and loans are intensely debated in national education policy. They are often discussed in tandem, as countries seek to improve or adjust how the public and private sectors (including students and their families) share the costs of tertiary education. Between the academic years 2007/08 and 2017/18, 12 out of 20 countries and economies with available information have undertaken tuition fee reforms. In eight of them, reforms to tuition fees were accompanied by changes in the level of public subsidies available to students (Table C5.2).

In over half of the countries with available data, tuition fees for bachelor's degrees in public institutions have increased by at least 15% over the past decade, in real terms. This is the case for countries like Canada, Italy, Spain and the United States, where tuition fees in the academic year 2016/17 (2017/18 for Canada) were between 25% and 46% higher than in 2007/08. The largest increase was in England (United Kingdom), where tuition fees tripled in the same period. The only two countries that registered a decrease were Austria and Germany. In contrast, there was no change over this period among the countries

charging no tuition fees in 2007/08 (Denmark, Finland, Greece, Norway, the Slovak Republic and Slovenia). In Australia, Chile, France and Ireland, tuition fees remained fairly stable and did not increase by more than 10% (Table C5.2).

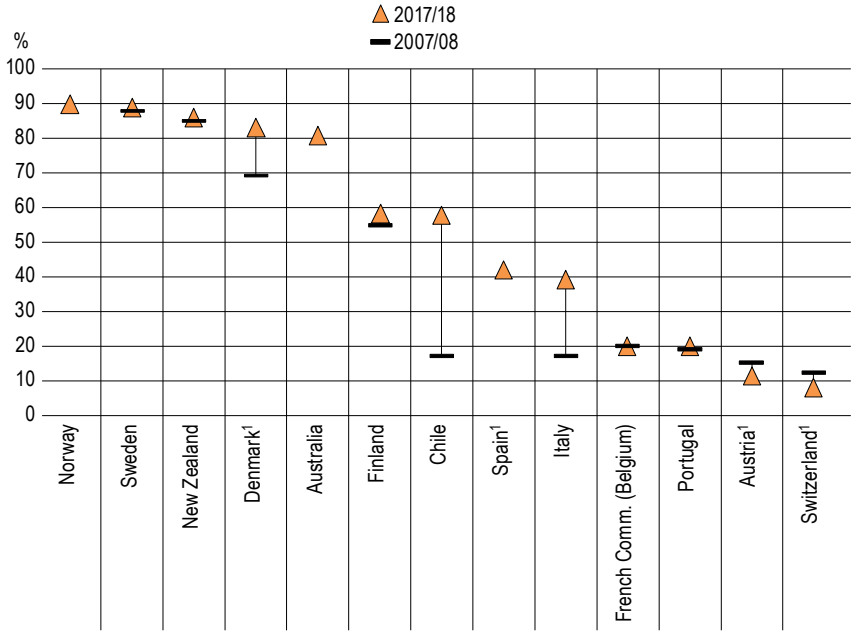
OECD countries have different approaches to providing financial support to students enrolled in tertiary education. Regardless of the level of tuition fees, countries and economies can be categorised according to the level of public financial support available to tertiary students. In Australia, Denmark, New Zealand, Norway and Sweden, at least 80% of national students receive public financial support in the form of student loans, scholarships or grants, but no more than 20% of students do so in Austria, the French Community of Belgium, Portugal and Switzerland (Figure B1.3). In these countries, public financial support instead targets selected groups of students such as those from disadvantaged backgrounds or low-income families.

In recent years, OECD countries and economies have passed several reforms to improve access to tertiary education (Table C5.2). In Chile, Greece, Korea and Portugal, measures were implemented to expand access to tertiary education to students from disadvantaged backgrounds, while New Zealand increased public subsidies to make the first year of tertiary education free of tuition fees for new students or trainees. From the academic year 2016/17, Norway started a reform to gradually increase the State Educational Loan Fund's financial support from ten to eleven months per year. In England (United Kingdom), the threshold for the repayment of income-contingent loans for graduates from short-cycle tertiary and bachelor's programmes was increased from the financial year 2018/19, and grants for living costs were replaced with larger loans for new eligible national students from the academic year 2016/17. It also introduced the postgraduate master's loan scheme in 2016 to improve access to master's programmes. In Australia, measures were taken to improve the sustainability of the subsidy system for public institutions' students enrolled in bachelor's programmes (Table C5.2).

In the last decade, the share of students receiving public financial support increased by at least 14 percentage points in Chile (from 17% in 2007/08 to 58% in 2017/18), Denmark (from 69% in 2007/08 to 83% in 2016/17) and Italy (from 17% in 2007/08 to 39% in 2017/18). This share remained stable in all other OECD countries and economies with available data (Figure B1.3).

Figure C5.4. Share of tertiary national students receiving public financial support (2007/08 and 2017/18)

Share of national tertiary students receiving public financial support in the form of public or government-guaranteed private loans and/or grants/scholarships



1. Year of reference 2016/17 instead of 2017/18.

Countries and economies are ranked in descending order of the share of tertiary students receiving public financial support in 2017/18.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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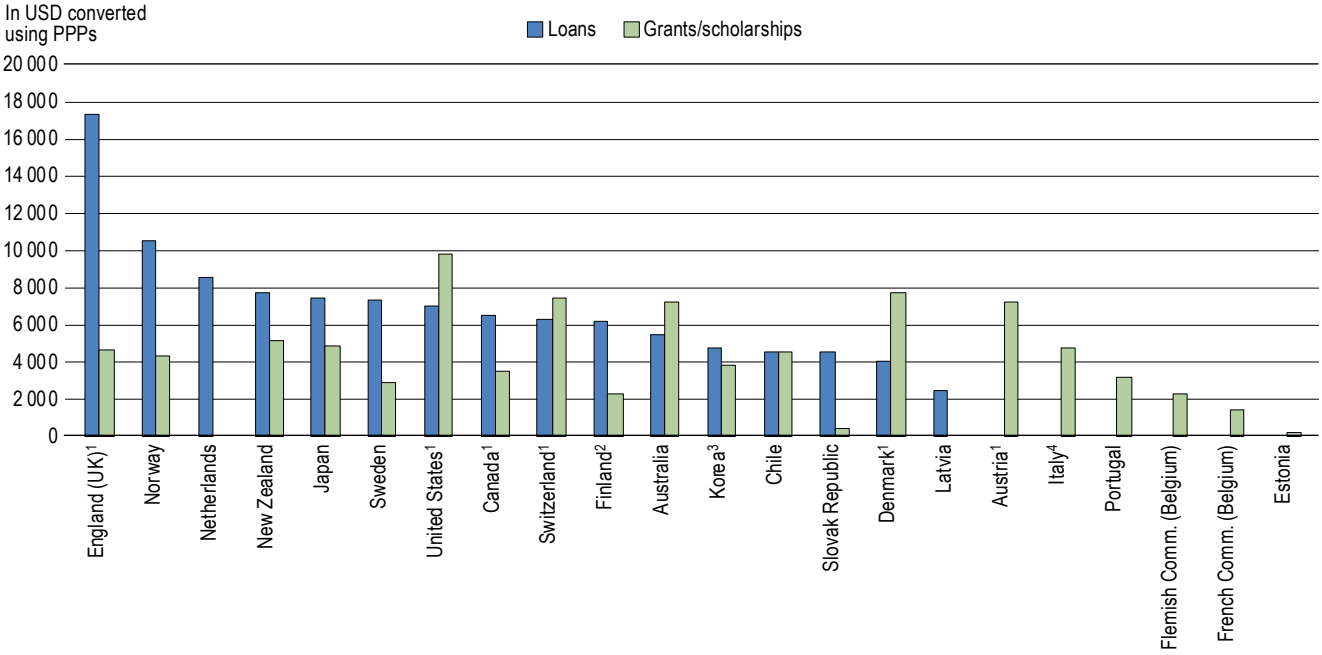
Forms of public financial support to tertiary national students

A key question that many educational systems face is whether to primarily use loans or to use grants or scholarships to provide financial support for tertiary students. On the one hand, advocates of student loans argue that they allow a larger number of students to benefit from the available resources (OECD, 2014[3]). If funding spent on scholarships and grants was used to guarantee and subsidise loans, the same public resources could support a larger number of students, and overall access to higher education would increase. Loans also shift some of the cost of higher education onto those who benefit from it the most, individual students, reflecting the high private returns of completing tertiary education (see Indicator A5).

On the other hand, student loans are less effective than grants at encouraging low-income students to access tertiary education. Opponents of loans argue that high levels of student debt at graduation may have adverse effects for both students and governments if large numbers of students are unable to repay their loans (OECD, 2014[3]). A large share of indebted graduates could be a problem if their employment prospects are not sufficient to guarantee student loan repayments.

OECD governments support students' living and education costs through different combinations of these two types of support – and these combinations vary even among countries with similar levels of tuition fees. Among countries with data available, the average amount of public or government-guaranteed private loans that students borrow each year ranges from USD 2 400 per student in Latvia to over USD 10 000 in England (United Kingdom) and Norway (where tuition is free of charge and loans finance students' living costs). Scholarships or grants received by students range from less than USD 1 000 per year in Estonia and the Slovak Republic to over USD 7 000 in Australia, Austria, Denmark, Switzerland and the United States (Figure B1.4). Among countries and economies with data on both forms of financial support, the total annual amounts received by students are highest in England (United Kingdom) (where the system is largely based on loans), and Norway and the United States (both Norway and the United States offer a combination of both loans and scholarships/grants). In Australia, Denmark, Switzerland and the United States, the average amount of grants or scholarships received by students is more than the average amount they borrow each year, but the proportion of beneficiaries of loans and grants/scholarships differs between countries – for example, in Switzerland only a minority of students receive public financial support (OECD, 2019[1]).

Figure C5.5. Average annual amounts of public grants/scholarships and loans received by national tertiary students (2017/18)



1. Year of reference 2016/17 instead of 2017/18.
2. Government-guaranteed private loans instead of public loans.3. Year of reference 2018 instead of 2017/18.
3. Year of reference 2018 instead of 2017/18.
4. First- and second-cycle degrees only.

Countries and economies are ranked in descending order of loans' average annual amount borrowed by student loan beneficiaries.

Source: OECD (2020), Table C5.3. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934164997

In all countries with data available, loans can be used for tuition fees, study materials and living costs, except in Chile where loans cover only tuition fees. Not all students are eligible to apply for student loans. The most common eligibility criteria for loans are a low-income background and the need to report progress in studies (the extent of this varies by country), together with citizenship or long-term residence and age (being at least 18 years old and below certain age thresholds that vary by country). Outstanding academic performance is a requirement in Chile, Japan and Korea, and study performance is one of the criteria required in Canada and Norway, while several OECD countries use means-tested financial assessments of students' households to determine their eligibility for loans (Table C5.3).

In half of the OECD countries and economies with data available, public grants and scholarships are extended on the basis of both need and merit. Many countries prioritise public financial support for socio-economically disadvantaged students: grants are referred to as needs-based if they take into account various socio-economic criteria (most frequently family income). On the other hand, merit-based grants refer to grants awarded to the best-performing students, based on higher education performance, on secondary school results or on admission tests scores. In the Flemish and French Communities of Belgium, the Netherlands, Norway, and Switzerland, public grants and scholarships are needs-based only, while in Latvia they are only awarded on the basis of students' academic merit (Table C5.3). In France, merit-based grants were modified in 2015 and reserved for students who graduated from upper secondary education with a very good grade and who meet scholarships' socio-economic criteria for three years. As with loans, low income, disability, full-time enrolment and academic progress are among the most common eligibility criteria for grants and scholarships. In Denmark, all full-time students are entitled to a number of monthly grants and the maximum number of grants changes from one course to another. In Norway, financial support is initially extended as a loan and, if students progress through their studies and do not live with their parents (among other requirements), up to 40% of the amount may be converted to a grant. In the French Community of Belgium, students' residence is also taken into consideration for the allocation of grants (Table C5.3).

In addition to direct financial support to students in the form of public loans, guarantees on students' private loans, grants and scholarships, countries may also decide to provide indirect subsidies to tertiary education by fully or partially waiving tuition fees charged by education institutions or by covering eventual additional charges applied to students. For this reason, in addition to measuring direct public financial support, it is important to analyse the level of tuition fees ultimately paid by students rather than those charged by tertiary educational institutions (see Box C5.2).

Box C5.2. Tuition fees paid by students

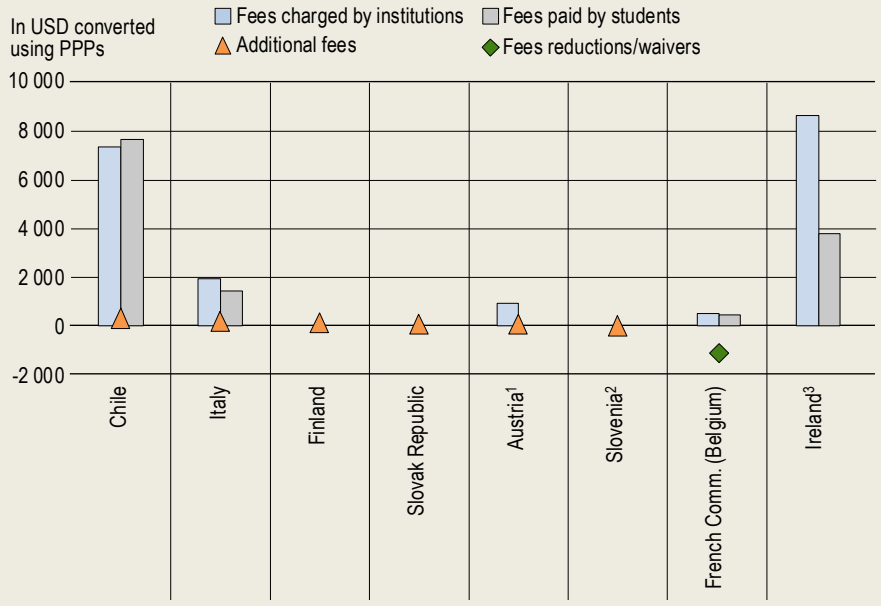
Tertiary education policies do not only depend on the overall amount of public financial resources but also on the allocation of public funding (see Indicator C4). Some countries have decided to regulate tuition fees or not apply tuition fees at all, while others may give education institutions autonomy to set the level of tuition fees. This may lead to high tuition fees, which may be offset by direct financial support to students in the form of public loans, guarantees on student private loans, grants and scholarships. This type of financial support is directly extended to the beneficiaries, provided that they meet certain requirements.

Countries may also decide to provide indirect subsidies to tertiary education by fully or partially covering the tuition fees charged by education institutions. This is the case in Ireland, where the tuition fees charged by public institutions for bachelor's programmes may exceed USD 8 700 but the majority of first-cycle tertiary students benefit from the Free Fees Scheme and pay only an annual student contribution charge of USD 3 800 (EUR 3 000) towards the cost of their programme of study (reference academic year 2017/18). Italy also reported that students pay slightly lower tuition fees than those charged by institutions, while in the French Community of Belgium students are offered other fee reductions and waivers based on their socio-economic status (Figure C5.6).

The fees actually paid by students are not necessarily always lower than those charged by institutions. In some countries (e.g. Chile), students face additional fees on top of tuition (Figure C5.6). Austria, Chile, Finland, Italy, the Slovak Republic and Slovenia reported additional charges, mostly related to administration, registration and student union membership.

Figure C5.6. Tuition fees charged by educational institutions compared to those paid by students (2017/18)

Tuition fees for bachelor's programmes in public tertiary educational institutions



Note: This figure plots only countries that reported additional fees or reductions or a difference between tuition fees charged by institutions and those paid by students.
1. Year of reference 2016/17.
2. Year of reference 2018.
3. Year of reference 2018/19.
Countries and economies are ranked in descending order of the additional fees that students pay and in ascending order of the fees' reductions they benefit of.
Source: OECD (2020), Table C5.2. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Definitions

In this chapter, **national students** are defined as the citizens of a country who are studying within that country. **Foreign students** are those who are not citizens of the country in which the data are collected. While pragmatic and operational, this classification is inappropriate for capturing student mobility because of differing national policies regarding the naturalisation of immigrants. For countries that are members of the European Union (EU), citizens from other EU countries usually have to pay the same fees as national students. In these cases, foreign students refer to students who are citizens of countries outside the European Union. Further details on these definitions are available in Indicator B6.

Private institutions are those controlled and managed by a non-governmental organisation (e.g. a church, a trade union or a business enterprise, foreign or international agency), or their governing board consists mostly of members not selected by a public agency. Private institutions are considered **government-dependent** if they receive more than 50% of their core funding from government agencies or if their teaching personnel are paid by a government agency. **Independent private** institutions receive less than 50% of their core funding from government agencies and their teaching personnel are not paid by a government agency.

Methodology

Tuition fees and loan amounts in national currencies are converted into equivalent USD by dividing the national currency by the purchasing power parity (PPP) index for GDP. The amounts of tuition fees and associated proportions of students should

be interpreted with caution, as they represent the weighted averages of the main tertiary programmes and may not cover all educational institutions.

Student loans include the full range of student loans extended or guaranteed by governments, in order to provide information on the level of support received by students. The gross amount of loans provides an appropriate measure of the financial aid to current participants in education. Interest payments and repayments of principal by borrowers should be taken into account when assessing the net cost of student loans to public and private lenders. In most countries, loan repayments do not flow to education authorities, and the money is not available to them to cover other expenditure on education.

OECD indicators take the full amount of scholarships/grants and loans (gross) into account when discussing financial aid to current students. Some OECD countries have difficulty quantifying the amount of loans to students. Therefore, data on student loans should also be treated with caution.

For more information please see the *OECD Handbook for Internationally Comparative Education Statistics 2018* (OECD, 2018[4]) and Annex 3 for country-specific notes (https://doi.org/10.1787/69096873-en).

Source

Data refer to the academic year 2017/18 and are based on a special survey administered by the OECD in 2019 (for details see Annex 3 at https://doi.org/10.1787/69096873-en).

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OECD (2018), *OECD Handbook for Internationally Comparative Education Statistics: Concepts, Standards, Definitions and Classifications*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264304444-en. [4]

OECD (2017), "Tuition fee reforms and international mobility", *Education Indicators in Focus*, No. 51, OECD Publishing, Paris, https://dx.doi.org/10.1787/2dbe470a-en. [2]

OECD (2014), *Education at a Glance 2014: OECD Indicators*, OECD Publishing, Paris, https://dx.doi.org/10.1787/eag-2014-en. [3]

Indicator C5 Tables

Table C5.1	Annual average (or most common) tuition fees charged by tertiary institutions to national and foreign students (2017/18)
Table C5.2	Trends and reforms in tuition fees and public financial support to tertiary education (2007/08 to 2017/18)
Table C5.3	Public financial support to national students enrolled in tertiary programmes (2017/18)
WEB Table C5.4	*Interest subsidies, repayment and remission of public loans to students in tertiary education (2017/18)*

Cut-off date for the data: 19 July 2020. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en.

StatLink: https://doi.org/10.1787/888934164845

Table C5.1. Annual average (or most common) tuition fees charged by tertiary institutions to national and foreign students (2017/18)

In equivalent USD converted using PPPs, for full-time students, by type of institutions and level of education

		Share of enrolment in public institutions			National students						National students			Foreign students		
					Public institutions			Government-dependent private institutions			Independent private institutions			Public institutions		
		Short-cycle tertiary	Bachelor's	Master's	Short-cycle tertiary	Bachelor's	Master's	Short-cycle tertiary	Bachelor's	Master's	Short-cycle tertiary	Bachelor's	Master's	Short-cycle tertiary	Bachelor's	Master's
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD	**Countries**															
	Australia[1]	18	92	90	4 340	4 961	8 799	x(10)	x(11)	x(12)	6 544 d	9 223 d	11 847 d	m	18 751	18 051
	Austria[2]	82	77	85	m	936	936	m	936	936	m	m	m	m	1 870	1 870
	Canada	m	100	100	m	5 493	5 744	m	a	a	m	a	a	m	21 207	13 552
	Chile	4	20	22	3 312	7 361	10 220	3 729	8 383	9 935	3 570	6 577	10 495	No differentiation for foreign students		
	Denmark	98	99	100	0	0	0	0	m	0	a	a	a	m	m	m
	Finland	a	38	82	a	0	0	a	0	0	a	a	a	a	Tuition fees may apply for students outside EU/EEA area	
	France	65	85	71	0	240	334	m	m	m	m	m	m	No differentiation for foreign students		
	Germany[2, 3]	78	86	95	m	136 d	x(5)	m	x(11)	x(11)	m	5 011 d	x(11)	m	x(5)	x(5)
	Greece	a	100	100	a	0	4 187	a	a	a	a	a	a	No differentiation for foreign students		
	Ireland[4]	89	97	87	m	8 708	10 428	m	m	m	m	m	m	m	m	21 965
	Israel	45	12	12	m	3 141	m	m	3 138	m	m	6 890	m	No differentiation for foreign students		
	Italy	0	86	89	a	1 953	2 179	a	a	a	m	6 802	8 164	No differentiation for foreign students		
	Japan	7	20	47	3 681	5 090	5 087	a	a	a	6 642	8 541	7 433	No differentiation for foreign students		
	Korea[5]	2	23	31	2 717	4 785	6 281	a	a	a	6 918	8 578	11 511	No differentiation for foreign students		
	Latvia	45	a	a	m	a	a	3 046	4 348	4 565	3 898	4 714	5 550	m	a	a
	Netherlands	36	90	65	2 577	2 577	2 577	a	a	a	m	m	m	m	m	m
	New Zealand[6, 7]	55	94	97	x(5)	4 541 d	m	m	m	m	m	m	m	m	m	m
	Norway	72	82	93	2 469	0	0	5 342	1 018 d	x(8)	0	5 765 d	x(11)	No differentiation for foreign students		
	Portugal[8]	81	79	87	1 529	1 529	1 529	m	m	m	m	m	m	m	m	m
	Slovak Republic	64	88	86	0	0	0	a	a	a	a	2 059	2 464	No differentiation for foreign students		
	Slovenia	72	84	91	0	0	0	0	0	0	0	0	0	m	m	m
	Spain[2]	75	83	71	0	1 782	2 930	m	a	a	m	7 926	12 270	No differentiation for foreign students		
	Sweden	42	94	92	0	0	0	0	0	0	a	a	a	0	14 909	14 909
	Switzerland[9]	11	80	95	m	1 305 d	1 305 d	m	x(5)	x(6)	m	3 238	3 238	m	m	m
	United States[2, 10]	91	68	48	3 156	8 804	11 617 d	a	a	a	14 587	29 478	24 712 d	7 668	24 854	m
	Economies															
	Flemish Comm. (Belgium)[8]	39	42	47	388	655	655	388	655	655	m	m	m	No differentiation for foreign students	No differentiation for foreign students, but institutions have the autonomy to determine tuition fees for students from outside the EEA.	
	French Comm. (Belgium)	m	m	m	a	542 d	1 004 d	a	x(5)	x(6)	a	a	a	a	m	m
	England (UK)[2, 6]	a	a	a	a	a	a	x(8)	12 038 d	m	a	a	a	a	a	a

Note: No tuition fees charged by educational institutions are reported as zero.

1. Year of reference 2017 for tuition fees.
2. Year of reference 2016/17.
3. Master's and doctoral programmes included with bachelor's programmes. Only academic programmes are included.
4. Universities only. The majority of undergraduate students in Ireland avail of the Free Fees Scheme and would pay USD 3 806 towards the cost of their programme of study.
5. Year of reference 2018.
6. Short-cycle tertiary programmes are included in bachelor's or equivalent programmes
7. Estimates include universities only and exclude postgraduate certificates and diplomas.
8. Average between minimum and maximum tuition fees charged.
9. Government-dependent private institutions are included in public institutions.
10. Master's and doctoral levels are combined. Tuition fees for foreign students typically refer to tuition fees for out-of-state national students. However, in a minority of institutions, tuition fees can be lower for out-of-state national students.

Source: OECD (2020). See Source section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table C5.2. Trends and reforms in tuition fees and public financial support to tertiary education (2007/08 to 2017/18)

Students enrolled in full-time and part-time programmes in both public and private institutions

		Index of change in tuition fees' amount charged by public institutions to national students (2007/08 to 2017/18), 2007/08 = 100				Reforms implemented since 2014		
		Short-cycle tertiary	Bachelor's	Master's	Doctoral	On levels of tuition fees	Of which, at least some were combined with a change in the level of public subsidies available to students	Comments
		(1)	(2)	(3)	(4)	(5)		(7)
OECD	**Countries**							
	Australia	m	109	125	92	yes	yes	Since the introduction of the demand-driven funding system, which came into full effect in 2012, the Australian Government has provided a subsidy for all national students enrolled in bachelor's programmes at public universities. To improve the sustainability of the programme for the Australian Government, from 2018 this funding was effectively frozen at 2017 levels, with growth from 2020 based on performance. New measures were also recently put in place to improve the student loan funding sustainability for the Australian government. In 2017 a new loan scheme was implemented for the VET sector.
	Austria[1]	m	85	85	85	no	no	
	Canada	m	125	107	m	yes	no	Each province sets its own tuition cap for colleges and universities with the exception of a few that do not have an imposed cap.
	Chile[2]	107	110	100	90	yes	yes	Chile implemented measures to provide access to tertiary education programmes completely free of charge to low income students (deciles 1 to 6) and to increase the amount of resources allocated to tertiary education scholarships. In addition, students in deciles 7 to 9 will be charged tuition fees regulated by the government. In 2017 the scholarship programme "Bicentenario" was expanded to students enrolled in private universities. Chile also regulated "Nuevo Milenio" scholarships for students enrolled in short-cycle tertiary programmes.
	Denmark	a	a	a	a	no	no	
	Finland	a	a	a	a	yes	yes	Tuition fees were introduced for non-EU/EEA students enrolling in foreign-language bachelor's and master's programmes in academic year 2017/18 (minimum fee EUR 1500).
	France	a	102	109	110	no	no	Merit-based grants were modified in 2015 and reserved to students who graduated from upper secondary education with a very good grade (with more than 16/20) and who meet scolarships' socio-economic criteria for three years.
	Germany[1, 2]	m	19 [d]	x(2)	x(2)	no	no	
	Greece	a	a	m	a	yes	no	Bachelor's degree graduates within the 5th annual income decile and the 7th family income decile are exempted from tuition fees in their first master's degree.
	Ireland[3]	m	110	m	m	no	no	
	Italy	a	136 [d]	x(2)	38	yes	yes	Italy regulated the amount charged by public education institutions for tuition and the criteria for fee waivers for students enrolled in bachelor's and master's programmes. Almost all students enrolled in research doctoral programmes are exempted from paying tuition fees.
	Korea[4]	m	m	m	m	yes	yes	National scholarships have been offered since 2012 by combining and expanding the existing scholarships programme for low-income students. In addition, Korea increased the Direct Loan and Income Contingent Loan amounts that could be borrowed by students.
	Netherlands	119	119	119	a	no	no	
	Norway	m	a	a	a	no	no	From the academic year 2016/17, Norway started a reform to gradually increase the yearly financial support from the State Educational Loan Fund from ten to eleven months.
	New Zealand	x(2)	119 [d]	m	129	yes	yes	In order to reduce students' debt burden, New Zealand increased public subsidies for tertiary education to make the first year of tertiary education fees-free for new students or trainees.
	Portugal	m	m	m	m	yes	no	The +Superior programme was created to support higher education attendance in regions of the country with less demand and lower population density. In addition, Portugal increased the income threshold to apply for needs-based grants and regulated some specific criteria for students with disabilities.
	Slovak Republic	a	a	a	a	no	no	
	Slovenia	a	a	a	m	no	no	
	Spain[1]	a	146	126	m	no	no	
	Switzerland[5]	m	117 [d]	117 [d]	112 [d]	no	no	
	United States[1]	134	129	137 [d]	x(3)	no	no	
	Economies							
	Flemish Comm. (Belgium)	m	m	m	m	yes	no	Since 2015, adult education tuition fees at short-cycle tertiary level increased to EUR 1.50 per teaching period and the maximum per year increased to EUR 600. From bachelor's to doctoral programmes the annual tuition fees for a full-time student increased from EUR 620 to EUR 890.
	French Comm. (Belgium)	a	m	m	m	yes	yes	The criteria for tertiary education scholarships were expanded in order to increase the total number of beneficiaries.
	England (UK)[1, 6]	a	323 [d]	a	a	yes	yes	The threshold for income contingent loans' repayment by short-cycle tertiary and bachelor's programmes' graduates was increased from financial year 2018/19. Grants for living costs were replaced with larger loans for new eligible national students from academic year 2016/17. The postgraduate master's loan scheme was introduced in Summer 2016 to improve access to master's programmes.

1. Year of reference 2016/17 instead of 2017/18.
2. Year of reference 2008 instead of 2007/08.
3. Year of reference 2018/19 instead of 2017/18.
4. Year of reference 2018 instead of 2017/18.
5. Year of reference 2009/10 instead of 2007/08. Includes government-dependent private institutions.
6. Year of reference 2006/07 instead of 2007/08.

Source: OECD (2020). See Source section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table C5.3. Public financial support to national students enrolled in tertiary programmes (2017/18)

Students enrolled in full-time and part-time programmes in both public and private institutions

		Average annual amount of public loans in 2017/18, in USD converted using PPPs	Student loans can be used for:			Public loan eligibility criteria
			Tuition fees	Education/ study material	Living costs	
		(1)	(2)	(3)	(4)	(5)
OECD	**Countries**					
	Australia	5 492	yes	yes	yes	Citizenship requirement; other eligibility rules vary depending on the loan scheme (i.e. HELP loans, VET Student Loans and Student Startup Loans).
	Austria[1]	a	m	m	m	
	Canada[1]	6 486	yes	yes	yes	Financial needs requirement (assessed through income and tax documents, financial assets and investments); annual applications; satisfactory grades; credit check for students over 22 years of age.
	Chile	4 553	yes	no	no	Publicly financed loans: belong to 80% of the population with the lowest income in the country; Average National Admission test score of at least 475 points. Government-guaranteed private loans: citizenship or long-term residency; undergraduate enrolment; no other student loans, Average National Admission test score or GPA of at least 475 points.
	Denmark[1]	4 021	yes	yes	yes	Grants' beneficiaries are offered supplementary loans; eligibility is means-tested; age requirement (18 and above); full-time enrolment.
	Estonia	m	yes	yes	yes	Citizenship or long-term residence permit; minimum 6-month programme; not on academic leave; no other debts.
	Finland[2]	6 159	yes	yes	yes	Full-time enrolment in a formal programme; minimum number of study credits per academic year; income level threshold.
	France	a	a	a	a	
	Germany	m	yes	yes	yes	Eligibility and amount of general public student support (BAföG) are determined by an assessment of student needs based on income, family situation, housing situation and disability. This support is for one half of the individual amount awarded as a grant, and for the other half as an interest free loan.
	Italy[3]	m	yes	yes	yes	
	Japan	7 458	yes	yes	yes	Outstanding academic performance or low economic staturs.
	Korea[4]	4 698	yes	no	yes	Direct loans: undergraduate and graduate students; age requirement (less than 55); GPA of at least 70/100 in the previous semester. Income contingent loans: undergraduate students; age requirement (less than 35); GPA of at least 70/100 in the previous semester; income level.
	Latvia	2 439	yes	yes	yes	Age requirement (18 and above); a guarantor is needed (co-guarantor with the government) except for orphans below age 24 and persons with disabilities; the guarantor's income is means tested.
	Netherlands	8 564	yes	yes	yes	Full-time students who are eligible for Dutch student finance.
	New Zealand	7 687	yes	yes	yes	Full-time enrolment; citizenship or long-term residency; age requirement (less than 56 for loans beyond the amount of tuition fees); student loan amount is reduced by the amount of student grants received; overdue repayments below NZD 500.
	Norway	10 537	yes	yes	yes	A student can recive up to NOK 10 634 (USD 1 072) per month in basic support, of which up to 40% can be converted into a grant depending on academic progression and income level. Basic support is terminated if the student is more than a year behind schedule. Maximum age requirement: 65.
	Portugal	m	m	m	m	
	Slovak Republic	4 475	yes	yes	yes	Enrolled in the Slovak Republic or in comparable programmes abroad; citizenship or long-term residency requirement; depending on available financial resources, student loans allocation is based on family income, family composition and study performance.
	Spain[1]	m	m	m	m	
	Sweden	7 299	yes	yes	yes	Loans are income related, minimum number of credits, age not older than 56 (between the age of 47 and 56 dependent on previous time with loan/grant).
	Switzerland[1]	6 233	yes	yes	yes	
	United States[5]	7 011	yes	yes	yes	
	Economies					
	Flemish Comm. (Belgium)	a	a	a	a	
	French Comm. (Belgium)	m	yes	yes	yes	
	England (UK)[1]	17 280	yes	m	m	ISCED levels 5 and 6: non-EU domiciled (foreign) students are not eligible for student support.

		Average annual amount of public grants/ scholarships in 2017/18, in USD converted using PPPs	Public grants/ scholarships are:		Public grant/scholarship eligibility criteria
			Needs-based	Merit-based	
		(6)	(7)	(8)	(9)
OECD	**Countries**				
	Australia	7 202	yes	yes	Eligibility criteria vary between programs. They generally include age, full-time study, residence, income tests, academic performance and enrolment in an approved course.
	Austria[1]	7 237	yes	yes	Academic success after the first two semesters; students' socio-economic needs (assessed on the basis of income and the composition of the family; age requirement (30-35 depending on the existence of gainful employment, dependent child, disability or entry into a master's programme).
	Canada[1]	3 512	yes	yes	Financial needs requirement (assessed through income and tax documents, financial assets and investments); annual applications; satisfactory grades; credit check for students over 22 years of age.
	Chile	4 512	yes	yes	Socio-economic disadvantage (for example: belonging to 60% of lower income families); new entrant status or pursue of gainful employment.
	Denmark[1]	7 674	yes	yes	All full-time students are entitled to a number of monthly grants (the maximum number of grants can change from one course to another); private earnings' threshold; lower grants for students living with their parents.
	Estonia	199	yes	yes	Family income; field of study; not exceededing the nominal study period of his/her curriculum; not being on academic leave.
	Finland[2]	2 274	yes	yes	Full-time enrolment in a formal programme; minimum number of study credits per academic year; income level threshold.
	France	m	yes	yes	Full-time study completion.
	Germany	m	m	m	
	Italy[3]	4 731	yes	yes	Family and partner income requirement; need to report progress in studies.
	Japan	4 796	yes	yes	Outstanding achievement and extreme economic disadvantage status.
	Korea[4]	3 767	yes	yes	Eligibility criteria vary by the type of scholarship; students' socio-economic status (assessed on the basis of income and the composition of the family); GPA in the previous semester.
	Latvia	a	no	yes	Successful completion.
	Netherlands	m	yes	no	Grants are extended to students whose family income is below a certain threshold.
	New Zealand	5 169	yes	yes	Student allowance: age requirement (18-65); full-time enrolment in bachelor's or equivalent programmes; citizenship or long-term residency requirement; parental (up to age 25) and personal income criteria; limit of 200 weeks of study.
	Norway	4 334	yes	no	Amounts are initially given as loans; if the students do not live with their parents, up to 40% of the amount may be converted to a grant. Conditions to receive the maximum grant: passing all the exams and achieving the degree; earning less than/have assets not exceeding certain limits (if married, spouses' assets are taken into account).
	Portugal	3 153	m	m	
	Slovak Republic	410	yes	yes	Not exceeding the standard length of studies; income assessment; need to report study progress; merit-based scholarships exist in selected departments/fields of study.
	Spain[1]	m	yes	yes	Family income requirement; need to report study progress.
	Sweden	2 882	no	yes	Income related, minimum number of credits, age not older than 56 (beetween the age of 47 and 56 dependent on previous time with loan/grant).
	Switzerland[1]	7 372	yes	no	
	United States[5]	9 780	yes	yes	Varies by grant and institution.
	Economies				
	Flemish Comm. (Belgium)	2 244	yes	no	Grants are awarded based on various aspects of the socio-economic situation of the students and their parents. Income is an important factor.'
	French Comm. (Belgium)	1 458	yes	no	Family composition and income; the allocation of grants is also based on students' residence.
	England (UK)[1]	4 603	m	m	Grant support for lower income households, disabled students, those with dependents. In addition, bursaries, scholarships and fee waivers are also offered by individual institutions to students from lower income households and other under-represented groups.

1. Year of reference 2016/17.
2. Government-guaranteed private loans instead of public loans.
3. First- and second-cycle degree programmes only.
4. Year of reference 2018.
5. Year of reference 2015/16.

Source: OECD (2020). See Source section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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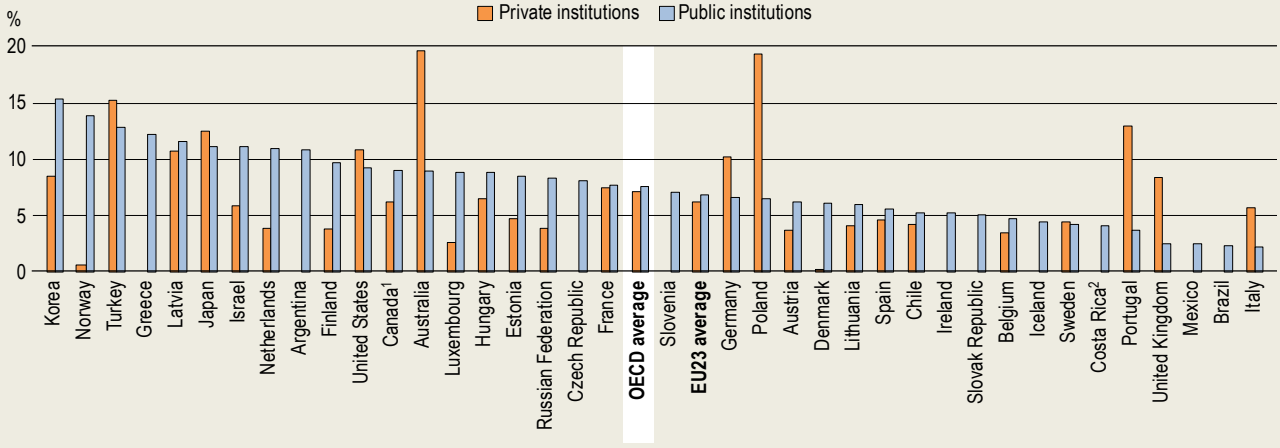
Indicator C6. On what resources and services is education funding spent?

Highlights

- From primary to tertiary level, most of the spending in educational institutions – 92% on average across OECD countries – is devoted to current expenditure.
- On average across OECD countries, staff compensation comprises the largest share of current expenditure at all levels of education (74%), accounting for a larger share in non-tertiary (primary, secondary and post-secondary non-tertiary) education (77%) than in tertiary education (67%).
- Staff compensation constitutes a higher share of current expenditure in public institutions than in private ones across OECD countries, both at non-tertiary level (79% in public institutions and 72% in private ones) and at tertiary level (67% in public institutions and 63% in private ones).

Figure C6.1. Share of capital expenditure, by type of institution (2017)

Primary to tertiary education



1. Primary education includes pre-primary programmes.
2. Year of reference 2018.

Countries are ranked in descending order of the share of capital expenditure in public institutions.

Source: OECD/UIS/Eurostat (2020), Education at a Glance Database, http://stats.oecd.org/.See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Context

How education spending is allocated between current and capital expenditure affects the provision of services such as meals, transport, housing and research activities; the level of staff salaries; the material conditions under which instruction takes place (via the expenditure on school buildings and maintenance); and the ability of the education system to adjust to changing demographic and enrolment trends.

Decisions about the resources devoted to educational institutions and their allocation between short-term and long-term goods and services can thus influence the quality of instruction and, by extension, student learning outcomes. Striking a proper balance that reflects their country's educational priorities, is a challenge all governments and institutions face, especially in times of crisis and competing priorities. Comparing the amount and distribution of educational expenditure across resource categories, and over time, can shed some light on the various organisational and operational arrangements developed by countries.

This indicator describes how money for educational institutions from all funding sources (governments, international sources and the private sector) is spent on educational goods and services, both overall and by type of institution (public or private). It also analyses how spending has varied over time, covering the five-year period from 2012 to 2017.

Other findings

- OECD countries allocate on average 8% of their total education spending to capital expenditure from primary to tertiary level. Overall, the share of capital expenditure is higher at tertiary level (10%) than at non-tertiary level (7%). Large variations in the share of capital expenditure are observed across countries, with higher values in Korea, Norway and Turkey.
- In absolute terms, from primary to tertiary level the average current expenditure per full-time equivalent student in OECD countries was about USD 10 900 in 2017, while the average capital expenditure was about USD 900 per student. These amounts vary widely across OECD countries, however: current expenditure ranges from about USD 4 600 per student in Turkey to about USD 22 000 in Luxembourg, while capital expenditure ranges from almost USD 250 per student in Italy to around USD 2 200 in Norway.
- On average across OECD countries, expenditure on staff compensation per full-time equivalent student is higher at the tertiary level (USD 10 100) than at the non-tertiary level (USD 7 100).
- Between 2012 and 2017, current expenditure per student on primary to tertiary education in public institutions slightly increased on average across OECD countries, with an average annual growth rate of more than 1% in real terms.

Analysis

Distribution of educational institutions' current and capital expenditure by education level

Expenditure on education is composed of current and capital expenditure. Current expenditure includes staff compensation and spending on the goods and services needed each year to operate schools and universities, while capital expenditure refers to spending on the acquisition or maintenance of assets which last longer than one year (see *Definitions* section). Differences in current and capital expenditure allocation across countries reflect the degree to which countries have invested in the construction of new buildings – for example as a response to increases in enrolment rates – or in the restoration of existing school premises, due to obsolescence and ageing of existing structure, or the need to adapt to new educational, societal or safety needs. Unlike current expenditure, capital expenditure can show large fluctuations over time, with peaks in years when investment plans are implemented, followed by years of lows.

Given the labour-intensive nature of education, current expenditure represents the largest proportion of total expenditure on education in OECD countries. In 2017, current expenditure accounted for 92% of total expenditure on primary to tertiary educational institutions in OECD countries, with the remainder devoted to capital expenditure. On average, the overall share of current expenditure does not differ by more than 3 percentage points across education levels but there are larger differences across countries. The share of current expenditure on institutions from primary to tertiary level ranges from 87% in Turkey, Norway and Korea to 98% in Italy (Table C6.1). Broken down by educational level, the share ranges from 85% in Korea to 99% in Italy at primary, secondary and post-secondary non-tertiary level, and from 57% in Greece to 98% in Chile and Iceland at the tertiary level (Table C6.1).

Capital expenditure represents 8% of expenditure on primary to tertiary educational institutions on average across OECD countries, but reaches 10% or more in Australia, Japan, Korea, Latvia, Netherlands, Norway, and Turkey (Table C6.1). The share of capital expenditure is higher at tertiary level (10%) than at non-tertiary – i.e. primary, secondary and post-secondary non-tertiary – level (7%). Some OECD and partner countries have massively invested in infrastructure at the tertiary level: in 2017, capital expenditure on tertiary education reached 20% in Turkey and 43% in Greece. At non-tertiary level, Korea allocates 15% of its education budget to capital expenditure, the highest share across countries with available data (Table C6.1 and Figure C6.1).

In 2017, the average current expenditure per full-time equivalent student across OECD countries was almost USD 11 000, with higher values at tertiary level (USD 16 000) than at non-tertiary level (USD 9 300). Across all education level, current expenditure per student varies widely across OECD countries, ranging from about USD 4 600 in Turkey to about USD 22 000 in Luxembourg. The average capital expenditure is less than USD 1 000 per student; the countries that invested more in long-term assets in 2017 were Korea, Luxembourg, Norway and the United States (over USD 1 500 per student), while Chile, Colombia, Italy, Lithuania and the Russian Federation invested the least (below or around USD 500) (Table C6.1).

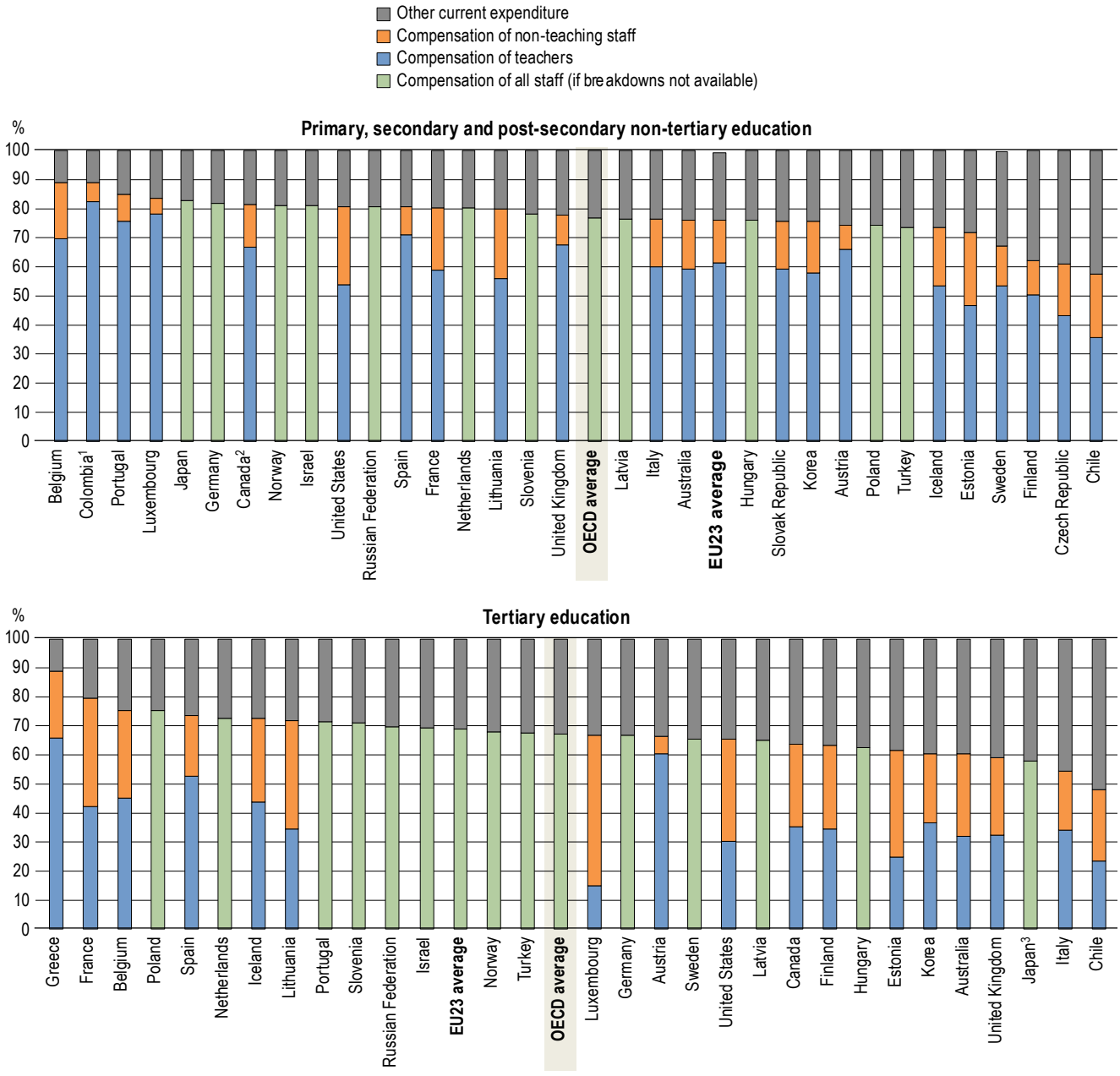
How current expenditure is allocated

Current expenditure by educational institutions can be further subdivided into three broad functional categories: 1) compensation of teachers; 2) compensation of other staff; and 3) other current expenditure (including teaching materials and supplies, ordinary maintenance of school buildings, provision of meals and dormitories to students, and rental of school facilities). Current and projected changes in enrolment, changes to the salaries of education personnel, and the different costs of maintaining education facilities over time and across education levels can affect not only the amounts, but also the shares allocated to each category.

In 2017, compensation of teachers and other staff employed in educational institutions comprised the largest share of current expenditure from primary to tertiary education (74% on average across OECD countries) but this varies significantly across countries and within education levels (Table C6.2 and Figure C6.2). On average across OECD countries, the share of staff compensation on total current expenditure is higher in non-tertiary education (77%) than in tertiary education (67%), due to the higher costs of facilities and equipment in tertiary education. Belgium, France, Greece and Poland report the greatest share of current expenditure allocated to staff compensation at tertiary level (above or around 75%). At non-tertiary levels, Belgium, Colombia and Portugal devoted 85% or more of educational expenditure on staff compensation, the highest across OECD and partner countries, meaning they devoted less to other contracted and purchased services, such as support services (e.g. building maintenance), ancillary services (e.g. meal programmes) and rent for school buildings and other facilities (Table C6.2 and Figure C6.2).

In countries with available data, compensation of teachers represents a higher share of current expenditure than other non-teaching staff, especially in non-tertiary education. The difference in spending between teaching and non-teaching staff reflects the degree to which educational institutions count non-teaching personnel (such as principals, guidance counsellors, bus drivers, school nurses, janitors and maintenance workers) among their staff members. At tertiary level, compensation of staff involved in research and development may also explain some of the differences between the share of expenditure allocated to teaching and non-teaching staff across countries and different levels of education (see Indicator C1).

Figure C6.2. Distribution of current expenditure in public and private educational institutions (2017)



1. Year of reference 2018.
2. Primary, secondary and post-secondary non-tertiary education includes pre-primary programmes.
3. Tertiary education includes post-secondary non-tertiary education.

Countries are ranked in descending order of the share of all staff compensation.

Source: OECD/UIS/Eurostat (2020), Table C6.2. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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In 2017, OECD countries spent on average about USD 7 900 per full-time equivalent student on staff compensation from primary to tertiary levels, with higher values at tertiary level (USD 10 100 per student) than at non-tertiary level (USD 7 100). However, there were substantial variations across countries and educational levels. At primary, secondary and post-secondary non-tertiary level, expenditure per student on staff compensation ranges from less than USD 3 000 in Chile, Colombia, Costa Rica and Turkey to more than USD 10 000 in Austria, Belgium, Luxembourg and Norway. At tertiary level, spending on staff compensation per student exceeds USD 15 000 in Canada, Luxembourg, Sweden and the United States (Table C6.2).

Variations in the share of current expenditure for expenses other than staff compensation (such as equipment available to staff, contracted services and rent) reflects the different cost structures of educational institutions across countries. Facilities and equipment costs are generally higher in tertiary education than at other levels. In addition, in some countries, tertiary institutions may be more likely to rent their premises, which can account for a substantial share of current expenditure. Chile devotes the largest share to other current expenditure at both tertiary (52% of total current expenditure), and non-tertiary level (43%) (Table C6.2 and Figure C6.2).

Distribution of current and capital expenditure by type of educational institution

On average across OECD countries, public and private institutions divide their spending between current and capital expenditure in a similar way. There is wide variation across countries, however. The share of current expenditure is at least 10 percentage points higher in public institutions than in private ones at non-tertiary level in Poland, and Portugal, and at tertiary level in Australia. Capital expenditure accounts for 10% among public institutions and 9% among private ones at tertiary level, while at non-tertiary level accounts for 7% among public institutions and 6% among private ones. However, the proportions vary across countries (Table C6.3). At non-tertiary level, capital expenditure accounts for more than 15% of total expenditure in public institutions in Korea, while the share is over 15% in private institutions in Poland. Costa Rica and Italy record the lowest share of capital expenditure in public institutions at this level (1%), while in the Czech Republic, Norway and Slovenia, private institutions recorded no capital expenditure in 2017. At tertiary level, public institutions in Greece, Hungary and Turkey have the highest shares of capital expenditure, at over 15%, while the highest shares for private institutions are observed in Australia, Hungary and Turkey, also over 15% (Table C6.3 and Figure C6.1).

Public and private institutions differ in how current expenditure is distributed. Staff compensation accounts for a larger share of current expenditure in public institutions across OECD countries: 79% compared to 72% in private ones at non-tertiary level, and 67% compared to 63% at tertiary level. Private institutions may be more likely to contract services from external providers, or to rent school buildings and other facilities (as opposed to public institutions operating in state-owned properties), or to be at a disadvantage when purchasing teaching materials, as they cannot benefit from the same economies of scale in procurement as the public sector. In a number of countries, however, the share of current expenditure allocated to staff compensation is higher in private institutions, with differences of over 5 percentage points in the Netherlands and Norway at non-tertiary level, and Finland, Israel, Japan, Korea and the Netherlands at tertiary level (Table C6.3).

Expenditure per student on compensation of teachers in non-tertiary public institutions is generally higher than in private institutions for countries with available data, and amounts to USD 5 900 on average. The biggest differences (over USD 3 000) are found in Canada, Italy and Luxembourg. In contrast, in Colombia, Estonia, Korea, Lithuania, the Slovak Republic and the United Kingdom, expenditure on staff compensation per student is higher in private institutions. At tertiary level, the largest difference between staff compensation per student in public and private institutions among countries with available data is observed in Austria and Finland (above USD 4 000). However, France, the Slovak Republic and the United States spend more on staff compensation per student in private tertiary institutions than in public ones (Table C6.3).

Trends in current and research expenditure per student

The share of resources devoted to a given category of expenditure highlights how they are allocated compared to other costs, but provides no information about whether that funding is sufficient to cover students' educational needs or the teaching requirements of teachers. Although the shares devoted to current and capital expenditure do not show much variation on average over time – with current expenditure at about 90% of total expenditure – the amount of current and capital expenditure per full-time equivalent student shows greater variability across countries and over time. These changes are due to the combination of changes in the resources devoted to education and in the student population.

In the five-year period between 2012 and 2017, the average annual growth rate of current expenditure per student in public institutions from primary to tertiary education has been higher than 1% across OECD countries. The greatest increase (over 4%) has been observed in Hungary, Iceland, the Slovak Republic and Turkey, with Iceland and the Slovak Republic also experiencing the biggest increases in staff compensation per student. In Finland, Greece, Mexico and Slovenia, on the other hand, current expenditure per student decreased, driven by a reduction in staff compensation per student. Among private institutions, current expenditure per student at primary to tertiary level remained generally stable between 2012 and 2017 in countries with available data, although there were increases of over 1% per year in Hungary, Iceland, Norway, Sweden and the United States (Table C6.4, available on line).

Teachers' compensation per student in public institutions slightly increased between 2012 and 2017 in countries with available data, with larger increases at tertiary level than at lower levels of education. At tertiary level it increased the most in the Czech Republic, Iceland and the Slovak Republic (between 7% and 11% on average per year), while the biggest annual decreases have been recorded in Greece and Mexico (around or greater than 5%). At non-tertiary level, Colombia, Iceland, Portugal and the Slovak Republic experienced the biggest increases (greater than 4%), while the biggest fall was observed in Finland (2%) (Table C6.4, available on line).

The average annual growth rate in expenditure on research and development (R&D) per student in public tertiary institutions between 2012 and 2017 shows wide variation across countries. Average increases exceeded 5% per year in Brazil, Finland and Luxembourg. The latter two are also, along with Denmark, Germany, Norway and Sweden, the OECD countries with the highest expenditure on R&D as a share of total tertiary expenditure (see Table C1.2). While in Luxembourg and Norway the expenditure on R&D increased in parallel with increases in total expenditure on tertiary education, in Finland total expenditure on tertiary education was falling over the same period. In contrast, spending on R&D per student in public institutions fell by more than 1% in France, Greece, Lithuania, Mexico, Portugal and Turkey, with the largest fall observed in Portugal and Turkey. While in most of these countries the negative trend is partly explained by an increase in the number of students without any proportional increase in funds devoted to R&D, in Portugal the number of students in public universities actually decreased over the reference period, meaning that expenditure on R&D fell faster than the number of students (Table C6.4, available on line).

Comparing trends in R&D spending per student in public and private institutions in countries with available data, the picture is somewhat mixed. In Belgium, both trends are positive, but R&D in public institutions grew faster than in private ones; in Chile, Hungary, Norway and the United States both trends are also positive, but R&D in private institutions grew faster, while in Finland, and Sweden spending on R&D rose in public institutions but fell in private institutions. In Italy, Lithuania, Spain and Turkey, spending on R&D fell in both public and private institutions, but more in private institutions. Finally, in the Czech Republic and Portugal, spending on R&D decreased in public institutions while it increased in private institutions (Table C6.4, available on line).

Definitions

Capital expenditure refers to spending on assets that last longer than one year, including construction, renovation or major repair of buildings, and new or replacement equipment. The capital expenditure reported here represents the value of educational capital acquired or created during the year in question (i.e. the amount of capital formation), regardless of whether the capital expenditure was financed from current revenue or through borrowing. Neither capital nor current expenditure includes debt servicing.

Current expenditure refers to spending on staff compensation and on "Other current expenditure", i.e. on goods and services consumed within the current year, which require recurrent production in order to sustain educational services (expenditure on support services, ancillary services like preparation of meals for students, rental of school buildings and other facilities, etc.). These services are obtained from outside providers, unlike the services provided by education authorities or by educational institutions using their own personnel.

Research and development includes research performed at universities and other tertiary educational institutions, regardless of whether the research is financed from general institutional funds or through separate grants or contracts from public or private sponsors.

Staff compensation (including teachers and non-teaching staff, see below) includes: 1) salaries (i.e. gross salaries of educational personnel, before deduction of taxes, contributions for retirement or healthcare plans, and other contributions or premiums for social insurance or other purposes); 2) expenditure on retirement (actual or imputed expenditure by employers

or third parties to finance retirement benefits for current educational personnel); and 3) expenditure on other non-salary compensation (healthcare or health insurance, disability insurance, unemployment compensation, maternity and childcare benefits and other forms of social insurance). The "**teachers**" category includes only personnel who participate directly in the instruction of students. The "**non-teaching staff**" category includes other pedagogical, administrative and professional personnel as well as support personnel (e.g. head teachers, other school administrators, supervisors, counsellors, school psychologists and health personnel, librarians, and building operations and maintenance staff). At tertiary levels, "teaching staff" includes personnel whose primary assignment is instruction or research. This cathegory excludes student teachers, teachers' aides and paraprofessionals.

Methodology

The annual average growth rate is calculated using the compound annual growth rate, which is the "common ratio" of a geometric progression over the time period under analysis. A geometric progression, in turn, is a sequence of numbers where each term after the first one is obtained by multiplying the previous one by a fixed, non-zero number (the common ratio). Assuming a linear trend, the compound growth rate hence represents the constant percentage change between one year's value and the previous year's.

Expenditure per student on educational institutions at a particular level of education is calculated by dividing total expenditure on educational institutions at that level by the corresponding full-time equivalent enrolment. Only educational institutions and programmes for which both enrolment and expenditure data are available are taken into account. Expenditure in national currencies is converted into equivalent USD by dividing the national currency figure by the purchasing power parity (PPP) index for GDP. The PPP conversion factor is used because the market exchange rate is affected by many factors (interest rates, trade policies, expectations of economic growth, etc.) that have little to do with current relative domestic purchasing power in different OECD countries (see Annex 2 for further details).

The ranking of OECD countries by annual expenditure on educational services per student is affected by differences in how countries define full-time, part-time and full-time equivalent enrolment. Some OECD countries count every participant at the tertiary level as a full-time student, while others determine students' intensity of participation by the credits that they obtain for the successful completion of specific course units during a specified reference period. OECD countries that can accurately account for part-time enrolment have higher apparent expenditure per full-time equivalent student on educational institutions than those that cannot differentiate between the different types of attendance.

For more information please see the *OECD Handbook for Internationally Comparative Education Statistics 2018* (OECD, 2018[1]) and Annex 3 for country-specific notes (https://doi.org/10.1787/69096873-en).

Source

Data refer to the financial year 2017 (unless otherwise specified) and are based on the UNESCO, the OECD and Eurostat (UOE) data collection on education statistics administered by the OECD in 2019 (for details see Annex 3 at https://doi.org/10.1787/69096873-en). Data from Argentina, the People's Republic of China, India, Indonesia, Saudi Arabia and South Africa are from the UNESCO Institute of Statistics (UIS).

The data on expenditure for 2012 to 2017 were updated based on a survey in 2019-20, and expenditure figures for 2012 to 2017 were adjusted to the methods and definitions used in the current UOE data collection.

References

OECD (2019), *Education at a Glance 2019: OECD indicators*, OECD Publishing, Paris, https://dx.doi.org/10.1787/eag-2019-en. [2]

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Indicator C6 Tables

Table C6.1	Share of current and capital expenditure, by education level (2017)
Table C6.2	Current expenditure, by resource category (2017)
Table C6.3	Share of current expenditure, by resource category and type of institution (2017)
WEB Table C6.4	*Average annual growth rate of current and R&D expenditure per full-time equivalent student, by type of institution (2012-17)*

Cut-off date for the data: 19 July 2020. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en. More breakdowns can also be found at http://stats.oecd.org/, Education at a Glance Database.

StatLink: https://doi.org/10.1787/888934165035

Table C6.1. Share of current and capital expenditure, by education level (2017)

Distribution of current and capital expenditure from public and private sources

		Primary		Secondary						Post-secondary non-tertiary		Primary, secondary and post-secondary non-tertiary		Tertiary		Primary to tertiary	
				Lower secondary		Upper secondary		All secondary									
		Current	Capital	Current	Capital	Current	Capital	Current	Capital	Current	Capital	Current	Capital	Current	Capital	Current	Capital
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
OECD	**Countries**																
	Australia	91	9	90	10	90	10	90	10	91	9	90	10	84	16	88	12
	Austria	92	8	96	4	98	2	97	3	99	1	95	5	92	8	94	6
	Belgium	95	5	97	3	97 d	3 d	97 d	3 d	x(5, 7)	x(6, 8)	96	4	95	5	96	4
	Canada[1, 2]	92 d	8 d	x(1)	x(2)	92	8	92	8	m	m	92 d	8 d	90	10	91 d	9 d
	Chile	94	6	94	6	93	7	93	7	a	a	94	6	98	2	95	5
	Colombia[2, 3]	94	6	95	5	93	7	95	5	m	m	94	6	m	m	m	m
	Costa Rica[3]	m	m	m	m	m	m	m	m	a	a	m	m	m	m	m	m
	Czech Republic	90	10	90	10	95	5	93	7	95	5	92	8	m	m	m	m
	Denmark	m	m	m	m	98	2	m	m	a	a	m	m	97	3	m	m
	Estonia	90	10	91	9	95	5	93	7	98	2	92	8	91	9	92	8
	Finland	88	12	88	12	91 d	9 d	90 d	10 d	x(5, 7)	x(6, 8)	89	11	95	5	91	9
	France	93	7	93	7	92	8	92	8	92	8	93	7	92	8	92	8
	Germany	94	6	94	6	91	9	93	7	94	6	93	7	92	8	93	7
	Greece	98	2	99	1	97	3	98	2	m	m	m	m	57	43	m	m
	Hungary	97	3	97	3	95	5	96	4	90	10	95	5	81	19	92	8
	Iceland[4]	94	6	94	6	99	1	97	3	98	2	95	5	98	2	96	4
	Ireland	m	m	95	5	m	m	m	m	m	m	m	m	m	m	m	m
	Israel	88	12	x(5)	x(6)	93 d	7 d	93	7	100	0	90	10	93	7	91	9
	Italy	99	1	99	1	99 d	1 d	99 d	1 d	x(5, 7)	x(6, 8)	99	1	93	7	98	2
	Japan	87	13	88	12	91 d	9 d	89 d	11 d	x(5, 7, 13)	x(6, 8, 14)	89	11	88 d	12 d	88	12
	Korea	83	17	86	14	89	11	88	12	a	a	85	15	90	10	87	13
	Latvia	88	12	88	12	89	11	89	11	92	8	88	12	90	10	89	11
	Lithuania	95	5	95	5	95	5	95	5	95	5	95	5	93	7	94	6
	Luxembourg	91	9	91	9	92	8	92	8	100	0	91	9	93	7	92	8
	Mexico	m	m	m	m	m	m	m	m	a	a	m	m	m	m	m	m
	Netherlands	89	11	90	10	91	9	90	10	a	a	90	10	90	10	90	10
	New Zealand	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Norway	86	14	86	14	87	13	87	13	87	13	86	14	89	11	87	13
	Poland	93	7	94	6	92	8	93	7	91	9	93	7	91	9	92	8
	Portugal	97	3	97	3	89 d	11 d	93 d	7 d	x(5, 7)	x(6, 8)	95	5	95	5	95	5
	Slovak Republic	96	4	98	2	94	6	96	4	95	5	96	4	m	m	m	m
	Slovenia	94	6	94	6	92	8	93	7	a	a	93	7	93	7	93	7
	Spain	97	3	97	3	97 d	3 d	97 d	3 d	x(5, 7)	x(6, 8)	97	3	89	11	95	5
	Sweden	96	4	96	4	95	5	95	5	94	6	96	4	96	4	96	4
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Turkey	91	9	91	9	88	12	89	11	a	a	90	10	80	20	87	13
	United Kingdom	97	3	96	4	96	4	96	4	a	a	96	4	87	13	93	7
	United States	91	9	91	9	91	9	91	9	89	11	91	9	90	10	90	10
	OECD average	93	7	93	7	93	7	93	7	m	m	93	7	90	10	92	8
	EU23 average	94	6	94	6	94	6	94	6	m	m	94	6	90	10	93	7
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia[3]	m	m	m	m	m	m	m	m	a	a	m	m	m	m	m	m
	Russian Federation	x(5, 7)	x(6, 8)	x(5, 7)	x(6, 8)	93 d	7 d	93 d	7 d	x(5, 7)	x(6, 8)	93	7	90	10	92	8
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: Data on expenditure per student for primary to tertiary education (Columns 17 to 22) are available for consultation on line (see StatLink below). The figures for current and capital expenditure reported on line might not correspond to the total expenditure on educational institutions reported in Table C1.1. This is because the institutions have either increased or reduced their fund balances during the period in question. See *Definitions* and *Methodology* sections for more information. Data and more breakdowns available at http://stats.oecd.org/, Education at a Glance Database.

1. Primary education includes pre-primary programmes.
2. Post-secondary non-tertiary figures are treated as negligible.
3. Year of reference 2018.
4. Total current expenditure includes capital expenditure in private institutions. Capital expenditure only includes expenditure in public institutions.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934165054

Table C6.2. Current expenditure, by resource category (2017)

Distribution of current expenditure from public and private sources as a percentage of total current expenditure

		Primary, secondary and post-secondary non-tertiary				Tertiary				Primary to tertiary			
		Staff compensation			Other current expenditure	Staff compensation			Other current expenditure	Staff compensation			Other current expenditure
		Teachers	Other staff	Total		Teachers	Other staff	Total		Teachers	Other staff	Total	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD	Countries												
	Australia	59	17	76	24	32	29	60	40	50	21	71	29
	Austria	66	8	74	26	61	6	66	34	64	7	72	28
	Belgium	70	19	89	11	45	30	75	25	63	22	86	14
	Canada[1]	67[d]	15[d]	82[d]	18[d]	35	29	64	36	54[d]	20[d]	74[d]	26[d]
	Chile	36	22	57	43	23	25	48	52	30	23	53	47
	Colombia[2]	82	7	89	11	m	m	m	m	m	m	m	m
	Costa Rica[2]	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	43	18	61	39	m	m	m	m	m	m	m	m
	Denmark	m	m	m	m	m	m	m	m	m	m	m	m
	Estonia	47	25	72	28	25	37	62	38	39	29	69	31
	Finland	50	12	62	38	34	29	63	37	45	17	63	37
	France	59	22	80	20	42	37	80	20	54	26	80	20
	Germany	x(3)	x(3)	82	18	x(7)	x(7)	67	33	x(11)	x(11)	78	22
	Greece	m	m	m	m	66	23	89	11	m	m	m	m
	Hungary	x(3)	x(3)	76	24	x(7)	x(7)	62	38	x(11)	x(11)	73	27
	Iceland[3]	53	20	74	26	44	29	73	27	51	22	73	27
	Ireland	m	m	m	m	m	m	m	m	m	m	m	m
	Israel	x(3)	x(3)	81	19	x(7)	x(7)	69	31	x(11)	x(11)	78	22
	Italy	60	16	76	24	34	21	55	45	54	17	72	28
	Japan	x(3)	x(3)	83	17	x(7)	x(7)	58[d]	42[d]	x(11)	x(11)	75	25
	Korea	58	17	76	24	37	24	61	39	51	20	71	29
	Latvia	x(3)	x(3)	77	23	x(7)	x(7)	65	35	x(11)	x(11)	74	26
	Lithuania	56	24	80	20	34	37	72	28	50	28	78	22
	Luxembourg	78	6	84	16	15	52	67	33	69	12	81	19
	Mexico	m	m	m	m	m	m	m	m	m	m	m	m
	Netherlands	x(3)	x(3)	80	20	x(7)	x(7)	73	27	x(11)	x(11)	78	22
	New Zealand	m	m	m	m	m	m	m	m	m	m	m	m
	Norway	x(3)	x(3)	81	19	x(7)	x(7)	68	32	x(11)	x(11)	78	22
	Poland	x(3)	x(3)	74	26	x(7)	x(7)	75	25	x(11)	x(11)	75	25
	Portugal	76	9	85	15	x(7)	x(7)	72	28	x(11)	x(11)	82	18
	Slovak Republic	60	16	76	24	m	m	m	m	m	m	m	m
	Slovenia	x(3)	x(3)	78	22	x(7)	x(7)	71	29	x(11)	x(11)	76	24
	Spain	71	10	81	19	53	21	74	26	66	13	79	21
	Sweden	53	14	68	32	x(7)	x(7)	65	35	x(11)	x(11)	67	33
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m
	Turkey	x(3)	x(3)	74	26	x(7)	x(7)	68	32	x(11)	x(11)	72	28
	United Kingdom	68	10	78	22	32	27	59	41	57	15	72	28
	United States	54	27	81	19	30	35	65	35	44	30	74	26
	OECD average	m	m	77	23	m	m	67	33	m	m	74	26
	EU23 average	61	15	77	23	m	m	69	31	m	m	75	25
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	m	m	m	m	m	m	m	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia[2]	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	x(3)	x(3)	81	19	x(7)	x(7)	70	30	x(11)	x(11)	77	23
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m

Note: Some levels of education are included with others. Refer to "x" in Table C6.1 for details. Data on expenditure on staff compensation per student for primary to tertiary education (Columns 13 to 15) are available for consultation on line (see StatLink below). "Tertiary staff" and "Total staff" at tertiary level include personnel employed whose primary assignment is instruction or research (column 14, available on line). See *Definitions* and *Methodology* sections for more information. Data and more breakdowns available at http://stats.oecd.org/, Education at a Glance Database.

1. Primary, secondary and post-secondary non-tertiary education includes pre-primary programmes.
2. Year of reference 2018.
3. Total current expenditure includes capital expenditure in private institutions.
4. At Tertiary level of education, "Teaching Staff" and "Total Staff" include personnel employed whose primary assignment is instruction or research.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934165073

Table C6.3. Share of current expenditure, by resource category and type of institution (2017)

Distribution of current expenditure by educational institutions

		Primary, secondary and post-secondary non-tertiary								Tertiary							
		Share of current expenditure in total expenditure		Compensation of staff as a percentage of current expenditure						Share of current expenditure in total expenditure		Compensation of staff as a percentage of current expenditure					
				Compensation of teachers		Compensation of other staff		Total compensation				Compensation of teachers		Compensation of other staff		Total compensation	
		Public	Private	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
OECD	Countries																
	Australia	93	85	61	57	15	19	76	76	89	57	33	23	27	40	60	63
	Austria	95	99	66	68	9	4	75	71	91	93	61	58	6	3	67	62
	Belgium	95	97	68	72	21	18	89	89	95	95	48	43	29	31	77	74
	Canada[1]	92[d]	94[d]	68[d]	52[d]	14[d]	19[d]	82[d]	71[d]	90	a	35	a	29	a	64	a
	Chile	94	93	37	35	26	19	63	53	96	98	27	22	32	22	59	45
	Colombia[2]	97	88	85	77	8	4	93	81	m	m	m	m	m	m	m	m
	Costa Rica[2]	99	m	70	m	3	m	73	m	89	m	x(15)	m	x(15)	m	75	m
	Czech Republic	91	100	43	45	18	20	61	65	93	m	46	m	18	m	64	m
	Denmark	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Estonia	92	95	46	52	26	14	72	66	91	95	25	29	37	30	62	59
	Finland	89	95	51	47	11	17	62	64	94	97	31	43	30	26	61	69
	France	92	93	60	53	22	20	82	73	92	91	40	52	40	22	81	74
	Germany	94	89	x(7)	x(8)	x(7)	x(8)	84	76	91	94	x(15)	x(16)	x(15)	x(16)	67	61
	Greece	98	m	92	m	2	m	94	m	57	a	66	a	23	a	89	a
	Hungary	95	96	x(7)	x(8)	x(7)	x(8)	76	76	81	81	x(15)	x(16)	x(15)	x(16)	62	62
	Iceland[3]	95	100	53	55	20	18	74	72	98	100	44	44	29	29	73	73
	Ireland	93	m	58	m	10	m	67	m	98	m	34	m	1	m	35	m
	Israel	89	95	x(7)	x(8)	x(7)	x(8)	84	72	87	93	x(15)	x(16)	x(15)	x(16)	46	70
	Italy	99	98	61	47	17	0	78	47	94	91	34	33	21	19	55	53
	Japan	89	88	x(7)	x(8)	x(7)	x(8)	84	73	90[d]	87[d]	x(15)	x(16)	x(15)	x(16)	52[d]	62[d]
	Korea	84	92	58	59	18	14	76	73	87	91	29	40	26	23	55	63
	Latvia	88	87	x(7)	x(8)	x(7)	x(8)	77	78	94	89	x(15)	x(16)	x(15)	x(16)	80	63
	Lithuania	95	96	56	55	24	19	80	74	93	95	35	27	37	39	72	66
	Luxembourg	91	97	79	71	5	14	84	84	93	a	15	a	52	a	67	a
	Mexico	98	m	79	m	12	m	91	m	96	m	57	m	15	m	72	m
	Netherlands	89	98	x(7)	x(8)	x(7)	x(8)	80	87	89	94	x(15)	x(16)	x(15)	x(16)	72	79
	New Zealand	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Norway	85	100	x(7)	x(8)	x(7)	x(8)	80	100	88	98	x(15)	x(16)	x(15)	x(16)	68	64
	Poland	94	73	x(7)	x(8)	x(7)	x(8)	74	75	91	95	x(15)	x(16)	x(15)	x(16)	76	69
	Portugal	97	85	81	49	9	12	90	61	95	93	x(15)	x(16)	x(15)	x(16)	75	56
	Slovak Republic	96	100	59	61	16	14	76	75	93	m	34	m	24	m	58	m
	Slovenia	93	100	x(7)	x(8)	x(7)	x(8)	78	65	93	100	x(15)	x(16)	x(15)	x(16)	73	40
	Spain	97	96	73	64	9	11	82	75	88	95	57	35	21	21	78	56
	Sweden	96	95	53	54	14	12	68	67	96	97	x(15)	x(16)	x(15)	x(16)	66	64
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Turkey	90	89	x(7)	x(8)	x(7)	x(8)	86	35	82	74	x(15)	x(16)	x(15)	x(16)	69	61
	United Kingdom	97	95	67	68	12	8	79	77	a	87	a	32	a	27	a	59
	United States	91	91	54	53	27	26	81	78	90	89	32	28	36	33	68	61
	OECD average	93	94	63	m	15	m	79	72	90	91	m	m	m	m	67	63
	EU23 average	94	94	63	57	14	13	78	72	91	93	m	m	m	m	68	63
Partners	Argentina	87	m	70	m	23	m	93	m	95	m	60	m	30	m	90	m
	Brazil	98	m	x(7)	m	x(7)	m	78	m	97	m	x(15)	m	x(15)	m	71	m
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia[2]	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	93	96	x(7)	x(8)	x(7)	x(8)	81	61	90	96	x(15)	x(16)	x(15)	x(16)	70	63
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	77	m	7	m	83	m	m	m	56	m	0	m	56	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: Some levels of education are included with others. Refer to "x" in Table C6.1 for details. Data on expenditure on compensation of teachers per student for primary to tertiary education (Columns 17 to 20) are available for consultation on line (see StatLink below). "Tertiary staff" at tertiary level include personnel employed whose primary assignment is instruction or research (columns 19 and 20, available on line). See *Definitions* and *Methodology* sections for more information. Data and more breakdowns available at http://stats.oecd.org/, Education at a Glance Database.

1. Primary, secondary and post-secondary non-tertiary education includes pre-primary programmes. Post-secondary non-tertiary figures are treated as negligible.
2. Year of reference 2018.
3. Total current expenditure includes capital expenditure in private institutions.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Chapter D. Teachers, the learning environment and the organisation of schools

Indicator D1. How does time spent by students in the classroom vary over the years?

Highlights

- In most OECD and partner countries, the number of hours of instruction in compulsory primary and lower secondary education does not change much from year to year. However, between 2014 and 2019 the instruction time regulations have changed at least once in a majority of the countries with available data.
- The total number of compulsory instruction hours in primary and general lower secondary education changed in three-quarters of the countries with available data between 2014 and 2019. The changes exceeded 5% in Australia, Denmark, Hungary, Lithuania, Portugal and Spain.
- Changes in instruction time regulations could influence one or more aspects of students' compulsory instruction time: the number of grades in different levels of compulsory education, the length of school year and the distribution of compulsory instruction time by subject and/or by grade.

Context

Providing instruction in formal classroom settings accounts for a large portion of public investment in education. Countries make various choices concerning the overall amount of time devoted to instruction and which subjects are compulsory. These choices reflect national and/or regional priorities and preferences concerning what material students should be taught and at what age. These priorities and preferences may change over time to adapt to the changes in the society or education policy. Changes may also be implemented further to specific crisis, such as the pandemic due to COVID-19 (Box D1.2). Almost all countries have statutory or regulatory requirements regarding hours of instruction. These are most often stipulated as the minimum number of hours of instruction a school must offer and are based on the understanding that sufficient time is required for good learning outcomes. Matching resources with students' needs and making optimal use of time are central to education policy. Teachers' salaries, institutional maintenance and the provision of other educational resources constitute the main costs of education. The length of time during which these resources are made available to students (as partly shown in this indicator) is an important factor in determining how funds for education are allocated (see Box D2.3 in Indicator D2 on the factors influencing the salary cost of teachers per student). There is growing awareness of the importance of time spent outside the classroom during the school day in activities other than instruction, including recesses and breaks. In addition to formal instruction time, students may participate in extracurricular activities before and/or after the school day or during school holidays, but these activities (as well as examination periods) are outside the scope of this indicator.

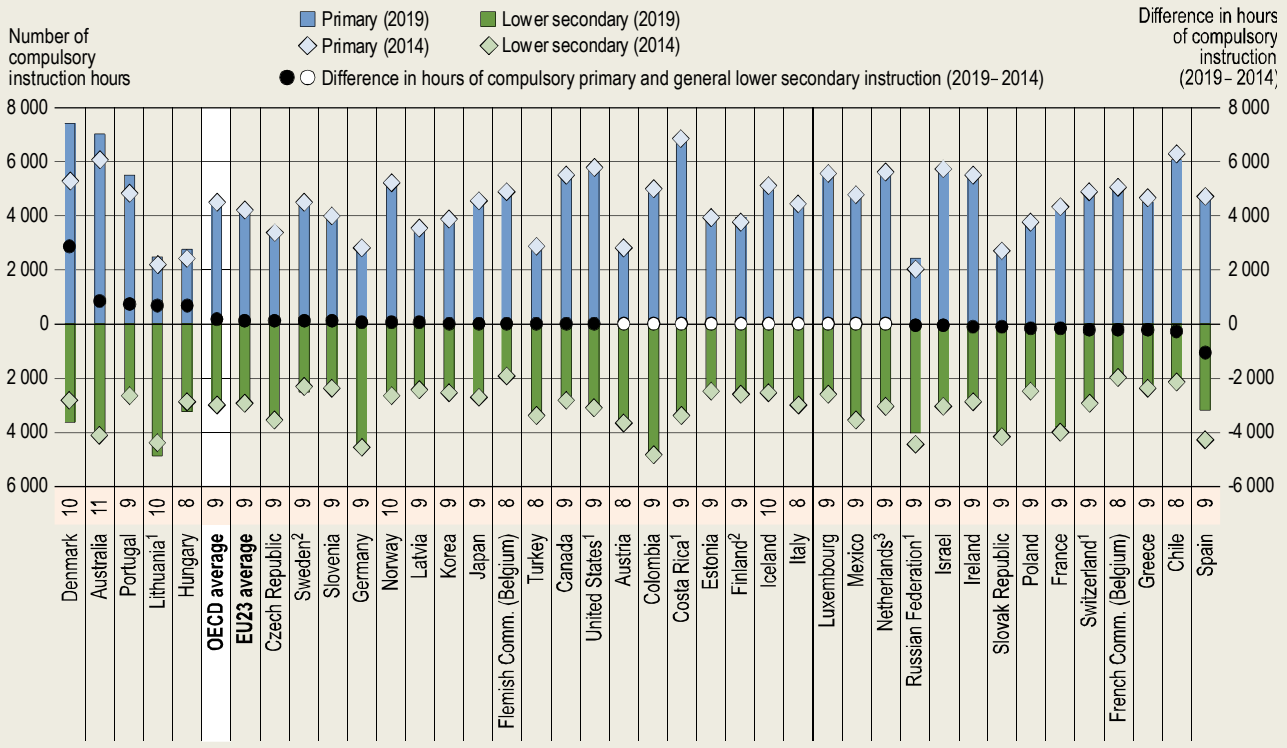
Other findings

- On average across OECD countries in 2019, the compulsory primary and lower secondary curriculum is defined over six grades at primary level and three grades at lower secondary level. Between 2014 and 2019, the number of grades changed only in Australia at primary level and in Spain at general lower secondary level.
- Between 2014 and 2019, most of the countries with available information changed the distribution of compulsory instruction time devoted to individual subjects in primary and general lower secondary education. However, only about one-third of them had significant changes (of 5 percentage points or more) in the share of instruction time devoted to some subjects: Australia, Canada (primary), Denmark, Greece (lower secondary), Hungary, Ireland,

Poland, Portugal, the Slovak Republic and Spain. In many of these countries, the share of compulsory instruction time devoted to the flexible curriculum changed by more than 5 percentage points between 2014 and 2019.

Figure D1.1. Compulsory instruction time in general education (2014 and 2019)

Primary and lower secondary education, in public institutions



Note: Light-coloured circles indicate no change in instruction time (primary and general lower secondary education) between the two reference years. Values next to country names refer to the duration (in years) of primary and lower secondary education in 2019.

1. Reference year differs from indicated year. Refer to the sources table for details.

2. Estimated number of hours by level of education based on the average number of hours per year as, for some subjects, the allocation of instruction time across multiple levels is flexible.

3. The number of grades in lower secondary education is three or four, depending on the track. The fourth year of pre-vocational secondary education (VMBO) was excluded from the calculation.

Countries and economies are ranked in descending order of the difference between the total number of compulsory instruction hours in 2019 and in 2014.

Source: OECD (2020), Tables D1.1 and D1.2. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Analysis

Changes in number of grades in compulsory primary and lower secondary general education

Both annual instruction time and the length of compulsory education have an impact on the total instruction time during compulsory education. In some countries, the duration of compulsory education is shorter, and students could face a heavier annual workload based on statutory requirements. In other countries, the workload is distributed evenly over more years. This indicator focuses on changes in compulsory education at primary and lower secondary levels. However, in some countries such as the Netherlands, pre-primary education is also compulsory, so the starting age for compulsory education is below the age at which primary education starts (see Annex 3 for more details on the length of compulsory education). Moreover, in around three-fifths of countries and economies with available data, compulsory full-time education includes at least one year of upper secondary education (see Figure X3.D1.1 in Annex 3 for more details).

On average across OECD countries the compulsory curriculum in primary and lower secondary education was defined over six grades at primary level and three grades at lower secondary level in 2019 (Table D1.1 and Table D1.2). Even though there may be differences among countries, the number of grades in primary and lower secondary levels does not change much from year to year. Between 2014 and 2019, only a few countries with available information changed the total number of years of compulsory primary and lower secondary education. Only Australia and Spain changed the total number of grades in compulsory primary or lower secondary general education (Tables D1.5 and D1.6, available on line).

In Australia, the number of grades in primary education changed from six grades in 2014 and 2015 to seven grades from 2016, which contributed to an increase in total instruction time in primary education of more than 15% between 2014 and 2019 (Table D1.1). However, the number of grades in primary and lower secondary education that are part of the 10 years of compulsory education varies across jurisdictions in the country (6-7 years for primary and 3-4 years for lower secondary) and the figures reported for 2014 and 2015 referred to the minimum number of years of primary education, whereas they referred to typical values for other reference years. In Spain, the total length of compulsory lower secondary instruction time fell by 26% between 2014 and 2019 (Table D1.2). Most of this reduction resulted from the fact that Spain had four lower secondary grades until 2015 (Grades 7 to 10) and only three from 2016 when the final grade was moved to upper secondary level, although it remains compulsory.

Poland has also decided to change the distribution of grades across compulsory education. A major reform of the country's national education system was begun since 2016/17 and is still ongoing as it is implemented in a process covering several years. This transition will entail a major change in the number of grades in each ISCED level.

Changes in compulsory instruction time

In most countries, official documents define compulsory and non-compulsory instruction time either by level of education or by grade in each level of education. Neither the curriculum nor the number of instruction hours is expected to change each year in any given country. As a consequence, only few countries show changes in compulsory instruction hours between two reference years. However, the pattern changes when a longer period is considered, as more countries are likely to have changed their regulations at least once over this time.

Between 2014 and 2019, the total number of instruction hours in compulsory primary and general lower secondary education has changed in three-quarters of the countries with available data (28 out of 38 countries and economies). Six of these countries showed significant changes in instruction time (more than 5%) during this period: Australia, Denmark, Hungary, Lithuania, Portugal and Spain (Figure D1.1).

In Australia and Spain, the significant changes in the total number of instruction hours in compulsory primary and general lower secondary education resulted mainly from the changes to their grade structures discussed above. However, the number of hours of compulsory instruction time per year also changed slightly (by less than 5%) between the years when the number of grades changed.

In the other four countries, new regulations implemented between 2014 and 2019 resulted in a significant increase (10-36%) in total number of compulsory instruction hours in primary and general lower secondary education.

The increase in compulsory instruction time resulted from an increase in the number of instruction days in a school year in Lithuania (by 15 days at primary level and 17 days at lower secondary level between 2016 and 2019) and in Portugal (by 5 days in Grade 6 at primary level only between 2014 and 2019). Since the compulsory instruction time is defined weekly in

these two countries, increasing the number of instruction days directly translated into an increase of the total annual instruction time (Tables D1.5 and D1.6, available on line).

An increase in compulsory instruction time can also result from increasing the number of hours of compulsory instruction, without any change in the number of instruction days per school year. This implies longer instruction days on average. In Denmark, a reform of its *Folkeskolen* (integrated primary and general lower secondary school) implemented for 2014/15 and 2015/16 extended the average length of a school day. Although instruction time increased by 36% between 2014 and 2019 in total across these levels, the typical number of instruction days remained at 200 days per year. In Hungary, during the four-year phased transition to the new Framework Curricula, compulsory instruction time increased by about 13% in both primary and lower secondary education although the number of instruction days remained at about 180 days per year (Table D1.1, Table D1.2, and Tables D1.5 and D1.6, available on line).

Box D1.1. Comparability of data on instruction time across countries and over time

Data on (intended) instruction time as established in public regulations are gathered through a data collection exercise based on agreed international standards and methodologies to ensure the comparability of the data reported. However, comparability issues can arise not just because of deviations from these guidelines, but due to differences in the way instruction time is defined in official documents. Moreover, changes and revisions in the data collection on instruction time over years may hinder comparability issues on instruction time trend data.

Type of information on instruction time

Intended instruction time often refers to the minimum required instruction time, but it can also refer to recommended instruction time. Both may imply that schools or local levels have some flexibility to adjust the number of hours of instruction. In some countries, the data can be a mix of different types of data. For example, Denmark reports minimum instruction time for three subjects (reading, writing and literature; mathematics; and history) for each grade, but recommended instruction time for other subjects.

Intended instruction time is usually similar across schools throughout the whole country. However, in some countries it is a weighted average based on various regulations. This is the case when intended instruction time varies for different groups of the population (e.g. in Latvia and Lithuania, for schools for minority groups), or for different tracks within general programmes (e.g. in Chile for tracks with or without *Jornada Escolar Completa*, and in Italy for various upper secondary programmes in *Licei*) or between subnational entities (often the case in federal countries such as Australia, Canada, Germany and the United States). In these countries small variations in instruction time over time may result from changes in the weights used to compute the average for the whole country, rather than from changes in the minimum or recommended instruction in the subnational entities.

Number of days of instruction per year

Most countries regulate the length of a school year as a number of days of instruction (either a number of days per school year, or a number of days per week combined with a number of weeks per year). These numbers do not take into account the fact that the (statutory) length of one school day may vary. For example in Austria, Denmark and Korea, the number of lessons per week and therefore the length of the school day varies from one grade to another within primary level. Few countries take into account the different lengths of the school day to determine the number of days of instruction per year. In the Flemish Community of Belgium and France, 4.5 days of instruction per week are considered, as students do not go to school on Wednesday afternoon. This may result in fewer days of instruction compared to countries where the length of the school day does not change over the week or year.

Number of hours of instruction

Instruction time is given in hours (of 60 minutes) to ensure the comparability of data across countries. However, official documents can define instruction time based on other units of time. About half of countries define instruction time as a number of periods of instruction and/or for a different reference unit of time than the school year. Converting this information into hours per year may raise difficulties. In some countries, the length of a period of instruction is not uniform across the country. In this case, an average (for example in Costa Rica and Greece) or the most prevalent value (in Latvia) is used to convert periods into hours of instruction. About one-third of countries and economies also define instruction

time per week or day rather than per school year, so the weekly or daily values are multiplied by the defined or estimated number of weeks or days in the school year.

To ensure the comparability of hours of instruction, breaks between period/sessions are excluded. However, in some countries, breaks with educational activities are included in the prescribed intended instruction time at the national level, although they are excluded from reported intended instruction time to comply with the international definition. For example in Denmark, breaks have been a part of regulated compulsory instruction time in both primary and lower secondary education since 2014/15, although they are not included in the reported data. Similarly, in Spain, primary education legislations in autonomous communities includes breaks in compulsory instruction time (87.5 hours per year), which has been excluded from the reported data since 2014.

Distribution of instruction time by subject

Instruction time is devoted to various subjects and the distribution of instruction time by subject is displayed by level of education for the different countries. To improve comparability across countries, definitions of some subjects have been clarified over time. For example, "reading, writing and literature" has been further clarified to only include reading, writing and literature in another national language when it is also a language of instruction in almost every public school. The definition "foreign languages" was revised to "second and other languages" to include time spent on other national languages. These clarifications resulted in changes in the proportion of instruction time devoted to these subjects in Ireland and Luxembourg, although the statutory regulations on the number of hours devoted to these subjects did not change.

Several countries also revised subject categories over time to better reflect the curriculum contents of these subjects. In lower secondary general education in Finland, home economics, once classified under "other subjects", is now classified as "practical and vocational skills". In Greece, geography (at primary level) and geology-geography (at lower secondary level) have been moved from "social studies" to "natural sciences". In primary education in Japan, instruction time spent on living environment studies, which was previously included in both "social studies" and "natural sciences", is now included in "other subjects".

For more information on comparability issues, see notes for specific countries and/or specific years in Annex 3 in the relevant editions of *Education at a Glance*.

Changes in intended instruction time

Total intended instruction time is the estimated number of hours during which schools are obliged to offer instruction in compulsory and, if applicable, non-compulsory subjects. Most of the OECD countries and economies only have compulsory instruction subjects and so did not have non-compulsory subjects over the period 2014-19. In these countries, all the changes in total intended instruction time between 2014 and 2019 can be explained by the change in compulsory instruction time between these years.

However, one-fifth of the OECD countries and economies include non-compulsory subjects in their intended instruction time, which is another factor that could explain the change in total intended instruction time between 2014 and 2019. Among these countries, instruction time devoted to non-compulsory subjects increased by 10% or more in five countries between 2014 and 2019: Canada (lower secondary but non-compulsory instruction time amounts to less than 10 hours per year), Finland, France (lower secondary), Greece (primary) and Slovenia. Non-compulsory curriculum hours have been increased for various purposes, from remedial/supplementary classes (Greece) to optional subjects such as second and other languages (Finland, France and Slovenia), or for classes working on projects (lower secondary education in Greece). Only Portugal recorded a large decrease in non-compulsory instruction time of 32% (359 hours) in primary education (Table D1.1 and Table D1.2).

Changes in the distribution of instruction time by subject

Changes in the compulsory instruction time devoted to some subjects may affect the total number of hours of instruction, but also the distribution of instruction time by subject. Countries can also make changes in the distribution of instruction time by subject without changing the number of hours of compulsory instruction time.

The distribution of compulsory instruction time by subject may change over time due to the combination of multiple instruction time regulations (see Box D1.1). This combination of different regulations may result from the existence of different levels of governance responsible for education as in countries like Canada, Germany and Spain. Different regulations may also apply to different types of schools. This is the case in Austria (at lower secondary level), Chile, Greece (in primary education before

2017), Israel, Latvia and Turkey (lower secondary). Similar issues can also arise in countries undergoing transition between two sets of regulations, as in Poland (for more information, see Annex 3).

Other than the instruction time on specific subjects set at central level, instruction time can be allocated in ways that allow local authorities, schools, teachers and/or students to have freedom in organising instruction time or in choosing subjects. Changes in the proportion of compulsory flexible curriculum (compulsory instruction time set for subjects within a flexible timetable, or subjects chosen by schools and/or students) signal how much freedom schools or students are allowed in organising instruction time or choosing subjects. Between 2014 and 2019, this change was notable (exceeding 5 percentage points) in Australia, Denmark (lower secondary), Hungary, Ireland (lower secondary), Poland, Portugal, the Slovak Republic and Spain (lower secondary) (Table D1.3 and Table D1.4).

Primary education

At primary level, most of the 31 countries with available information made changes to the distribution of compulsory instruction time devoted to different subjects between 2014 and 2019 (Table D1.3). However, only in nine countries did the changes in the proportion of instruction time devoted to any specific subject exceed 5 percentage points (Figure D1.2).

In four of these countries (Australia, Denmark, Hungary and Portugal), the number of hours of instruction devoted to some compulsory subjects increased (together with an increase of total compulsory instruction time) with some impact on the distribution of compulsory instruction time by subject. In these countries, the changes led to an increase in total compulsory instruction time of 12-39% (Table D1.3).

The number of compulsory instruction hours in primary education increased the most in Denmark (by 39% or 2 080 hours) as a result of an additional 510 hours of instruction devoted to a number of compulsory subjects (reading, writing and literature; mathematics; natural sciences; second and other languages etc.) and 1 570 hours to various compulsory learning activities (included in the “other subjects” category). This led to a large change in the distribution of instruction time by subject, with a reduction of 13 percentage points in the proportion of time devoted to reading, writing and literature; mathematics; natural sciences; and the compulsory flexible curriculum, counterbalanced by an increase in the proportion of compulsory instruction time devoted to other compulsory curriculum subjects (Table D1.1, Table D1.3 and Figure D1.2).

In Australia and Portugal, there were also large changes in the distribution of instruction time among subjects in parallel to the significant increase of instruction time between 2014 and 2019 (Table D1.3). However, while the proportion of instruction time devoted to the compulsory flexible curriculum increased by more than 50 percentage points in Portugal, it decreased by more than 70 percentage points in Australia. In Australia, the change resulted from the introduction of a national curriculum that provides guidelines on the time to be spent on specific compulsory subjects. Previously individual schools had full autonomy over how to organise the instruction time for a set of compulsory subjects. In Portugal, a decree-law in 2018 provided more autonomy to individual schools: compulsory instruction time is no longer allocated to specific subjects (except reading, writing and literature; mathematics; and physical education and health in some grades), and the majority of compulsory instruction time is allocated to flexible arrangements such as subjects with flexible timetables and compulsory subjects chosen by schools.

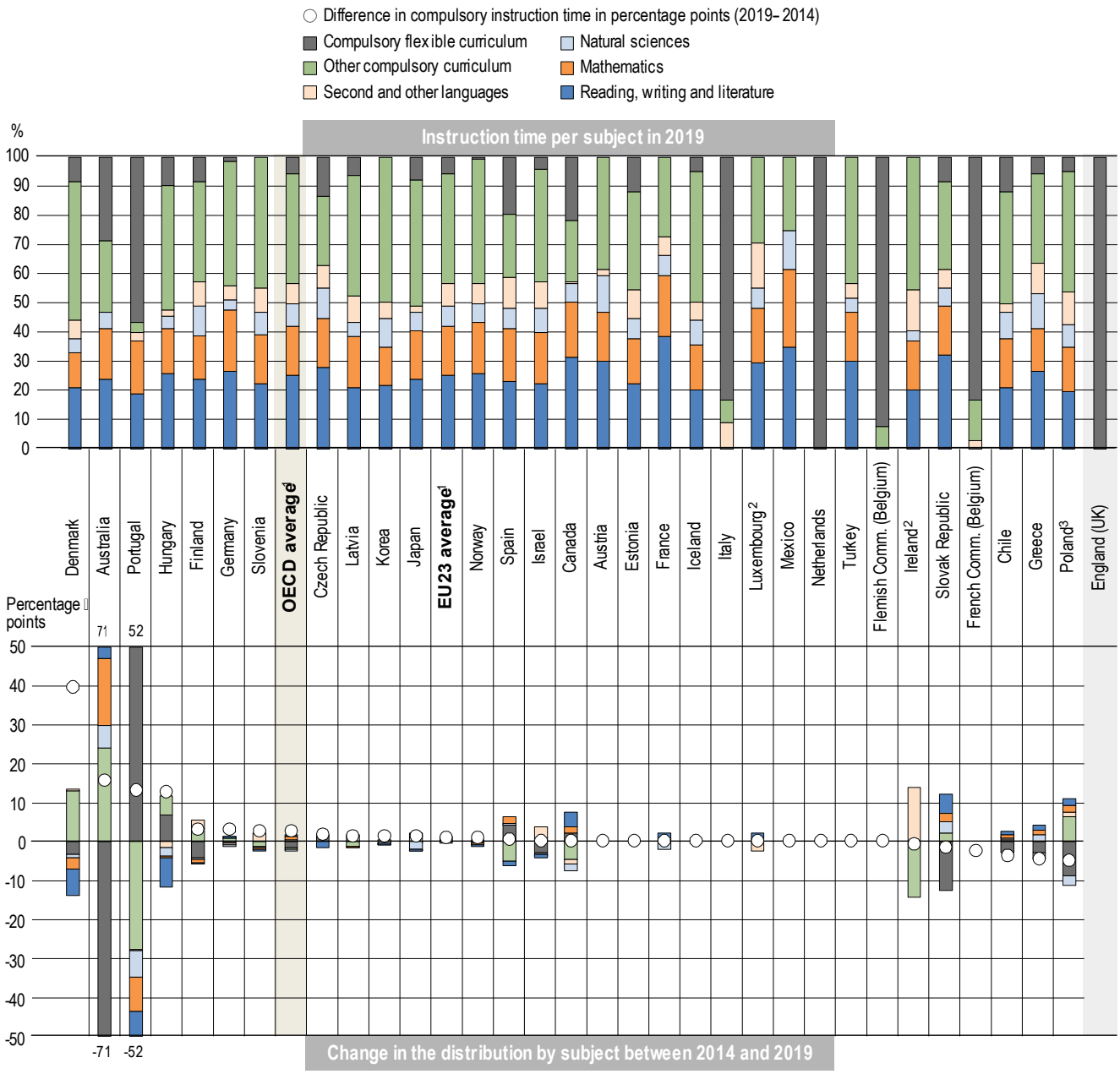
In Hungary, the implementation of the new Framework Curricula increased the proportion of compulsory instruction time devoted to physical education and health, arts, and compulsory flexible subjects chosen by schools. As a result, the proportion of compulsory instruction time devoted to the flexible curriculum and to other subjects increased by more than 5 percentage points, balanced by a decrease in other subjects, mostly in reading, writing and literature (Table D1.3).

In three countries (Ireland, Poland and the Slovak Republic), there were changes in the proportion of instruction time devoted to a specific subject which exceeded 5 percentage points and total compulsory instruction time decreased slightly (by 1-5%). In both Poland and the Slovak Republic, the main changes in the distribution of compulsory instruction time by subject relate to the reduction in time devoted to the flexible curriculum (by 9-13 percentage points). This was balanced by increases in all other subjects except natural sciences in Poland and all other subjects except second and other languages in the Slovak Republic. Unlike in Hungary and Portugal, schools in Poland and the Slovak Republic have seen a reduced degree of autonomy in choosing subjects. However, for Poland, comparing the distribution of instruction time between these two reference years should be done with caution, due to the gradual implementation of its ongoing reform, as discussed above. The instruction time allocated to compulsory flexible subjects chosen by schools fell by nearly 9 percentage points as of 2019, with minor changes (less than 2 percentage points) in various compulsory subjects. In addition, the reform accounted for about a 5% decrease in the number of hours of compulsory instruction in primary education (Table D1.1 and Table D1.3).

Figure D1.2. Instruction time per subject in primary education in 2019 and change in the distribution by subject between 2014 and 2019

As a percentage of total compulsory instruction time, in public institutions

Instruction time per subject in 2019



Note: No marker for a country indicates that there are no data on the total number of compulsory instruction hours for one of the two corresponding reference years.
1. Excludes Australia, England (United Kingdom), the Flemish Community of Belgium, the French Community of Belgium, Italy, the Netherlands and Portugal.
2. The second language of instruction includes other national languages taught in 2019.
3. Excludes the first three years of primary education for which a large proportion of the time allocated to compulsory subjects is flexible.
Countries and economies are ranked in descending order of the percentage-point change in total compulsory instruction hours since 2014.
Source: OECD (2020), Tables D1.1 and D1.3. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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In the two remaining countries, Canada and Spain, the total number of hours of compulsory instruction time stayed generally constant between 2014 and 2019, but the distribution of instruction time by subject changed significantly, especially in some compulsory subjects. In these two countries, the changes arise from varying proportions of subnational-level regulations on instruction time being taken into account, as discussed above (Table D1.1 and Table D1.3).

Other than these large changes between 2014 and 2019, there were also small changes in the number of instruction hours devoted to new or existing subjects (in the Czech Republic, Finland, France, Japan, Latvia, Norway, Portugal and Slovenia) and changes in the distribution of instruction time by subjects resulting from changes in the combination of multiple instruction time regulations over time (in Chile, Germany, Greece, Israel, and Latvia) (Table D1.3). Changes were also implemented in how some subjects are classified in the subject categories in Greece, Ireland, Japan and Luxembourg (see Box D1.1).

General lower secondary education

In lower secondary general education, changes to the distribution of compulsory instruction time by subject occurred in the majority of the 31 countries with available information (Table D1.4). However, the proportion of instruction time devoted to a specific subject category changed by more than or equal to 5 percentage points in 9 of these 31 countries (Figure D1.3).

In Denmark, Hungary, Poland and Portugal, new regulations on instruction time implemented in lower secondary education increased the total number of instruction hours (by 2-29%) as a result of significant changes in the number of instruction hours devoted to many subjects. The distribution of instruction time by subject changed significantly in these four countries. The variation in the proportion of instruction time devoted to a specific subject only reached or exceeded 5 percentage points for a few subjects, but in all four countries there was a significant change in the time devoted to compulsory flexible curriculum. In Denmark and Poland, the share of the compulsory curriculum devoted to the compulsory flexible curriculum fell by 9-11 percentage points, whereas the proportion increased by 7 percentage points in Hungary and 58 percentage points in Portugal. As a result, Portugal has the fourth largest proportion of instruction time devoted to compulsory flexible curriculum among OECD countries and economies in 2019, while the proportion does not exceed 10% in the three other countries (Table D1.2 and Table D1.4).

Spain is the only country combining a significant decrease in the total number of hours of compulsory instruction (by more than 2%) and significant changes (by over 5 percentage points) in the distribution of instruction time devoted to specific subjects. The distribution of instruction time by subject in Spain has mainly changed following the move of one grade from lower secondary level to upper secondary level (as indicated by the 26% reduction in total compulsory instruction time at lower secondary level). As this grade had a very different distribution of instruction time by subject compared to the other grades that are still part of the lower secondary level, moving it into upper secondary level had a significant impact on the distribution of instruction time by subject. Changes in regulations regarding compulsory curriculum chosen by students and compulsory flexible curriculum chosen by schools have also had an impact (Table D1.2 and Table D1.4).

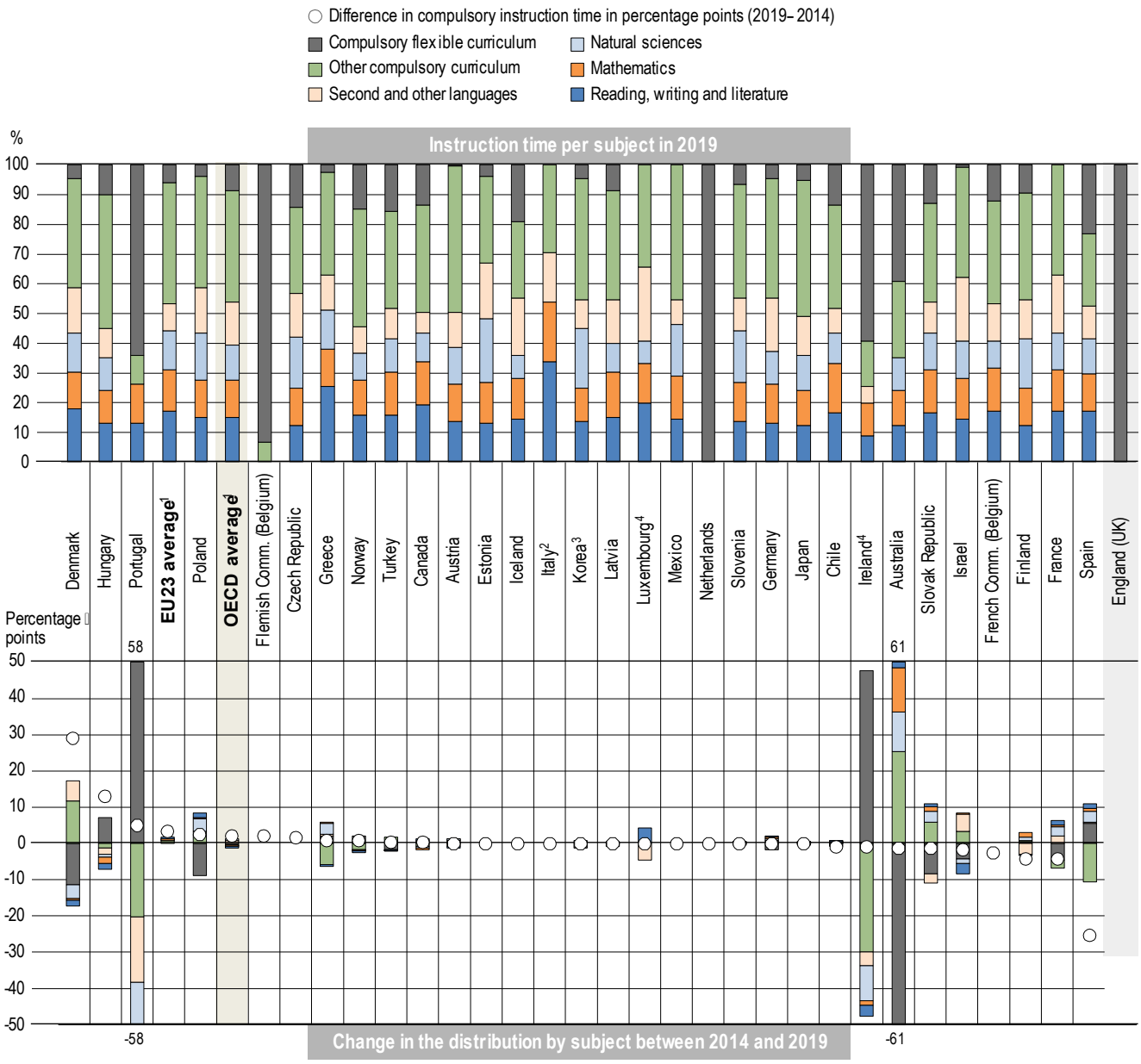
In Australia, Greece, Ireland, and the Slovak Republic, the total number of hours of compulsory instruction did not change by more than 2% between 2014 and 2019, but the distribution of compulsory instruction time by subject changed significantly, and by at least 5 percentage points in a few subjects. The changes in the distribution are especially large in Australia and Ireland. In Ireland, subject selection and the competence to decide instruction time has been significantly delegated to individual schools at lower secondary level since the school year 2014/15 (from 12% of compulsory instruction time in 2014 to 60% in 2019). Thus, similar to Portugal, the level of autonomy of individual schools on the organisation of instruction time and on the choices of subject increased between 2014 and 2019, leading to an increase of 48 percentage points in the share of the compulsory curriculum devoted to compulsory flexible subjects. The changes in the distribution of instruction time by subject were in the opposite direction in Australia. As for primary education, the share devoted to compulsory flexible curriculum decreased by more than 60 percentage points. However, in 2019 Australia and Ireland remain among the few countries devoting at least 40% of the compulsory curriculum to compulsory flexible curriculum at the lower secondary level (Table D1.4).

In Greece and the Slovak Republic, the changes in the share of compulsory curriculum devoted to specific subjects changed to a lesser extent. The largest changes (by 5 percentage points or more) occurred in one or two categories: compulsory flexible curriculum and other compulsory curriculum for the Slovak Republic, and other compulsory curriculum for Greece (Figure D1.3). In Greece, a reform rearranged compulsory instruction time for numerous compulsory subjects in order to reduce students' weekly study load by 9% since 2016/17 (Table D1.4). However, this change did not reduce total compulsory

instruction as this reduction was offset by 9% increase (13 days) in the number of instruction days in the school year at lower secondary level (Table D1.6, available on line).

Figure D1.3. Instruction time per subject in general lower secondary education in 2019 and change in the distribution by subject between 2014 and 2019

As a percentage of total compulsory instruction time, in public institutions



Note: No marker for a country indicates that there are no data on the total number of compulsory instruction hours for one of the two corresponding reference years.
1. Excludes Australia (in 2014 only), England (United Kingdom), the Flemish Community of Belgium, Ireland (in 2019 only), the Netherlands and Portugal (in 2019 only).
2. Reading, writing and literature includes social studies. Mathematics includes natural sciences.
3. Natural sciences includes information and communication technologies and practical and vocational skills.
4. The second language of instruction includes other national languages taught in 2019.
Countries and economies are ranked in descending order of the percentage-point change in total compulsory instruction hours since 2014.
Source: OECD (2020), Tables D1.2 and D1.4. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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In addition to the significant changes above, four countries had small changes in the categories other compulsory curriculum and compulsory flexible curriculum: France, the French Community of Belgium, Korea and Mexico (Figure D1.3 and Table D1.4). Combinations of multiple instruction time regulations resulted in small changes over time in the distribution of instruction time in Austria, Canada, Chile, Germany, Israel, Latvia, Spain and Turkey (Table D1.4). In Greece, Ireland and Luxembourg, there were changes in how some subjects are classified into subject categories (see Box D1.1).

Changes in flexible allocation of instruction time across multiple grades

In one-quarter of countries with available data in 2019, the allocation of instruction time across grades is flexible, i.e. the instruction time for a specific subject is defined across a certain number of grades or even the whole of compulsory education, without specifying the time to be allocated within each grade. Between 2014 and 2019, only four countries have made changes in the flexibility of the allocation of subjects over multiple grades (Luxembourg (primary only), Poland, Portugal and the Slovak Republic). For example, in the Slovak Republic, since 2015/16, instruction time on compulsory subjects is no longer allocated across multiple grades in primary and lower secondary general education (Tables D1.5 and D1.6, available on line).

In Finland and Sweden, although instruction time for most subjects continues to be flexibly allocated in primary and lower secondary education, new regulations changed the grouping of grades in which instruction time of a specific subject can be flexibly arranged at the discretion of individual schools. For example, in Sweden, instruction time for most subjects was once allowed to be flexibly allocated across all grades in primary and lower secondary education, but now is allocated within two 3-year stages in primary education and one 3-year stage in lower secondary education (Table D1.1 and Table D1.2).

In these countries, it is not possible to estimate the impact of these changes on the flexibility of the curriculum on the number of annual hours of compulsory education, because individual schools/local authorities decide how to allocate instruction hours across multiple grades.

Box D1.2. Impact of COVID19 on instruction time

Out of the 38 OECD countries and 8 partner countries covered in this edition of *Education at a Glance*, the People's Republic of China was the first to impose a school closure in response to the COVID19 pandemic. School closures were imposed on 16 February 2020 in some parts of China, where the scheduled spring semester starts earlier, and extended nationwide about a week later. Other countries also began to close schools (closure of school premises, without necessarily a complete cessation of teaching/learning) as the pandemic expanded. Preliminary information from various sources (see below) provides a snapshot of responses during this ongoing and evolving global pandemic.

By the end of March, school closures had been implemented to some extent in all 46 countries covered here, but to a different extent: countrywide in 41 countries and at a subnational or local level in 5 (Australia, Iceland, the Russian Federation, Sweden and the United States). However, not all countries hit by the pandemic closed all of their schools. For example, primary schools in Iceland remained open if class sizes were below 20 students. In Sweden, most primary and lower secondary schools remained open, while upper secondary schools switched to mainly distance learning from mid-March (UNESCO, 2020[1]).

Impact on the number of instruction weeks at school

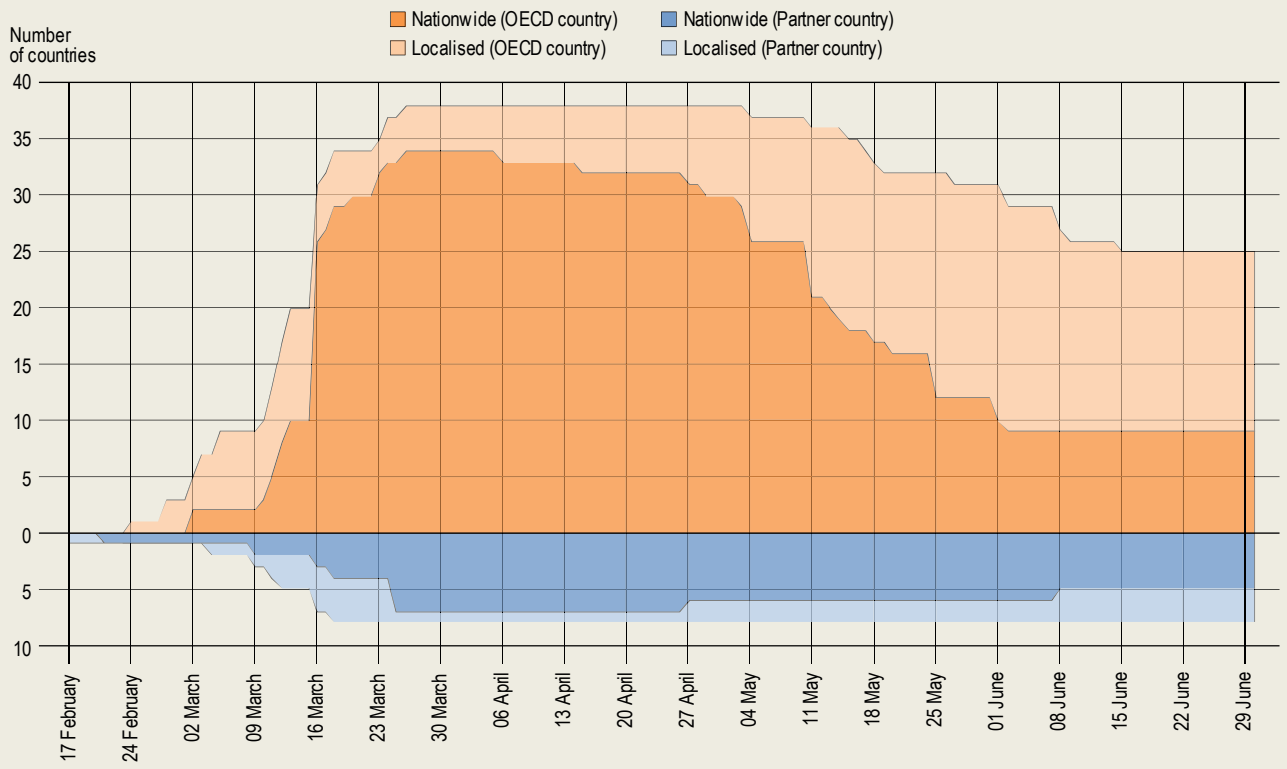
It is difficult to estimate accurately the number of instruction weeks affected in all countries as in some countries individual schools or local authorities have autonomy over the organisation of the school year schedule and the re-opening of schools. However, by the end of June 2020, out of these 46 countries, some degree of school closure was effective for at least 7 weeks in 2 countries (4%), 8-12 weeks in 6 countries (13%), 12-16 weeks in 24 countries (52%), 16-19 weeks in 13 countries (28%) and more than 19 weeks in China (UNESCO, 2020[1]).

However, the actual impact may have been less severe as some of these periods included scheduled school breaks. In many European and Southern Hemisphere countries, Easter holidays scheduled in mid-April and/or spring vacation between April and early May mitigated the impact of school closure by up to 2 weeks. In Japan for example, there is a two-week spring vacation in late March (see Figure X3.D1.2 in Annex 3 for more information) (UNESCO, 2020[1]; European Commission/EACEA/Eurydice, 2019[2]).

Moreover, some countries have reorganised their school years to minimise the impact on the number of instruction weeks. For example, in Australia (in some jurisdictions) and Chile the winter school holidays were brought forward; in Korea the school year started in April (about one month later than the typical start) by shortening the summer vacation, and in Lithuania two-week compulsory school holidays were introduced in the last two weeks of March (OECD, 2020[3]).

Figure D1.4. Number of countries with school closures due to COVID19

Data covers the period between 17 February 2020 and 30 June 2020



Note: This figure covers educational institutions from early childhood education to tertiary education. Localised school closure refers to school closures of some levels of education only and/or for some subnational entities.
Source: UNESCO (2020[1]).

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Measures to continue students' learning during school closure

Countries used different instructional resources to support students' learning while they were unable to come to school, including instructional packages (textbooks, worksheets and printouts), radio education, educational television and online instructional resources. Countries usually used several tools, to reach the largest proportion of students possible. In the OECD and partner countries, online platforms were the most popular tool used during school closures (Schleicher and Reimers, 2020[4]).

Online platforms were used in nearly all the OECD and partner countries, through various online learning tools, ranging from educational content which students can explore at their own discretion and formalised learning programmes conducted at their own pace, to real-time lessons led by their teachers through virtual meeting platforms. For example, Estonia has collaborated with private services to provide a wealth of educational content free to students during school closure. In France, already-existing distance learning programme *Ma classes à la maison* (My classes at home) became available for all students in primary and secondary schools (Ministère de l'Éducation nationale et de la Jeunesse, 2020[5]).

In Greece, virtual real-time classes with teachers were conducted in conjunction with other online learning tools (Ministry of Education and Religious Affairs, 2020[6]; Schleicher and Reimers, 2020[4]).

Another popular learning arrangements in many OECD countries were television broadcasts providing educational content to continue students' learning. In some countries, TV programmes mostly catered for younger children in primary schools (for example, in Greece, Korea and Portugal), who may have difficulty using online learning platforms or conducting self-directed learning. TV broadcasts are also another way to reach students who do not have adequate resources for online instruction. Despite their advantages, broadcasts can be limited to covering only a few subjects due to short time designated for these TV programmes. For example, two channels in Spain covered one of the five subjects (Spanish, mathematics, social science, natural sciences and arts and/or physical education) per day during a one-hour slot (Ministry of Education and Vocational Training, 2020[7]; Schleicher and Reimers, 2020[4]).

Other measures were also taken to help students in their learning at home. For example in Luxembourg, the government set up a new support system for students and parents to support home schooling. In Mexico, a telephone line "Your Teacher Online" has been activated to offer mentoring to students (OECD, 2020[3]).

In the majority of the OECD and partner countries, these measures were conducted by the government with active involvement from individual schools. However, in Estonia, Finland, Japan and the Netherlands, individual schools had more autonomy in organising these alternative education arrangements (Schleicher and Reimers, 2020[4]).

Re-opening of schools

After mid-April, some OECD countries gradually started to re-open schools for some levels of education. By the end of May, more than two months after the school closures began in most OECD countries, schools were re-opened (at least partially) in two-thirds of the OECD countries (UNESCO, 2020[1]; Schleicher and Reimers, 2020[4]).

In most countries, where schools have re-opened, attendance is not compulsory for all students, to take into account students who are sick or have at-risk family members, or because schools could not welcome all students with the new sanitary measures to maintain sufficient distance between students and teachers in classrooms (see Box D2.2). For example, in the Czech Republic, lower secondary schools re-opened for students in Grade 9, organised in small groups of up to 15 people with voluntary attendance. Neither students nor their teachers have to wear face masks if a two-metre social distance is kept (Schleicher and Reimers, 2020[4]).

Many countries re-opened schools gradually, setting out a process with a number of phases by grade or level of education. For example, younger students were the first to return to school in Denmark (childcare and primary schools with additional measures such as reduced class sizes and physical distancing), France (primary schools in most regions with limitations on the number of children in a classroom), the Netherlands (primary schools) and Norway (kindergarten and grades 1 to 4 primary schools with additional measures such as reduced class sizes and physical distancing).In contrast, schools re-opened first for older students in Greece and Korea, especially for final year students who were sitting for secondary school qualification examinations or entrance examinations for tertiary education (OECD, 2020[3]; Schleicher and Reimers, 2020[4]; UNESCO, 2020[1]).

While schools in many countries began to re-open in April and May, the plans are for primary and secondary schools in Ireland, Italy, Lithuania, Portugal (except grades 11 and 12) and Spain (schools re-open for grades 10 and 12 with voluntary attendance) to be closed until June (inclusive), that is to say the end of the school year 2019/20 (UNESCO, 2020[1]; Schleicher and Reimers, 2020[4]; OECD, 2020[3]).

Definitions

Compulsory instruction time/curriculum refers to the amount and allocation of instruction time that has to be provided in almost every public school and must be attended by almost all public sector students. The compulsory curriculum may be flexible, as local authorities, schools, teachers and/or students may have varying degrees of freedom to choose the subjects and/or the allocation of compulsory instruction time.

Compulsory flexible subjects chosen by schools refers to the total amount of compulsory instruction time indicated by the central authorities, which regional authorities, local authorities, schools or teachers allocate to subjects of their choice (or

subjects they chose from a list defined by central education authorities). It is compulsory for the school to offer one of these subjects, and students must attend.

Compulsory options chosen by the students refers to the total amount of instruction time in one or more subjects that pupils have to select (from a set of subjects that are compulsory for schools to offer) in order to cover part of their compulsory instruction time.

Compulsory subjects with a flexible timetable refers to the total amount of instruction time indicated by the central authorities for a given group of subjects, which regional authorities, local authorities, schools or teachers allocate to individual subjects. There is flexibility in the time spent on a subject, but not in the subjects to be taught.

Flexible allocation of instruction time across multiple grades refers to the case where the curriculum only indicates the total instruction time for a specific subject for a certain number of grades, or even the whole of compulsory education, without specifying the time to be allocated to each grade. In such cases, schools/local authorities are free to decide how much time should be assigned for each grade.

Instruction time refers to the time a public school is expected to provide instruction to students on all the subjects integrated into the compulsory and non-compulsory curriculum, on school premises or in before-school/after-school activities that are formal parts of the compulsory programme. Instruction time excludes breaks between classes or other types of interruptions, non-compulsory time outside the school day, time dedicated to homework activities, individual tutoring or private study and examination periods (days for non-school-based examinations, e.g. national examinations).

Intended instruction time refers to the number of hours per year of the compulsory and non-compulsory part of the curriculum that students are entitled to receive in public schools. The intended curriculum can be based on regulations or standards of the central (or top-level) education authorities or may be established as a set of recommendations at the regional level.

The **non-compulsory part of the curriculum** refers to the total amount of instruction time that public schools must offer on top of the compulsory instruction time, but which is not mandatory for all students. Subjects can vary from school to school or from region to region and take the form of optional subjects. Additional activities before/after classes offered by the school are not per se part of the non-compulsory curriculum, for instance, if there is no obligation upon public schools to provide this instruction time or it is not part of the official curricula. In particular, non-compulsory education excludes morning care classes or after-school care classes, even if they are officially regulated.

Methodology

This indicator captures intended instruction time (as established in public regulations) as a measure of learning in formal classroom settings. It does not show the actual number of hours of instruction that students receive and does not cover learning outside of the formal classroom setting. Differences may exist across countries between the regulatory minimum hours of instruction and the actual hours of instruction received by students. Given such factors as school timetables, lesson cancellations and teacher absenteeism, schools may not consistently attain the regulatory minimum instruction time (see Box D1.1 in OECD (OECD, 2007[8])).

The indicator also illustrates how minimum (and/or recommended) instruction hours are allocated across different curricular areas. It shows the intended net hours of instruction for those grades that are part of compulsory full-time general education. Although the data are difficult to compare among countries because of different curricular policies, they nevertheless provide an indication of how much formal instruction time is considered necessary for students to achieve the desired educational goals.

When the allocation of instruction time across grades is flexible (i.e. instruction time for a specific subject is defined for a certain number of grades, or even the whole of compulsory education, without specifying the time to be allocated to each grade), instruction time per age or level of education was estimated by assuming equal distribution of the total number of instruction hours between grades.

For more information please see the OECD Handbook for Internationally Comparable Education Statistics (OECD, 2018[9]) and Annex 3 for country-specific notes (https://doi.org/10.1787/69096873-en).

Source

Data on instruction time are from:

- the 2012 OECD-INES Survey on Teachers and the Curriculum and refer to the school year 2010/11.
- the 2013 to 2018 Joint Eurydice-OECD Instruction time data collection and refer to instruction time during compulsory primary and full-time lower secondary general education for the school years 2013/14 to 2018/19.

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Indicator D1 Tables

Table D1.1 Instruction time in compulsory primary education (2011, 2014 to 2019)

Table D1.2 Instruction time in compulsory general lower secondary education (2011, 2014 to 2019)

Table D1.3 Instruction time per subject in compulsory primary education (2014 and 2019)

Table D1.4 Instruction time per subject in compulsory general lower secondary education (2014 and 2019)

WEB Table D1.5 *Organisation of compulsory primary education (2011, 2014 to 2019)*

WEB Table D1.6 *Organisation of compulsory general lower secondary education (2011, 2014 to 2019)*

Cut-off date for the data: 19 July 2020. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en. More breakdowns can also be found at http://stats.oecd.org/, Education at a Glance Database.

StatLink: https://doi.org/10.1787/888934165149

Table D1.1. Instruction time in compulsory primary education[1] (2011, 2014 to 2019)

In public institutions

		Number of grades that are part of compulsory education	Average hours per year						Total number of hours					
			Compulsory instruction time			Intended instruction time			Compulsory instruction time			Intended instruction time		
		2019	2011	2015	2019	2011	2015	2019	2011	2015	2019	2011	2015	2019
		(1)	(2)	(4)	(8)	(16)	(18)	(22)	(23)	(25)	(29)	(37)	(39)	(43)
OECD	**Countries**													
	Australia[2]	7	953	1 000	1 000	953	m	m	6 674	6 000	7 000	6 674	m	m
	Austria	4	705	705	705	750	m	m	2 820	2 820	2 820	3 000	m	m
	Canada	6	919	919	920	919	919	920	5 512	5 516	5 518	5 512	5 516	5 518
	Chile	6	1 007	1 039	1 008	1 007	1 039	1 008	6 042	6 231	6 047	6 042	6 231	6 047
	Colombia	5	m	1 000	1 000	m	m	1 000	m	5 000	5 000	m	m	5 000
	Costa Rica	6	m	m	1 147	m	m	1 147	m	m	6 880	m	m	6 880
	Czech Republic	5	694	687	687	m	m	687	3 469	3 434	3 434	m	m	3 434
	Denmark	7	754	954	1 051	754	1 051	1 051	5 280	6 680	7 360	5 280	7 360	7 360
	Estonia	6	650	661	661	650	661	661	3 898	3 964	3 964	3 898	3 964	3 964
	Finland[3]	6	626	632	651	654	661	683	3 755	3 794	3 905	3 926	3 965	4 100
	France	5	864	864	864	864	864	864	4 320	4 320	4 320	4 320	4 320	4 320
	Germany	4	702	703	724	702	703	724	2 806	2 812	2 896	2 806	2 812	2 896
	Greece	6	756	786	748	756	1 065	1 144	4 536	4 715	4 488	4 536	6 387	6 864
	Hungary	4	572	646	692	655	646	692	2 289	2 583	2 769	2 618	2 583	2 769
	Iceland	7	857	729	729	857	729	729	6 000	5 100	5 100	6 000	5 100	5 100
	Ireland[2]	6	869	915	905	869	915	905	6 954	5 490	5 430	6 954	5 490	5 430
	Israel	6	956	972	958	956	972	958	5 738	5 831	5 751	5 738	5 831	5 751
	Italy	5	891	891	891	891	891	891	4 455	4 455	4 455	4 455	4 455	4 455
	Japan	6	754	763	770	754	763	770	4 521	4 575	4 621	4 521	4 575	4 621
	Korea	6	632	648	655	632	648	655	3 795	3 885	3 928	3 795	3 885	3 928
	Latvia	6	m	594	599	m	m	m	m	3 566	3 595	m	m	m
	Lithuania	4	m	m	613	m	m	650	m	m	2 452	m	m	2 600
	Luxembourg	6	924	924	924	924	924	924	5 544	5 544	5 544	5 544	5 544	5 544
	Mexico	6	800	800	800	800	800	800	4 800	4 800	4 800	4 800	4 800	4 800
	Netherlands	6	940	940	940	940	m	940	5 640	5 640	5 640	5 640	m	5 640
	New Zealand	6	m	m	m	m	m	m	m	m	m	m	m	m
	Norway	7	748	748	753	748	748	753	5 234	5 234	5 272	5 234	5 234	5 272
	Poland	6	649	635	603	703	693	661	3 893	3 807	3 619	4 215	4 156	3 967
	Portugal	6	891	806	910	924	995	1 039	5 347	4 838	5 460	5 544	5 971	6 234
	Slovak Republic	4	691	673	670	698	673	670	2 765	2 693	2 678	2 793	2 693	2 678
	Slovenia	6	664	664	682	664	778	822	3 986	3 986	4 091	3 986	4 669	4 931
	Spain	6	875	793	792	875	793	792	5 250	4 757	4 750	5 250	4 757	4 750
	Sweden[3]	6	741	754	733	m	m	m	4 444	4 523	4 400	m	m	m
	Switzerland	6	m	819	797	m	m	m	m	4 912	4 782	m	m	m
	Turkey[2]	4	720	720	720	864	720	720	5 760	2 880	2 880	6 912	2 880	2 880
	United States	6	m	970	m	m	m	m	m	5 820	m	m	m	m
	Economies													
	Flemish Comm. (Belgium)	6	831	821	819	831	821	819	4 984	4 928	4 916	4 984	4 928	4 916
	French Comm. (Belgium)	6	840	849	826	930	849	826	5 040	5 096	4 956	5 580	5 096	4 956
	England (UK)	6	861	m	m	861	m	m	5 168	m	m	5 168	m	m
	Scotland (UK)	7	a	a	m	a	a	m	a	a	m	a	a	m
	OECD average	6	792	801	804	m	m	m	4 710	4 578	4 598	m	m	m
	EU23 average	6	772	768	769	m	m	m	4 393	4 293	4 258	m	m	m
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	5	m	m	m	m	m	m	m	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	660	m	m	660	m	m	3 961	m	m	3 961	m	m
	Russian Federation	4	470	517	598	470	m	m	1 881	2 068	2 393	1 881	m	m
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: Columns showing the data for 2014 and 2016 to 2018 and non-compulsory instruction time are available for consultation on line. See *Definitions and Methodology* sections for more information. Data available at http://stats.oecd.org/, Education at a Glance Database.

1. Refers to full-time compulsory education and excludes pre-primary education, even if compulsory.

2. The number of grades that are part of compulsory primary education have changed: in 2016 in Australia, in 2014 in Ireland and in 2014 in Turkey following the split of a single structure between primary and lower secondary levels. For more information, see Table D1.5.

3. Estimated number of hours by level of education based on the average number of hours per year as, for some subjects, the allocation of instruction time across multiple levels is flexible.

Source: OECD (2013 to 2019). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934165168

Table D1.2. Instruction time in compulsory general lower secondary education[1] (2011, 2014 to 2019)

In public institutions

		Number of grades that are part of compulsory education	Average hours per year						Total number of hours					
			Compulsory instruction time			Intended instruction time			Compulsory instruction time			Intended instruction time		
		2019	2011	2015	2019	2011	2015	2019	2011	2015	2019	2011	2015	2019
		(1)	(2)	(4)	(8)	(16)	(18)	(22)	(23)	(25)	(29)	(37)	(39)	(43)
OECD	**Countries**													
	Australia	4	1 009	1 000	1 000	m	m	m	4 035	4 000	4 000	m	m	m
	Austria	4	900	899	900	945	m	m	3 600	3 597	3 600	3 780	m	m
	Canada	3	923	924	924	923	930	927	2 770	2 773	2 771	2 770	2 790	2 780
	Chile	2	1 083	1 067	1 052	1 083	1 067	1 052	2 166	2 134	2 103	2 166	2 134	2 103
	Colombia	4	m	1 200	1 200	m	m	1 200	m	4 800	4 800	m	m	4 800
	Costa Rica	3	m	m	1 120	m	m	1 120	m	m	3 360	m	m	3 360
	Czech Republic	4	897	888	888	m	m	888	3 587	3 550	3 550	m	m	3 550
	Denmark	3	930	1 120	1 200	930	1 200	1 200	2 790	3 360	3 600	2 790	3 600	3 600
	Estonia	3	770	823	823	770	823	823	2 310	2 468	2 468	2 310	2 468	2 468
	Finland[2]	3	856	844	808	913	901	894	2 569	2 533	2 423	2 740	2 704	2 683
	France	4	982	991	946	1 081	1 090	1 135	3 928	3 964	3 784	4 324	4 360	4 540
	Germany[3]	5	890	907	904	890	907	904	4 449	4 536	4 521	4 449	4 536	4 521
	Greece	3	796	785	791	796	785	1 044	2 387	2 356	2 374	2 387	2 356	3 132
	Hungary	4	659	743	801	859	743	801	2 636	2 970	3 204	3 436	2 970	3 204
	Iceland	3	987	839	839	987	839	839	2 960	2 516	2 516	2 960	2 516	2 516
	Ireland	3	935	935	924	935	935	924	2 806	2 806	2 772	2 806	2 806	2 772
	Israel	3	981	1 023	984	981	1 023	984	2 943	3 070	2 952	2 943	3 070	2 952
	Italy	3	990	990	990	990	990	990	2 970	2 970	2 970	2 970	2 970	2 970
	Japan	3	866	895	893	866	895	893	2 598	2 684	2 680	2 598	2 684	2 680
	Korea	3	850	842	842	850	842	842	2 550	2 525	2 525	2 550	2 525	2 525
	Latvia	3	m	794	794	m	m	m	m	2 381	2 381	m	m	m
	Lithuania	6	m	m	804	m	m	923	m	m	4 826	m	m	5 539
	Luxembourg[4]	3	900	845	845	900	845	845	3 600	2 535	2 535	3 600	2 535	2 535
	Mexico	3	1 167	1 167	1 167	1 167	1 167	1 167	3 500	3 500	3 500	3 500	3 500	3 500
	Netherlands[5]	3	1 000	1 000	1 000	m	m	1 000	4 000	3 000	3 000	m	m	3 000
	New Zealand	4	m	m	m	m	m	m	m	m	m	m	m	m
	Norway	3	855	874	874	855	874	874	2 566	2 622	2 622	2 566	2 622	2 622
	Poland	3	746	810	829	800	875	893	2 239	2 430	2 488	2 399	2 624	2 678
	Portugal	3	924	892	918	950	919	945	2 772	2 675	2 754	2 851	2 756	2 834
	Slovak Republic	5	821	819	815	832	819	815	4 104	4 095	4 073	4 161	4 095	4 073
	Slovenia	3	817	766	766	817	911	944	2 451	2 298	2 298	2 451	2 733	2 833
	Spain[4]	3	1 050	1 059	1 054	1 050	1 059	1 054	4 200	4 234	3 161	4 200	4 234	3 161
	Sweden[2]	3	741	754	830	m	m	m	2 222	2 262	2 490	m	m	m
	Switzerland	3	m	963	945	m	m	m	m	2 888	2 836	m	m	m
	Turkey	4	a	840	843	a	840	843	a	3 360	3 371	a	3 360	3 371
	United States	3	m	1 019	m	m	m	m	m	3 057	m	m	m	m
	Economies													
	Flemish Comm. (Belgium)	2	955	947	945	955	947	945	1 909	1 893	1 890	1 909	1 893	1 890
	French Comm. (Belgium)	2	960	971	944	1 020	971	944	1 920	1 941	1 888	2 040	1 941	1 888
	England (UK)	3	912	m	m	912	m	m	2 736	m	m	2 736	m	m
	Scotland (UK)[4]	3	a	a	m	a	a	m	a	a	m	a	a	m
	OECD average	3	908	921	922	m	m	m	2 977	2 994	3 030	m	m	m
	EU23 average	3	883	890	892	m	m	m	3 008	2 948	3 002	m	m	m
Partners	Argentina	m	744	m	m	896	m	m	2 232	m	m	2 688	m	m
	Brazil	4	m	m	m	m	m	m	m	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	1 020	m	m	1 020	m	m	3 060	m	m	3 060	m	m
	Russian Federation	5	877	877	803	877	m	m	4 384	4 384	4 016	4 384	m	m
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: Columns showing the data for 2014 and 2016 to 2018 and non-compulsory instruction time are available for consultation on line. See *Definitions and Methodology* sections for more information. Data available at http://stats.oecd.org/, Education at a Glance Database.

1. Refers to full-time compulsory education.
2. Estimated number of hours by level of education based on the average number of hours per year as, for some subjects, the allocation of instruction time across multiple levels is flexible.
3. Excludes the last year of compulsory education, which can be classified as either lower secondary or upper secondary level.
4. The number of grades that are part of compulsory lower secondary education have changed: in 2014 in Luxembourg and in 2016 in Spain and Scotland (United Kingdom). For more information, see Table D1.6.
5. The number of grades in lower secondary education is three or four, depending on the track. The fourth year of pre-vocational secondary education (VMBO) was excluded from the calculation.

Source: OECD (2013 to 2019). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934165187

Table D1.3. Instruction time per subject in compulsory primary education (2014 and 2019)

As a percentage of total compulsory instruction time, in public institutions

		Reading, writing and literature		Mathematics		Natural sciences		Second language		Other languages		Compulsory subjects with flexible timetable		Compulsory options chosen by the students		Compulsory flexible subjects chosen by schools		Total compulsory curriculum	
		2014	2019	2014	2019	2014	2019	2014	2019	2014	2019	2014	2019	2014	2019	2014	2019	2014	2019
		(1)	(2)	(3)	(4)	(5)	(6)	(9)	(10)	(11)	(12)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)
OECD	**Countries**																		
	Australia[1]	x(27)	24	x(27)	17	x(27)	6	x(27)	x(32)	x(27)	x(32)	100 d	x(32)	x(27)	m	x(27)	29 d	**100**	**100**
	Austria	30	30	17	17	13 d	13 d	2	2	0	a	a	a	0	a	a	a	**100**	**100**
	Canada	27	31	18	19	8	6	2	1	0	a	16	17	0	a	3	5	**100**	**100**
	Chile	20	21	16	17	9	9	3	3	x(31)	x(32)	a	a	0	a	15 d	12 d	**100**	**100**
	Colombia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**m**
	Costa Rica	m	23	m	19	m	14	m	12	m	a	m	a	m	a	m	a	**m**	**100**
	Czech Republic	30	28	17	17	10 d	10 d	8	8	0	a	a	a	x(31)	x(32)	12 d	14 d	**100**	**100**
	Denmark	27	21	15	12	6	5	6	5	0	1	11	8 d	0	a	0	a	**100**	**100**
	Estonia	23	23	15	15	7	7	8	8	2	2	a	a	a	a	12 d	12 d	**100**	**100**
	Finland[2]	24	23	16	15	11	10	6	7	0	1	6	4	a	a	7	4	**100**	**100**
	France	37	38	21	21	9 d	7 d	6	6	0	a	0	a	0	a	0	a	**100**	**100**
	Germany	26	27	20	21	4	4	5	5	a	a	a	a	2	1	a	a	**100**	**100**
	Greece	25	27	13	14	10	12	8	8	2	2	a	a	a	a	8	6	**100**	**100**
	Hungary	33	25	16	16	6	4	3	2	0	a	a	a	a	a	3	10	**100**	**100**
	Iceland	20	20	16	16	8	8	6 d	6 d	x(9)	x(10, 30)	0	a	5 d	5 d	a	x(30)	**100**	**100**
	Ireland[3]	20	20	17	17	4 d	4 d	0	14	a	a	a	a	a	a	m	a	**100**	**100**
	Israel	23	22	18	18	9 d	8	6	6	0	3	0	a	0	a	7	4	**100**	**100**
	Italy[1]	x(27)	x(28)	x(27)	x(28)	x(27)	x(28)	9	9	0	a	84 d	84 d	a	a	a	x(34)	**100**	**100**
	Japan	24	24	17	16	8	7	1	2	a	a	7	7	0	a	m	a	**100**	**100**
	Korea	22	21	14	14	9 d	9 d	6	6	0	a	0	a	0	a	0	a	**100**	**100**
	Latvia	21	21	17	17	5	5	7	8	1	1	a	a	a	a	6	6	**100**	**100**
	Lithuania	m	32	m	19	m	4	m	8	m	a	m	a	m	a	m	a	**m**	**100**
	Luxembourg[3]	26 d	29	19	19	7	7	x(1)	15	18	a	a	a	a	a	a	a	**100**	**100**
	Mexico	35	35	27	27	13	13	m	m	a	a	a	a	a	a	a	a	**100**	**100**
	Netherlands[1]	x(27)	x(28)	x(27)	x(28)	x(27)	x(28)	x(27)	x(28)	0	a	100 d	100 d	a	a	a	a	**100**	**100**
	New Zealand	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**m**
	Norway	26	26	17	17	6	7	7	7	0	a	a	a	0	a	1	1	**100**	**100**
	Poland[4]	18	20	14	15	10	8	10	12	0	a	0	a	a	a	13	5	**100**	**100**
	Portugal[1]	27	18	27	18	7	x(28)	3	3	0	a	a	53 d	0	a	5	4 d	**100**	**100**
	Slovak Republic	27	32	15	17	3	6	6	6	x(31)	x(32)	a	a	x(31)	x(32)	21 d	8 d	**100**	**100**
	Slovenia	23	22	17	17	8	8	6	8	0	a	a	a	0	a	a	a	**100**	**100**
	Spain	24	23	16	18	7	7	10	11	0	x(32)	a	a	7 d	x(32)	9	20 d	**100**	**100**
	Sweden[2]	m	27	m	19	m	8	m	6	m	1	m	a	m	6	m	a	**m**	**100**
	Switzerland	m	m	m	m	m	m	m	a	m	a	m	a	m	a	m	a	**m**	**m**
	Turkey	30	30	17	17	5	5	5	5	0	a	a	a	0	a	a	a	**100**	**100**
	United States	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**m**
	Economies																		
	Flemish Comm. (Belgium)[1]	x(27)	x(28)	x(27)	x(28)	x(27)	x(28)	x(27)	x(28)	a	a	93 d	93 d	a	a	x(27)	x(28)	**100**	**100**
	French Comm. (Belgium)[1]	x(27)	x(28)	x(27)	x(28)	x(27)	x(28)	2	2	0	a	83 d	83 d	0	a	0	a	**100**	**100**
	England (UK)[1]	x(27)	x(28)	x(27)	x(28)	x(27)	x(28)	x(27)	x(28)	a	a	100 d	100 d	a	a	a	a	**100**	**100**
	Scotland (UK)[1]	x(27)	m	x(27)	m	x(27)	m	x(27)	m	0	a	a	a	a	a	a	a	**a**	**m**
	OECD average[1]	25	25	16	17	8	8	5	6	1	0	2	1	1	0	5	4	**100**	**100**
	EU23 average[1]	25	25	16	16	7	7	6	7	1	1	1	1	1	0	6	5	**100**	**100**
Partners	**Argentina**	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**m**
	Brazil	m	m	m	m	m	m	m	m	0	a	m	m	m	m	m	m	**m**	**m**
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**m**
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**m**
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**m**
	Russian Federation	m	36	m	16	m	8	m	6	m	a	m	a	m	a	m	9	**m**	**100**
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**m**
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**m**
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**m**

Note: The averages were adjusted to add up to 100% and do not correspond exactly to the average of each column. Columns showing other subjects areas and non-compulsory instruction time are available for consultation on line. See *Definitions and Methodology* sections for more information. Data available at http://stats.oecd.org/, Education at a Glance Database.

1. Australia, England (United Kingdom), the Flemish Community of Belgium, the French Community of Belgium, Italy, the Netherlands, Portugal and Scotland (United Kingdom) are not included in the averages.
2. For some subjects, allocation of instruction time across multiple levels of education is flexible.
3. The second language of instruction includes other national languages taught in 2019. In Ireland, the second language is included in "Other subjects" in 2014.
4. Excludes the first three years of primary education for which a large proportion of the time allocated to compulsory subjects is flexible.

Source: OECD (2014 and 2019). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table D1.4. Instruction time per subject in compulsory general lower secondary education (2014 and 2019)

As a percentage of total compulsory instruction time, in public institutions

		Reading, writing and literature		Mathematics		Natural sciences		Second language		Other languages		Compulsory subjects with flexible timetable		Compulsory options chosen by the students		Compulsory flexible subjects chosen by schools		Total compulsory curriculum	
		2014	2019	2014	2019	2014	2019	2014	2019	2014	2019	2014	2019	2014	2019	2014	2019	2014	2019
		(1)	(2)	(3)	(4)	(5)	(6)	(9)	(10)	(11)	(12)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)
OECD	**Countries**																		
	Australia [1, 2]	x(27)	12	x(27)	12	x(27)	11	x(27)	x(32)	x(27)	x(32)	100 [d]	x(32)	x(27)	18	x(27)	22 [d]	**100**	**100**
	Austria	14	13	14	13	12	12	12	12	0	x(30)	a	a	1	1 [d]	a	a	**100**	**100**
	Canada	19	19	15	15	10	9	7	7	0	a	4	0	1	4	8	10	**100**	**100**
	Chile	16	16	16	16	11	11	8	8	x(31)	x(32)	a	a	0	a	14 [d]	14 [d]	**100**	**100**
	Colombia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**m**
	Costa Rica	m	12	m	12	m	12	m	7	m	7	m	a	m	a	m	2	**m**	**100**
	Czech Republic	12	12	12	12	17	17	10	10	5	5	a	a	x(31)	x(32)	15 [d]	15 [d]	**100**	**100**
	Denmark	19	18	13	13	17	13	10	8	x(29)	8	0	a	12 [d]	5 [d]	4	a	**100**	**100**
	Estonia	13	13	14	14	21	21	10	10	10	10	a	a	a	a	4 [d]	4 [d]	**100**	**100**
	Finland [3]	12	12	12	13	16	16	9	8	7	5	4	6	a	a	5	4	**100**	**100**
	France	15	17	14	14	10	12	12	12	5	7	0	a	4 [d]	a	**1**	a	**100**	**100**
	Germany	13	13	12	13	11	11	12	12	6	6	a	a	7	5	a	a	**100**	**100**
	Greece	26	25	11	12	10	13	6	6	6	6	a	a	a	a	**1**	3	**100**	**100**
	Hungary	15	13	13	11	12	11	12	10	0	a	a	a	a	a	3	10	**100**	**100**
	Iceland	14	14	14	14	8	8	19 [d]	19 [d]	x(9)	x(10, 30)	0	a	20 [d]	20 [d]	a	x(30)	**100**	**100**
	Ireland [1, 4, 5]	12	9	12	11	10	x(32)	10	6	m	x(32)	m	a	m	a	12	60 [d]	**100**	**100**
	Israel	17	14	14	14	14 [d]	13	11	11	6	10	3	a	0	a	2 [d]	0	**100**	**100**
	Italy	33 [d]	33 [d]	20 [d]	20 [d]	x(3)	x(4)	10	10	7	7	0	a	a	a	a	x(34)	**100**	**100**
	Japan	12	12	12	12	12	12	13	13	a	a	6	5	0	a	m	a	**100**	**100**
	Korea	13	13	11	11	19 [d]	20 [d]	10	10	0	a	0	a	x(31)	x(32)	6 [d]	5 [d]	**100**	**100**
	Latvia	15	15	16	16	10	10	8	8	6	6	a	a	a	a	9	9	**100**	**100**
	Lithuania	m	18	m	13	m	13	m	10	m	5	m	a	m	a	m	a	**m**	**100**
	Luxembourg [4]	15	19	13	13	8	8	17	12	13	13	a	a	a	a	a	a	**100**	**100**
	Mexico	14	14	14	14	17	17	9	9	a	a	a	a	a	a	a	a	**100**	**100**
	Netherlands [1]	x(27)	x(28)	x(27)	x(28)	x(27)	x(28)	x(27)	x(28)	x(27)	x(28)	100 [d]	100 [d]	a	a	a	a	**100**	**100**
	New Zealand	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**m**
	Norway	15	15	12	12	10	9	9	8	x(29)	x(30)	a	a	13 [d]	15 [d]	0	x(30)	**100**	**100**
	Poland [6]	14	15	12	12	12	16	14 [d]	11	x(9)	4	0	a	a	a	13	4	**100**	**100**
	Portugal [1]	13	13	13	13	18	x(28)	9	x(28)	9	x(28)	a	61 [d]	0	a	7	3 [d]	**100**	**100**
	Slovak Republic	16	16	13	14	10	12	10	10	3	x(32)	a	a	x(31)	x(32)	21 [d]	13 [d]	**100**	**100**
	Slovenia	13	13	13	13	17	17	11	11	x(29)	x(30)	a	a	7 [d]	7 [d]	a	a	**100**	**100**
	Spain	16	17	12	13	8	11	11	11	0	x(32)	a	a	18	x(32)	0	23 [d]	**100**	**100**
	Sweden [3]	m	12	m	12	m	11	m	8	m	11	m	a	m	5	m	a	**m**	**100**
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	a	m	m	m	a	**m**	**m**
	Turkey	16	16	14	14	11	11	10	10	0	x(30)	a	a	17	16 [d]	a	a	**100**	**100**
	United States	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**m**
	Economies																		
	Flemish Comm. (Belgium) [1]	x(27)	x(28)	x(27)	x(28)	x(27)	x(28)	x(27)	x(28)	x(27)	x(28)	73 [d]	73 [d]	a	a	20	20	**100**	**100**
	French Comm. (Belgium)	17	17	14	14	9	9	13	13	0	a	0	a	13 [d]	x(32)	0	13 [d]	**100**	**100**
	England (UK) [1]	x(27)	x(28)	x(27)	x(28)	x(27)	x(28)	x(27)	x(28)	a	a	100 [d]	100 [d]	a	a	a	a	**100**	**100**
	Scotland (UK) [1]	x(27)	m	x(27)	m	x(27)	m	x(27)	m	0	m	a	a	a	a	a	a	**a**	**m**
	OECD average [1]	15	15	13	12	12	12	10	10	4	5	1	0	4	4	4	5	**100**	**100**
	EU23 average [1]	15	15	13	13	12	12	10	10	5	6	0	0	4	1	4	5	**100**	**100**
Partners	**Argentina**	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**m**
	Brazil	m	m	m	m	m	m	m	m	a	a	m	m	m	m	m	m	**m**	**m**
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**m**
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**m**
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**m**
	Russian Federation	m	22	m	16	m	17	m	10	m	a	m	a	m	m	m	7	**m**	**100**
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**m**
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**m**
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**m**

Note: The averages were adjusted to add up to 100% and do not correspond exactly to the average of each column. Columns showing other subjects areas and non-compulsory instruction time are available for consultation on line. See *Definitions and Methodology* sections for more information. Data available at http://stats.oecd.org/, Education at a Glance Database.

1. Australia (2014 only), England (United Kingdom), the Flemish Community of Belgium, Ireland (2019 only), the Netherlands, Portugal (2019 only) and Scotland (United Kingdom) are not included in the averages.
2. The intended instruction time derived from the Australian Curriculum assumes that certain subjects, which may be considered compulsory in years 7 and 8, could be delivered to students as electives in years 9 and 10.
3. For some subjects, allocation of instruction time across multiple levels of education is flexible.
4. The second language of instruction includes other national languages taught in 2019.
5. Actual instruction time in 2014.
6. Instruction time for other languages is included in instruction time for the second language for grade 9 in 2019.

Source: OECD (2014 and 2019). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

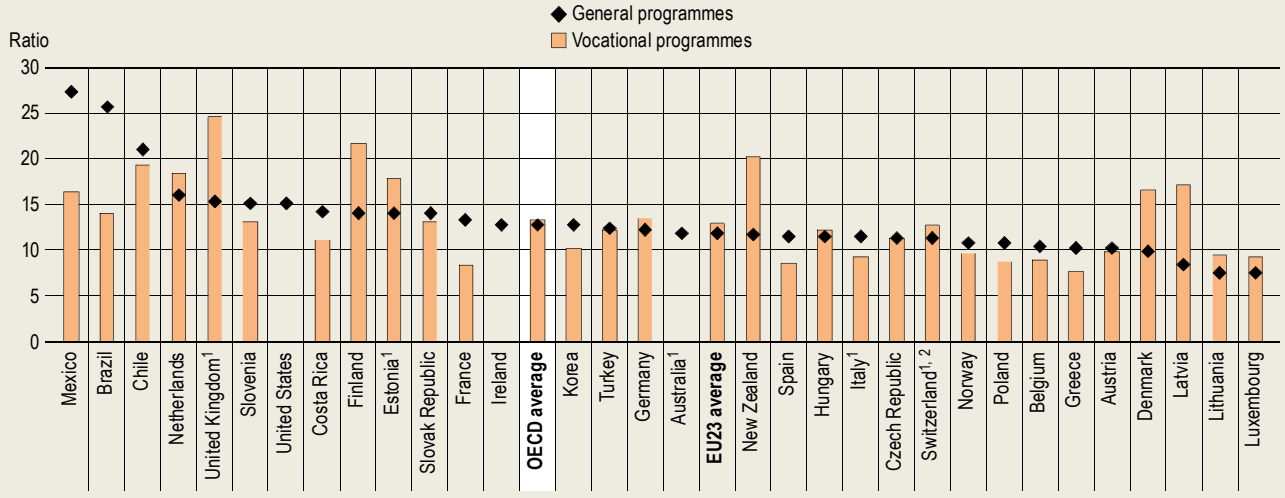
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Indicator D2. What is the student-teacher ratio and how big are classes?

Highlights

- At upper secondary level, the programme orientation can strongly influence the student-teacher ratio. In about 40% of OECD countries with data, the ratio is greater in vocational programmes than in general ones.
- On average across OECD countries with available data, the student-teacher ratio is slightly higher in public institutions than in private ones at both lower and upper secondary level.
- Between 2005 and 2018, class sizes have fallen by 2% at primary level and 7% at lower secondary level on average across OECD countries.

Figure D2.1. Ratio of students to teaching staff in upper secondary education, by programme orientation (2018)



1. Upper secondary includes programmes outside upper secondary level - see Annex 3 for further details.
2. Public institutions only.

Countries are ranked in descending order of the ratio of students to teaching staff in upper secondary general programmes.

Source: OECD/UIS/Eurostat (2020), Table D2.1. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Context

Class sizes and student-teacher ratios are much-discussed aspects of education and are among the determinants of the demand for teachers, along with students' instruction time (see Indicator D1), teachers' working time and the division of teachers' time between teaching and other duties (see Indicator D4). Together with teachers' salaries (see Indicator D3) and instruction time (see Indicator D1), class size and student-teacher ratios also have a considerable impact on the level of current expenditure on education through teacher salary costs (Box D2.3).

The ratio of students to teaching staff is an indicator of how resources for education are allocated. Smaller student-teacher ratios often have to be weighed against measures such as higher salaries for teachers, investment in their professional development, greater investment in teaching technology, or more widespread use of assistant teachers whose salaries are often considerably lower than those of teachers.

Smaller classes are often seen as beneficial, because they allow teachers to focus more on the needs of individual students and reduce the amount of class time needed to deal with disruptions. Yet, while there is some evidence that smaller classes may benefit specific groups of students, such as those from disadvantaged backgrounds (Piketty and Valenaire, 2006[1]), overall evidence of the effect of class size on student performance is mixed (Fredriksson, Öckert and Oosterbeek, 2013[2]; OECD, 2016[3]). Changes in class size over periods of time may also reveal potential imbalances in the supply of teachers compared to student demand. Some countries face difficulties in recruiting new teachers to respond to a growing student base, while others face the opposite problem of adjusting the overall number of teachers to declining enrolments (OECD, 2019[4]).

In the context of the 2020 global COVID-19 crisis, class size will be a critical parameter that will determine if and how schools reopen after the lockdown measures imposed in most OECD and partner countries. Guidelines on social distancing have imposed a minimum safety distance between students that will need to be accommodated in current classrooms. Countries with larger classes will face more challenges in reorganising student groups to minimise the risks of viral transmission (Box D2.2).

Other findings

- On average across OECD countries, there are 15 students for every teacher at primary level but the ratio ranges from 9 to 1 in Greece and Luxembourg to 26 to 1 in Mexico.
- At primary level, the average class in OECD countries has 21 students. There are fewer than 25 students per class in nearly all of the countries with available data, with the exception of Chile, Israel, Japan, and the United Kingdom.
- On average across OECD countries, average class sizes do not differ between public and private institutions by more than one student per class in either primary or lower secondary education.

Analysis

Student-teacher ratios

By level of education

The ratio of students to teaching staff compares the number of students (full-time equivalents) to the number of teachers (full-time equivalents) at a given level of education and in similar types of institutions. This ratio does not take into account the amount of instruction time students have relative to the length of teachers' working days, nor how much time teachers spend teaching. Therefore, it cannot be interpreted in terms of class sizes (Box D2.1).

On average across OECD countries, there are 15 students for every teacher at primary level but the ratio ranges from 9 to 1 in Greece and Luxembourg to 26 to 1 in Mexico. On average, there are fewer students per teacher at secondary level (13 students per teacher) than at primary level. This reduction in the student-teacher ratio between primary and secondary level may result from differences in annual instruction time (as instruction hours tend to increase with the education level, so does the number of teachers) or from differences in teaching hours (teaching time decreases with the level of education as teacher specialisation increases). Only Chile, Colombia, Costa Rica, Hungary, Mexico, and the Netherlands, have a larger student to teacher ratio at secondary level than at primary level (Table D2.1).

On average, the student-teacher ratio is about the same in lower and upper secondary education (13 students per teacher). In some countries, however, it varies widely between these two levels. This is the case in Finland, where there are over twice as many students per teacher at the upper secondary level than at the lower secondary level. In Mexico, it is the opposite case, with 33 students per teacher at lower secondary level compared to 22 at upper secondary level (Table D2.1).

At the upper secondary level, the programme orientation can strongly influence the student-teacher ratio although on average the ratios of students to teaching staff in upper secondary vocational and general programmes are similar (13 to 1). In about 40% of OECD countries with data, the ratio is greater in vocational programmes than in general ones. In Latvia, New Zealand and the United Kingdom, there are about 9 students more per teacher in vocational programmes than in general ones. In other countries such as Brazil and Mexico, the difference is reversed: there are over ten students more per teacher in general programmes (Figure D2.1).

A combination of several factors may influence the variation in student-teacher ratios between vocational and general upper secondary programmes. In some countries, vocational programmes are significantly work-based, so vocational students spend considerable time outside the school resulting in fewer teachers (OECD, 2017[5]). Countries where more than half of upper secondary vocational students are enrolled in combined school- and work-based programmes tend to have an equal or higher number of students per teacher in vocational than in general programmes. In contrast, in most countries where all upper secondary vocational students are enrolled in school-based programmes, the student-teacher ratio in general programmes tends to be the same or higher than in vocational ones.

However, programme type alone does not explain all differences between student-teacher ratio in vocational and general upper secondary education. Other factors, such as field of study, also influence the student-teacher ratio in vocational programmes. Some fields require greater instructor attention and supervision, particularly those where students have access to more sophisticated equipment (Hoeckel, 2008[6]). This may be particularly the case in technical fields such as engineering, manufacturing and construction, or some specialties in health and welfare. For example, Latvia and the United Kingdom have among the lowest shares of upper secondary vocational students graduating from the combined fields of engineering, manufacturing and construction and health and welfare across OECD countries (see Box B7.1). In both countries, there are nine more students per teacher in vocational than in general programmes, the highest difference across OECD countries. In contrast, the fields of study of upper secondary vocational graduates in Austria, Germany and Switzerland are more diversified, which may explain the similar student-teacher ratios across programme orientations in these countries. These differences have important implications for the cost of vocational instruction, as advanced vocational training in specialised fields of study requires both complex machinery and a greater level of human resources (Klein, 2001[7]). In most countries with available data, the cost per student in upper secondary vocational programmes is higher than in general ones (see Box C1.1).

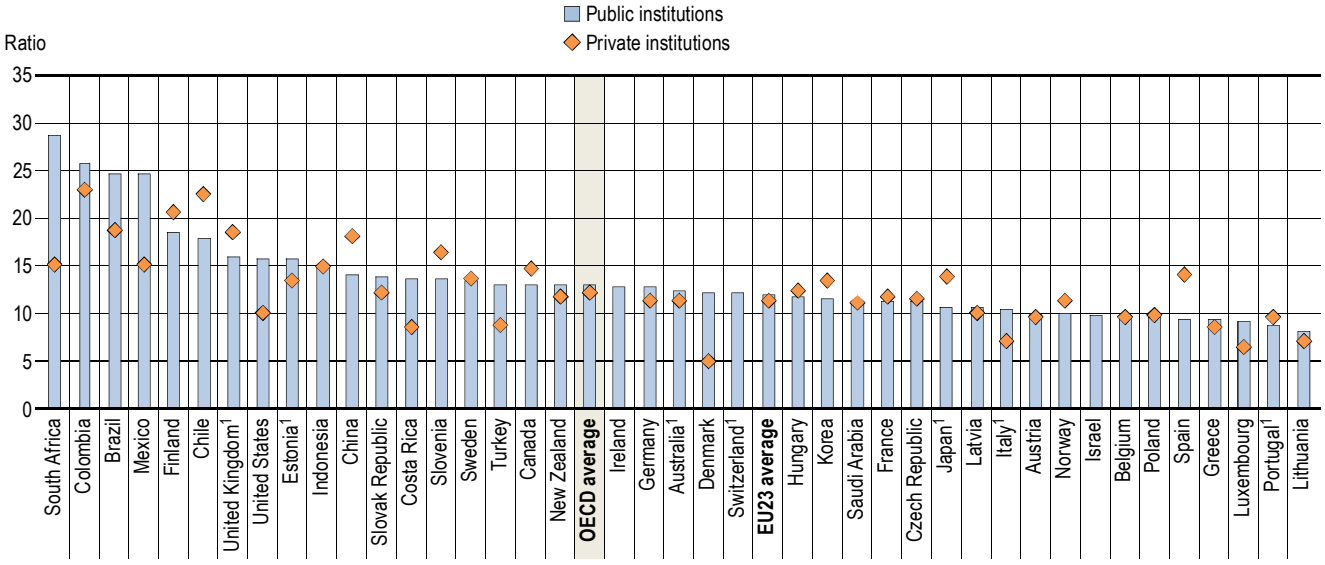
At tertiary level, there are on average 15 students per teaching staff member. The student-teacher ratio ranges from 4 to 1 in Luxembourg to over 25 to 1 in Colombia and Indonesia. The difference in student-teaching staff ratios across short-cycle tertiary and bachelor's, masters and doctoral or equivalent level varies across countries with available data. These results

should be interpreted with caution, however, as the student-teacher ratio remains a limited measure of the level of teaching resources at tertiary level, where research staff may make up a significant share of academic personnel. Moreover, the relatively low enrolment in short-cycle tertiary in some countries limits comparability across tertiary levels (see Indicator B1).

By type of institution

On average across OECD countries with available data, the ratios of students to teaching staff are slightly higher in public institutions than in private institutions at lower and upper secondary level (Table D2.2). However, this can differ significantly across countries. At lower secondary level, about 40% of OECD and partner countries with available data have more students per teacher in private institutions than in public ones. Among those countries, the largest difference between private and public institutions is found in Chile, Portugal and Spain -where there are at least 5 more students per teacher in private institutions than in public ones- and particularly in Luxembourg with 17 more students. In contrast, in Mexico and the Russian Federation, the ratios of students to teaching staff is over two times higher in public institutions. At upper secondary level, the student-teacher ratio is larger in public institutions than in private institutions in 18 countries, smaller in public institutions in 13 countries, and similar for both sectors in 8 countries. Mexico displays the largest variation among OECD countries with 10 students more per teacher in public than in private institutions at this level. Among partner countries, the highest difference is observed in South Africa, with 14 more students per teacher in public than in private upper secondary institutions (Figure D2.2).

Figure D2.2. Ratio of students to teaching staff in upper secondary education, by type of institution (2018)



1. Upper secondary includes programmes outside upper secondary level - see Annex 3 for further details.
Countries are ranked in descending order of the ratio of students to teaching staff in public institutions.
Source: OECD/UIS/Eurostat (2020), Table D2.2. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Although on average across OECD countries the difference between the student-teacher ratio in public and private institutions tends be the same at lower and upper secondary level, the range of variation differs across countries. In about 40% of OECD countries with data, there are larger variations in the student-teacher ratio between public and private institutions at upper secondary level than at lower secondary. For example, although the student-teacher ratio at lower secondary level is the same for public and private institutions in both Denmark and Italy, at upper secondary level, Denmark has seven more students per teacher in public institutions than in private ones and Italy has four more. In other countries, the difference narrows at upper secondary level: while Mexico has 22 more students per teacher in public institutions than in private ones at lower secondary level, the difference falls to 9 at upper secondary level. Finally, in some countries, the situation is reversed. In Japan, the student-teacher ratio is larger in public institutions than private ones at lower secondary level, but it is the other way around at upper secondary. This mixed pattern in upper secondary education may, in part, reflect differences in the types of programmes offered in public and private institutions. For instance, in Norway, few private schools offer vocational

programmes, which have a slightly lower student-teacher ratio than general programmes. In addition, in a number of countries, the provision of private education increases in upper secondary education, which may also influence the student-teacher ratio at this level (Table D2.2and Figure D2.2).

Box D2.1. What is the relationship between class size and the student-teacher ratio?

Class size, as presented in Table D2.3, is defined as the number of students who are following a common course of study, based on the highest number of common courses (usually compulsory studies), and excluding teaching in subgroups. The calculation is made by dividing the number of students by the number of classes. The student-teacher ratio, as presented in Table D2.1 and Table D2.2, is calculated by dividing the number of full-time equivalent students by the number of full-time equivalent teachers at a given level of education.

The two indicators therefore measure very different characteristics of the educational system. Student-teacher ratios provide information on the level of teaching resources available in a country relative to its student population, whereas class sizes measure the average number of students that are grouped together in a classroom.

Given the difference between student-teacher ratios and average class sizes, it is possible for countries with similar student-teacher ratios to have different class sizes. For example, at the primary level, Israel and the United States have similar ratios of students to teaching staff (15 students per teacher), but the average class size differs substantially (21 students per class in the United States and 26 in Israel). This may be explained by the fact that teaching hours in the United States are considerably longer than in Israel, meaning that American teachers can teach more classes during the day and thus students can be taught in smaller classes (see Indicator D4).

Class size

Average class size in primary and lower secondary education

The indicator on class size is limited to primary and lower secondary education. Class sizes are difficult to define and compare at higher levels, as students are often split into several different classes at these levels, depending on the subject area.

At the primary level, the average class in OECD countries has 21 pupils. There are fewer than 25 pupils per class in all the countries with available data, with the exception of Chile, Israel, Japan, and the United Kingdom. At the lower secondary level, the average class in OECD countries has 23 students. Among all countries with available data, the number varies from fewer than 20 students per class in Estonia, Finland, Latvia, Lithuania, the Russian Federation and the Slovak Republic to 30 students or more per class in Chile, Colombia, Costa Rica and Japan (Table D2.3).

The number of students per class tends to increase between primary and lower secondary education, although to a varying extent across countries. In Costa Rica, this increase corresponds to 18 students, the highest difference across OECD countries. On the other hand, in the United Kingdom and, to a lesser extent, Australia, Chile, Finland, Hungary, Latvia and the Russian Federation, the number of students per class falls between these two levels of education (Table D2.3).

Box D2.2. Class size, a critical parameter for the reopening of schools during the COVID-19 pandemic

The COVID-19 global crisis has led to full school closures in most OECD countries. When and how to reopen is one of the toughest and most sensitive decisions now on political agendas. Unquestionably, the largest factor driving the decision is the stage and spread of the disease, and the likelihood of a second wave of infections, all of which vary significantly across countries. Some countries, such as Ireland, Italy, Lithuania, and Spain, have been reluctant to allow students to go back to school before the start of the 2020-2021 academic year, preferring to ensure pedagogical continuity through online learning. While some countries have decided to keep schools closed for the remainder of the 2019-2020 academic year, other countries have progressively started reopening their classroom doors. However, reopening in the midst of a health crisis will require a careful assessment of the hygiene and sanitary measures in place to protect students and staff from the risks of transmission.

The response to school reopening has been evaluated based on the scientific evidence regarding the spread of the disease and its containment. Most countries have engaged in a gradual and phased reopening of schools to allow preventive measures to be effectively implemented. Many, such as Denmark, France, the Netherlands, and Norway, have prioritised lower levels of education, due to their importance in the cognitive development of children, and to the difficulty in engaging with young children in an online format. In contrast, countries such as Greece, Iceland, Korea or Portugal have prioritised upper secondary over primary levels (see Box D1.2) (Schleicher and Remiers, 2020[8]) (OECD, 2020[9]).

However, school reopening is contingent on a number of preventive measures which schools have been instructed to implement to contain the spread of the disease. Among others, social distancing has proven to be one of the most effective. Within a school context, this means reducing contact between groups of children and maintaining a safe distance of 1-2 metres between pupils and staff. In some countries, the safety distance depends on the level of containment of the virus achieved. For example, schools in less-affected areas in Japan (Level 1) are required to maintain a distance of 1 metre while those in more-affected ones (Levels 2 or 3) maintain a distance of 1-2 metres (MEXT, 2020[10]). Guidance in many countries has been to reduce or halve the size of the classes in order to maintain the required safety distance between students. Some countries have specified the maximum number of students allowed in the classroom at any given time. For example, France and the United Kingdom have recommended a limit of 15 students in primary classes, provided the safety distances are maintained (Ministère de l'Education Nationale et de la Jeunesse, 2020[11]; Department for Education, 2020[12]).

Countries with smaller class sizes will find it easier to comply with new restrictions on social distancing. Although France and the United Kingdom recommend the same limit on the number of children per primary class, public institutions in France have a smaller class size with 23 students, than the United Kingdom with 27 students per class. As class size tends to increase with education level, social distancing in the classroom will be more challenging at secondary level. With more than 30 students per class in lower secondary level, countries such as Chile, Colombia and Japan will face more difficulties in reorganising classes into smaller groups of students in order to maintain a safe distance between desks. However, reducing class size will also depend on other factors such as classroom size, room availability, staff availability and personal decisions from pupils and staff on when to return to schools.

While returning to school is compulsory in most OECD countries for students in permitted age groups or specific levels of education (except for sick students or those with a vulnerable or sick family member), attendance is optional in countries such as Canada, the Czech Republic, France, and Spain, with remote and online learning for students who wish to stay at home. These hybrid measures aim to secure support for the reopening of schools while optimising their capacity for social distancing (Schleicher and Remiers, 2020[8]).

To ensure all students have the opportunity to benefit from face-to-face teaching in a context of reduced class sizes, schools in about 60% of OECD member and partner countries are organising shifts to alternate students throughout the day when they cannot accommodate them all on site (Schleicher and Remiers, 2020[8]). The direct consequence of this measure will be reduced classroom instruction time compared to before school closures (see Box D1.2). Distance learning has therefore remained in place until the end of the academic year to continue to support students, including for those who have opted not to or cannot attend class for sanitary or personal health reasons.

Class size in public and private institutions

Class size is one factor that parents may consider when deciding on a school for their children, particularly at lower levels of education. Hence, the difference in average class size between public and private schools (and between different types of private institutions) could influence enrolment in different types of institutions.

Differences in class sizes between public and private institutions are similar to those observed for student-teacher ratios. On average across OECD countries, class sizes do not differ between public and private institutions by more than one student per class in both primary and lower secondary education. However, in some countries (including Brazil, Colombia, the Czech Republic, Latvia, Poland, and the Russian Federation), the average class in public primary schools has more than six additional students compared to the average class in private schools (Table D2.3). However, with the exception of Brazil and Colombia, the private sector is relatively small in all of these countries, representing at most 6% of students at the primary level (OECD, 2019[13]). In contrast, in Chile, Greece and Korea, the average primary class in private institutions is larger than in public institutions by at least four students (Figure D2.3).

At the lower secondary level, where private institutions are more prevalent, the comparison of class size between public and private institutions shows even larger variations. For example, in Costa Rica, there are on average 15 students less per class in private institutions than in public ones. The average class in private lower secondary institutions is larger than in public institutions in 8 countries, smaller in 17 countries and the same in 7 countries (Figure D2.3).

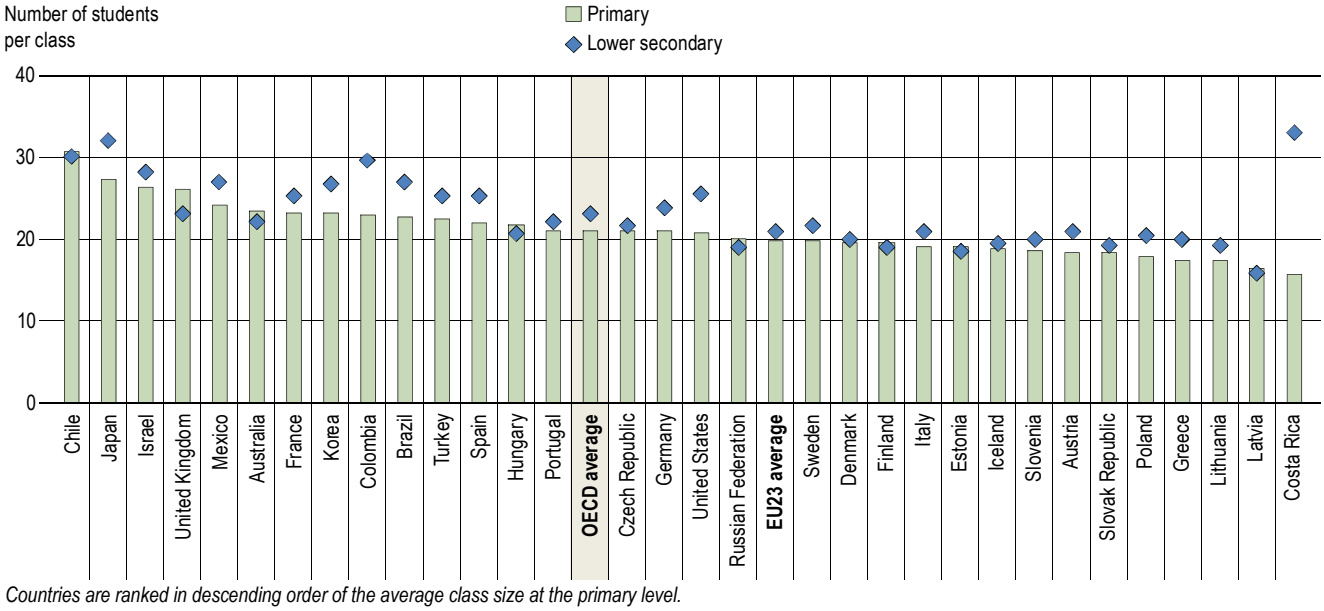
Trends in average class size

Between 2005 and 2018, class sizes have fallen at primary level and lower secondary level on average across OECD countries. At primary level, while class size decreased by 2% on average, there are strong differences among countries. About half of countries experienced an increase between 2005 and 2018, with Mexico and the Russian Federation displaying the most notable increases of 21% and 29% respectively. In contrast, primary class sizes in Korea decreased by almost 30% over the same period, the highest decline over the same period across countries with data. At the lower secondary level, the average class size fell by 7% between 2005 and 2018. This average masks considerably larger changes in individual countries. In Greece and Korea, for example, the average class size in lower secondary education has decreased by about 20-25% over the past decade whereas it increased by 3% or more in France, and Spain (Table D2.3).

Changes in class size may reflect efforts to balance the supply of teachers with changes in the student population. Countries with lower than average class sizes may see an increasing trend. For example, small class sizes in Lithuania results from both a high concentration of teachers in the active population and a declining student base (Shewbridge et al., 2016[14]). As a result, primary class size has increased by 17% between 2005 and 2018 as new recruits to the teaching profession are limited. In 2018, only 5% of primary teachers were under the age of 30, one of the lowest across OECD countries. In contrast, countries such as Chile and Korea with higher than average primary class sizes have both seen a notable decline between 2005 and 2018 (Table D2.3). In Chile, this is likely due to a rise in primary teacher numbers, which increased by more than 10% since 2014. In contrast, in Korea, declining student numbers has likely contributed to the fall in class size (OECD, 2019[13]).

Class size, along with instruction time and teaching time, determines the number of teachers an education system requires. It is therefore an important parameter in understanding the level of expenditure allocated to staff compensation in education. Countries make different choices when investing their resources which affect the salary cost of teachers per student (Box D2.3).

Figure D2.3. Average class size, by level of education (2018)



Countries are ranked in descending order of the average class size at the primary level.

Source: OECD/UIS/Eurostat (2020), Table D2.3. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

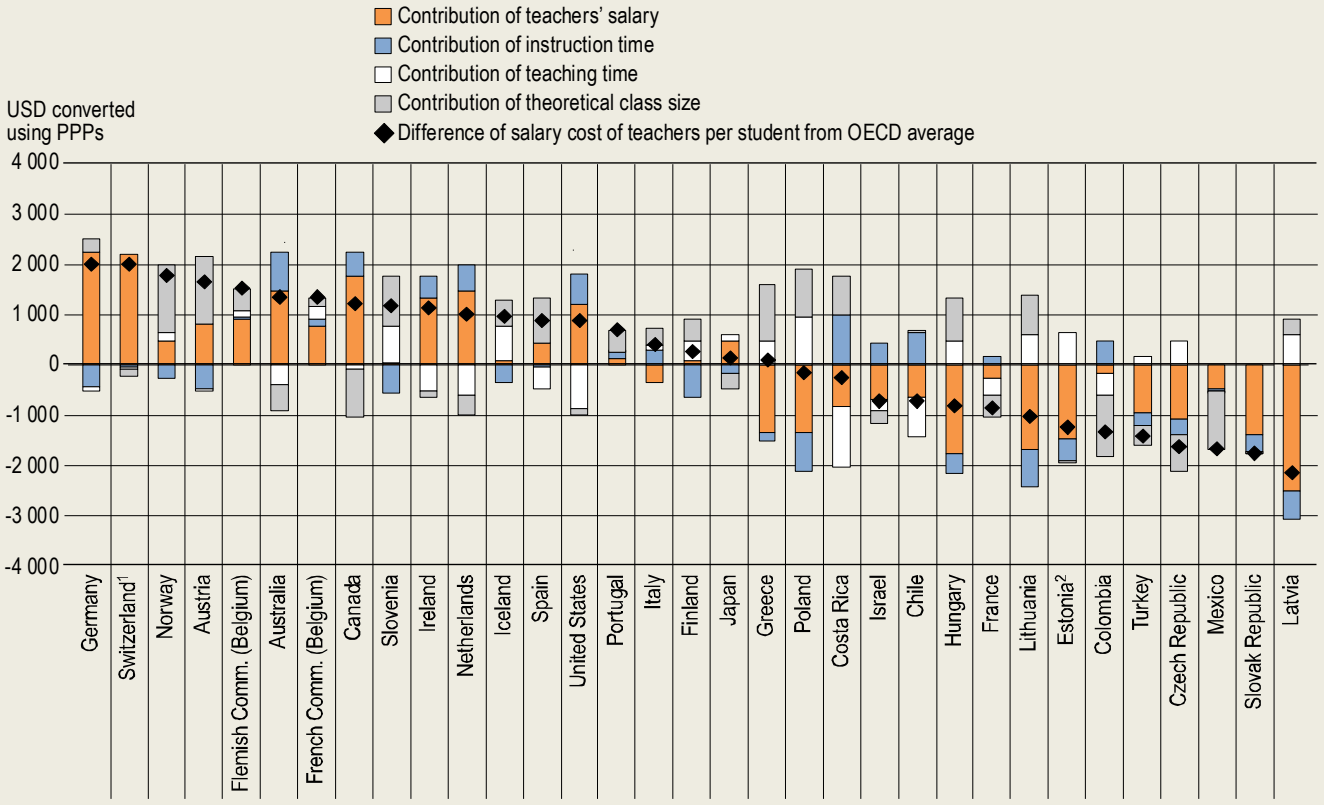
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Box D2.3. Theoretical class size, one of the drivers of teachers' salary cost

The salary cost of teachers per student is determined by four factors: teachers' salaries, instruction time, teaching time and theoretical class sizes. The impact of the first factor is direct: higher salaries lead to higher salary costs. The other three factors affect the salary cost by changing the number of teachers needed, assuming that the number of students enrolled is constant. If instruction time increases or teaching time decreases, more teachers must be hired to keep class sizes constant. Similarly, more teachers must be hired in order to reduce class sizes while keeping everything else constant.

Figure D2.4. Contribution of various factors to salary cost of teachers per student in public institutions, primary education (2018)

USD converted using PPPs for private consumption



How to read this figure: This figure shows the contribution (in USD) of the factors influencing the difference between salary cost of teachers per student in the country and the OECD average. For example, in Poland, the salary cost of teachers per student is USD 192 lower than the OECD average. Poland has a smaller theoretical class size (+ USD 975) and less teaching time (+ USD 953) than the OECD average, both of which push the salary cost of teachers up. However, this is more than compensated for by below-average teachers' salaries (- USD 1 357) and below-average instruction time (- USD 762), which push the cost down.

Notes: See Table D2.5, available on line, for notes on each factor.
1. Teachers' statutory salaries after 10 years of experience instead of 15 years.
2. Teachers' statutory salaries at the start of their career instead of after 15 years of experience.
Countries and economies are ranked in descending order of the difference between the salary cost of teachers per student and the OECD average.
Source: OECD (2020), Table D2.4, available on line. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934165453

When comparing a country's salary cost to the OECD average, it is possible to determine the contribution of each of the four factors. For instance, it is possible to assess whether a given salary cost is above average because of higher salaries, higher instruction time, lower teaching time, smaller class sizes or a combination of these four factors. Changes to one of these factors may require compensating trade-offs among the other factors in order to keep the total salary cost constant.

Figure D2.4 shows the wide variety of combinations of the four factors across countries and their different effects on the salary cost of teachers. The size of the contribution of each factor compared to the OECD average depends on the difference between the factor itself and the relevant OECD average. The sum of each factor's contribution equals the difference in salary cost between that country and the OECD average. For example, in Poland, the salary cost of primary teachers per student is USD 192 below the OECD average. Poland has smaller estimated class sizes (+ USD 975) and shorter teaching time (+ USD 953) than the OECD average, both of which push the salary cost of teachers up. However, this is more than compensated for by below-average teachers' salaries (- USD 1 357) and below-average instruction time (- USD 762), which push the cost down (Figure D2.4).

The analysis highlights different policies at primary level across countries with similar spending. For example, the teacher salary costs per student in Greece and Japan are very similar (about 3 000 USD), but how they allocate their resources differ substantially. Japan spends more than OECD countries on average on primary teachers' salaries and primary teachers have slightly shorter teaching hours than on average across countries. It compensates for these costs with larger than average class sizes, and shorter students' instruction time. In contrast, class sizes in Greece are significantly smaller than the average. Greece compensates for the higher cost of smaller classes with below-average teachers' salaries at this level (Figure D2.4).

Definitions

There are two categories of instructional personnel (teachers):

- **Teachers' aides and teaching/research assistants** include non-professional personnel or students who support teachers in providing instruction to students.
- **Teaching staff** refers to professional personnel directly involved in teaching to students. The classification includes classroom teachers, special-education teachers and other teachers who work with a whole class of students in a classroom, in small groups in a resource room, or in one-to-one teaching situations inside or outside a regular class. Teaching staff also include departmental chairs whose duties include some teaching, but exclude non-professional personnel who support teachers in providing instruction to students, such as teachers' aides and other paraprofessional personnel.

Methodology

Class size is calculated by dividing the number of students enrolled by the number of classes. In order to ensure comparability among countries, special-needs programmes are excluded. Data include only regular programmes at primary and lower secondary levels of education, and exclude teaching in subgroups outside the regular classroom setting.

The ratio of students to teaching staff is obtained by dividing the number of full-time equivalent students at a given level of education by the number of full-time equivalent teachers at that level and in similar types of institutions. At tertiary level, the student-teacher ratio is calculated using data on academic staff instead of teachers.

For the ratio of students to teachers to be meaningful, consistent coverage of personnel and enrolment data are needed. For instance, if teachers in religious schools are not reported in the personnel data, then students in those schools must also be excluded.

For more information, please see the *OECD Handbook for Internationally Comparative Education Statistics 2018* (OECD, 2018[15]) and Annex 3 for country-specific notes (https://doi.org/10.1787/69096873-en).

Source

Data refer to the academic year 2017/18 and are based on the UNESCO-UIS/OECD/EUROSTAT data collection on education statistics administered by the OECD in 2019 (for details, see Annex 3 at https://doi.org/10.1787/69096873-en).

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Indicator D2 Tables

Table D2.1	Ratio of students to teaching staff in educational institutions, by level of education (2018)
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Cut-off date for the data: 19 July 2020. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en. More breakdowns can also be found at http://stats.oecd.org/, Education at a Glance Database.

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Table D2.1. Ratio of students to teaching staff in educational institutions, by level of education (2018)

Calculations based on full-time equivalents

		Primary	Lower secondary	Upper secondary			All secondary	Post-secondary non-tertiary	Tertiary		
				General programmes	Vocational programmes	All programmes			Short-cycle tertiary	Bachelor's, master's and doctoral	All tertiary
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD	Countries										
	Australia	15	x(3)	12 d	m	m	m	m	m	16	m
	Austria	12	8	10	10	10	9	11	8	16	14
	Belgium	13	9	11	9	10	9	16	x(10)	x(10)	21
	Canada 1	17 d	x(1)	x(5)	x(5)	13	m	m	m	m	m
	Chile	19	20	21	19	21	20	a	m	m	m
	Colombia	23	26	x(5)	x(5)	25	26	54	25	29	28
	Costa Rica	12	13	14	11	13	13	a	m	m	m
	Czech Republic	19	12	11	11	11	12	14	11	15	15
	Denmark	12	11	10	17	12	11	a	19	15	16
	Estonia	13	10	14	18 d	16 d	13	x(4)	a	13	13
	Finland	14	9	14	22	19	14	22	a	15	15
	France	19	14	13	8	11	13	18	12	18	17
	Germany	15	13	12	14	13	13	13	12	12	12
	Greece	9	8	10	8	9	9	m	a	m	m
	Hungary	10	11	12	12	12	11	8	x(10)	x(10)	12
	Iceland	11	10	m	a	m	m	m	m	m	m
	Ireland 2	15	m	13 d	a	13 d	13	m	x(10)	x(10)	20
	Israel 2	15	11	x(5)	x(5)	10	10	m	m	16	m
	Italy	12	11	12	9 d	10 d	11 d	x(4)	a	20	20
	Japan 3	16	13	x(5)	x(5)	12 d	12 d	x(5)	m	m	m
	Korea	17	13	13	10	12	13	a	m	m	m
	Latvia	12	9	9	17	11	10	25	13	18	16
	Lithuania	11	8	8	10	8	8	15	a	14	14
	Luxembourg	9	11	8	9	9	9	12	9	4	4
	Mexico	26	33	27	16	22	28	a	20	18	18
	Netherlands	16	16	16	18	18	17	a	12	15	15
	New Zealand	17	16	12	20	13	15	24	19	18	18
	Norway	10	9	11	10	10	10	12	11	9	9
	Poland	10	11	11	9	10	10	14	10	14	14
	Portugal	12	9	x(5)	x(5)	9 d	9 d	x(5)	x(10)	x(10)	14
	Slovak Republic	18	13	14	13	13	13	14	7	12	11
	Slovenia	10 d	x(1)	15	13	14	m	a	22	14	14
	Spain	14	12	12	9	11	11	a	11	13	12
	Sweden	14	11	x(5)	x(5)	14	12	10	7	10	10
	Switzerland 2	15	12	11	13 d	12 d	12 d	x(4)	a	13	13
	Turkey	17	16	12	12	12	14	a	57	21	25
	United Kingdom	20	16	15	25 d	18	17	a	x(4, 10)	x(4, 10)	15
	United States	15	15	15	a	15	15	x(10)	x(10)	x(10)	14
	OECD average	15	13	13	13	13	13	18	16	15	15
	EU23 average	13	11	12	13	12	12	15	12	14	14
Partners	Argentina	m	m	m	m	m	m	a	m	m	m
	Brazil	24	25	26	14	24	24	25	3	25	25
	China	16	12	x(5)	x(5)	14	13	m	m	m	m
	India	m	25	x(5)	x(5)	33	29	m	m	m	25
	Indonesia	17	15	x(5)	x(5)	15	15	a	m	m	27
	Russian Federation	23	12 d	x(2)	x(8)	x(2, 8)	12	x(8)	13 d	12	13 d
	Saudi Arabia	14	12	x(5)	x(5)	11	12	2	m	17	19
	South Africa	m	m	m	m	28	28	42	m	m	m
	G20 average	17	16	m	m	16	16	m	m	m	19

1. Primary includes pre-primary education.
2. For Ireland and Switzerland, public institutions only for all levels. For Israel, public institutions only for lower secondary, upper secondary education and all secondary.
3. Upper secondary education includes a part of post-secondary non-tertiary education.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table D2.2. Ratio of students to teaching staff, by type of institution (2018)

By level of education, calculations based on full-time equivalents

		Lower secondary				Upper secondary				All secondary programmes			
			Private institutions				Private institutions				Private institutions		
		Public institutions	Total private institutions	Government-dependent private institutions	Independent private institutions	Public institutions	Total private institutions	Government-dependent private institutions	Independent private institutions	Public institutions	Total private institutions	Government-dependent private institutions	Independent private institutions
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD	**Countries**												
	Australia[1]	x(5)	x(6)	x(7)	a	12 d	11 d	11 d	m	m	m	m	m
	Austria	8	9	x(2)	x(2)	10	10	x(6)	x(6)	9	10	x(10)	x(10)
	Belgium	9	9	9	5	10	10	10	10	9	9	9	8
	Canada	m	m	m	m	13	15	x(6)	x(6)	m	m	m	m
	Chile	16	24	25	20	18	23	24	16	17	23	25	17
	Colombia	28	21	a	21	26	23	a	23	27	22	a	22
	Costa Rica	14	8	14	7	14	9	13	8	14	8	13	7
	Czech Republic	13	11	11	a	11	12	12	a	12	11	11	a
	Denmark	11	11	11	4	12	5	5	12	12	9	10	5
	Estonia[2]	10	8	8	4	16	13	12	19	13	10	10	15
	Finland	9	10	10	a	18	21	21	a	13	18	18	a
	France	14	16	16	m	11	12	12	m	13	14	14	m
	Germany	13	13	x(2)	x(2)	13	11	x(6)	x(6)	13	12	x(10)	x(10)
	Greece	8	8	a	8	9	9	a	9	9	8	a	8
	Hungary	11	12	13	11	12	12	11	14	11	12	12	13
	Iceland	10	6	6	m	m	m	m	m	m	m	m	m
	Ireland	x(5)	m	a	m	13 d	m	a	m	13	m	a	m
	Israel	11	m	m	a	10	m	m	a	10	m	m	
	Italy[2]	11	11	a	11	11	7	a	7	11	8	a	8
	Japan[2]	13	11	a	11	11 d	14 d	a	14 d	12 d	13 d	a	13 d
	Korea	13	14	14	a	12	13	13	a	12	14	14	a
	Latvia	9	5	a	5	11	10	a	10	10	8	a	8
	Lithuania	8	8	a	8	8	7	a	7	8	8	a	8
	Luxembourg	9	26	10	m	9	7	10	5	9	10	10	11
	Mexico	38	16	a	16	25	15	a	15	32	16	a	16
	Netherlands	16	m	a	m	18	m	a	m	17	m	a	m
	New Zealand	17	13	a	13	13	12	13	11	15	12	13	12
	Norway	9	9	9	10	10	11	11	a	10	11	11	10
	Poland	12	9	11	9	10	10	10	10	10	10	11	9
	Portugal[2]	9	14	12	15	9	10	11	9	9	11	12	11
	Slovak Republic	13	12	12	a	14	12	12	a	13	12	12	a
	Slovenia	m	m	m	a	14	16	29	12	m	m	m	12
	Spain	11	15	16	14	10	14	15	13	10	15	15	13
	Sweden	11	12	12	a	14	14	14	a	12	13	13	a
	Switzerland[2]	12	m	m	m	12	m	m	m	12	m	m	m
	Turkey	17	9	a	9	13	9	a	9	15	9	a	9
	United Kingdom[2]	16	16	18	8	16	19	21	8	16	17	20	8
	United States	16	10	a	10	16	10	a	10	16	10	a	10
	OECD average	13	12	12	11	13	12	14	11	13	12	13	11
	EU23 average	11	12	12	9	12	11	14	10	11	11	13	10
Partners	**Argentina**	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	26	20	a	20	25	19	a	19	26	19	a	19
	China	12	17	x(2)	x(2)	14	18	x(6)	x(6)	13	17	x(10)	x(10)
	India	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	16	14	x(2)	x(2)	15	15	x(6)	x(6)	16	15	x(10)	x(10)
	Russian Federation	12 d	5 d	a	5 d	x(1)	x(2)	a	x(4)	12	5	a	5
	Saudi Arabia	12	10	x(2)	x(2)	11	11	x(6)	x(6)	12	11	x(10)	x(10)
	South Africa	27	m	m	m	29	15	m	m	28	19	m	m
	G20 average	17	13	m	m	15	13	m	m	16	13	m	m

1. Includes only general programmes in lower and upper secondary education.
2. Upper secondary includes programmes outside upper secondary level - see Annex 3 for further details.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table D2.3. Average class size, by type of institution (2018) and index of change between 2005 and 2018

By level of education, calculations based on number of students and number of classes

		Primary					Lower secondary					Index of change between 2005 and 2018 (2005 = 100)					
			Private institutions					Private institutions				Primary			Lower secondary		
		Public institutions	All private institutions	Government-dependent private institutions	Independent private institutions	All primary institutions	Public institutions	All private institutions	Government-dependent private institutions	Independent private institutions	All lower secondary institutions	Public institutions	All private institutions	Total public and private institutions	Public institutions	All private institutions	All lower secondary institutions
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
OECD	**Countries**																
	Australia	23	24	24	a	23	21	24	24	a	22	97	m	98	87	m	89
	Austria	18	19	x(2)	x(2)	18	21	21	x(7)	x(7)	21	92	92	92	88	85	87
	Belgium	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Canada	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Chile	28	32	34	25	31	29	31	33	25	30	86	102	96	82	95	89
	Colombia	25	18	a	18	23	31	24	a	24	30	m	m	m	m	m	m
	Costa Rica	16	16	25	16	16	35	20	29	18	33	m	m	m	m	m	m
	Czech Republic	21	15	15	a	21	22	18	18	a	22	103	m	102	93	m	93
	Denmark	20	17	17	a	20	21	19	19	a	20	102	m	101	103	m	102
	Estonia	19	15	16	6	19	19	15	16	8	19	97	m	96	82	m	82
	Finland	20	18	18	a	20	19	19	19	a	19	m	m	m	m	m	m
	France	23	25	25	a	23	25	26	27	12	25	m	m	m	104	105	104
	Germany	21	22	x(2)	x(2)	21	24	24	x(7)	x(7)	24	95	93	95	97	93	97
	Greece	17	21	a	21	17	20	22	a	22	20	88	m	88	81	m	81
	Hungary	22	21	21	17	22	21	21	22	17	21	110	108	109	97	97	97
	Iceland	19	15	15	a	19	20	14	14	a	20	103	111	103	100	118	99
	Ireland	25	m	m	m	m	m	m	m	m	m	101	m	m	m	m	m
	Israel	27	25	25	a	26	29	24	24	a	28	97	m	95	95	m	92
	Italy	19	19	a	19	19	21	21	a	21	21	104	99	104	100	99	100
	Japan	27	28	a	28	27	32	33	a	33	32	96	83	96	96	92	96
	Korea	23	27	a	27	23	27	26	26	a	27	71	83	71	75	74	75
	Latvia	17	10	a	10	16	16	13	a	13	16	99	120	98	82	151	82
	Lithuania	17	16	a	16	17	19	20	a	20	19	117	156	117	87	131	87
	Luxembourg	15	m	19	m	m	18	m	19	m	m	97	m	m	95	m	m
	Mexico	25	20	a	20	24	27	23	a	23	27	125	91	121	91	87	91
	Netherlands	23	m	m	m	m	m	m	m	m	m	104	m	m	m	m	m
	New Zealand	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Norway	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
	Poland	18	12	11	12	18	21	16	17	16	21	91	99	89	86	97	85
	Portugal	21	20	22	20	21	22	23	25	23	22	116	94	114	97	100	98
	Slovak Republic	18	18	18	a	18	19	18	18	a	19	92	m	92	85	m	84
	Slovenia	19	20	20	a	19	20	20	20	a	20	102	119	102	97	95	97
	Spain	21	24	25	21	22	25	26	27	20	25	107	101	105	105	99	103
	Sweden	20	18	18	a	20	22	22	22	a	22	m	m	m	m	m	m
	Switzerland	19	m	m	m	m	19	m	m	m	m	m	m	m	m	m	m
	Turkey	23	18	a	18	22	26	18	a	18	25	83 [d]	m	82 [d]	x(11)	m	x(13)
	United Kingdom	27	23	28	12	26	24	22	25	12	23	105	a	108	100	a	105
	United States	21	18	a	18	21	27	20	a	20	26	102	99	102	101	95	100
	OECD average	21	20	21	18	21	23	22	22	19	23	99	m	99	93	m	93
	Average for countries with available data for both reference years											99	m	98	93	m	93
	EU23 average	20	19	20	15	20	21	21	21	17	21	101	m	101	93	m	93
Partners	**Argentina**	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	24	18	a	18	23	28	24	a	24	27	96	93	92	86	92	86
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	20	13	a	13	20	19	12	a	12	19	129	m	129	101	m	101
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Indicator D3. How much are teachers and school heads paid?

Highlights

- Statutory and actual salaries of school heads are higher than those of teachers at pre-primary, primary and general secondary levels of education. School heads' actual salaries are over 53% higher on average than those of teachers across primary and secondary education in OECD countries and economies.
- Teachers' actual salaries at pre-primary, primary and general secondary levels of education are 80-94% of the earnings of tertiary-educated workers on average across OECD countries and economies.
- On average across OECD countries and economies, primary and secondary school heads' actual salaries are at least 26% higher than the earnings of tertiary-educated workers.

Context

The salaries of school staff, and in particular teachers and school heads, represent the largest single cost in formal education. Teachers' salaries have also a direct impact on the attractiveness of the teaching profession. They influence decisions to enrol in teacher education, to become a teacher after graduation, to return to the teaching profession after a career interruption and whether to remain a teacher – in general, the higher teachers' salaries, the fewer people choose to leave the profession (OECD, 2005[1]). Salaries can also have an impact on the decision to become a school head.

Burgeoning national debt, spurred by governments' responses to the financial crisis of late 2008, has put pressure on policy makers to reduce government expenditure, particularly on public payrolls. The recent global pandemic creates new challenges for the economy and education systems, and will also put further pressure on public expenditure. Since compensation and working conditions are important for attracting, developing and retaining skilled and high-quality teachers and school heads, it is important for policy makers to carefully consider their salaries and career prospects as they try to ensure both high-quality teaching and sustainable education budgets (see Indicators C6 and D2).

However, statutory salaries are just one component of teachers' and school heads' total compensation. Other benefits, such as regional allowances for teaching in remote areas, family allowances, reduced rates on public transport and tax allowances on the purchase of instructional materials, may also form part of teachers' total remuneration. In addition, there are large differences in taxation and social benefits systems across OECD countries. This, as well as potential comparability issues related to data collected (see Box D3.1. of *Education at a Glance 2019* (OECD, 2019[2]), Box D3.3 and Annex 3) and the fact that data collected only cover public educational institutions, should be kept in mind when analysing teachers' salaries and comparing them across countries.

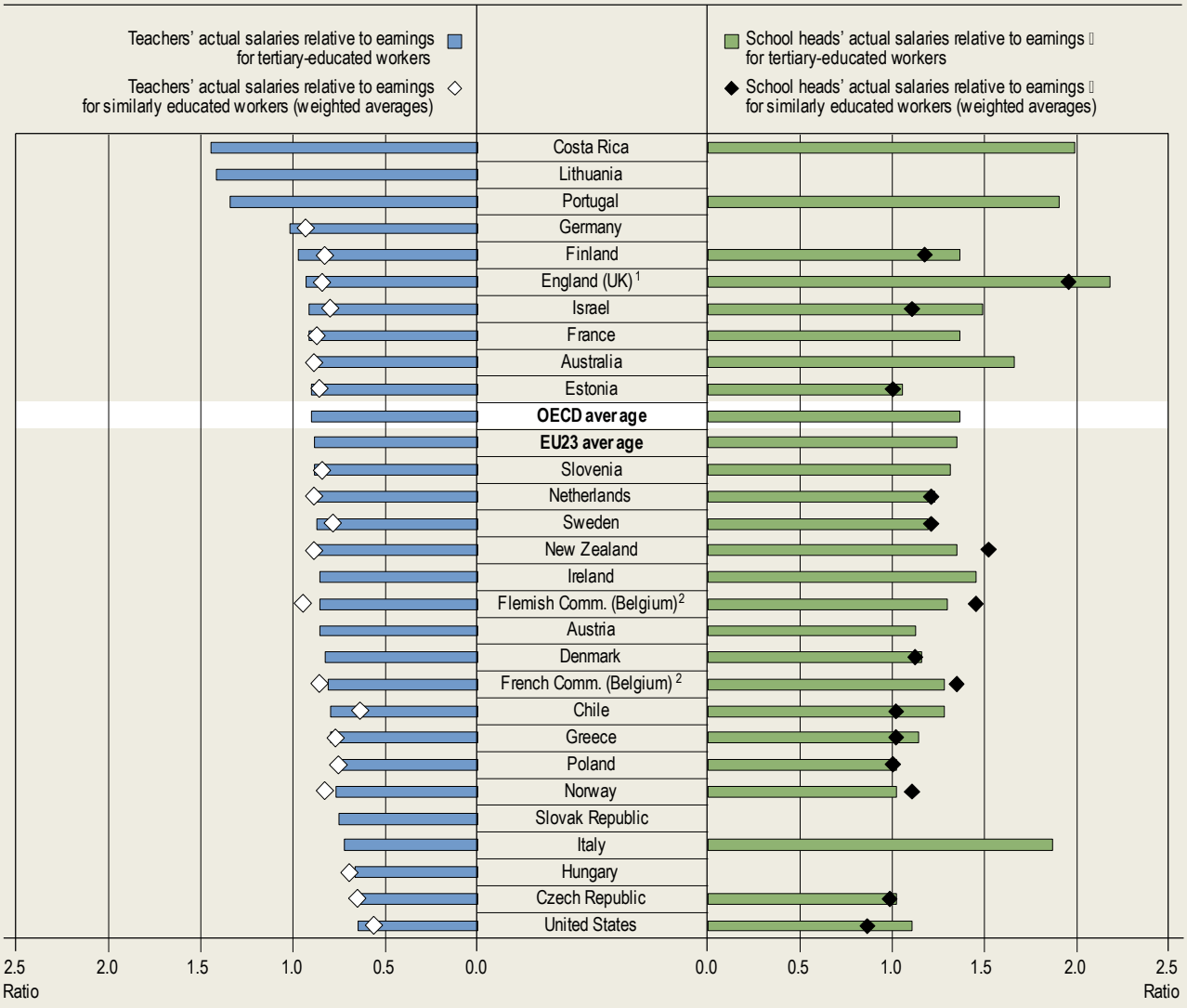
Other findings

- In most OECD countries and economies, the salaries of teachers and school heads increase with the level of education they teach.
- In at least three-quarters of countries and economies with available data, the minimum qualifications to enter the teaching profession are also the most prevalent qualifications among teachers.
- The statutory salaries of teachers with maximum qualifications at the top of their salary scales are on average 78-80% higher than those of teachers with the minimum qualifications at the start of their career.

- Between 2005 and 2019, on average across OECD countries and economies with available data, the statutory salaries of teachers with 15 years of experience and the most prevalent qualifications increased by 7% at primary level, 7% at lower secondary level (general programmes) and 5% at upper secondary level (general programmes).
- The statutory salaries of primary, lower secondary and upper secondary teachers with 15 years of experience and minimum qualifications now exceed the levels prior to the 2008 crisis.
- School heads are less likely than teachers to receive additional compensation for performing responsibilities over and above their regular tasks. School heads and teachers working in disadvantaged or remote areas are rewarded with additional compensation in half of the OECD countries and economies with available data.

Figure D3.1. Lower secondary teachers' and school heads' actual salaries relative to earnings for tertiary-educated workers (2019)

Ratio of salary, using annual average salaries (including bonuses and allowances) of teachers and school heads in public institutions relative to the earnings of workers with similar educational attainment (weighted average) and to the earnings of full-time, full-year workers with tertiary education



1. Data on earnings for full-time, full-year workers with tertiary education refer to the United Kingdom.
2. Data on earnings for full-time, full-year workers with tertiary education refer to Belgium.

Countries and economies are ranked in descending order of the ratio of teachers' salaries to earnings for full-time, full-year tertiary-educated workers aged 25-64.

Source: OECD (2020), Table D3.2. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934165567

Analysis

Statutory salaries of teachers

Teachers' statutory salaries can vary according to a number of factors, including the level of education taught, their qualification level and their level of experience or the stage of their career (for variation between general and vocational programmes see Box D3.2).

By level of education

Teachers' salaries vary widely across countries. The salaries of lower secondary school teachers with 15 years of experience and most prevalent qualifications (a proxy for mid-career salaries of teachers) range from less than USD 25 000 in Hungary and the Slovak Republic to more than USD 60 000 in Australia, Canada, Germany, Ireland, the Netherlands and the United States, and they exceed USD 100 000 in Luxembourg (Table D3.1).

In most countries and economies with available information, teachers' salaries increase with the level of education they teach. In the Flemish and French communities of Belgium, Denmark, Lithuania and Norway, upper secondary teachers with 15 years of experience and the most prevalent qualifications earn between 25% and 30% more than pre-primary teachers with the same experience, while in Finland and the Slovak Republic they earn 36-50% more, and in Mexico, 88% more. In Finland and the Slovak Republic, the difference is mainly explained by the gap between pre-primary and primary teachers' salaries. In the Flemish and French communities of Belgium, teachers' salaries at upper secondary level are significantly higher than at other levels of education (Table D3.1).

The difference in salaries between teachers at pre-primary and upper secondary levels is less than 5% in Australia, Chile, Costa Rica, France, Slovenia and the United States, and teachers earn the same salary irrespective of the level of education taught in Colombia, England (United Kingdom), Greece, Poland, Portugal, Scotland (United Kingdom) and Turkey (Table D3.1).

However, in Israel the salary of a pre-primary teacher is about 5% higher than the salary of an upper secondary teacher. This difference results from the "New Horizon" reform, begun in 2008 and almost fully implemented by 2014, which increased salaries for pre-primary, primary and lower secondary teachers. Another reform, launched in 2012 with implementation ongoing, aims to raise salaries for upper secondary teachers.

By level of qualification

The minimum qualifications required to teach at a given level of education in the public school system refers to the minimum duration and type of training required (based on official documents) to enter the profession. The "most prevalent" level of qualifications refers to the level of qualifications and training held by the largest proportion of teachers. It can be defined either for a level of education or at a specific stage of the teaching career (see Annex 3 for the description of qualification levels).

Countries may require different minimum levels of qualifications to teach at different levels of education. To become a teacher, Austria, Denmark, Hungary, Luxembourg, Poland, Spain and Switzerland require a higher degree (master's or equivalent) to teach either at general lower and/or upper secondary level than at primary level. This helps to explain the higher salaries observed at these levels in those countries (Table X3.D3.2, available on line).

Differences in salaries for teachers with the minimum and most prevalent qualifications are by no means the general rule: in countries where a large proportion of teachers have the minimum qualifications, they may also be the most prevalent qualifications. In about three-quarters of countries and economies with available information (or more, depending on the level of education taught), the minimum qualification to enter the teaching profession is also the most prevalent qualification at that level, meaning there is no difference in statutory salaries between teachers with the minimum and most prevalent qualifications throughout a teacher's career.

In the remaining countries and economies, the most prevalent qualification is higher than the minimum qualification required at a given level of education, and this is recognised by the compensation system. Among the 15 countries and economies with available data, the salaries of teachers with the most prevalent qualifications are at least 10% higher than those of teachers with the minimum qualifications at all stages of their careers in Colombia (pre-primary and primary levels), the Flemish Community of Belgium (upper secondary level), Norway (upper secondary level), Poland (pre-primary and primary levels) and the United States (primary, lower and upper secondary levels). The difference exceeds 75% in Costa Rica,

although the salaries of teachers with the most prevalent qualifications are still at least 20% lower than the OECD average (at all stages of their careers and at all levels of education). Caution is necessary when interpreting these differences in salaries, as in some countries only a very small proportion of teachers have the minimum qualifications (Tables D3.5 and D3.6, available on line).

The most prevalent qualifications may also vary according to the number of years of experience teachers have. This is the case in a small number of countries (Hungary, Iceland, Ireland, Israel, Mexico, Norway and the United States), and the difference might apply at one or more of the four career stages considered (starting point, 10 years of experience, 15 years of experience and top of the range) in one or more levels of education. Such variation is usually linked to recent reforms related to the compensation system and/or qualification requirements for teachers. In Ireland, for example, the salary arrangements have changed for teachers who entered the teaching profession from the beginning of 2011. The salaries related to most prevalent qualifications for teachers with 10 or more years of experience refer to the salary arrangement in place for teachers appointed prior to 2012 (the difference in salary varies from 8% to 17% according to levels of education and career stage). In Norway, the most prevalent qualification when entering the teaching profession at the primary and lower secondary level is the minimum qualification, but then the most prevalent qualification differs from the minimum among more experienced teachers at these levels of education (Table D3.1 and Table D3.5, available on line).

By level of experience

Salary structures usually define the salaries paid to teachers at different points in their careers. Deferred compensation, which rewards employees for staying in organisations or professions and for meeting established performance criteria, is also used in teachers' salary structures. OECD data on teachers' salaries are limited to information on statutory salaries at four points of the salary scale: starting salaries, salaries after 10 years of experience, salaries after 15 years of experience and salaries at the top of the scale. Qualification levels can also influence starting and maximum salaries and lead to wage increases in some countries.

In OECD countries, teachers' salaries for a given qualification level rise during the course of their career, although the rate of change differs across countries. For lower secondary teachers with the most prevalent qualifications, average statutory salaries are 28% higher than average starting salaries after 10 years of experience, and 36% higher after 15 years of experience. Average salaries at the top of the scale (reached after an average of 26 years) are 66% higher than the average starting salaries. In Greece, Hungary, Israel, Italy, Japan, Korea, the Slovak Republic and Spain, lower secondary school teachers only reach the top of the salary scale after at least 35 years of service. In contrast, lower secondary teachers in Australia, New Zealand and Scotland (United Kingdom) reach the highest step on the salary scale after 6-8 years (Tables D3.5 and D3.10, available on line).

In addition to pay scales, the number of years needed to reach the top of scale is an indication of the speed of career progression and prospects. In general, the wider the range between minimum and maximum salaries, the more years it takes for teachers to reach the top of the scale. For example, although it only takes 6-8 years to start earning the maximum salary in Australia, New Zealand and Scotland (United Kingdom), the top of the scale is only about 33-53% higher than starting salaries, compared to 66% on average across OECD countries and economies with data on salaries at both points of the scale. However, this is not true of all countries. For example, while teachers with the most prevalent qualifications in both the Czech Republic and Israel will reach the top of their scale within approximately 32-36 years, maximum statutory salaries in the Czech Republic are only 32% higher than starting statutory salaries, compared to 104% higher in Israel (Table D3.10, available on line).

Statutory salaries per hour of net teaching time

As the number of hours of teaching varies considerably between countries and also between levels of education, differences in teachers' statutory salaries may also translate into different levels of salary per teaching hour. The average statutory salary per teaching hour for teachers with 15 years of experience and the most prevalent qualifications is USD 59 for primary teachers, USD 69 for lower secondary teachers and USD 76 for upper secondary teachers in general education (Table D3.10, available on line).

Because secondary teachers are required to teach fewer hours than primary teachers, their salaries per teaching hour are usually higher than those of teachers at lower levels of education, even in countries where statutory salaries are similar (see Indicator D4). On average across OECD countries, upper secondary teachers' salaries per teaching hour exceed those of primary teachers by about 28%. In Chile, the salary per teaching hour for an upper secondary teacher is 3% higher than that

of a primary teacher while in Mexico it is 72% higher. In Costa Rica and Lithuania, the salary per teaching hour is higher at the primary level (Table D3.10, available on line).

However, for countries with similar statutory salaries at primary and secondary levels, these difference in salaries per teaching hour between primary and secondary teachers may disappear when comparing salaries per hour of working time, as teachers' statutory working time is usually similar at primary and secondary level (see Indicator D4).

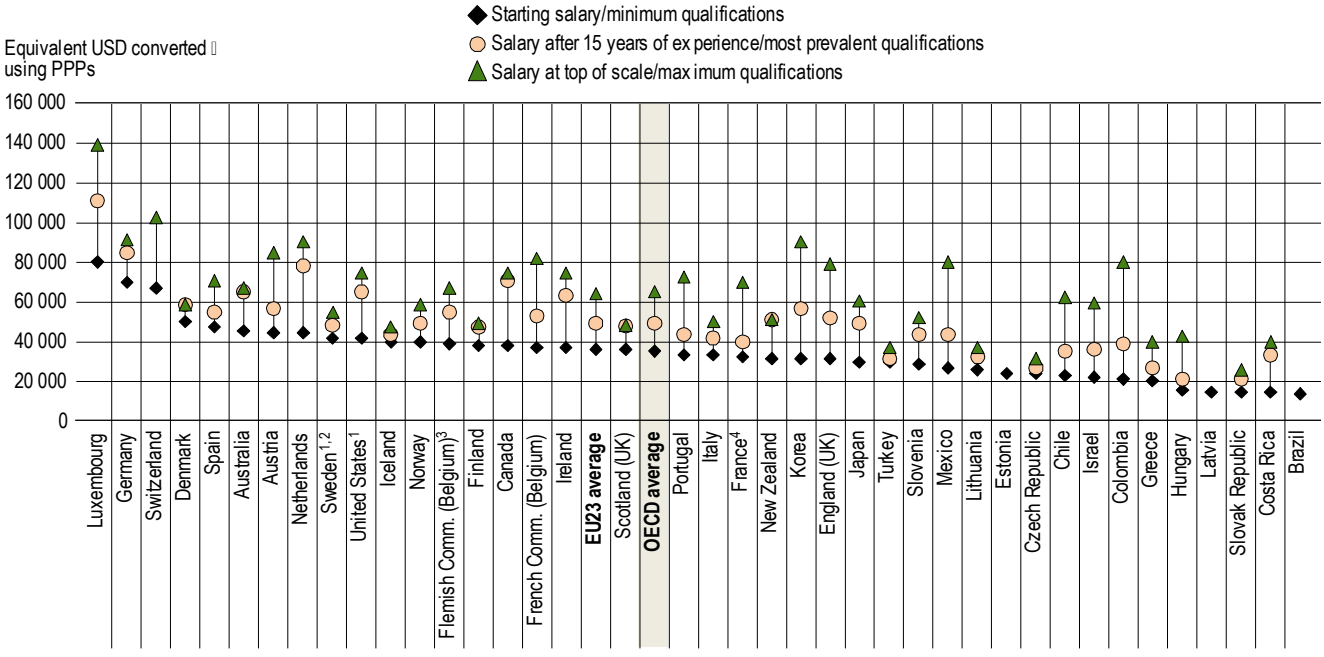
By level of experience and qualification: Minimum and maximum teachers' salaries

Countries that are looking to increase the supply of teachers, especially those with an ageing teacher workforce and/or a growing school-age population, might consider offering more attractive starting wages and career prospects. However, to ensure a well-qualified teaching workforce, efforts must be made not only to recruit and select, but also to retain the most competent and best-qualified teachers. Weak financial incentives may make it more difficult to retain teachers as they approach the peak of their earnings. However, there may be some benefits to compressed pay scales. For example, organisations with smaller differences in salaries among employees may enjoy more trust, freer flows of information and more collegiality among co-workers.

At the lower secondary level, the average statutory salary of a teacher with the most prevalent qualifications and 15 years of experience is 38% higher than that of a teacher starting out with minimum qualifications. At the top of the salary range with maximum qualifications, the average statutory salary is 85% higher than the average starting salary with the minimum qualifications (Figure D3.2).

Figure D3.2. Lower secondary teachers' statutory salaries at different points in teachers' careers (2019)

Annual statutory salaries of teachers in public institutions, in equivalent USD converted using PPPs



1. Actual base salaries.
2. Salaries at top of scale and minimum qualifications, instead of maximum qualifications.
3. Salaries at top of scale and most prevalent qualifications, instead of maximum qualifications.
4. Includes the average of fixed bonuses for overtime hours.

Countries and economies are ranked in descending order of starting salaries for lower secondary teachers with minimum qualifications.

Source: OECD (2020), Table D3.1, Tables D3.6 and D3.16, available on line. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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In terms of the maximum statutory salary range (from starting salaries with minimum qualifications to maximum salaries with maximum qualifications), most countries and economies with starting salaries below the OECD average also have maximum salaries that are below the OECD average. At the lower secondary level, the most notable exceptions are Colombia, England (United Kingdom), Korea and Mexico, where starting salaries are at least 5% lower than the OECD average, but maximum salaries are 22-39% higher. These differences may reflect the different career paths available to teachers' with different qualifications in these countries. The opposite is true in Denmark, Finland, Iceland, Norway and Sweden, where starting salaries are between 8% and 44% higher than the OECD average, while maximum salaries are lower than the OECD average (9-26% lower). This results from relatively flat/compressed salary scales in a number of these countries (Tables D3.6 and D3.16, available on line, and Figure D3.2).

In contrast, for lower secondary teachers, maximum salaries (at the top of the scale, with maximum qualifications) are at least double the starting salaries (for teachers with minimum qualifications) in Chile, Colombia, Costa Rica, England (United Kingdom), France, the French Community of Belgium, Hungary, Ireland, Israel, Japan, Korea, Mexico, the Netherlands and Portugal (Figure D3.2).

The salary premium for teachers with maximum qualifications at the top of the pay scales, and those with the most prevalent qualifications and 15 years of experience, also varies across countries. At lower secondary level, the pay gap is less than 10% in seven OECD countries and economies, while it exceeds 60% in Chile, Colombia, France, Hungary, Israel, Mexico and Portugal (Table D3.16, available on line, and Figure D3.2).

When analysing starting salaries (with minimum qualifications) and maximum salaries (i.e. those at the top of the salary scale with maximum qualification), it is important to bear in mind a couple of things. First, as noted above, the minimum qualifications are the most prevalent in the majority of countries. Additionally, not all teachers may aim for or reach the top of the salary scale and in some systems few of them may hold the minimum or maximum qualifications (Table X2.11, available on line).

Salary trends since 2000

Teachers' salaries increased overall in real terms in most countries for which data are available between 2000 and 2019. Around two-thirds of countries show an increase over this period and one-third show a decrease. However, only two in five OECD countries have the relevant data available (the statutory salaries of teachers with the most prevalent qualifications and 15 years of experience) for the whole of this period with no break in the time series.

The biggest reductions in salaries in real terms between 2000 and 2019 were in France, where salaries fell by up to 10% (at secondary levels), and Greece, where salaries fell by 20%. There were also smaller declines in teachers' salaries in real terms in England (United Kingdom) (2%), and Italy (less than 1%). Salaries increased by more than 30% for primary and secondary teachers in Ireland and Israel. However, in some countries, an overall increase in teachers' salaries between 2000 and 2019 includes periods when salaries fell in real terms, particularly from 2010 to 2013 (Table D3.14, available on line).

Over the period 2005 to 2019, for which three-quarters of OECD countries and economies have comparable data for at least one level of education, more than half showed an increase in real terms in the statutory salaries of teachers with 15 years of experience and the most prevalent qualifications. On average across OECD countries and economies with available data for the reference years of 2005 and 2019, statutory salaries increased by 7% at primary level, 7% at lower secondary level and 5% at upper secondary level. The increase exceeded 20% in Poland at pre-primary, primary and secondary levels (the result of a 2007 government programme that aimed to increase teachers' salaries successively between 2008 and 2013, and also since 2017, and to improve the quality of education by providing financial incentives to attract high-quality teachers) and also in Iceland (pre-primary), Israel, and Sweden (Table D3.14, available on line).

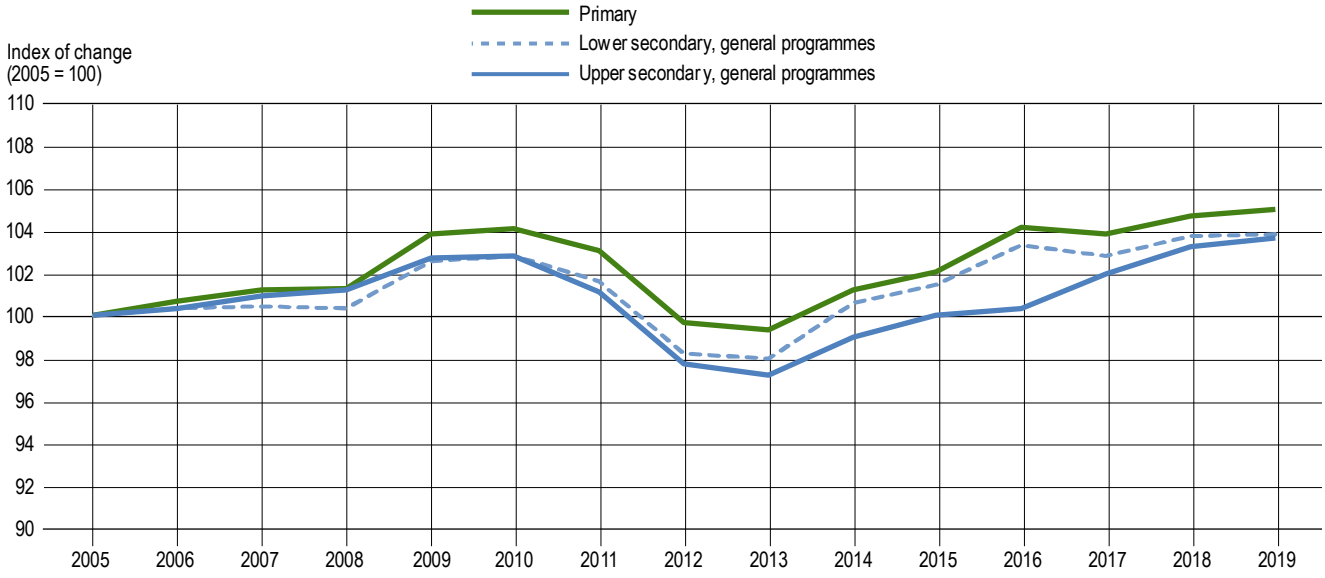
In most countries, the salary increases were similar across primary, lower secondary and upper secondary levels between 2005 and 2019. However, this is not the case in Israel, where salaries increased by more than 50% at pre-primary level, 31% at primary level, 43% at lower secondary level and 44% at upper secondary level. This is largely the result of the gradual implementation of the "New Horizon" reform in primary and lower secondary schools, which began in 2008 following an agreement between the education authorities and the Israeli Teachers Union (for primary and lower secondary education). This reform included raising teachers' pay in exchange for longer working hours (see Indicator D4).

In contrast, salaries have decreased slightly since 2005 in a few countries and economies including Denmark (pre-primary), France, Hungary (upper secondary), Italy, Portugal, Scotland (United Kingdom), Spain and the United States (primary). They decreased by 8% in Japan, and by more than 29% in Greece as the result of reductions in remuneration, the implementation of new wage grids and salary freezes since 2011 (Table D3.14, available on line).

However, these overall changes in teachers' salaries in OECD countries between 2005 and 2019 mask different periods of change in teachers' salaries, as a result of the impact of the economic downturn in 2008. On average across OECD countries and economies with available data for all years over the period, salaries were either frozen or cut between 2009 and 2013, before starting to increase again. Statutory salaries for primary, lower and upper secondary teachers with 15 years of experience and minimum qualifications now exceed pre-crisis levels, on average across OECD countries with data for all reference years (Figure D3.3).

Figure D3.3. Change in teachers' salaries in OECD countries (2005 to 2019)

Average index of change, among OECD countries with data on statutory salaries for all reference years, for teachers with 15 years of experience and minimum qualifications (2005 = 100, constant prices)



Source: OECD (2020), Table D3.14, available on line. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Statutory salaries of school heads

The responsibilities of school heads may vary between countries and also within countries, depending on the schools they are responsible for. School heads may exercise educational responsibilities (which may include teaching tasks but also responsibility for the general functioning of the institution in areas such as the timetable, implementation of the curriculum, decisions about what is taught, and the materials and methods used). They may also have other administrative, staff management and financial responsibilities (see Indicator D4 for more details).

Differences in the nature of the work carried out and the hours worked by school heads (compared to teachers) are reflected in the systems of compensation used within countries (see Tables D4.2 and D4.5 for the working time of teachers and school heads). School heads may be paid according to a specific salary range and may or may not receive a school-head allowance on top of their statutory salaries. However, they can also be paid in accordance with the salary scale(s) of teachers and receive an additional school-head allowance. The use of teachers' salary ranges may reflect the fact that school heads are initially teachers with additional responsibilities. At lower secondary level, school heads are paid according to teachers' salary scales, with a school-head allowance, in 13 out of the 33 countries and economies with available information, and according to a specific salary range in the other 20 countries and economies. Of these, 13 countries and economies have no specific school-head allowance and 7 countries have a school-head allowance. The amounts payable to school heads (through statutory salaries and/or school-head allowances) may vary according to criteria related to the school(s) where the school head is based (for example the size of the school based on the number of students enrolled, or the number of teachers

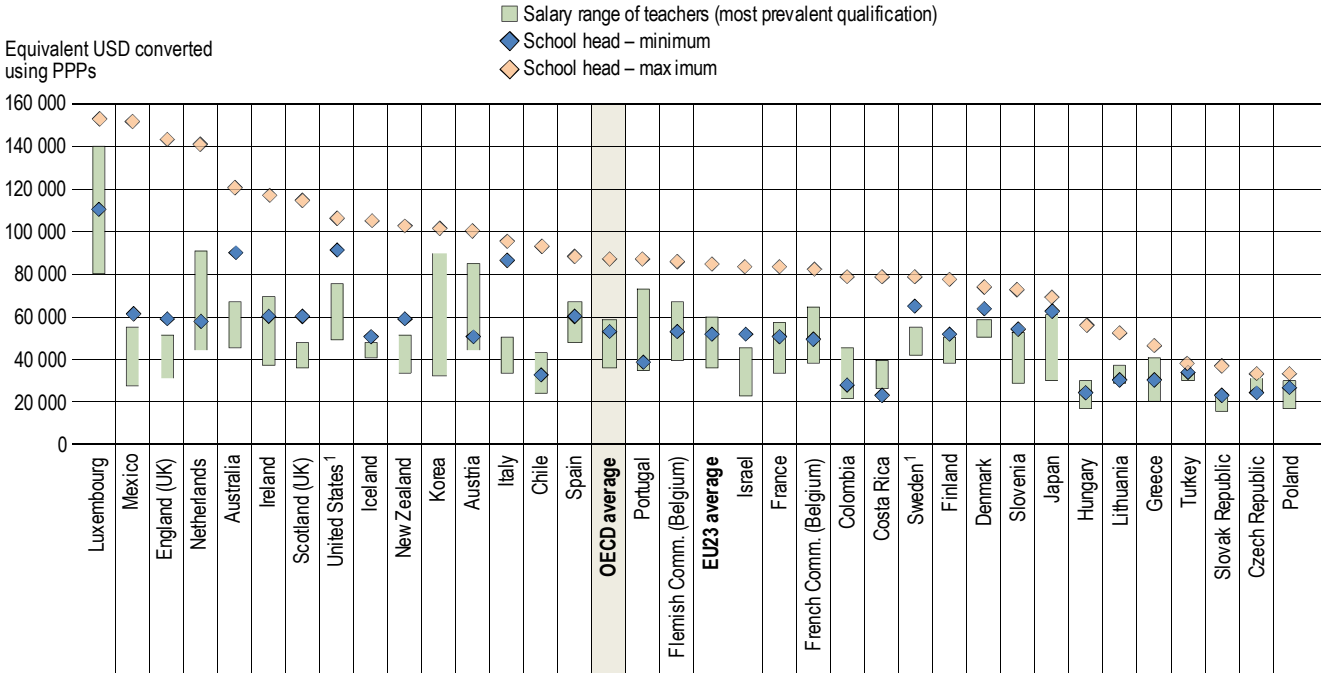
supervised). They could also vary according to the individual characteristics of the school heads themselves, such as the duties they have to perform or their years of experience (Table D3.21, available on line).

Considering the large number of criteria involved in the calculation of school heads' statutory salaries, the statutory salary data for school heads focuses on the minimum qualification requirements to become a school head, and Table D3.4 shows only the minimum and maximum values. Caution is necessary when interpreting these values because salaries often depend on many criteria and as a result few school heads may earn these amounts.

At lower secondary level, the minimum salary for school heads is USD 52 077 on average across OECD countries and economies, ranging from USD 20 124 in Latvia to USD 110 128 in Luxembourg. The maximum salary is USD 86 974 on average across OECD countries and economies, ranging from USD 32 337 in Poland to USD 152 305 in Luxembourg. These values should be interpreted with caution, as minimum and maximum statutory salaries refer to school heads in different types of schools. About half of OECD countries and economies have similar pay ranges for primary and lower secondary school heads, while upper secondary school heads benefit from higher statutory salaries on average.

Figure D3.4. Minimum and maximum statutory salaries for lower secondary teachers and school heads (2019)

Based on teachers with most prevalent qualifications at a given level of education and school heads with minimum qualifications



1. Actual base salaries.

Countries and economies are ranked in descending order of maximum salaries of school heads.

Source: OECD (2020), Table D3.4 and Table D3.5 available on line. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934165624

On average across OECD countries and economies, the maximum statutory salary of a school head with minimum qualifications is 66% higher than the minimum statutory salary at primary level, 67% higher than the minimum in lower secondary and 63% higher in upper secondary. There are only 12 countries or economies where school heads at the top of the scale can expect to earn twice the statutory starting salary in at least one of these levels of education; in Costa Rica, they can expect to earn more than three times the starting salary.

The minimum statutory salaries for school heads with minimum qualifications are higher than the starting salaries of teachers, except in Costa Rica. The difference between minimum salaries for school heads (with minimum qualifications) and starting

salaries for teachers with the most prevalent qualifications increases with level of education: they are 28% higher on average across OECD countries and economies at pre-primary level, 40% at primary level, 48% at lower secondary level and 47% at upper secondary level. In a number of countries, the minimum statutory salary for school heads is higher even than the maximum salary for teachers. This is the case at lower secondary level in Australia, Denmark, England (United Kingdom), Finland, Iceland, Israel, Italy, Japan, Mexico, New Zealand, Scotland (United Kingdom), Slovenia, Sweden, Turkey and the United States (Figure D3.4).

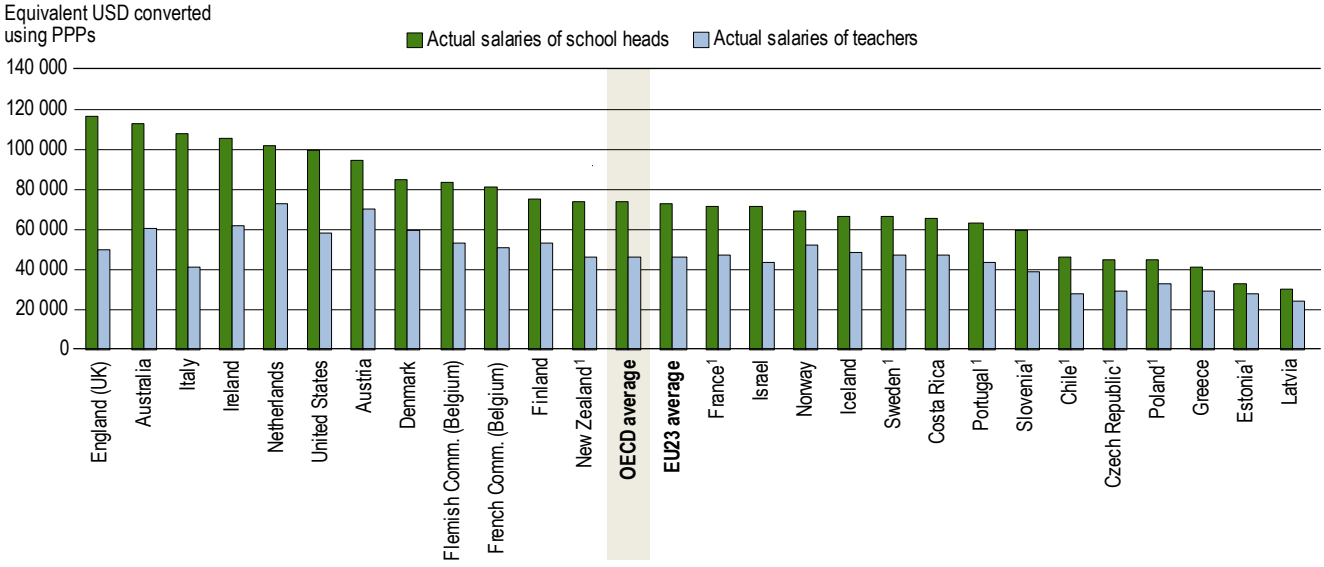
Similarly, the maximum statutory salaries for school heads are higher than the maximum salaries for teachers for all OECD countries and economies with available data. At lower secondary level, the maximum statutory salary of a school head is 49% higher than the salary of teachers at the top of the scale (with most prevalent qualifications), on average across OECD countries and economies. The maximum statutory salaries of school heads in Chile, England (United Kingdom), Iceland, Mexico, New Zealand and Scotland (United Kingdom) are more than twice statutory teachers' salaries at the top of the scale (Figure D3.4).

Average actual salaries of teachers and school heads

Unlike statutory salaries, teachers' and school heads' actual salaries may include work-related payments, such as annual bonuses, results-related bonuses, extra pay for holidays, sick-leave pay and other additional payments (see the *Definitions* section). These bonuses and allowances can represent a significant addition to base salaries. Actual average salaries are influenced by the prevalence of bonuses and allowances in the compensation system. Differences between statutory and actual average salaries are also linked to the distribution of teachers by years of experience and qualifications, as these two factors have an impact on their salary levels.

Figure D3.5. Actual salaries of lower secondary teachers and school heads (2019)

Annual actual salaries of teachers and school heads in public institutions, in equivalent USD converted using PPPs



1. Year of reference differs from 2019. See Table D3.3 for more information.
Countries and economies are ranked in descending order of actual salaries of school heads.
Source: OECD (2020), Table D3.3. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934165643

Across OECD countries and economies, in 2019 the average actual salaries of teachers aged 25-64 were USD 38 677 at pre-primary level, USD 43 942 at primary level, USD 46 225 at lower secondary level and USD 49 778 at upper secondary level. Average actual salaries for school heads aged 25-64 ranged from USD 67 365 at primary level to USD 73 404 at lower secondary level and USD 79 531 at upper secondary level (Table D3.3, see Box D3.1 for variations at subnational level).

There are 28 OECD countries and economies with available data on both the statutory salaries of teachers with 15 years of experience and most prevalent qualifications, and the actual salaries of 25-64 year-old teachers for at least one level of education. Actual annual salaries are 10% higher than statutory salaries in seven of these countries and economies at pre-primary level and 11 of these countries and economies at upper secondary level (Table D3.3).

The actual salaries of school heads are higher than those of teachers, and the premium increases with levels of education. On average across OECD countries and economies, school heads' actual salaries in 2019 were 53% higher than those of teachers at primary level. The premium is 59% at lower secondary level and 60% at upper secondary level. The difference between the actual salaries of school heads and teachers varies widely between countries and between levels of education. The countries and economies with the highest premium for school heads over teachers are England (United Kingdom) (secondary levels) and Italy (primary and secondary levels), where school heads' actual salaries are more than twice those of teachers. The lowest premiums, of less than 25%, are in Estonia (at primary and secondary) and Latvia (lower secondary). Other countries show a steep rise in salaries of school heads compared to teachers at the secondary level, while there is a more moderate difference at primary level. For example, in Denmark school heads' actual salaries are 29% higher than teachers' at pre-primary level but the difference is 42% at lower secondary and 60% at upper secondary level. In Costa Rica, Latvia and Slovenia, the difference is much larger at pre-primary level than at primary and lower secondary levels (Table D3.3).

Box D3.1. Subnational variations in teachers' and school heads' salaries at pre-primary, primary and secondary levels

In each country, teachers' statutory salaries can vary according to the level of education and their level of experience. Salaries can also vary significantly across subnational entities within each country, especially in federal countries where salary requirements may be defined at the subnational level. Subnational data provided by four countries (Belgium, Canada, the United Kingdom and the United States) illustrate these variations at the subnational level.

In these four countries, statutory salaries vary to a differing extent between subnational entities, depending on the stage teachers have reached in their careers. In 2019 in Belgium, for example, the starting salary of a primary school teacher varied by only 3% (USD 1 256), from USD 37 630 in the French Community to USD 38 885 in the Flemish Community. In comparison, subnational variation was largest in the United States, where the starting salary of a primary school teacher varied by 81% (USD 27 016) across subnational entities, ranging from USD 33 445 in Oklahoma to USD 60 461 in New York. Starting salaries for lower secondary and upper secondary teachers varied the least in Belgium (by 3-4%, and the most in Canada (by 77%).

In Belgium, the variation in statutory salaries between subnational entities remains relatively consistent across all levels of education and stages of teachers' careers. In contrast, in both Canada and the United Kingdom, the variation across subnational entities is similar at different levels of education, but greater for starting salaries than for salaries at the top of the scale. For example, at the upper secondary level, starting salaries in the United Kingdom varied by 22% (USD 6 433) between subnational entities (from USD 29 488 to USD 35 921), while salaries at the top of the salary scale varied by only 8% (USD 3 759, from USD 47 761 to USD 51 520). In the United States, there was no clear pattern in the extent of the variation of statutory salaries across subnational entities at different levels of education and stages of teachers' careers. At the lower secondary level, the variation was the smallest for starting salaries, ranging from USD 34 789 to USD 58 203 (a difference of 67%, or USD 23 414) and the largest for salaries at top of the salary scale, ranging from USD 43 654 to USD 109 709 (a difference of 151%, or USD 66 055).

There are also large subnational variations in actual salaries of teachers and school heads across the three countries (Belgium, the United Kingdom and the United States) with available data in 2019. In the United Kingdom, the subnational variation in actual salaries was greater for school heads than for teachers. For example, at the upper secondary level, teachers' salaries in the United Kingdom (for the two subnational entities with available data) ranged from USD 49 312 in England to USD 51 569 in Northern Ireland, a difference of 5% or USD 2 257 In comparison, school heads' salaries ranged from USD 91 873 in Northern Ireland to USD 116 592 in England, a difference of 27% or USD 24 720. Subnational variation in actual salaries was much smaller for both teachers and school heads in Belgium. For example, the salaries of upper secondary school heads ranged from USD 94 331 in the French Community to USD 101 480 in the Flemish Community, a difference of 8% or USD 7 149. In the United States, subnational variation in actual salaries are similar for both teachers and school heads, but much larger than in Belgium. For example, the salaries of upper secondary school heads ranged from USD 75 354 in South Dakota to USD 145 482 in New Jersey, a difference of 93% or USD 70 128.

The extent of the subnational variation in actual salaries (for teachers and school heads) also varies according to level of education. In the United Kingdom (for subnational entities with available data) the subnational variation in teachers' salaries is largest at the pre-primary and primary levels, while subnational variation in school heads' salaries is largest at lower and upper secondary levels. In the United States, subnational variation in the actual salaries of teachers and school heads was greater at the primary level than at lower and upper secondary levels.

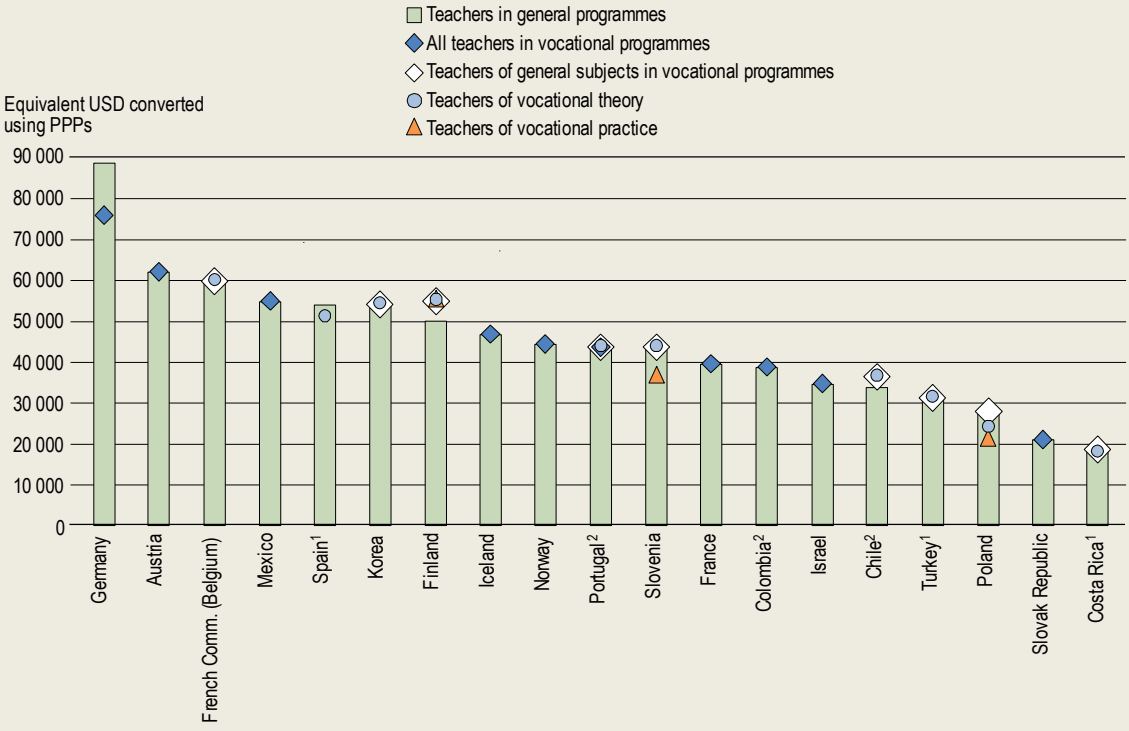
Source: Education at a Glance Database, http://stats.oecd.org.

Box D3.2. Teachers' salaries in vocational programmes

In this indicator, the information on the salaries of secondary teachers relates to those in general programmes. However, a specific survey carried out by the OECD in 2019 collected data on the salaries of teachers in vocational programmes. Vocational programmes are much more common at upper secondary level than at lower secondary. Among the 29 countries and economies that participated in the survey, 28 have vocational programmes at upper secondary level, compared with only 10 at the lower secondary level, Hence, the following analysis focuses on teachers in upper secondary vocational programmes.

Figure D3.6. Comparison of the statutory salaries of upper secondary teachers in general and vocational programmes (2019)

Salaries of teachers with 15 years of experience and the minimum qualification, in equivalent USD converted using PPPs



1. All teachers of vocational theory and practice are included in the category "teachers of vocational theory".
2. Year of reference is 2018

Countries and economies are ranked in descending order of salaries of upper secondary teachers in general programmes.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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In many countries with available information, different types of teachers within vocational programmes can be distinguished based on the types of subjects they teach: teachers of general subjects, vocational theory and vocational practice may require different qualifications and/or have different working conditions. In several countries, however, it is not possible to distinguish between teachers of vocational theory and teachers of vocational practice. In 21 of the countries and economies that responded to the survey, teachers of general subjects can teach in both general and vocational programmes without changes to their terms and conditions. However, only 11 countries allow teachers of vocational practice and/or vocational theory to teach in general programmes.

Differences in categories of teachers within vocational programmes are associated with substantial variations between countries in the extent of the differences in the pay and conditions of teachers in general and vocational programmes. For instance, in seven countries the qualification requirements are the same for all teachers, whatever the orientation of the programmes they teach. Meanwhile in four countries, teachers in vocational programmes have different qualification requirements from teachers in general programmes. In the remaining 17 countries and economies, some of the teachers in vocational programmes have the same qualification requirements and others do not.

Similar variations exist between teachers in general and vocational programmes for working time, teaching time and salaries. It is possible to quantify the extent of the differences in salaries from the data provided in the survey. Figure D3.6 shows the statutory salaries of upper secondary teachers with 15 years of experience by programme orientation. For these 19 OECD countries and economies, statutory salaries of teachers in vocational programmes are similar to those in general programmes. However, it cannot be assumed that this finding applies more generally to all OECD countries because the countries with available data in this survey may be those where the remuneration regimes are the same for both types of programmes and therefore they may find it easier to provide data on a consistent basis.

Data on the actual salaries paid to teachers tell a similar story. Among the countries with available actual salaries by orientation of programmes, the actual salaries of teachers in vocational programmes are similar to those of teachers in general programmes but tend to be slightly lower. For example, the average pay of teachers aged 25-64 in vocational programmes is slightly lower than their peers in general programmes in Sweden (1%), Norway (2%) and France (6%). Meanwhile the actual salaries of teachers in vocational and general programmes are equal in Iceland, Israel and Portugal. Where there are lower actual salaries, this may reflect differences in the distribution of teachers by age, level of qualification and experience as well as differences in the allowances available and tasks undertaken.

Source: INES VET Survey 2019

Teachers' and school heads' actual salaries relative to earnings of tertiary-educated workers

Education systems compete with other sectors of the economy to attract high-quality graduates as teachers. Research shows that salaries and alternative employment opportunities are important factors in the attractiveness of teaching (Johnes and Johnes, 2004[3]). Teachers' salaries relative to other occupations with similar education requirements, and their likely growth in earnings may have a huge influence on a graduate's decision to become a teacher and stay in the profession (see Box D3.3 for information on satisfaction of teachers with their pay). The career prospects of school heads and their relative salaries are also a signal of the career progression pathways available to teachers and the compensation they can expect in the longer term.

In most OECD countries and economies, a tertiary degree is required to become a teacher and then a school head, at all levels of education, meaning that the likely alternative to teacher education is a similar tertiary education programme. Thus, to interpret salary levels in different countries and reflect comparative labour-market conditions, actual salaries of teachers are compared to the earnings of other tertiary-educated professionals: 25-64 year-old full-time, full-year workers with a similar tertiary education (ISCED levels 5 to 8). Moreover, to ensure that comparisons between countries are not biased by differences in the distribution of tertiary attainment level among teachers and tertiary-educated workers more generally, teachers' actual salaries are also compared to a weighted average of earnings of similarly educated workers (the earnings of similarly educated workers are weighted by the proportion of teachers with similar tertiary attainment – see Tables X2.9 and X2.10 in Annex 2 for the proportion of teachers and school heads by attainment level; and the *Methodology* section for more details).

Among the 22 countries and economies with available data (for at least one level), teachers' actual salaries amount to 65% or less of the earnings of similarly educated workers in Chile (pre-primary, primary and lower secondary) the Czech Republic (primary and lower secondary), Hungary (upper secondary), Poland (pre-primary) and the United States. Very few countries

and economies have teachers' actual salaries that reach or exceed those of similarly educated workers. However, in Germany, the actual salaries of upper secondary teachers are the same as those of similarly educated workers (Table D3.2).

Considering how few countries have available data for this relative measure of teachers' salaries, a second benchmark is based on the actual salaries of all teachers, relative to earnings for full-time, full-year workers with tertiary education (ISCED levels 5 to 8). Against this benchmark, actual teachers' salaries relative to other tertiary-educated workers increase with higher education levels. On average, pre-primary teachers' salaries amount to 80% of the full-time, full-year earnings of tertiary-educated 25-64 year-olds. Primary teachers earn 85% of this benchmark salary, lower secondary teachers 89% and upper secondary teachers 94% (Table D3.2).

In almost all countries and economies with available information, and at almost all levels of education, teachers' actual salaries are lower than those of tertiary-educated workers. The lowest relative salaries are at pre-primary level: in the Czech Republic pre-primary teachers' salaries are 55% of those of tertiary-educated workers, in the Slovak Republic they are 58%, and in the United States they are 61%. However in some countries, teachers earn more than tertiary-educated adults, either at all levels of education (Costa Rica, Lithuania and Portugal), or only at some levels (at upper secondary level in Finland, France and the French Community of Belgium, at lower and upper secondary levels in Germany). In Lithuania and Portugal, teachers earn at least 30% more than tertiary-educated workers (Table D3.2 and Figure D3.1).

Box D3.3. Comparability issues related to relative salaries of teachers and school heads

Meaningful international comparisons rely on the provision and implementation of rigorous definitions and a related statistical methodology. In view of the diversity across countries of both their education and their teacher compensation systems, adhering to these guidelines and methodology is not always straightforward. Some caution is therefore required when interpreting these data.

The relative salaries measure divides the salaries of teachers or school heads (numerator) by the earnings of comparable workers (denominator). Two different versions of the measure are presented in Table D3.2. The first simply divides teachers' or school heads' salaries by the earnings of tertiary-educated workers; the second weights the earnings of workers so that they reflect the distribution of educational attainment among teachers or school heads. This avoids potential comparability issues related to different distributions of attainment among teachers or school heads compared with tertiary-educated workers.

Both versions of the relative salaries measure are still subject to biases due to differences in the characteristics, working patterns and remuneration systems of teachers and other workers. Five potential sources of bias in the comparison of teachers' salaries to tertiary-educated workers are described below.

Part-time working

The relative measures of salaries are based on the salaries of full-time teachers and the earnings of full-time workers. However, a share of teachers, and workers more generally, work on a part-time basis during the year. Differences in the frequency of part-time working between teachers and workers could introduce a bias into the measure of relative salaries as it will impact in a different way on the average salaries of teachers and the average earnings of tertiary-educated workers. It is worth noting that part-time work might be more common in education than in the rest of the labour market not least because women make up a large proportion of teachers in most OECD countries and they are more likely to work part time.

The wage penalty associated with part-time work is a well-established phenomenon and is often one of the reasons for women's lower salaries (Matteazzi, Pailhé and Solaz, 2017[4]). However, it might be limited or even non-existent in education in some countries. For example, this is the case in the Netherlands in primary education and, to a lesser extent, in secondary education. Hourly salaries are identical for part-time and full-time teachers, due to the collective labour agreements in those sectors. This is not only true for the statutory salaries (based on collective labour agreements), but also for the actual salaries.

Part-year working

Not only is the measure of relative salaries of teachers based on a comparison with full-time workers, but also with full-year workers. This measure aims to compare full-time, full-year teachers to full-time, full-year tertiary-educated workers.

However, there may be a bias in the comparison due to the fact that a proportion of teachers in a few countries (such as the United States) are paid for a contract that spans less than a 12-month year, reflecting only the months of the school year. Therefore, teachers' salaries may not be a true reflection of teachers' earnings over a full year. In some countries, teachers may have other earnings from non-teaching jobs that are excluded from the calculation. The potential underestimation of teachers' earnings over the year may bias the comparison with earnings of tertiary-educated workers.

Including teachers in the earnings of tertiary-educated workers

The earnings of tertiary-educated workers also include the earnings of teachers. The relative size of the teaching workforce in the labour market as a whole, as well as the level of teachers' earnings compared to those of other tertiary-educated workers, has an impact on the level of earnings of tertiary-educated workers used to compute relative salaries. As a consequence, this also affects the measure of relative salaries of teachers.

Different sources of data for teachers' salaries and workers' earnings

The sources of data used to report teachers' salaries and the earnings of workers may differ, at least partly. This may result in differences in the type of data and the methodology used to report them: statutory and actual salaries for teachers, compared with actual earnings for workers. For example, in several countries including the Netherlands and the United States, the earnings data are at least partially based on the Labour Force Survey (LFS) of that country. However, the teachers' salary data often comes from regulations, collective agreements, administrative sources or sample surveys.

Differences in pensions systems between teachers and other workers

In many countries, teachers in public institutions have substantial pension contributions paid by their employer, but a relatively low salary compared to the private sector. In contrast, private sector employees may get higher salaries, but they may also have to make their own pension arrangements. Differences in pensions systems between the public and private sector, and between countries, may affect the comparability of salary and earnings data, and therefore the comparability of the measure of relative salaries of teachers.

Pensions are only taken into account in data on salaries of teachers through the social contributions that are included/excluded from the amounts reported. Some countries may report data on salaries in a different way due to data limitations.

For more information on comparability issues, see Box D3.1 of *Education at a Glance 2019* (OECD, 2019[2]) and the notes for specific countries in Annex 3.

School heads earn more than teachers and, unlike teachers, typically earn more than similarly educated workers at all the levels of education considered. This difference tends to increase with the level of education. Among the 18 OECD countries and economies with available data (for at least one level), it is only school heads in the United States and pre-primary school heads in Denmark, Estonia, Finland and Poland whose actual salaries are on average at least 5% lower than the earnings of similarly educated workers. In contrast, school heads' salaries are at least 40% higher than similarly educated workers in England (United Kingdom), the Flemish Community of Belgium (pre-primary, primary and lower secondary) and New Zealand (primary and secondary) (Table D3.2).

As with teachers, there are only a few countries with available data for this relative measure of school heads' salaries. Hence, a second benchmark is based on the actual salaries of all school heads, relative to earnings for full-time, full-year workers with tertiary education. Using this measure, on average across OECD countries and economies, school heads earn 26% more than tertiary-educated adults at primary level, 38% more at lower secondary level and 46% more at upper secondary level. School heads earn less than tertiary-educated adults only in the Czech Republic (pre-primary), Denmark (pre-primary), Estonia (pre-primary), Finland (pre-primary), Norway (pre-primary), and Poland (pre-primary) (Table D3.2).

Box D3.4. Teachers' satisfaction with their pay

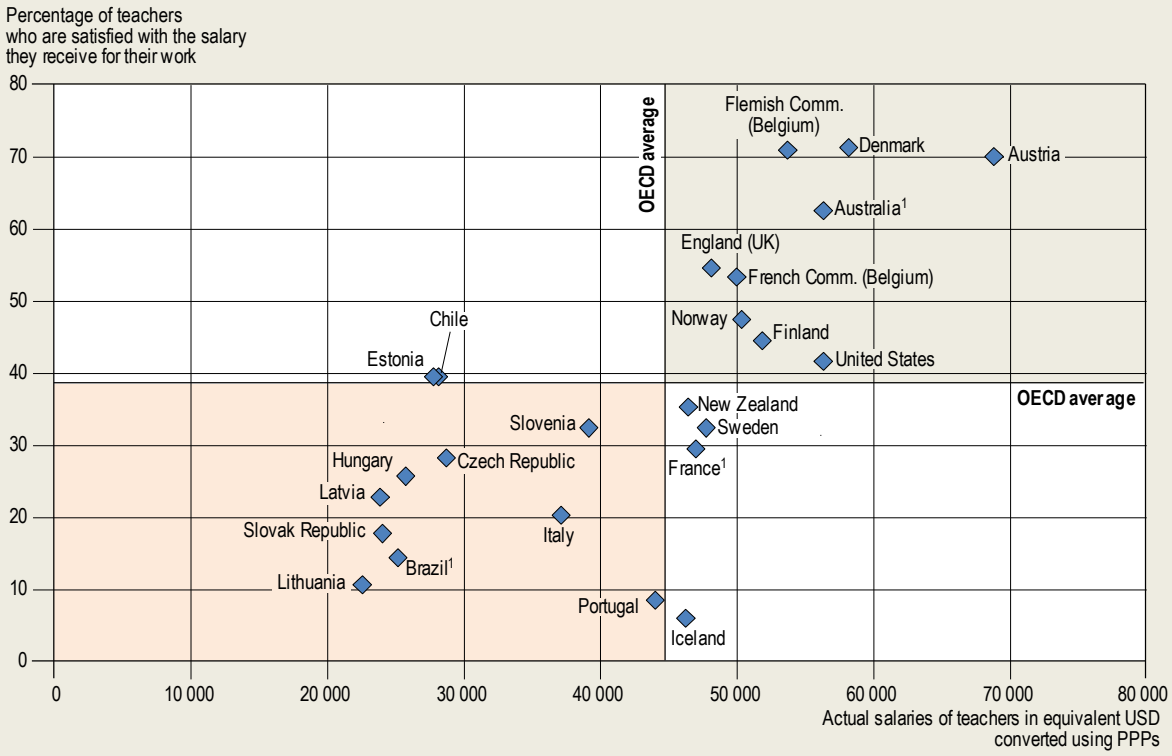
The OECD Teaching and Learning International Survey (TALIS) asks teachers and school leaders about their working conditions and the learning environment in their schools. It includes questions on the reasons teachers had for joining the profession.

A large proportion of lower secondary teachers in the OECD countries which took part in the 2018 round of TALIS cited the opportunity to influence the development of children and young people (92%) and the opportunity to provide a contribution to society (88%) as important reasons for deciding to become a teacher.

Working conditions and salaries can also be part of the reasons for joining the teaching profession. Among the OECD countries taking part in the survey, two-thirds of lower secondary teachers said that the fact that teaching provides a reliable income was an important factor for them in becoming a teacher. However, the satisfaction they now express with their pay varies widely across countries. Fewer than 10% of lower secondary teachers in publicly managed schools in Iceland and Portugal say that they are satisfied with the salary they receive for their work. This compares to over 70% in Alberta (Canada), Austria, the Flemish Community of Belgium, Chinese Taipei, Denmark, and Singapore.

Figure D3.7. Lower secondary teachers' actual salaries and satisfaction with their salaries (2018)

Annual actual salaries of teachers in public institutions (in equivalent USD converted using PPPs) compared to percentage of teachers in publicly managed schools who are satisfied with the salary they receive for their work



1. Year of reference for actual salaries is 2017.

Source: OECD (2020), Table X2.5 and TALIS 2018 Volume 2 Table 3.57. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

StatLink https://doi.org/10.1787/888934165681

Satisfaction with pay is lower for more experienced teachers. Those with more than five years of experience tend to be less satisfied with their pay than those with fewer than five years of experience. Among the OECD countries that took part in TALIS, more experienced teachers were less satisfied with their pay then their less experienced colleagues in 13 countries. The opposite was true in only 4 countries while the remaining 12 showed no significant difference.

There is some evidence that male teachers tend to be less satisfied with their salaries than female teachers. On average among the OECD members that took part in TALIS, 2.5% fewer male teachers were satisfied with their pay than female teachers were but only six countries show significantly lower satisfaction for male teachers. There is no significant difference in most countries.

It may be presumed that teachers' satisfaction with their pay is related to the earnings of tertiary workers in their country but there is no evidence of this relationship at the aggregate national level. There is no correlation between the salaries of teachers relative to the earnings of tertiary-educated workers and teachers' satisfaction with their pay.

However, there is a relationship between absolute levels of pay and the satisfaction teachers express. Figure D3.7 shows this relationship, there is a correlation between the actual salaries teachers receive (converted into USD using PPPs) and the percentage of teachers who agree that they are satisfied with the salary they receive for their work (r^2=0.49). Countries with higher rates of pay have more teachers who are satisfied with their pay.

Source: *TALIS 2018 Results (Volume II) - Teachers and School Leaders as Valued Professionals* (OECD, 2020[5])

Formation of base salary and additional payments: Incentives and allowances

Statutory salaries, based on pay scales, are only one component of the total compensation of teachers and school heads. School systems also offer additional payments to teachers and school heads, such as allowances, bonuses or other rewards. These may take the form of financial remuneration and/or reductions in the number of teaching hours, and decisions on the criteria used for the formation of the base salary are taken at different decision-making levels (Tables D3.19 and D3.20, available on line).

Criteria for additional payments vary across countries. In the large majority of countries and economies, teachers' core tasks (teaching, planning or preparing lessons, marking students' work, general administrative work, communicating with parents, supervising students and working with colleagues) are rarely compensated through specific bonuses or additional payments (Table D3.17, available on line). Teachers may also be required to have some responsibilities or perform some tasks without additional compensation (see Indicator D4 for the tasks and responsibilities of teachers).Taking on other responsibilities, however, often entails some sort of extra compensation.

At lower secondary level, teachers who participate in school management activities in addition to their teaching duties received extra compensation in three-fifths of countries and economies with available information.

It is also common to see additional payments, either annual or occasional, when teachers teach more classes or hours than required by their full-time contract, have responsibility as a class or form teacher, or perform special tasks, such as training student teachers (Table D3.17, available on line).

Additional compensation, either in the form of occasional additional or annual payments or through increases in basic salary, is also awarded for outstanding performance to lower secondary teachers in about half of OECD countries and economies with available data. Additional payments can also include bonuses for special teaching conditions, such as teaching students with special needs in regular schools or teaching in disadvantaged, remote or high-cost areas (Table D3.17, available on line).

There are also criteria for additional payments for school heads, but fewer tasks or responsibilities lead to additional payments compared to teachers. At lower secondary level, only a few countries do not offer any type of additional compensation to their school heads: Australia, Austria, the French Community of Belgium and Portugal (Table D3.18, available on line).

Among the 31 countries and economies with available data, around one-quarter provide additional compensation to school heads for participating in management tasks over and above their usual responsibilities as school heads or for working overtime. About half of the countries and economies (Australia, Austria, Chile, England [United Kingdom], Finland, France, the French Community of Belgium, Ireland, Italy, Korea, Poland, Portugal, Slovenia, Spain and Switzerland) provide additional compensation for teachers when they take on extra responsibilities, but do not provide any additional payments to school heads (Tables D3.17 and D3.18, available on line). The extent to which teachers receive additional compensation for taking on extra responsibilities and the activities for which teachers are compensated vary across these countries. As with teachers (see above), in some countries, such as Greece, a number of these responsibilities and tasks are considered part of school heads' duties and so they are not compensated with any extra allowances.

At lower secondary level, school heads are awarded additional compensation for outstanding performance in more than one-third of the countries and economies with available data, just as teachers are. However, Austria, Chile, England (United Kingdom), Israel, Portugal and Turkey award teachers additional compensation for outstanding performance, but not school heads. The opposite is observed in Colombia, France and Spain, where school heads are rewarded for high

performance, but not teachers. In France, part of the school-head allowance is awarded according to the results of a professional interview and is paid every three years (Tables D3.17 and D3.18, available on line).

Teachers and school heads are also likely to receive additional payments for working in disadvantaged, remote, or high-cost areas in half of the countries and economies, with the exception of Australia, where such incentives are only provided to teachers (Tables D3.17 and D3.18, available on line).

Definitions

Teachers refer to professional personnel directly involved in teaching students. The classification includes classroom teachers, special-education teachers and other teachers who work with a whole class of students in a classroom, in small groups in a resource room, or in one-to-one teaching situations inside or outside a regular class.

School head refers to any person whose primary or major function is heading a school or a group of schools, alone or within an administrative body such as a board or council. The school head is the primary leader responsible for the leadership, management and administration of a school.

Actual salaries for teachers/school heads aged 25-64 refer to the annual average earnings received by full-time teachers/school heads aged 25 to 64, before taxes. It is the gross salary from the employee's point of view, since it includes the part of social security contributions and pension-scheme contributions that are paid by the employees (even if deducted automatically from the employees' gross salary by the employer). However, the employers' premium for social security and pension is excluded. Actual salaries also include work-related payments, such as school-head allowance, annual bonuses, results-related bonuses, extra pay for holidays and sick-leave pay. Income from other sources, such as government social transfers, investment income and any other income that is not directly related to their profession are not included.

Earnings for workers with tertiary education are average earnings for full-time, full-year workers aged 25-64 with an education at ISCED level 5, 6, 7 or 8.

Salary at the top of the scale refers to the maximum scheduled annual salary (top of the salary range) for a full-time classroom teacher (for a given level of qualification of teachers recognised by the compensation system).

Salary after 15 years of experience refers to the scheduled annual salary of a full-time classroom teacher. Statutory salaries may refer to the salaries of teachers with a given level of qualification recognised by the compensation system (the minimum training necessary to be fully qualified, the most prevalent qualifications, or the maximum qualification), plus 15 years of experience.

Starting salary refers to the average scheduled gross salary per year for a full-time classroom teacher with a given level of qualification recognised by the compensation system (the minimum training necessary to be fully qualified or the most prevalent qualifications) at the beginning of the teaching career.

Statutory salaries refer to scheduled salaries according to official pay scales. The salaries reported are gross (total sum paid by the employer) less the employer's contribution to social security and pension, according to existing salary scales. Salaries are "before tax" (i.e. before deductions for income tax).

Methodology

Data on teachers' salaries at lower and upper secondary level refer only to general programmes.

Salaries were converted using purchasing power parities (PPPs) for private consumption from the OECD National Accounts database. The period of reference for teachers' salaries is from 1 July 2018 to 30 June 2019. The reference date for PPPs is 2018/19, except for some Southern Hemisphere countries (e.g. Australia and New Zealand), where the academic year runs from January to December. In these countries, the reference year is the calendar year (i.e. 2019). Tables with salaries in national currency are included in Annex 2. To calculate changes in teachers' salaries (Table D3.14 and Table D3.15, available on line), the deflator for private consumption is used to convert salaries to 2005 prices.

In most countries, the criteria to determine the most prevalent qualifications of teachers are based on a principle of relative majority (i.e. the level of qualifications of the largest proportion of teachers).

In Table D3.2, the ratios of salaries to earnings for full-time, full-year workers with tertiary education aged 25-64 are calculated based on weighted averages of earnings of tertiary-educated workers (Columns 2 to 5 for teachers and Columns 10 to 13 for school heads). The weights, collected for every country individually, are based on the percentage of teachers or school heads by ISCED level of tertiary attainment (see Tables X2.9 and X2.10 in Annex 2). The ratios have been calculated for countries for which these data are available. When data on earnings of workers referred to a different reference year than the 2019 reference year used for salaries of teachers or school heads, a deflator has been used to adjust earnings data to 2019). For all other ratios in Table D3.2 and those in Table D3.8 (available on line), information on all tertiary-educated workers was used instead of weighted averages. Data on the earnings of workers take account of earnings from work for all individuals during the reference period, including salaries of teachers. In most countries, the population of teachers is large and may impact on the average earnings of workers. The same procedure was used in Table D3.7 (available on line), but the ratios are calculated using the statutory salaries of teachers with 15 years of experience instead of their actual salaries.

For more information please see the *OECD Handbook for Internationally Comparative Education Statistics 2018* (OECD, 2018[6]) and Annex 3 for country-specific notes (https://doi.org/10.1787/69096873-en).

Source

Data on salaries and bonuses for teachers and school heads are derived from the 2019 joint OECD/Eurydice data collection on salaries of teachers and school heads. Data refer to the school year 2018/19 and are reported in accordance with formal policies for public institutions. Data on earnings of workers are based on the regular data collection by the OECD LSO (Labour Market and Social Outcomes of Learning) Network.

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Indicator D3 Tables

Table D3.1. Teachers' statutory salaries, based on the most prevalent qualifications at different points in teachers' careers (2019)

Table D3.2. Teachers' and school heads' actual salaries relative to earnings of tertiary-educated workers (2019)

Table D3.3. Teachers' and school heads' average actual salaries (2019)

Table D3.4. School heads' minimum and maximum statutory salaries, based on minimum qualifications (2019)

WEB Table D3.5 *Teachers' statutory salaries, based on the most prevalent qualification at a given level of education (2019)*

WEB Table D3.6 *Teachers' statutory salaries, based on the minimum qualifications (2019)*

WEB Table D3.7. *Teachers' and school heads' statutory salaries relative to earnings of tertiary-educated workers (2019)*

WEB Table D3.8. *Teachers' actual salaries relative to earnings of tertiary-educated workers, by age group and gender (2019)*

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WEB Table D3.14. *Trends in teachers' statutory salaries, based on most prevalent qualifications at different points in teachers' careers (2000 and 2019)*

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WEB Table D3.16*. Teachers' starting and maximum statutory salaries, based on minimum/maximum qualifications (2019)*

WEB Table D3.17*. Criteria used for base salaries and additional payments awarded to teachers in public institutions, by level of education (2019)*

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WEB Table D3.19*. Decision-making level for criteria used for determining teachers' base salaries and additional payments, by level of education (2019)*

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WEB Table D3.21*. Structure of compensation system for school heads (2019)*

Cut-off date for the data: 19 July 2020. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en. More breakdowns can also be found at http://stats.oecd.org/, Education at a Glance Database.

StatLink: https://doi.org/10.1787/888934165472

Table D3.1. Teachers' statutory salaries, based on the most prevalent qualifications at different points in teachers' careers (2019)

Annual teachers' salaries, in public institutions, in equivalent USD converted using PPPs for private consumption

		Pre-primary				Primary				Lower secondary, general programmes				Upper secondary, general programmes			
		Starting salary	Salary after 10 years of experience	Salary after 15 years of experience	Salary at top of scale	Starting salary	Salary after 10 years of experience	Salary after 15 years of experience	Salary at top of scale	Starting salary	Salary after 10 years of experience	Salary after 15 years of experience	Salary at top of scale	Starting salary	Salary after 10 years of experience	Salary after 15 years of experience	Salary at top of scale
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
OECD	**Countries**																
	Australia	45 216	64 926	64 926	66 978	45 216	64 926	64 926	66 978	45 213	65 028	65 028	67 073	45 213	65 028	65 028	67 073
	Austria	m	m	m	m	45 029	48 709	53 952	79 202	44 453	51 063	56 624	84 502	43 726	55 070	61 927	90 109
	Canada	m	m	m	m	40 504	68 414	70 698	70 698	40 504	68 414	70 698	70 698	40 504	68 414	70 698	70 698
	Chile	23 260	28 716	35 034	43 201	23 260	28 716	35 034	43 201	23 260	28 716	35 034	43 201	24 052	29 773	36 249	44 785
	Colombia	21 240	38 736	38 736	44 547	21 240	38 736	38 736	44 547	21 240	38 736	38 736	44 547	21 240	38 736	38 736	44 547
	Costa Rica	24 894	29 298	31 499	38 104	25 144	29 592	31 816	38 487	25 922	30 509	32 802	39 682	25 922	30 509	32 802	39 682
	Czech Republic	22 121	23 068	23 671	26 339	23 757	25 306	26 425	31 159	23 757	25 306	26 425	31 331	23 757	25 392	26 425	31 245
	Denmark	43 607	49 466	49 466	49 466	50 271	55 806	57 859	57 859	50 526	56 495	58 416	58 416	48 122	62 537	62 537	62 537
	Estonia	a	a	a	a	23 767	a	a	a	23 767	a	a	a	23 767	a	a	a
	Finland [1]	31 105	33 822	34 050	34 050	35 187	40 617	43 345	45 945	38 002	43 866	46 813	49 622	39 899	47 776	50 023	53 024
	France [2]	31 300	35 747	38 173	55 086	31 300	35 747	38 173	55 086	32 941	37 388	39 814	56 889	32 941	37 388	39 814	56 889
	Germany	m	m	m	m	63 257	73 555	77 638	83 178	69 735	80 974	84 497	91 510	74 021	84 659	88 893	103 715
	Greece	20 457	24 848	26 782	40 302	20 457	24 848	26 782	40 302	20 457	24 848	26 782	40 302	20 457	24 848	26 782	40 302
	Hungary	15 377	19 449	20 890	29 534	15 377	19 449	20 890	29 534	16 007	19 449	20 890	29 534	16 007	21 610	23 211	32 815
	Iceland	40 182	41 272	43 434	44 564	39 881	40 971	43 134	44 264	39 881	40 971	43 134	44 264	38 705	42 534	46 756	46 756
	Ireland	m	m	m	m	36 966	56 336	62 179	71 695	36 966	58 345	62 781	72 297	36 966	58 345	62 781	72 297
	Israel	24 895	32 815	36 881	65 191	21 786	28 728	32 165	54 547	21 900	30 752	35 571	56 995	27 233	31 368	34 930	54 849
	Italy	31 313	34 399	37 735	45 874	31 313	34 399	37 735	45 874	33 708	37 307	41 084	50 371	33 708	38 197	42 227	52 644
	Japan	m	m	m	m	29 440	41 861	49 133	60 792	29 440	41 861	49 133	60 792	29 440	41 861	49 133	62 388
	Korea	32 111	48 439	56 587	90 023	32 111	48 439	56 587	90 023	32 172	48 499	56 648	90 084	31 444	47 772	55 920	89 356
	Latvia	15 040	a	a	a	15 040	a	a	a	15 040	a	a	a	15 040	a	a	a
	Lithuania	19 683	21 828	24 799	28 884	28 431	29 214	32 102	37 220	28 431	29 214	32 102	37 220	28 431	29 214	32 102	37 220
	Luxembourg	70 295	90 915	102 630	124 187	70 295	90 915	102 630	124 187	79 667	100 199	110 573	139 336	79 667	100 199	110 573	139 336
	Mexico	21 534	27 181	34 089	42 951	21 534	27 181	34 089	42 951	27 398	34 613	43 586	54 437	51 775	59 965	63 992	63 992
	Netherlands	41 632	55 318	64 867	68 525	41 632	55 318	64 867	68 525	44 215	67 769	77 936	90 639	44 215	67 769	77 936	90 639
	New Zealand	m	m	m	m	33 389	50 967	50 967	50 967	33 389	50 967	50 967	50 967	33 389	50 967	50 967	50 967
	Norway	35 986	41 633	41 633	43 357	39 676	48 481	48 481	52 171	39 676	48 481	48 481	52 171	47 960	53 029	53 029	58 796
	Poland	16 531	22 823	27 879	29 063	16 531	22 823	27 879	29 063	16 531	22 823	27 879	29 063	16 531	22 823	27 879	29 063
	Portugal	33 834	41 172	43 681	73 028	33 834	41 172	43 681	73 028	33 834	41 172	43 681	73 028	33 834	41 172	43 681	73 028
	Slovak Republic [3]	13 379	14 722	15 389	16 959	14 969	17 976	21 040	23 189	14 969	17 976	21 040	23 189	14 969	17 976	21 040	23 189
	Slovenia [3]	28 905	34 369	41 848	48 372	28 905	35 637	43 415	52 100	28 905	35 637	43 415	52 100	28 905	35 637	43 415	52 100
	Spain	42 215	45 715	48 760	60 012	42 215	45 715	48 760	60 012	47 117	51 090	54 408	66 731	47 117	51 090	54 408	66 731
	Sweden [3, 4, 5]	39 627	41 737	44 261	46 530	40 650	44 996	46 850	53 668	41 928	46 147	48 192	55 287	42 702	47 617	48 576	56 176
	Switzerland	56 227	70 396	m	85 765	59 975	74 594	m	91 312	67 022	84 865	m	102 858	75 494	97 160	m	115 977
	Turkey	29 407	30 108	31 359	33 011	29 407	30 108	31 359	33 011	29 407	30 108	31 359	33 011	29 407	30 108	31 359	33 011
	United States [5]	40 790	53 214	61 235	76 493	41 119	54 457	61 145	71 427	41 833	57 144	65 086	74 683	41 806	57 107	64 244	73 200
	Economies																
	Flemish Comm. (Belgium)	38 885	48 765	54 902	67 176	38 885	48 765	54 902	67 176	38 885	48 765	54 902	67 176	48 515	61 838	70 519	84 989
	French Comm. (Belgium)	37 630	47 056	52 980	64 829	37 630	47 056	52 980	64 829	37 630	47 056	52 980	64 829	46 815	59 676	68 057	82 025
	England (UK)	31 265	a	51 520	51 520	31 265	a	51 520	51 520	31 265	a	51 520	51 520	31 265	a	51 520	51 520
	Scotland (UK)	35 921	47 761	47 761	47 761	35 921	47 761	47 761	47 761	35 921	47 761	47 761	47 761	35 921	47 761	47 761	47 761
	OECD average	31 996	39 991	42 821	52 553	33 914	43 738	46 801	56 513	35 073	45 684	48 562	59 161	36 772	48 187	50 701	61 722
	EU23 average	31 434	38 578	42 602	50 375	34 115	42 824	47 103	56 179	35 386	45 030	49 153	59 246	36 292	47 209	51 395	62 146
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	13 631	m	m	m	13 631	m	m	m	13 631	m	m	m	13 631	m	m	m
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: The definition of teachers' most prevalent qualifications is based on a broad concept, including the typical ISCED level of attainment and other criteria. The most prevalent qualification is defined for each of the four career stages included in this table. In many cases, the minimum qualification is the same as the most prevalent qualification, see Table X3.D3.2 in Annex 3. Please see Annex 2 and *Definitions* and *Methodology* sections for more information. Data available at http://stats.oecd.org/, Education at a Glance Database.

1. Data on pre-primary teachers includes the salary of kindergarten teachers who are the majority.
2. Includes the average of fixed bonuses for overtime hours for lower and upper secondary teachers.
3. At the upper secondary level includes teachers working in vocational programmes (in Slovenia and Sweden, includes only those teachers teaching general subjects within vocational programmes).
4. Excludes the social security contributions and pension-scheme contributions paid by the employees.
5. Actual base salaries.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table D3.2. Teachers' and school heads' actual salaries relative to earnings of tertiary-educated workers (2019)

Ratio of salary, using annual average salaries (including bonuses and allowances) of full-time teachers and school heads in public institutions relative to the earnings of workers with similar educational attainment (weighted average) and to the earnings of full-time, full-year workers with tertiary education

			All teachers								All school heads							
			Actual salaries, relative to earnings for full-time, full-year similarly educated workers (weighted averages, 25-64 year-olds)				Actual salaries, relative to earnings for full-time, full-year workers with tertiary education (ISCED 5 to 8, 25-64 year-olds)				Actual salaries, relative to earnings for full-time, full-year similarly educated workers (weighted averages, 25-64 year-olds)				Actual salaries, relative to earnings for full-time, full-year workers with tertiary education (ISCED 5 to 8, 25-64 year-olds)			
		Year of reference of latest available data on earnings of tertiary-educated workers	Pre-primary	Primary	Lower secondary, general programmes	Upper secondary, general programmes	Pre-primary	Primary	Lower secondary, general programmes	Upper secondary, general programmes	Pre-primary	Primary	Lower secondary, general programmes	Upper secondary, general programmes	Pre-primary	Primary	Lower secondary, general programmes	Upper secondary, general programmes
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
OECD	**Countries**																	
	Australia	2018	m	0.86	0.88	0.88	0.89	0.88	0.90	0.90	m	m	m	m	1.27	1.43	1.67	1.67
	Austria	2018	m	m	m	m	m	0.74	0.84	0.95	m	m	m	m	m	1.03	1.14	1.39
	Canada	2017	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Chile[1]	2017	0.64	0.63	0.64	0.68	0.79	0.78	0.80	0.84	1.02	1.01	1.04	1.13	1.26	1.25	1.28	1.40
	Colombia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Costa Rica	2018	m	m	m	m	1.13	1.19	1.44	1.44	m	m	m	m	1.92	1.74	2.00	2.00
	Czech Republic[1]	2018	0.71	0.65	0.64	0.66	0.55	0.66	0.66	0.68	0.97	0.99	0.99	1.05	0.78	1.03	1.03	1.10
	Denmark	2018	m	m	m	0.83	0.67	0.81	0.82	0.98	0.85	1.14	1.14	1.33	0.87	1.16	1.16	1.57
	Estonia[1]	2018	0.68	0.88	0.86	0.85	0.63	0.89	0.89	0.89	0.88	1.01	1.01	1.00	0.92	1.07	1.07	1.07
	Finland	2017	0.71	0.75	0.83	0.93	0.65	0.88	0.97	1.10	0.89	1.05	1.18	1.24	0.83	1.21	1.37	1.47
	France[2]	2016	0.83	0.81	0.88	0.99	0.83	0.80	0.90	1.02	1.07	1.07	m	m	1.06	1.06	1.38	1.38
	Germany	2018	m	0.85	0.94	1.01	m	0.93	1.02	1.09	m	m	m	m	m	m	m	m
	Greece[3]	2018	0.75	0.75	0.78	0.78	0.75	0.75	0.79	0.79	0.99	0.99	1.03	1.03	1.02	1.02	1.14	1.14
	Hungary	2018	0.68	0.70	0.70	0.63	0.61	0.66	0.66	0.70	m	m	m	m	m	m	m	m
	Iceland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Ireland	m	m	m	m	m	m	0.80	0.85	0.85	m	m	m	m	m	1.12	1.47	1.47
	Israel	2018	0.80	0.79	0.80	0.88	0.83	0.86	0.91	0.97	a	1.16	1.12	1.36	a	1.52	1.49	1.68
	Italy	2016	m	m	m	m	0.67	0.67	0.72	0.77	a	m	m	m	a	1.88	1.88	1.88
	Japan	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Korea	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Latvia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Lithuania	2014	m	m	m	m	1.40	1.40	1.40	1.40	m	m	m	m	m	m	m	m
	Luxembourg	2018	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Mexico	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Netherlands	2018	0.77	0.77	0.89	0.89	0.73	0.73	0.88	0.88	1.00	1.00	1.22	1.22	0.98	0.98	1.23	1.23
	New Zealand[1]	2018	m	0.88	0.89	0.93	m	0.84	0.86	0.93	m	1.43	1.53	1.72	m	1.27	1.36	1.48
	Norway	2018	0.74	0.82	0.82	0.80	0.67	0.76	0.76	0.82	0.96	1.11	1.11	1.21	0.87	1.02	1.02	1.24
	Poland[1]	2018	0.62	0.74	0.75	0.73	0.63	0.75	0.76	0.75	0.93	0.98	1.01	1.00	0.95	1.00	1.03	1.02
	Portugal[1]	2018	m	m	m	m	1.48	1.36	1.34	1.45	m	m	m	m	1.91	1.91	1.91	1.91
	Slovak Republic	2018	m	m	m	m	0.58	0.74	0.74	0.77	m	m	m	m	m	m	m	m
	Slovenia[1]	2018	0.80	0.81	0.84	0.83	0.72	0.86	0.88	0.93	m	m	m	m	1.33	1.32	1.32	1.39
	Spain	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Sweden[1]	2018	0.81	0.85	0.79	0.78	0.74	0.84	0.87	0.89	1.20	1.21	1.21	1.18	1.07	1.21	1.21	1.24
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Turkey	2018	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	United States	2018	0.54	0.54	0.56	0.59	0.61	0.62	0.65	0.68	0.83	0.84	0.87	0.90	1.07	1.08	1.12	1.15
	Economies																	
	Flemish Comm. (Belgium)	2017	0.98	0.95	0.95	0.93	0.87	0.85	0.85	0.99	1.48	1.42	1.45	1.37	1.32	1.28	1.31	1.60
	French Comm. (Belgium)	2017	0.94	0.92	0.86	0.89	0.84	0.83	0.80	1.02	1.31	1.33	1.35	1.35	1.18	1.20	1.28	1.48
	England (UK)	2018	0.78	0.78	0.84	0.84	0.83	0.83	0.92	0.92	1.47	1.47	1.97	1.97	1.53	1.53	2.18	2.18
	Scotland (UK)	2018	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	OECD average		m	m	m	m	0.80	0.85	0.89	0.94	m	m	m	m	m	1.26	1.38	1.46
	EU23 average		m	m	m	0.84	0.79	0.85	0.89	0.94	m	m	m	m	m	1.24	1.36	1.44
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average		m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: Where the year of reference for the earnings of tertiary-educated workers and the salaries of teachers differ, the earnings of tertiary-educated workers have been adjusted to the reference year used for salaries of teachers using deflators for private final consumption expenditure. See *Definitions* and *Methodology* sections for more information. Data available at http://stats.oecd.org/, Education at a Glance Database.

1. Year of reference is 2018 for salaries of teachers and school heads.
2. Year of reference is 2017 for salaries of teachers and school heads.
3. At pre-primary and primary levels, actual salaries refer to all teachers/school heads in those levels of education combined including special needs education. At lower and upper secondary levels, actual salaries refer to all teachers/school heads in those levels of education combined including vocational and special needs education.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table D3.3. Teachers' and school heads' average actual salaries (2019)

Annual average salaries (including bonuses and allowances) of teachers and school heads in public institutions, in equivalent USD converted using PPPs for private consumption, by age group and gender

		25-64 year-old teachers				25-64 year-old school heads			
		Pre-primary	Primary	Lower secondary, general programmes	Upper secondary, general programmes	Pre-primary	Primary	Lower secondary, general programmes	Upper secondary, general programmes
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OECD	**Countries**								
	Australia	59 736	59 346	60 516	60 568	85 566	96 343	112 248	112 394
	Austria [1]	m	61 230	70 347	78 820	m	86 054	94 502	115 596
	Canada	m	m	m	m	m	m	m	m
	Chile [2]	28 183	27 708	28 358	29 967	44 840	44 557	45 605	49 793
	Colombia	m	m	m	m	m	m	m	m
	Costa Rica	37 092	39 164	47 266	47 266	63 049	57 307	65 792	65 792
	Czech Republic [2]	24 245	29 115	28 900	29 918	34 409	45 333	45 333	48 052
	Denmark	49 079	59 389	59 793	71 190	63 432	84 796	84 796	114 136
	Estonia [2]	19 574	27 819	27 819	27 819	28 685	33 261	33 261	33 261
	Finland [3]	35 293	47 617	52 866	59 759	44 811	65 964	74 535	79 795
	France [4]	43 047	41 924	47 146	52 964	55 375	55 375	71 977	71 977
	Germany	m	74 407	81 679	87 822	m	m	m	m
	Greece [1, 5]	27 338	27 338	28 927	28 927	37 096	37 096	41 750	41 750
	Hungary	24 703	27 022	27 022	28 631	m	m	m	m
	Iceland	43 111	48 133	48 133	63 603	59 934	66 309	66 309	87 549
	Ireland	m	57 486	61 162	61 162	m	79 883	105 010	105 010
	Israel	40 029	41 258	43 947	46 694	a	73 109	71 558	80 648
	Italy	38 492	38 492	41 281	44 107	a	107 405	107 405	107 405
	Japan	m	m	m	m	m	m	m	m
	Korea	m	m	m	m	m	m	m	m
	Latvia	19 635	25 761	24 714	26 957	29 672	32 258	30 413	36 754
	Lithuania [6]	33 630	33 630	33 630	33 630	m	m	m	m
	Luxembourg	m	m	m	m	m	m	m	m
	Mexico	m	m	m	m	m	m	m	m
	Netherlands	59 814	59 814	72 501	72 501	80 746	80 746	101 354	101 354
	New Zealand [2]	m	45 872	46 588	50 301	m	69 085	74 104	80 373
	Norway	45 854	51 485	51 485	55 767	58 990	69 344	69 344	84 041
	Poland [2]	27 329	32 678	33 211	32 435	41 271	43 732	45 041	44 622
	Portugal [2]	48 971	44 831	44 108	47 882	63 192	63 192	63 192	63 192
	Slovak Republic [1, 7]	20 391	26 223	26 223	27 302	m	m	m	m
	Slovenia [2]	32 192	38 250	39 319	41 461	59 322	58 727	58 727	61 764
	Spain	m	m	m	m	m	m	m	m
	Sweden [1, 2]	40 627	46 032	47 826	48 849	59 075	66 294	66 294	68 160
	Switzerland	m	m	m	m	m	m	m	m
	Turkey	m	m	m	m	m	m	m	m
	United States	54 088	55 118	57 722	60 220	94 882	95 914	99 079	101 988
	Economies								
	Flemish Comm. (Belgium)	55 350	54 319	53 801	62 784	83 738	81 381	82 962	101 480
	French Comm. (Belgium)	53 646	52 653	51 142	64 725	74 738	76 192	81 331	94 331
	England (UK)	44 157	44 157	49 312	49 312	81 830	81 830	116 592	116 592
	Scotland (UK)	m	m	m	m	m	m	m	m
	OECD average	38 677	43 942	46 225	49 778	m	67 365	73 404	79 531
	EU23 average	36 711	43 190	45 579	49 044	55 826	65 529	72 471	78 068
Partners	Argentina	m	m	m	m	m	m	m	m
	Brazil [4]	24 765	25 005	25 272	25 966	m	m	m	m
	China	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m	m	m
	Saudi Arabia	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m

Note: Where the year of reference for the earnings of tertiary-educated workers and the salaries of teacher differ the earnings of tertiary-educated workers have been adjusted using deflators for private final consumption expenditure. See *Definitions* and *Methodology* sections for more information. Data available at http://stats.oecd.org/, Education at a Glance Database.

1. Includes teachers working in vocational programmes at the upper secondary level (in Sweden, includes only those teachers teaching general subjects within vocational programmes).
2. Year of reference 2018.
3. Includes data on the majority, i.e. kindergarten teachers only for pre-primary education.
4. Year of reference 2017.
5. At pre-primary and primary levels actual salaries refer to all teachers/school heads in those levels of education combined including special needs education. At lower and upper secondary levels, actual salaries refer to all teachers/school heads in those levels of education combined including vocational and special needs education.
6. Includes unqualified teachers.
7. Includes salaries of school heads and teachers.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934165529

Table D3.4. School heads' minimum and maximum school heads' statutory salaries, based on minimum qualifications (2019)

Annual school heads' salaries, in public institutions, in equivalent USD converted using PPPs for private consumption (by level of education)

		Pre-primary			Primary			Lower secondary, general programmes			Upper secondary, general programmes		
		Minimum salary	Maximum salary	Ratio (max/min)	Minimum salary	Maximum salary	Ratio (max/min)	Minimum salary	Maximum salary	Ratio (max/min)	Minimum salary	Maximum salary	Ratio (max/min)
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD	**Countries**												
	Australia	85 058	110 029	**1.29**	86 484	119 751	**1.38**	89 783	120 463	**1.34**	89 783	120 463	**1.34**
	Austria	m	m	**m**	49 643	99 584	**2.01**	49 643	99 584	**2.01**	65 397	125 029	**1.91**
	Canada	m	m	**m**	76 599	97 306	**1.27**	78 888	96 620	**1.22**	83 163	100 894	**1.21**
	Chile	31 829	92 773	**2.91**	31 829	92 773	**2.91**	31 829	92 773	**2.91**	32 925	95 941	**2.91**
	Colombia	22 890	75 399	**3.29**	22 890	75 399	**3.29**	27 613	78 415	**2.84**	27 613	78 415	**2.84**
	Costa Rica	21 765	66 370	**3.05**	21 263	66 986	**3.15**	22 338	78 115	**3.50**	22 338	78 115	**3.50**
	Czech Republic	22 896	27 114	**1.18**	23 929	32 364	**1.35**	23 929	32 364	**1.35**	23 929	32 623	**1.36**
	Denmark	a	72 763	**a**	62 813	73 785	**1.17**	62 813	73 785	**1.17**	a	a	**a**
	Estonia	a	a	**a**	a	a	**a**	a	a	**a**	a	a	**a**
	Finland[1]	35 239	38 315	**1.09**	49 531	67 708	**1.37**	51 164	76 624	**1.50**	58 530	71 463	**1.22**
	France[2]	41 588	60 926	**1.47**	41 588	60 926	**1.47**	49 514	82 397	**1.66**	49 514	86 440	**1.75**
	Germany	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**
	Greece	27 658	45 922	**1.66**	27 658	45 922	**1.66**	29 532	45 922	**1.56**	30 468	46 858	**1.54**
	Hungary	23 051	49 703	**2.16**	23 051	49 703	**2.16**	23 051	55 225	**2.40**	25 612	55 225	**2.16**
	Iceland	44 794	71 843	**1.60**	50 159	103 964	**2.07**	50 159	103 964	**2.07**	82 709	104 177	**1.26**
	Ireland	m	m	**m**	46 442	102 591	**2.21**	59 972	116 112	**1.94**	59 972	116 112	**1.94**
	Israel	a	a	**a**	51 535	83 102	**1.61**	51 603	83 331	**1.61**	42 451	105 909	**2.49**
	Italy	a	a	**a**	86 158	94 788	**1.10**	86 158	94 788	**1.10**	86 158	94 788	**1.10**
	Japan	m	m	**m**	61 748	68 248	**1.11**	61 748	68 248	**1.11**	63 274	71 862	**1.14**
	Korea	a	100 801	**a**	a	100 801	**a**	a	100 619	**a**	a	99 891	**a**
	Latvia	20 124	a	**a**	20 124	a	**a**	20 124	a	**a**	20 124	a	**a**
	Lithuania	29 709	52 196	**1.76**	29 709	52 196	**1.76**	29 709	52 196	**1.76**	29 709	52 196	**1.76**
	Luxembourg	a	a	**a**	a	a	**a**	110 128	152 305	**1.38**	110 128	152 305	**1.38**
	Mexico	26 878	78 760	**2.93**	26 878	78 760	**2.93**	60 621	151 612	**2.50**	57 828	78 062	**1.35**
	Netherlands	51 440	94 793	**1.84**	51 440	94 793	**1.84**	57 061	140 344	**2.46**	57 061	140 344	**2.46**
	New Zealand	m	m	**m**	58 503	102 205	**1.75**	58 503	102 205	**1.75**	58 503	102 205	**1.75**
	Norway	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**
	Poland	24 887	27 893	**1.12**	25 628	28 634	**1.12**	26 215	32 337	**1.23**	29 206	36 243	**1.24**
	Portugal	37 474	86 677	**2.31**	37 474	86 677	**2.31**	37 474	86 677	**2.31**	37 474	86 677	**2.31**
	Slovak Republic	17 240	28 755	**1.67**	21 992	35 836	**1.63**	21 992	35 836	**1.63**	21 992	36 355	**1.65**
	Slovenia	54 036	71 883	**1.33**	54 036	71 883	**1.33**	54 036	71 883	**1.33**	52 060	78 893	**1.52**
	Spain	48 757	74 169	**1.52**	48 757	74 169	**1.52**	59 038	87 591	**1.48**	59 038	87 591	**1.48**
	Sweden[3]	a	a	**a**	64 554	78 104	**1.21**	64 554	78 104	**1.21**	67 494	77 976	**1.16**
	Switzerland	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**
	Turkey	33 029	37 618	**1.14**	33 029	37 618	**1.14**	33 029	37 618	**1.14**	33 140	37 729	**1.14**
	United States[3, 4]	85 809	101 705	**1.19**	86 687	103 037	**1.19**	90 343	105 521	**1.17**	91 419	105 921	**1.16**
	Economies												
	Flemish Comm. (Belgium)	57 577	85 868	**1.49**	57 577	85 868	**1.49**	52 208	85 868	**1.64**	63 534	103 681	**1.63**
	French Comm. (Belgium)	42 880	82 025	**1.91**	42 880	82 025	**1.91**	48 227	82 025	**1.70**	61 313	97 873	**1.60**
	England (UK)	58 684	142 285	**2.42**	58 684	142 285	**2.42**	58 684	142 285	**2.42**	58 684	142 285	**2.42**
	Scotland (UK)	59 060	113 959	**1.93**	59 060	113 959	**1.93**	59 060	113 959	**1.93**	59 060	113 959	**1.93**
	OECD average[5]	41 010	71 541	**1.74**	47 582	78 877	**1.66**	52 077	86 974	**1.67**	54 287	88 322	**1.63**
	EU23 average[5]	39 511	67 655	**1.71**	45 838	74 943	**1.63**	50 644	83 555	**1.65**	52 683	87 377	**1.66**
Partners	Argentina	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**
	Brazil	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**
	China	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**
	India	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**
	Indonesia	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**
	Russian Federation	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**
	Saudi Arabia	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**
	South Africa	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**
	G20 average	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**

Note: The definition of school heads' minimum qualifications is based on a broad concept, including the typical ISCED level of attainment and other criteria. See *Definitions* and *Methodology* sections for more information. Data available at http://stats.oecd.org/, Education at a Glance Database.

1. Includes data on the majority, i.e. kindergarten school heads only for pre-primary education.
2. For 2018/2019, methodology has been revised, The new data apply to school heads (ISCED 02 and 1) in charge of schools with 10 classes or more, i.e. with teaching responsibilities accounting for 50 per cent or less of their working time, in line with the international guidelines.
3. Actual base salaries.
4. Minimum salary refers to the most prevalent qualification (master's degree) and maximum salary refers to the highest qualification (education specialist or doctoral degree).
5. Excludes countries for which either the starting salary (with minimum qualifications) or the salary at top of scale (with maximum qualifications) is not available.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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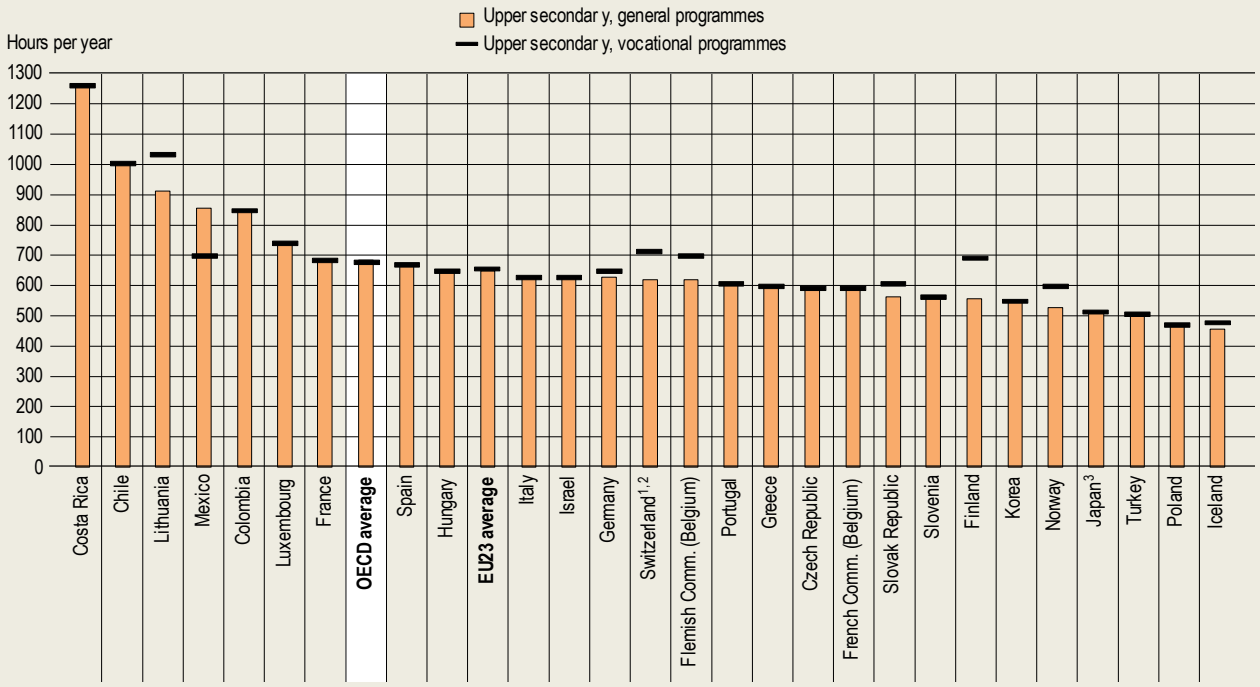
Indicator D4. How much time do teachers and school heads spend teaching and working?

Highlights

- According to official regulations or agreements, teachers in public schools in OECD countries and economies are required to teach on average 993 hours per year at pre-primary level, 778 hours at primary level, 712 hours at lower secondary level (general programmes) and 680 hours at upper secondary level (general programmes).
- Annual teaching hours are similar in general and vocational programmes in most countries. However, at the upper secondary level, there are five countries where teaching time in vocational programmes is 10 to 30% higher than in general programmes, while in Mexico, it is about 20% lower.
- Most countries regulate the number of hours teachers and school heads are required to work per year. The way teachers' total working time is divided between teaching and non-teaching activities, and the distribution of working hours taking place within the school or elsewhere, varies greatly across countries.

Figure D4.1. Teaching hours per year of teachers in upper secondary education, by type of programmes (2019)

Net statutory contact time in public institutions



1. Actual teaching time.
2. Reference year differs from 2019. Refer to the source table for details.
3. Average planned teaching time in each school at the beginning of the school year.

Countries and economies are ranked in descending order of the number of teaching hours per year in general upper secondary education.

Source: OECD (2020), Table D4.1. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Context

Although statutory working and teaching hours only partly determine the actual workload of teachers and school heads, they do offer valuable insights into the demands placed on teachers and school heads in different countries. Teaching hours and the extent of non-teaching duties may also affect the attractiveness of the teaching profession. Together with salaries (see Indicator D3) and average class sizes (see Indicator D2), this indicator presents some key measures of the working lives of teachers and school heads.

For teachers, the proportion of their statutory working time spent teaching provides information on the amount of time available for non-teaching activities, such as lesson preparation, correction, in-service training and staff meetings. A larger proportion of statutory working time spent teaching may indicate that a lower proportion of working time is devoted to tasks such as assessing students and preparing lessons, as stated in regulations. It could also indicate that teachers have to perform these tasks in their own time and hence work more hours than required by their statutory working hours.

In addition to class size and the ratio of students to teaching staff (see Indicator D2), students' hours of instruction (see Indicator D1), and teachers' salaries (see Indicator D3), the amount of time teachers spend teaching also affects the financial resources countries need to allocate to education (see Box D2.3 in Indicator D2).

Other findings

- The number of teaching hours per year required of the average teacher in pre-primary, primary and secondary public schools varies considerably across OECD countries and tends to decrease as the level of education increases.
- Required teaching time in public schools varies more across countries at the pre-primary level than at any other level. The number of teaching hours required in public pre-primary schools averages 993 hours per year across OECD countries and economies, ranging from 519 hours in Mexico to 1 755 hours in Germany.
- Between 2000 and 2019, average statutory teaching hours remained stable in OECD countries and economies with available data, falling by 2% in primary education and by less than 1% in general lower secondary education.
- At the lower secondary level, teachers spend 44% of their working time on teaching on average, ranging from 35% or less in Austria, Iceland, Korea, Poland and Turkey to 63% in Scotland (United Kingdom). During their working time, teachers in most countries are required to perform various non-teaching tasks such as lesson planning/preparation, marking students' work and communicating or co-operating with parents or guardians.
- School heads in OECD countries and economies work an average of 43-45 weeks per year, according to the level of education. Their annual statutory working time averages to 1 658 hours at pre-primary level, 1 630 hours at primary level, 1 628 hours at lower secondary level and 1 632 hours at upper secondary level. In about two-thirds of the OECD countries, school heads are required to work during students' school holidays.
- In more than half of the OECD countries, official documents explicitly state that school heads have additional tasks and responsibilities (e.g. teaching students, communication with parents) on top of their managerial and leadership roles.

Analysis

Teaching time of teachers

At the pre-primary, primary and secondary levels, countries vary considerably in their annual statutory teaching time – the number of teaching hours per year required of a full-time teacher in a public school. Variations in how teaching time is regulated and/or reported across countries may explain some of the differences in statutory teaching time between countries (Box D4.1). In some countries, teaching time also varies at the subnational level (Box D4.2).

Box D4.1. Comparability of statutory teaching and working time data

Teaching time of teachers

Data on teaching time in this indicator refer to net contact time as stated in the regulations of each country. The international data collection exercise gathering this information ensures that similar definitions and methodologies are used when compiling the data in all countries. For example, teaching time is converted into hours (of 60 minutes) to avoid differences resulting from the varying length of teaching periods between countries. The impact on the comparability of data of differences in the way teaching time is reported in regulations is also minimised as much as possible.

Moreover, official documents might regulate teaching time as a minimum, typical or maximum time, and these differences may explain some of the differences reported between countries. While most data refer to typical teaching time, about one-third of countries report maximum or minimum values for teaching time.

Statutory teaching time in this international comparison excludes preparation time and periods of time formally allowed for breaks between lessons or groups of lessons. However, at the pre-primary and primary levels, short breaks (of ten minutes or less) are included in the teaching time if the classroom teacher is responsible for the class during these breaks (see the *Definitions* section).

Other activities of teachers, such as professional development days (including attending conferences) and student examination days, are also requested to be excluded from the teaching hours reported in this indicator. At each level of general education, more than half of the countries and economies with available information are able to exclude the number of days spent on these activities from statutory teaching time (for vocational programmes, 40% of countries are able to exclude these activities at the lower secondary level and 67% of countries at the upper secondary level). However, in the rest of the countries, the regulations do not always specify the number of days devoted to some of these activities and/or whether teachers are required to conduct these activities outside of scheduled teaching times, making it difficult to estimate and exclude them from teaching time.

Less than one-third of the countries cannot exclude professional development days from teaching time at all levels of education (general and vocational programmes). In these countries, the regulations specify some days of professional development activities for all teachers, but the impact on reported teaching time is difficult to estimate as the number of days and how they are organised during the school year may vary across schools or subnational entities. Similarly, less than one-third of countries with available information cannot exclude student examination days from teaching time at each level of education. In many of these countries, regulations include some guidelines on the number of student examination days, but they are not clear about whether scheduled teaching time is reduced by the time devoted to examinations, or by how much. Overall, not excluding the time devoted to professional development and student examinations may result in annual teaching time being overestimated by approximately one to five days in these countries.

Other forms of professional development activities and student examinations may result in the overestimation of teaching time. Examples include professional development activities required for specific groups of teachers only (when regulations do not explicitly forbid them from participating during their scheduled teaching time) and compulsory standardised student assessments conducted for only a few hours of the school day. The time spent on these activities should also be excluded from teaching time but they are not due to the complexity of estimation and the fact that only some teachers participate in these activities.

Working time for teachers and school heads

The working hours of teachers and school heads are usually defined in the regulations. However, some calculation may be required to estimate the annual working time when working time is defined based on units other than annual hours. In 21 out of 28 countries (75%), teachers' total working time has been converted from daily or weekly values to annual hours by using the number of teaching weeks and days for at least one level of education. However, in few of these countries the regulations may also specify working time during students' school holidays on top of working time during students' school year ─ for example, teachers in Colombia are required to work five additional weeks during the students' school holidays. In 22 out of 29 countries (76%), school heads' total working time has been converted from daily or weekly values to annual hours by using the number of working weeks and days for at least one level of education. The statutory working time for school heads extend beyond the students' school year, except in Ireland, New Zealand, Scotland (United Kingdom) and the Slovak Republic.

More detailed information on the reporting practices on teaching time and working time for all participating countries and economies is available in Annex 3.

Across countries and economies with available data, statutory teaching time in public schools varies more at the pre-primary level than at any other level. The number of teaching days per year ranges from 158 days in the Flemish Community of Belgium to 225 days in Germany and Norway. Annual teaching hours range from 519 hours in Mexico to 1 755 hours in Germany. On average across OECD countries and economies, teachers at this level of education are required to teach 993 hours per year, spread over 40 weeks or 194 days of teaching (Table D4.1 and Figure D4.2).

Primary school teachers are required to teach 778 hours per year in public institutions on average. In most countries with available data, daily teaching time ranges from three to six hours a day, with an OECD average of more than four hours per day. There is no set rule on how teaching time is distributed throughout the year. For example, primary school teachers in Mexico must teach 780 hours per year, over 62 hours more than in Turkey. However as teachers teach more days in Mexico than in Turkey (195 days compared to 180 days), teachers in both countries teach four hours a day on average (Table D4.1).

Lower secondary school teachers in general programmes in public institutions are required to teach an average of 712 hours per year. Teaching time is less than 600 hours in Finland, Korea, Poland, the Russian Federation and Turkey, and exceeds 1 000 hours in Costa Rica and Mexico. However, the reported hours for Finland and Korea refer to the minimum time teachers are required to teach (Box D4.1) and teachers in Poland can be obliged to teach as much as 25% of the statutory time as additional overtime, at the discretion of the school head.

A teacher in general upper secondary education in public institutions has an average teaching load of 680 hours per year. Teaching time ranges from fewer than 500 hours per year in Iceland, Poland and the Russian Federation to more than 1 000 hours in Costa Rica. Teachers in Finland, Iceland, Japan, Korea, Norway, Poland, the Slovak Republic, Slovenia, Turkey and the Russian Federation teach for three hours or less per day, on average, compared to six hours or more in Costa Rica (Table D4.1).

Box D4.2. Teaching and working time at the subnational level

There are regional differences in teachers' statutory teaching and working time in the four countries (Belgium, Canada, Korea and the United Kingdom) reporting subnational data. Only in Canada did the number of weeks of teaching (at pre-primary, primary, and lower and upper secondary levels) vary between regions (from 36 to 38 weeks) in 2019 ─ in Belgium, Korea and the United Kingdom, the number of weeks of teaching is the same across subnational regions. However, overall figures for the number of weeks of teaching can mask differences in teaching time in terms of days or hours of teaching at the subnational level.

The four countries show different patterns of variation at the subnational level. In Belgium, the number of days of teaching varies much more (in relative terms) between the Flemish and French communities than the number of hours of teaching (except in vocational upper secondary programmes). For example, in general upper secondary programmes, the number of days of teaching is 11% higher in the French Community than in the Flemish Community (177 days compared to 160 days) due to differences in how a school day is defined in the regulations. However, teaching hours vary by only 5% between the two communities (620 hours in the Flemish Community compared to 589 hours in the French Community).

In contrast, the number of days teaching at primary and secondary levels varies by 6% across the different provinces and territories in Canada (between from 180 days and 190 days), but teaching hours vary much more. At the primary level, teaching time in the region with the longest teaching hours is 29% higher than teaching time in the region with the shortest teaching hours (905 hours compared to 700 hours). For lower and upper secondary general programmes, the difference reaches 54% (947 hours compared to 615 hours). In Korea, there is no variation between subnational entities in the number of teaching days, but teaching hours for general programmes vary by 9% at upper secondary level (from 514 to 561 hours) and by 29% at lower secondary level (from 442 to 570 hours). They also vary by 12% at the primary level (from 634 to 708 hours) and by 21% at the pre-primary level (from 729 to 883 hours).

However, caution is necessary when comparing information at the subnational level due to the following considerations: potential differences in the regulations between countries and between subnational regions within countries, how data are reported for the different subnational regions, and varying data availability for subnational regions within countries. For example typical teaching time is reported for the subnational regions of Belgium, but mandated or estimated teaching time is reported for the different subnational regions in Canada (for more information on potential differences in the data reported, see Box D4.1).

Source: Education at a Glance Database. http://stats.oecd.org.

Differences in teaching time by level of education

Teaching time tends to decrease as the level of education increases. In most countries, statutory teaching time at the pre-primary level is more than at the upper secondary level (general programmes). The exceptions are Chile and Scotland (United Kingdom), where teachers are required to teach same hours at all levels of education, and Australia, Colombia, Costa Rica, Lithuania and Mexico, where upper secondary school teachers are required to teach more hours than pre-primary school teachers (Table D4.1 and Figure D4.2).

The largest difference in teaching time requirements is between the pre-primary and primary levels of education. On average, pre-primary school teachers are required to spend about 28% more time in the classroom than primary school teachers. In the Czech Republic, Estonia, Germany, Hungary, Iceland, Latvia and Slovenia, pre-primary school teachers are required to teach at least twice the number of hours per year as primary school teachers (Table D4.1).

In Austria, France, Ireland, Korea, the Netherlands, Portugal, Spain and Turkey, primary school teachers have at least 25% more annual teaching hours than lower secondary school teachers, while there is no difference in Chile, the Czech Republic, Hungary, Iceland, Scotland (United Kingdom) and Slovenia. The teaching load for primary school teachers is slightly lighter than for lower secondary school teachers in Costa Rica, Estonia, Latvia and Lithuania, and much lighter in Mexico (Table D4.1).

Teaching time at lower and upper secondary levels is similar across most countries. However, in Iceland, Japan, Norway and Switzerland, annual required teaching time at the lower secondary level is at least 20% more than at the upper secondary level (Table D4.1).

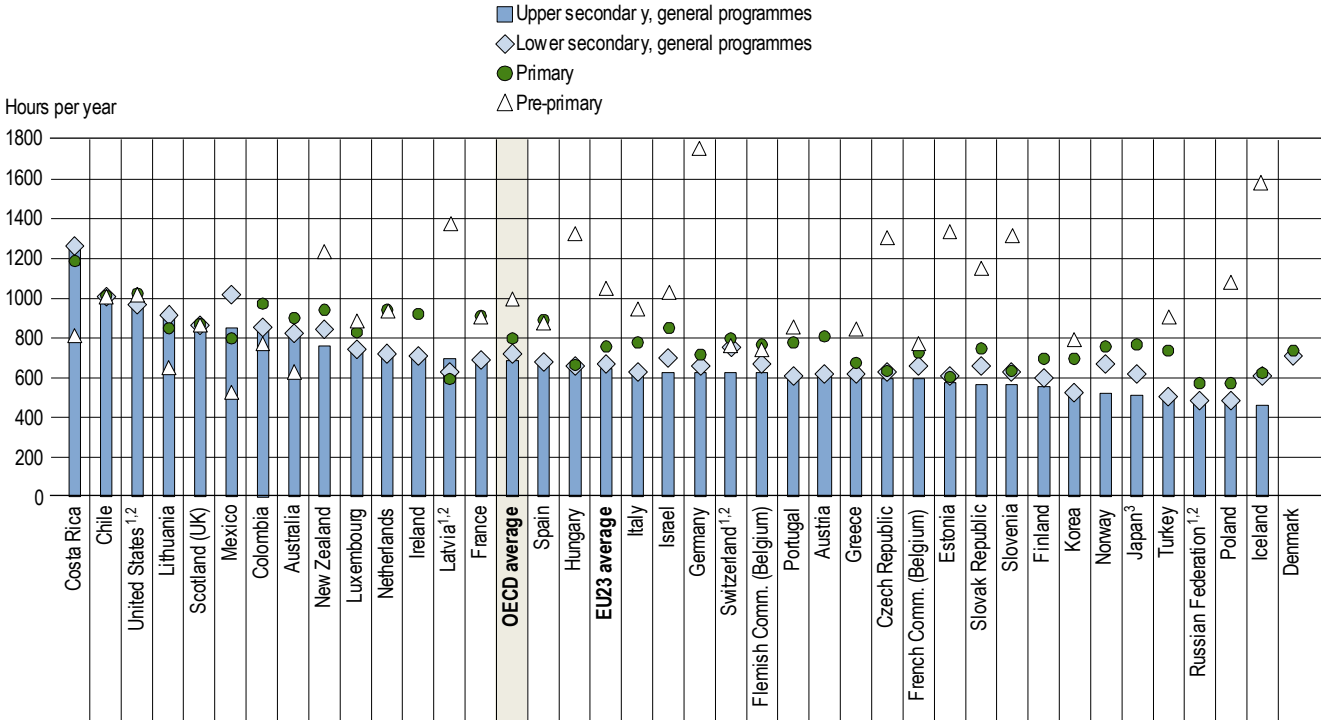
Differences in teaching time by type of programmes

In most countries, statutory teaching time does not vary much between general and vocational programmes. Focusing on upper secondary, the level for which most countries have both general and vocational programmes, teaching hours are similar in both programmes in nearly two-thirds of the 27 countries and economies with available information. However, teaching times are at least 12% higher in vocational programmes than in general programmes in the Flemish Community of Belgium, Finland, Lithuania, Norway and Switzerland, and 18% lower in vocational programmes in Mexico (Figure D4.1).

Within vocational programmes, the statutory teaching time may vary according to the type of subjects being taught, as some countries and economies set different teaching requirements (and working conditions, see Box D3.3) for teachers of vocational and general subjects. For example, in the Flemish Community of Belgium, teachers of vocational practice courses in upper secondary vocational programmes are required to teach up to 50% more hours per week compared to those teaching general subject courses and vocational theory courses.

Figure D4.2. Teaching hours per year of teachers, by level of education (2019)

Net statutory contact time in public institutions



1. Actual teaching time (in Latvia except for pre-primary level).
2. Reference year differs from 2019. Refer to the source table for details.
3. Average planned teaching time in each school at the beginning of the school year.

Countries and economies are ranked in descending order of the number of teaching hours per year in general upper secondary education.

Source: OECD (2020), Table D4.1. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Trends in teaching time

While there has been little change in average teaching hours between 2000 and 2019, one in five countries with available data (and no break in the time series) reported change of 10% or more in teaching time in one or more educational levels over these 19 years (Table D4.6, available on line).

At the primary level, teaching time increased by at least 14% (more than 100 hours) between 2000 and 2019 in Israel and Japan. In Israel, this increase in teaching (and working) time is part of the "New Horizon" reform that has been gradually implemented since 2008. One of the key measures of this reform was to lengthen teachers' working week to accommodate small-group teaching in exchange for more generous compensation. Teachers' working time was increased from 30 to 36 hours per week and now includes 5 hours of small-group teaching in primary schools. To compensate, salaries have been raised substantially (see Indicator D3). Teaching time for lower secondary school teachers also increased in Israel, by nearly 20% (115 hours), and in Japan, albeit to a lesser extent (10% or 58 hours) during this period. At the upper secondary level, the largest increase in teaching time was also in Israel, where teachers had to teach nearly 19% more hours (99 additional hours) in 2019 than they did in 2000 (Table D4.6, available on line).

In contrast, net teaching time fell between 2000 and 2019 in some countries and economies. At the pre-primary level, among the few countries and economies with available data for 2000 and 2019, teaching time decreased by 10% or more in Portugal (by 190 hours) and Scotland (United Kingdom) (by 95 hours). At other levels of education, teaching time decreased by 10% or more in Mexico at lower secondary level (by 168 hours), in the Netherlands at both lower and upper secondary levels (by 147 hours), in Scotland (United Kingdom) at primary level (by 95 hours) and in Turkey at upper secondary level (by 64 hours).

The reduction was 22% in Korea at primary level (by 189 hours). In Scotland (United Kingdom), the reduction in teaching time for primary teachers was part of the teachers' agreement, "A Teaching Profession for the 21st Century", which introduced a 35-hour working week for all teachers and a phased reduction of maximum teaching hours to 22.5 hours per week for primary, secondary and special school teachers in 2001. In Chile, the fall has also been significant as the regulations have gradually decreased teaching time since 2016 by 14% (159 hours) in pre-primary, primary and secondary school teachers. However, even with this decrease in net contact time, the maximum time teachers at these levels in Chile and Scotland (United Kingdom) can be required to teach is still longer than the OECD average (Table D4.6, available on line).

Actual teaching time

Statutory teaching time, as reported by most of the countries in this indicator, refers to teaching time as defined in regulations. However, individual teachers' teaching time may differ from the regulations, because of overtime, for example. Actual teaching time is the annual average number of hours that full-time teachers teach a group or a class of students, including overtime, and it thus provides a full picture of teachers' actual teaching load. However, actual teaching time (actual time spent in the classroom) includes other activities than teaching, such as keeping order and administrative tasks. On average across the OECD countries participating in the Teaching and Learning International Survey (TALIS), lower secondary teachers self-reported that they spent 78% of classroom time on teaching and learning in 2018 (OECD, 2019[1]).

While only a few countries were able to report both statutory and actual teaching time, these data suggest that actual teaching time can sometimes differ from the statutory requirements. In New Zealand, Poland and Slovenia, for example, lower secondary teachers actually teach 6 to 15% more hours than their statutory teaching time (Figure D4.6, available on line).

Differences between statutory and actual teaching time can be the result of overtime due to teacher absenteeism or shortages, or may be explained by the nature of the data, as figures on statutory teaching time refer to official requirements and agreements, whereas actual teaching time is based on administrative registers, statistical databases, representative sample surveys or other representative sources.

Teaching time of school heads

Whereas teaching is the primary or main responsibility of teachers, it can also be part of the responsibilities of school heads in some countries.

Among the 28 countries with available information, school heads in pre-primary institutions are required to take some teaching responsibility in 14 countries (50%), can voluntarily teach in 3 countries (11%) and are not required to teach in 11 countries (39%). In primary education, teaching is required from school heads in more than half of the countries with available data (19 out of 34 countries). Teaching responsibilities become less common for school heads at the secondary level. In general lower secondary education, school heads are required to teach in 15 out of 34 countries (44%), are free to teach at their own discretion in 5 countries (15%), and are not required to teach in 14 countries (41%). Similarly, in general upper secondary education: teaching is a requirement in 14 out of 34 countries (41%), a voluntary task in 5 countries (15%) and is not part of the responsibilities of the school heads in 15 countries (44%). In all the countries with available data, the teaching responsibilities of school heads in secondary education are similar in general and vocational programmes (Table D4.7, available on line).

Most of the countries where teaching is one of the responsibilities of school heads, do not set a specific number of teaching hours for them, but rather define minimum and/or maximum teaching hours. In lower secondary general programmes, for example, the minimum statutory teaching time for school heads (converted into hours per year) ranges from 0 hours (i.e. exempt from teaching) to 194 hours, and the maximum statutory teaching time from 148 hours to 594 hours. In most of these countries, teaching represents less than 30% of school heads' statutory working time, but the proportion reaches 36% in the Slovak Republic and exceeds 73% in Ireland (in the Education and Training Board sector) (Table D4.7, available on line). The maximum teaching time is usually only required for school heads in specific circumstances. For example, in Ireland almost all school heads actually have either no or minimal teaching hours (for more information on minimum and/or maximum teaching time requirements, refer to Table X3.D4.9 in Annex 3).

Although teaching may be required for school heads at all levels of education in a given country, their minimum and maximum teaching requirements could vary across levels of education. In a majority of the countries with teaching requirements, the number of teaching hours required from school heads decreases as the level of education increases. The exceptions are

Australia, where teaching requirements increase between the pre-primary and primary education, and Turkey, where teaching requirements for school heads are the same at all levels of education (Table D4.7, available on line).

In almost all countries, the teaching requirements for school heads do not vary between general and vocational programmes. At upper secondary level, Finland is the only country where the teaching requirements vary significantly ─ maximum teaching time requirements for school heads are 30% higher in general programmes than in vocational programmes (Table D4.7, available on line).

In all countries where school heads have teaching responsibilities, except Turkey, the requirements vary based on specific criteria related to school heads. In a large majority of these countries, the characteristics of the school such as its size (number of students, teachers and/or classes) and/or the level of education it covers are important determinants of the teaching requirements. Geographical location or the socioeconomic status of the region may also be considered (in Australia and Ireland).

Working time of teachers

In the majority of countries, teachers' working time is partly determined by the statutory teaching time specified in working regulations. In addition, in most countries, teachers are formally required to work a specific number of hours per year, as stipulated in collective agreements or other contractual arrangements. This may be specified either as the number of hours teachers must be available at school for teaching and non-teaching activities, or as the number of total working hours. Both correspond to official working hours as specified in contractual agreements, and countries differ in how they allocate time for each activity.

More than half of OECD countries and economies specify the length of time teachers are required to be available at school, for both teaching and non-teaching activities, for at least one level of education. In over one-third of these countries, the difference between the time upper secondary school teachers and pre-primary school teachers are required to be available at school is less than 5%. However, in half of these countries (Hungary, Iceland, Latvia, Luxembourg, New Zealand, Portugal, Sweden and Turkey), pre-primary teachers are required to be available at school for at least 20% more hours than upper secondary school teachers and the difference even exceeds 40% in Latvia and New Zealand (although total statutory working time is the same for both levels in Hungary, Iceland, Sweden and Turkey) (Table D4.2).

In some other countries, teachers' total annual statutory working time (at school and elsewhere) is specified, but the allocation of time spent at school and time spent elsewhere is not. This is the case in Austria (in primary and lower secondary education), the Czech Republic, England (United Kingdom), Estonia (in primary and secondary education), France (in lower and upper secondary education), the French Community of Belgium (in pre-primary and primary education), Germany, Japan, Korea, the Netherlands, Poland, the Slovak Republic and Switzerland (Table D4.2). Of these, teachers in France, Germany (in some *Länder*), Japan, Korea, Portugal and Turkey are subject to the same statutory working time as civil servants (for more information on the definition of teachers' working time, see Table X3.D4.7 in Annex 3).

In addition, workloads and teaching load requirements may evolve throughout a teacher's career. In a number of countries, some new teachers have a reduced teaching load as part of their induction programmes. Some countries also encourage older teachers to stay in the teaching profession by diversifying their duties and reducing their teaching hours. For example, in Portugal, teachers may have a reduced teaching workload based on their age, number of years in the profession or for doing extracurricular activities at school. Iceland reduces the teaching time of primary and lower secondary teachers according to their age: teachers aged 55 or over receive a reduction of teaching time (from 46 hours, or 8% of the statutory teaching time, for 55-59 year-olds to 162 hours, or 27% of teaching time, for those aged 60 and over).

Non-teaching time

Although teaching time is a substantial component of teachers' workloads, other activities such as assessing students, preparing lessons, correcting students' work, in-service training and staff meetings should also be taken into account when analysing the demands placed on them in different countries. The amount of time available for these non-teaching activities varies across countries; a larger proportion of statutory working time spent teaching may indicate that a lower proportion of working time is devoted to these activities (Figure D4.3).

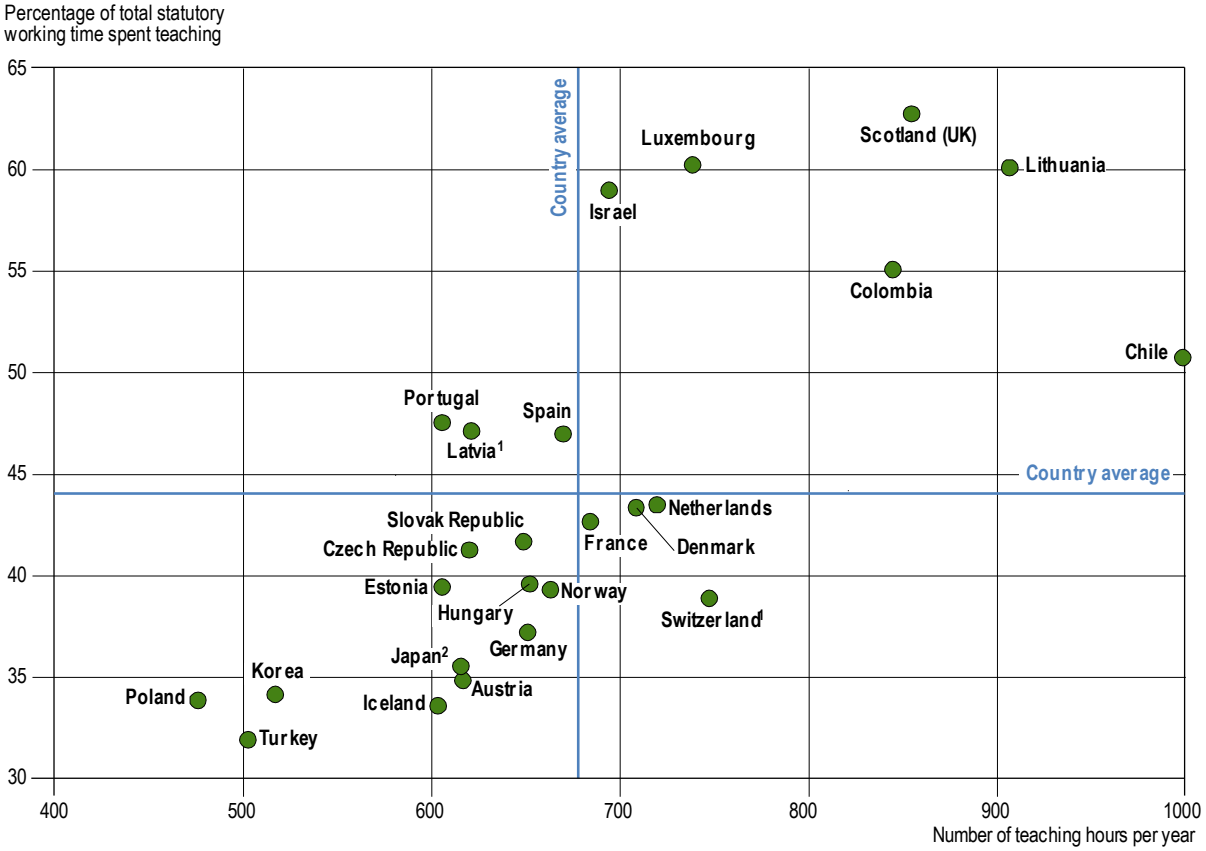
Even though teaching is a core activity for teachers, in a large number of countries, they spend most of their working time on activities other than teaching. In the 25 countries and economies with data for both teaching and total working time for lower secondary teachers, 44% of teachers' working time is spent on teaching on average, with the proportion ranging from 35% or

less in Austria, Iceland, Korea, Poland and Turkey to at least 50% in Chile, Colombia, Israel, Lithuania, Luxembourg and Scotland (United Kingdom) (Figure D4.3).

While the proportion of working time spent teaching increases with the number of teaching hours per year, there are some variations between countries. For example, Germany and Spain have a similar number of teaching hours (651 hours in Germany and 669 hours in Spain), but 37% of teachers' working time is spent on teaching in Germany, compared to 47% in Spain. In some countries, teachers devote similar proportions of their working time to teaching, despite having considerably different teaching hours. For example, in Estonia and Switzerland, lower secondary teachers spend about 39% of their working time teaching, but teachers teach 606 hours in Estonia, compared to 748 hours in Switzerland (Figure D4.3).

Figure D4.3. Percentage of lower secondary teachers' working time spent teaching (2019)

Net teaching time (typical annual number of hours) as a percentage of total statutory working time in general programmes in public institutions



Note: For better interpretation, please refer to the notes on the nature of the data in Table D4.1.
1. Reference year of actual teaching time data differs from 2019. Refer to the source table for details.
2. Average planned teaching time in each school at the beginning of the school year.
Source: OECD (2020), Tables D4.1 and D4.2. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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In some countries, such as Austria (upper secondary level), Costa Rica, the Flemish and French communities of Belgium (lower and upper secondary levels), Italy and Mexico (upper secondary level), there are no formal requirements for time spent on non-teaching activities. However, this does not mean that teachers are given total freedom to carry out other tasks. In the Flemish Community of Belgium, although there are no regulations regarding the time devoted to preparing lessons, correcting tests, marking students' papers and other non-teaching tasks, additional non-teaching hours at school are set at

the school level. In Italy, teachers are required to perform up to 80 hours of scheduled non-teaching collegial work at school per year. Of these 80 hours, up to 40 hours are dedicated to meetings of the teachers' assembly, staff planning meetings and meetings with parents, with the remaining 40 compulsory hours dedicated to class councils (Table D4.2).

Non-teaching tasks and responsibilities of teachers

Non-teaching tasks are a part of teachers' workload and working conditions. The non-teaching activities required by legislation, regulations or agreements between stakeholders (e.g. teachers' unions, local authorities and school boards) do not necessarily reflect teachers' actual participation in non-teaching activities, but they provide an insight into the breadth and complexity of teachers' roles.

Individual teachers often do not have the authority to choose whether to perform certain tasks related to teaching. According to regulations in more than 35 out of the 42 countries and economies with available data for general lower secondary education, individual planning or preparing lessons, marking and correcting student work, and communicating and co-operating with parents are mandatory non-teaching tasks for teachers during their statutory working time. General administrative work and teamwork, and dialogue with colleagues are also required in at least 30 countries, and can be decided at the school level in at least 5 other countries with available data. For such mandatory tasks, incentives such as reductions in teaching time and financial compensation are rare (Table D4.3).

Responsibilities such as being class/form teacher, participating in mentoring programmes and/or supporting new teachers in induction programmes or participating in school or other management in addition to teaching duties are largely distributed among general lower secondary teachers in more than two out of five countries. In over half of these countries, participation in school or other management activities can result in specific compensation for teachers. In some countries, their teaching time might be reduced to balance the workload between teaching and other responsibilities, in addition to financial compensation (Table D4.4).

Of the various tasks teachers might perform, full-time classroom teachers (in general lower secondary education) are either required or asked to perform student counselling in more than half of countries and economies with available information. However, in some countries, not all teachers can perform student counselling. For example, in Israel, only teachers with master's degree or higher can perform this duty. In Iceland, this duty is not performed by teachers, but by special student counsellors (Table D4.4).

Teachers do not only perform the tasks that are required by regulations or school heads; they also often perform tasks voluntarily. In about half of the countries with available data at the general lower secondary level, individual teachers decide themselves whether to engage in extracurricular activities or whether to train student teachers. Teaching more classes or hours than their full-time contract requires is also a voluntary decision by teachers in about two-fifths of the countries and more than two-thirds of these countries offer financial compensation for this additional teaching (Table D4.4).

Participation in professional development activities is considered an important responsibility of teachers at all levels of education, as it is mandatory for teachers at all levels in 24 countries. Participation is required at the discretion of individual schools in 10 countries for at least one level of education. Only seven countries allow teachers to participate in professional development activities at their own discretion. Regardless of the requirement, a large majority of teachers in OECD countries participate in professional development activities (OECD, 2019[1]). For more information on requirements related to teachers' compulsory professional development activities, see Box D4.3.

In general, requirements to perform certain tasks and responsibilities do not vary much across levels of education. However, there can be some differences reflecting the changing needs of students at different levels of education. For example, lower secondary teachers are required to supervise students during breaks in 17 countries, but this is much more widespread at pre-primary (23 countries) and primary (22 countries) level (Table D4.3).

Box D4.3. Professional development activities of teachers (2019)

Teaching students is the primary function of teachers, but they are involved in a larger number of activities than teaching. Among many other activities, they engage in learning to develop their skills to provide students with a better quality of education. A recent OECD survey gathered information on the requirements of teachers in public schools related to

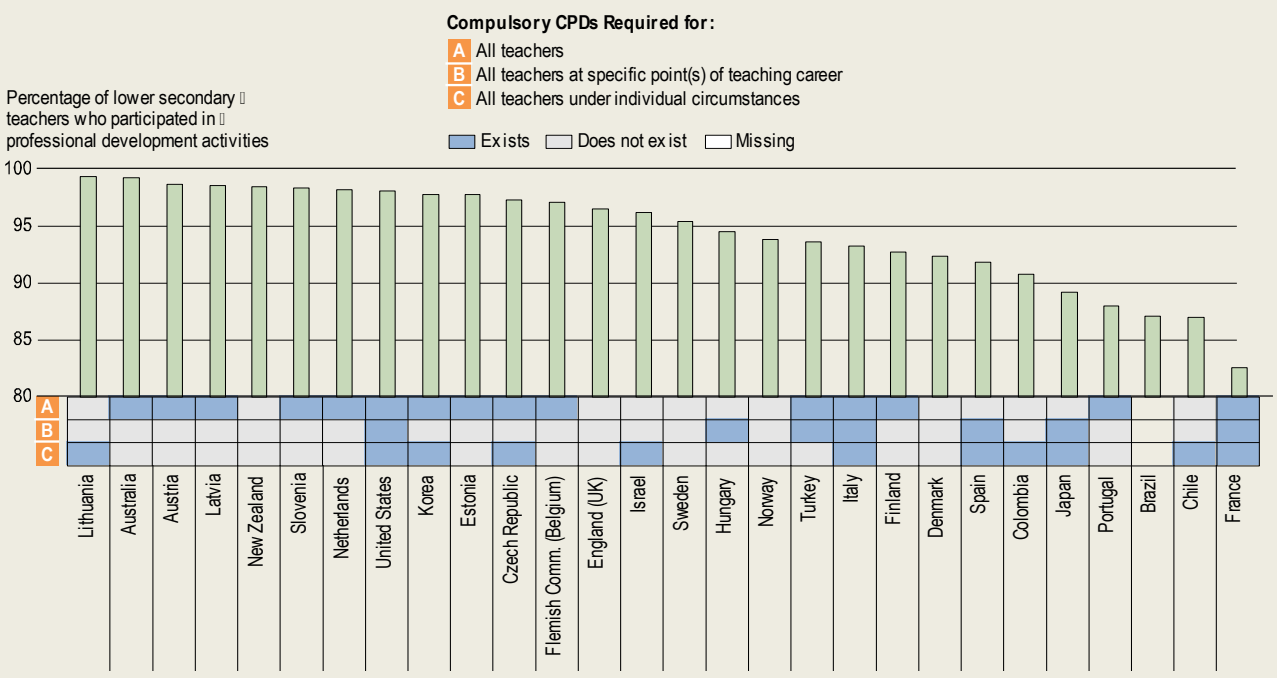
continuing professional development (CPD) activities. The findings from this survey shows the diversity of requirements on CPD across the OECD and partner countries.

Among the 38 countries and economies participating in this survey, 24 countries have compulsory CPD requirements for all teachers in at least one level of education, and then 20 countries have compulsory CPD requirements for teachers in all levels of education (from pre-primary to upper secondary). At all levels of education, more than half of these countries have minimum requirements for the duration of these CPD activities, either each year or over a period of several years. Though not fully comparable due to differences in the units used, the duration ranges from 16 hours per three-year period (about 5 hours per year) in Luxembourg (at pre-primary and primary levels) to 5 days per year in Slovenia. Even though a large number of countries have no minimum duration requirements, they can use other ways to ensure all teachers participate in CPDs. For example, in the Czech Republic, schools are legally obliged to organise CPD for teachers, and the relevant government body checks that schools are implementing this rule. In about one-third of the countries with compulsory CPD for teachers, teachers are required to participate in these activities during non-teaching working time.

In addition to compulsory CPD throughout their teaching career, teachers can be required to participate in compulsory CPD activities at specific points in their careers. Ten out of the 38 countries have such CPD requirements, with four countries requiring that teachers participate in these activities at the beginning of their teaching career. However, for many of these countries, more details on the requirements related to the duration and period of these activities are not available.

Figure D4.4. Participation in professional development activities[1]

For teachers in lower secondary general programmes



Note: This figure only includes countries and economies with information in both TALIS and the NESLI Survey. The NESLI Survey reflects information on full-time, fully qualified teachers in public institutions for the school year 2018/19, whereas TALIS 2018 was also conducted with teachers in government-dependent and/or private schools for the school year 2017/18. Please refer to *TALIS Technical Report* (OECD, 2019) for more information on sampling.

1. The scope of professional development activities in the NESLI Survey is limited to formal and compulsory professional development activities, whereas the scope of professional development activities in TALIS 2018 was broader, including non-formal activities such as reading professional literature.

Countries and economies are ranked in descending order of the percentage of lower secondary teachers who participated in professional development activities in the 12 months prior to the survey.

Source: OECD (2019) and OECD-INES NESLI 2019 Survey on requirements related to examination days and professional development.

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Moreover, there could be also CPD requirements on teachers based on their individual circumstances. Fifteen of the 38 countries surveyed indicated the existence of such requirements. Among these countries, Chile, Colombia, Israel and Lithuania do not have compulsory CPDs required for all teachers or required at some points of teaching career (Figure D4.4). These compulsory CPD activities are often the minimum requirement (or part of the minimum requirement) for salary increases, promotions, obtaining higher-level teaching credentials or teaching specific subjects/group of students. In some countries, the majority of teachers could be participating in these forms of CPD in any given year because they could be required continuously throughout a teaching career (for instance, for salary increases). In only 6 of the 15 countries, teachers are required to participate in these activities outside of their scheduled teaching hours.

Though no CPD is compulsory for any teachers in England (United Kingdom), New Zealand, Norway and Sweden, teachers in these countries and economies can participate in CPD activities at the discretion of their schools during some of their regulated working time (Table D4.4 and Figure D4.4). In Denmark, CPD requirements for upper secondary teachers exist at a local level.

The findings of the survey could complement the result of TALIS 2018 which found that 94% of general lower secondary teachers in (a different set of) 31 OECD countries and economies participated in at least one type of professional development during the last 12 months prior to the survey (OECD, 2019[1]). Although TALIS asks about participation in both compulsory and non-compulsory CPD and includes teachers in schools other than public institutions, the countries and economies with compulsory CPD requirements for all teachers in public schools generally have a higher proportion of teachers participating in CPD than those which do not (Figure D4.4).

Working time of school heads

As with teachers' working time, many OECD and partner countries define school heads' statutory working time under relevant regulations or collective or individual contracts. In France, Japan, Korea, Mexico (upper secondary education) and Turkey, civil servants' regulations apply for school heads' working time (as for teachers, except in Mexico). Only in the Flemish Community of Belgium, Germany (in most *Länder*), Greece, Italy and Luxembourg, are there no official documents specifying quantitative information on the working time for school heads (Table X3.D4.8 in Annex 3).

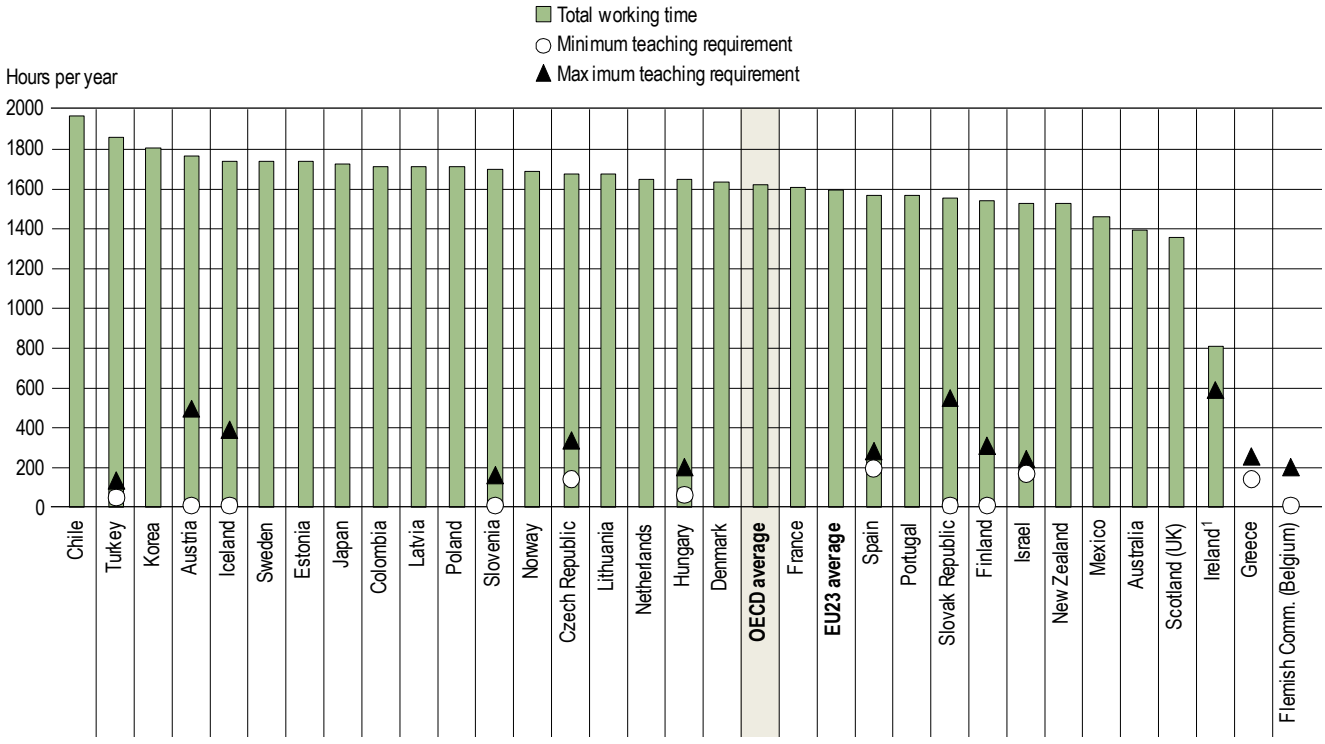
According to levels of education, on average across OECD countries and economies school heads work 43-45 weeks, or more than 210 days, per year. On average, the school heads' annual statutory working hours do not vary much between levels of education: they average 1 658 hours at the pre-primary level, 1 630 hours at primary level, 1 628 hours at lower secondary level and 1 632 hours at upper secondary level. There is no difference in the number of statutory working hours between general and vocational programmes in the countries with both programmes in lower and/or upper secondary education. Across all levels of education, school heads in Chile have the longest hours (1 971 hours per year). In contrast, school heads' statutory working hours are lowest in Mexico (at pre-primary level) and Ireland (for primary and lower and upper secondary general programmes) where statutory working hours are below 1 300 hours per year (Figure D4.5 and Table D4.5).

In 21 out of 29 OECD and partner countries and economies with available data (72%), school heads' annual working hours do not vary much across levels of education. In the remaining eight countries where their statutory working time do vary, school heads in pre-primary education generally work more hours per year than those in secondary education. For example, school heads' statutory hours in pre-primary schools are 2-8% higher than in primary and secondary schools in Estonia, Finland and New Zealand. Mexico is the only country where school heads have shorter working hours at pre-primary and primary levels than at lower secondary level (by 14%) and at upper secondary level (by 26%) (Table D4.5).

In about two-thirds of the OECD countries and economies with available data, the statutory working time of school heads includes working during students' (seasonal) school holidays. The amount worked during students' school holidays could range from about 1 week in Austria and the Netherlands (at the request of the school heads' employers) to 11 weeks in Turkey. During students' school holidays, school heads in some of these countries are required to prepare for the new school semester and arrange professional development programmes etc. In the other one-third of countries, the regulations do not require school heads to work during students' school holidays. Nevertheless, the actual practice could be different. For example, school heads in Ireland may work during at least a part of students' school holidays although it is not included in their statutory working time (Table X3.D4.8 in Annex 3).

Figure D4.5. Working and teaching hours per year of school heads in general lower secondary education (2019)

Statutory working time and teaching time in public institutions



1. Maximum teaching requirement for school heads in the Education and Training Board Sector.

Countries and economies are ranked in descending order of the number of total working hours per year in general lower secondary education.

Source: OECD (2020), Table D4.5 and Table D4.7 (available on line). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Tasks and responsibilities of school heads

In more than half of the OECD and partner countries with available data, regulations explicitly state that school heads are expected to play managerial and leadership roles. In addition, school heads can be required to perform other tasks and responsibilities, such as management of human/financial resources, organising professional development activities, organising students' educational activities and teaching students as well as facilitating good relations with parents, education inspectorates, and/or the government. In a majority of countries, the tasks and responsibilities required from school heads do not vary across levels of education and educational programmes (for more details, refer to Table X3.D4.8 in Annex 3).

However, in about one-quarter of countries with available information (Denmark, Estonia, Finland, Italy, Mexico, the Netherlands, New Zealand, Norway, Scotland [United Kingdom] and Sweden), official documents on the working conditions of school heads do not detail their responsibilities and tasks. School heads in these countries may have more autonomy in organising their work and responsibilities (Table X3.D4.8 in Annex 3).

Definitions

Actual teaching time is the annual average number of hours that full-time teachers teach a group or class of students. It includes all extra hours, such as overtime. Data on these hours can be sourced from administrative registers, statistical databases, representative sample surveys or other representative sources.

The **number of teaching days** is the number of teaching weeks multiplied by the number of days per week a teacher teaches, minus the number of days on which the school is closed for holidays.

The **number of teaching weeks** refers to the number of weeks of instruction excluding holiday weeks.

Statutory teaching time is defined as the scheduled number of 60-minute hours per year that a full-time teacher (or a school head) teaches a group or class of students, as set by policy, their employment contracts or other official documents. Teaching time can be defined on a weekly or annual basis. Annual teaching time is normally calculated as the number of teaching days per year multiplied by the number of hours a teacher teaches per day (excluding preparation time). It is a net contact time for instruction, as it excludes periods of time formally allowed for breaks between lessons or groups of lessons and the days that the school is closed for holidays. At pre-primary and primary levels, short breaks between lessons are included if the classroom teacher is responsible for the class during these breaks.

Total statutory working time refers to the number of hours that a full-time teacher or school head is expected to work as set by policy. It can be defined on a weekly or annual basis. It does not include paid overtime. According to a country's formal policy, working time can refer to:

- the time directly associated with teaching and other curricular activities for students, such as assignments and tests
- the time directly associated with teaching and other activities related to teaching, such as preparing lessons, counselling students, correcting assignments and tests, professional development, meetings with parents, staff meetings, and general school tasks.

Working time required at school (of teachers) refers to the time teachers are required to spend working at school, including teaching and non-teaching time.

Methodology

In interpreting differences in teaching hours among countries, net contact time, as used here, does not necessarily correspond to the teaching load. Although contact time is a substantial component of teachers' workloads, preparing for classes and necessary follow-up, including correcting students' work, also need to be included when making comparisons. Other relevant elements, such as the number of subjects taught, the number of students taught and the number of years a teacher teaches the same students, should also be taken into account.

For more information please see the *OECD Handbook for Internationally Comparable Education Statistics 2018* (OECD, 2018[2]) and Annex 3 for country specific notes (https://doi.org/10.1787/69096873-en).

Source

Data are from the 2019 OECD-INES-NESLI Survey on Working Time of Teachers and School Heads and refer to the school year 2018/19 (statutory information) or school year 2017/18 (actual data).

References

OECD (2019), *TALIS 2018 Results (Volume I): Teachers and School Leaders as Lifelong Learners*, TALIS, OECD Publishing, Paris, https://dx.doi.org/10.1787/1d0bc92a-en. [1]

OECD (2018), *OECD Handbook for Internationally Comparative Education Statistics 2018: Concepts, Standards, Definitions and Classifications*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264304444-en. [2]

Indicator D4 Tables

Table D4.1 Organisation of teachers' teaching time (2019)

Table D4.2 Organisation of teachers' working time (2019)

Table D4.3 Tasks of teachers, by level of education (2019)

Table D4.4 Other responsibilities of teachers, by level of education (2019)

Table D4.5 Organisation of school heads' working time (2019)

WEB Table D4.6 *Number of teaching hours per year (2000, 2005 to 2019)*

WEB Table D4.7 *Teaching requirements of school heads (2019)*

Cut-off date for the data: 19 July 2020. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en. More breakdowns can also be found at http://stats.oecd.org/, Education at a Glance Database.

StatLink: https://doi.org/10.1787/888934165700

Table D4.1. Organisation of teachers' teaching time (2019)

Number of statutory teaching weeks, teaching days and net teaching hours in public institutions over the school year

		Number of weeks of teaching					Number of days of teaching					Net teaching time, in hours				
		Pre-primary	Primary	Lower secondary, general programmes	Upper secondary, general programmes	Upper secondary, vocational programmes	Pre-primary	Primary	Lower secondary, general programmes	Upper secondary, general programmes	Upper secondary, vocational programmes	Pre-primary	Primary	Lower secondary, general programmes	Upper secondary, general programmes	Upper secondary, vocational programmes
		(1)	(2)	(3)	(5)	(6)	(7)	(8)	(9)	(11)	(12)	(13)	(14)	(15)	(17)	(18)
OECD	**Countries**															
	Australia [1]	41	41	41	41	m	196	199	199	199	m	624	880	820	820	m
	Austria [1]	m	38	38	38	m	m	183	183	183	m	m	792	617	598	m
	Canada	m	37	37	37	m	m	185	185	185	m	m	m	m	m	m
	Chile [2]	38	38	38	38	38	179	179	179	179	179	999	999	999	999	999
	Colombia [1]	40	40	40	40	40	192	192	192	192	192	768	960	845	845	845
	Costa Rica [1]	41	41	41	41	41	196	196	196	196	196	804	1 176	1 254	1 254	1 254
	Czech Republic [1]	44	39	39	39	39	210	188	188	188	188	1 302	620	620	592	592
	Denmark [1]	a	a	a	a	a	a	a	a	a	a	a	718	709	m	m
	Estonia [1]	46	35	35	35	40	222	173	173	173	198	1 332	588	606	571	a
	Finland [3]	m	38	38	38	38	m	188	188	188	188	m	677	592	551	692
	France [1]	36	36	36	36	36	162	162	a	a	a	900	900	684	684	684
	Germany [1]	46	40	40	40	40	225	193	193	193	193	1 755	698	651	622	646
	Greece [2]	36	36	36	35	35	176	176	177	173	173	836	660	611	597	597
	Hungary [2]	43	38	38	38	38	206	181	181	180	180	1 318	652	652	648	648
	Iceland [1]	46	37	37	36	36	219	174	174	169	169	1 577	603	603	456	477
	Ireland [1]	m	37	33	33	m	m	181	165	165	m	m	905	704	704	m
	Israel [1]	38	38	37	37	37	180	180	174	172	172	1 019	835	694	623	623
	Italy [3]	42	39	39	39	39	189	174	174	174	174	945	766	626	626	626
	Japan [4]	m	41	41	39	39	m	203	203	196	196	m	747	615	511	511
	Korea [3]	36	38	38	38	38	180	190	190	190	190	782	676	517	545	543
	Latvia [5, 6]	39	35	35	35	44	190	170	170	170	215	1 368	572	621	695	m
	Lithuania [2]	a	36	37	37	a	a	174	189	189	a	640	835	907	907	1 032
	Luxembourg [1]	36	36	36	36	36	176	176	176	176	176	880	810	739	739	739
	Mexico [1]	40	40	40	36	36	195	195	195	174	174	519	780	1 014	853	696
	Netherlands [2]	40	40	m	m	m	200	200	m	m	m	930	930	720	720	m
	New Zealand [1]	41	38	38	38	a	205	192	191	190	a	1 230	922	840	760	a
	Norway [2]	47	38	38	38	38	225	190	190	190	190	a	741	663	523	595
	Poland [2]	45	37	37	36	36	215	176	176	174	174	1 075	554	475	470	470
	Portugal [2]	37	37	36	36	36	169	169	165	165	165	845	761	605	605	605
	Slovak Republic [1]	44	38	38	38	38	208	188	188	188	188	1 144	733	649	564	602
	Slovenia [1]	46	38	38	38	38	218	188	188	188	188	1 308	620	620	564	564
	Spain [1]	37	37	37	37	37	176	176	176	176	176	869	871	669	669	669
	Sweden	47	a	a	a	a	224	a	a	a	a	m	a	a	a	a
	Switzerland [5, 6]	39	38	39	38	38	185	183	187	183	183	756	785	748	621	714
	Turkey [1]	37	37	37	37	37	180	180	180	180	180	898	718	503	503	503
	United States [5, 6]	36	36	36	36	a	180	180	180	180	a	1 011	1 004	966	966	a
	Economies															
	Flemish Comm. (Belgium) [1]	37	37	37	37	37	158	158	160	160	160	731	746	665	620	694
	French Comm. (Belgium) [1]	37	37	37	37	37	177	177	177	177	177	766	708	650	589	589
	England (UK)	38	38	38	38	a	190	190	190	190	a	a	a	a	a	a
	Scotland (UK) [2]	38	38	38	38	a	190	190	190	190	a	855	855	855	855	a
	OECD average	40	38	38	37	38	194	183	183	181	183	993	778	712	680	674
	EU23 average	41	37	37	37	38	194	180	179	179	182	1 042	738	663	645	653
Partners	**Argentina**	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	42	42	42	42	42	200	200	200	200	200	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation [5, 6]	m	34	35	35	m	m	170	210	210	m	m	561	483	483	m
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See *Definitions and Methodology* sections for more information. Data on vocational programmes at lower secondary level (i.e. Columns 4, 10 and 16) are available for consultation on line. Data available at http://stats.oecd.org/, Education at a Glance Database.

1. Typical teaching time (teaching time required from most teachers when no specific circumstances apply to teachers).
2. Maximum teaching time.
3. Minimum teaching time.
4. Average planned teaching time in each school at the beginning of the school year.
5. Actual teaching time (in Latvia except for pre-primary level).
6. Year of reference 2018 for Latvia and Switzerland, 2017 for the Russian Federation and 2016 for the United States.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934165719

Table D4.2. Organisation of teachers' working time (2019)

Teachers' statutory working time at school and total working time in public institutions over the school year

		Working time required at school, in hours					Total statutory working time, in hours				
		Pre-primary	Primary	Lower secondary, general programmes	Upper secondary, general programmes	Upper secondary, vocational programmes	Pre-primary	Primary	Lower secondary, general programmes	Upper secondary, general programmes	Upper secondary, vocational programmes
		(1)	(2)	(3)	(5)	(6)	(7)	(8)	(9)	(11)	(12)
OECD	**Countries**										
	Australia	839	1 198	1 195	1 195	m	a	a	a	a	m
	Austria	m	a	a	a	a	m	1 776	1 776	a	a
	Canada	m	m	m	m	m	m	a	a	a	a
	Chile	1 839	1 839	1 839	1 839	1 839	1 971	1 971	1 971	1 971	1 971
	Colombia	1 152	1 152	1 152	1 152	1 152	1 536	1 536	1 536	1 536	1 536
	Costa Rica	a	a	a	a	a	a	a	a	a	a
	Czech Republic	a	a	a	a	a	1 680	1 504	1 504	1 504	1 504
	Denmark	1 635	1 635	1 635	1 635	1 635	1 635	1 635	1 635	1 635	1 635
	Estonia	1 610	a	a	a	a	1 610	1 540	1 540	1 540	1 540
	Finland	m	815	730	670	796	a	a	a	a	a
	France	954	954	a	a	a	1 607	1 607	1 607	1 607	1 607
	Germany	a	a	a	a	a	1 756	1 756	1 756	1 756	1 756
	Greece	1 116	1 116	1 158	1 158	1 158	a	a	a	a	a
	Hungary	1 476	1 158	1 158	1 152	1 152	1 648	1 648	1 648	1 648	1 648
	Iceland	1 760	1 610	1 610	1 440	1 440	1 800	1 800	1 800	1 800	1 800
	Ireland	m	1 073	811	811	m	a	a	a	a	a
	Israel	1 055	1 225	1 177	1 198	1 198	1 055	1 225	1 177	1 198	1 198
	Italy	a	a	a	a	a	a	a	a	a	a
	Japan	a	a	a	a	a	1 736	1 736	1 736	1 736	1 736
	Korea	a	a	a	a	a	1 440	1 520	1 520	1 520	1 520
	Latvia	1 560	1 050	1 050	1 050	1 320	1 760	1 320	1 320	1 320	1 320
	Lithuania	a	1 512	1 512	1 512	1 512	a	1 512	1 512	1 512	1 512
	Luxembourg	1 060	990	859	859	859	1 500	1 394	1 229	1 229	1 229
	Mexico	772	800	1 167	a	a	a	a	a	a	a
	Netherlands	a	a	a	a	a	1 659	1 659	1 659	1 659	1 659
	New Zealand	1 820	1 536	1 243	950	a	a	a	a	a	a
	Norway	a	1 300	1 225	1 150	1 150	a	1 688	1 688	1 688	1 688
	Poland	a	a	a	a	a	1 720	1 408	1 408	1 392	1 392
	Portugal	1 013	929	808	808	808	1 295	1 295	1 275	1 275	1 275
	Slovak Republic	m	m	m	m	m	1 560	1 560	1 560	1 560	1 560
	Slovenia	m	m	m	m	m	m	m	m	m	m
	Spain	1 140	1 140	1 140	1 140	1 140	1 425	1 425	1 425	1 425	1 425
	Sweden	1 792	1 360	1 360	1 360	1 360	a	1 767	1 767	1 767	1 767
	Switzerland	a	a	a	a	a	1 930	1 930	1 930	1 930	1 930
	Turkey	998	813	745	745	745	1 580	1 580	1 580	1 580	1 580
	United States[1]	1 441	1 443	1 449	1 446	a	m	m	m	m	a
	Economies										
	Flemish Comm. (Belgium)	916	916	a	a	a	a	a	a	a	a
	French Comm. (Belgium)	a	a	a	a	a	962	962	a	a	a
	England (UK)	a	a	a	a	a	1 265	1 265	1 265	1 265	a
	Scotland (UK)	1 045	1 045	1 045	1 045	a	1 365	1 365	1 365	1 365	a
	OECD average	m	m	m	m	m	1 562	1 549	1 563	1 555	1 574
	EU23 average	m	m	m	m	m	1 528	1 495	1 514	1 498	1 522
Partners	Argentina	m	m	m	m	m	m	m	m	m	m
	Brazil	a	a	a	a	a	a	a	a	a	a
	China	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m	m
	Russian Federation	a	a	a	a	m	m	m	m	m	m
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m

Note: See *Definitions and Methodology* sections for more information. Data on vocational programmes at lower secondary level (i.e. Columns 4 and 10) are available for consultation on line. Data available at http://stats.oecd.org/, Education at a Glance Database.

1. Year of reference 2016.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934165738

Table D4.3. Tasks of teachers, by level of education (2019)

Teachers' tasks in public institutions as defined explicitly in regulations and/or steering documents

		Lower secondary, general programmes						
		Work requirement						
		Teaching	Individual planning or preparation of lessons either at school or elsewhere	Marking/correcting of student work	General administrative work (including communication, paperwork and other clerical duties undertaken as part the job)	Communication and co-operation with parents or guardians	Supervision of students during breaks	Team work and dialogue with colleagues at school or elsewhere
		(1)	(2)	(6)	(10)	(14)	(18)	(22)
OECD	**Countries**							
	Australia	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.
	Austria	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.
	Canada	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.	m
	Chile	Mand.	Mand.	Mand.	School req.	School req.	School req.	School req.
	Colombia	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.
	Costa Rica	Mand.	Mand.	Mand.	Voluntary	Mand.	Mand.	Mand.
	Czech Republic	Mand.	Voluntary	Voluntary	School req.	Voluntary	School req.	School req.
	Denmark	Mand.	Mand.	School req.	Mand.	Mand.	School req.	Mand.
	Estonia	Mand.	Mand.	Mand.	Mand.	Mand.	School req.	Mand.
	Finland	Mand.	Mand.	Mand.	Mand.	Mand.	School req.	Mand.
	France	Mand.	Mand.	Mand.	Mand.	Mand.	Not req.	Mand.
	Germany	Mand.	Mand.	Mand.	School req.	Mand.	School req.	Voluntary
	Greece	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.
	Hungary	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.
	Iceland	Mand.	Mand.	Mand.	School req.	School req.	Voluntary	School req.
	Ireland	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.
	Israel	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.
	Italy	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.
	Japan	Mand.	Mand.	Mand.	Mand.	Mand.	School req.	Mand.
	Korea	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.
	Latvia	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.	School req.
	Lithuania	Mand.	Mand.	Mand.	Mand.	Mand.	School req.	Mand.
	Luxembourg	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.	Voluntary
	Mexico	Mand.	Mand.	Mand.	School req.	School req.	Not req.	Mand.
	Netherlands	Mand.	Mand.	Mand.	Mand.	Mand.	m	Mand.
	New Zealand [1]	Mand.	Mand.	Mand.	Mand.	Mand.	School req.	Mand.
	Norway	Mand.	Mand.	Mand.	Mand.	School req.	Mand.	Mand.
	Poland	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.
	Portugal	Mand.	Mand.	Mand.	Mand.	Mand.	Voluntary	Mand.
	Slovak Republic	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.
	Slovenia	Mand.	Mand.	Mand.	Mand.	Mand.	School req.	Mand.
	Spain	Mand.	Mand.	Mand.	Mand.	Mand.	School req.	Mand.
	Sweden	Mand.	Mand.	Mand.	Mand.	Mand.	School req.	Mand.
	Switzerland	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.
	Turkey	Mand.	Mand.	Mand.	Not req.	Mand.	Voluntary	Mand.
	United States	Mand.	School req.	School req.	School req.	School req.	School req.	School req.
	Economies							
	Flemish Comm. (Belgium)	Mand.	Mand.	Mand.	Mand.	Mand.	School req.	Mand.
	French Comm. (Belgium)	Mand.	Mand.	Mand.	Mand.	Mand.	Voluntary	Voluntary
	England (UK)	Mand.	Mand.	Mand.	Voluntary	Mand.	School req.	Mand.
	Scotland (UK)	Mand.	Mand.	Mand.	Voluntary	Mand.	Voluntary	Mand.
Partners	**Argentina**	m	m	m	m	m	m	m
	Brazil	Mand.	Mand.	School req.	m	Mand.	m	m
	China	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m	m
	Saudi Arabia	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m

Are tasks/responsibilities required of teachers?

Mand. = Yes, mandatory
School Req. = Yes, at the discretion of individual schools
Voluntary = No, voluntary at the discretion of individual teachers
Not req. = No, not required
a: not applicable
m: missing

Note: Pre-primary, primary, lower secondary (vocational programmes) and upper secondary levels (added in separate rows) and data on reduced teaching time and financial compensation (i.e. Columns 3, 4, 5, 7, 8, 9, 11, 12, 13, 15, 16, 17, 19, 20, 21, 23, 24 and 25) are available for consultation on line (see *StatLink* below). See *Definitions and Methodology* sections for more information.

1. Criteria for the first two years of lower secondary education (general programmes) follow those for primary education and those for the last two years of lower secondary education (general programmes) follow those of upper secondary education (general programmes).

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934165757

Table D4.4. Other responsibilities of teachers, by level of education (2019)

Teachers' responsibilities in public institutions as defined explicitly in regulations and/or steering documents

		Lower secondary, general programmes							
		Work requirement							
		Participation in school or other management in addition to teaching duties (e.g. serving as head of department or co-ordinator of teachers)	Teaching more classes or hours than required by full-time contract	Student counselling (including student supervision, virtual counselling, career guidance, and delinquency prevention)	Engaging in extracurricular activities (e.g. homework clubs, sports and drama clubs, summer school)	Special tasks (e.g. training student teachers, guidance counselling	Class teacher/ form teacher	Participation in mentoring programmes and/or supporting new teachers in induction programmes	Participation in professional development activities
		(1)	(5)	(9)	(13)	(17)	(21)	(25)	(29)
OECD	**Countries**								
	Australia	Voluntary	Not req.	Voluntary	Voluntary	School req.	School req.	Voluntary	Mand.
	Austria	School req.	Mand.	School req.	Voluntary	Voluntary	School req.	Voluntary	Mand.
	Canada	Voluntary	Not req.	m	Voluntary	m	m	Voluntary	Mand.
	Chile	Voluntary	School req.	School req.	Voluntary	Voluntary	School req.	Voluntary	Mand.
	Colombia	Not req.	Mand.	Mand.	Not req.	Not req.	Not req.	Not req.	School req.
	Costa Rica	School req.	Voluntary	Mand.	Voluntary	Mand.	Mand.	Mand.	Mand.
	Czech Republic	Voluntary	School req.	Voluntary	Voluntary	Voluntary	School req.	School req.	Mand.
	Denmark	School req.	a	Voluntary	a	School req.	School req.	School req.	Voluntary
	Estonia	School req.	Voluntary	Mand.	School req.	School req.	School req.	Voluntary	Mand.
	Finland	Voluntary	Voluntary	Mand.	Voluntary	Voluntary	Voluntary	Voluntary	Mand.
	France	Voluntary	Mand./Voluntary	Mand.	Voluntary	Voluntary	Voluntary	Voluntary	Mand.
	Germany	Voluntary	Voluntary	Voluntary	Voluntary	Voluntary	Voluntary	Voluntary	School req.
	Greece	Not req.	Voluntary	Mand.	Voluntary	Voluntary	Mand.	Mand.	Mand.
	Hungary	Voluntary	Voluntary	School req.	Mand.	Voluntary	Voluntary	Voluntary	Mand.
	Iceland	Not req.	Not req.	Not req.	Not req.	Voluntary	School req.	School req.	Mand.
	Ireland	School req.	Voluntary	Not req.	Voluntary	Voluntary	School req.	Voluntary	Mand.
	Israel	Voluntary	Voluntary	School req.	Not req.	Voluntary	School req.	Voluntary	Voluntary
	Italy	School req.	Voluntary	Voluntary	Voluntary	Voluntary	Not req.	Voluntary	Mand.
	Japan	Mand./School req.	Mand./School req.	Mand.	Mand./School req.	School req.	Mand./School req.	School req.	Mand.
	Korea	School req.	School req.	Mand.	School req.	School req.	School req.	School req.	Mand.
	Latvia	Mand.	School req.	Mand.	School req.	School req.	School req.	School req.	Mand.
	Lithuania	School req.	School req.	School req.	School req.	School req.	School req.	School req.	Voluntary
	Luxembourg	Mand.	School req.	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.
	Mexico	School req.	Not req.	Not req.	Not req.	School req.	Not req.	School req.	Mand.
	Netherlands	School req.	Voluntary	School req.	School req.	School req.	School req.	School req.	School req.
	New Zealand[1]	School req.	School req.	Mand./School req.	Voluntary	School req.	School req.	School req.	School req.
	Norway	School req.	School req.	School req.	Not req.	Voluntary	School req.	Voluntary	Voluntary
	Poland	School req.	Voluntary	Not req.	Voluntary	Voluntary	School req.	Voluntary	Mand.
	Portugal	Mand.	Mand.	Mand.	Mand.	School req.	Mand.	School req.	Voluntary
	Slovak Republic	Voluntary	School req.	Voluntary	Voluntary	Voluntary	Mand.	Voluntary	Voluntary
	Slovenia	School req.	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.
	Spain	Mand.	Not req.	Mand.	Voluntary	Voluntary	Mand.	School req.	Voluntary
	Sweden	Voluntary	Voluntary	School req.	Voluntary	Voluntary	School req.	School req.	School req.
	Switzerland	Voluntary	Not req.	Mand.	Not req.	Voluntary	Voluntary	Voluntary	Mand.
	Turkey	Mand.	Voluntary	Not req.	School req.	School req.	School req.	School req.	Voluntary
	United States	School req.	School req.	School req.	School req.	School req.	School req.	School req.	School req.
	Economies								
	Flemish Comm. (Belgium)	School req.	Voluntary	Not req.	Voluntary	School req.	Voluntary	School req.	Mand.
	French Comm. (Belgium)	Voluntary	Voluntary	Voluntary	Voluntary	Voluntary	Voluntary	School req.	Mand.
	England (UK)	School req.	School req.	School req.	School req.	School req.	School req.	School req.	School req.
	Scotland (UK)	a	Voluntary	Mand.	Voluntary	School req.	School req.	Mand.	Mand.
Partners	**Argentina**	m	m	m	m	m	m	m	m
	Brazil	m	m	m	m	m	m	m	Mand.
	China	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m	m	m
	Saudi Arabia	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m

Are tasks/responsibilities required of teachers?

Mand. = Yes, mandatory
School Req. = Yes, at the discretion of individual schools
Voluntary = No, voluntary at the discretion of individual teachers
Not req. = No, not required
a: not applicable
m: missing

Note: Pre-primary, primary, lower secondary (vocational programmes) and upper secondary levels (added in separate rows) and data on reduced teaching time and financial compensation (i.e. Columns 2, 3, 4, 6, 7, 8, 10, 11, 12, 14, 15, 16, 18, 19, 20, 22, 23, 24, 26 27, 28, 30, 31 and 32) are available for consultation on line (see *StatLink* below). See *Definitions and Methodology* sections for more information.

1. Criteria for the first two years of lower secondary education (general programmes) follow those for primary education and those for the last two years of lower secondary education (general programmes) follow those of upper secondary education (general programmes).

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934165776

Table D4.5. Organisation of school heads' working time (2019)

Number of statutory working weeks, working days and total working hours in public institutions over the reference year

		Number of weeks of working					Number of days of working					Total working time[1], in hours				
		Pre-primary	Primary	Lower secondary, general programmes	Upper secondary, general programmes	Upper secondary, vocational programmes	Pre-primary	Primary	Lower secondary, general programmes	Upper secondary, general programmes	Upper secondary, vocational programmes	Pre-primary	Primary	Lower secondary, general programmes	Upper secondary, general programmes	Upper secondary, vocational programmes
		(1)	(2)	(3)	(5)	(6)	(7)	(8)	(9)	(11)	(12)	(13)	(14)	(15)	(17)	(18)
OECD	**Countries**															
	Australia	41	41	41	41	m	202	200	200	200	m	1 413	1 401	1 401	1 401	m
	Austria	m	39	39	39	m	m	188	188	188	m	m	1 776	1 776	a	m
	Canada	m	m	m	m	m	m	m	m	m	m	a	a	a	a	a
	Chile	47	47	47	47	47	224	224	224	224	224	1 971	1 971	1 971	1 971	1 971
	Colombia	45	45	45	45	45	215	215	215	215	215	1 720	1 720	1 720	1 720	1 720
	Costa Rica	42	42	42	42	42	201	201	201	201	201	a	a	a	a	a
	Czech Republic	44	44	44	44	44	210	210	210	210	210	1 680	1 680	1 680	1 680	1 680
	Denmark	46	46	46	46	46	221	221	221	221	221	1 635	1 635	1 635	1 635	1 635
	Estonia	46	44	44	44	44	222	218	218	218	218	1 776	1 744	1 744	1 744	1 744
	Finland	43	44	44	44	44	m	210	210	210	210	1 666	1 544	1 544	1 544	1 544
	France	a	a	a	a	a	a	a	a	a	a	1 607	1 607	1 607	1 607	1 607
	Germany	46	40	40	40	40	225	193	193	193	193	m	m	m	m	m
	Greece	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
	Hungary	43	43	43	43	43	206	206	206	206	206	1 648	1 648	1 648	1 648	1 648
	Iceland	46	46	46	46	46	219	219	219	219	219	1 752	1 752	1 752	1 752	1 752
	Ireland	m	37	33	33	m	m	181	165	165	m	m	1 073	811	811	m
	Israel	a	42	41	41	41	a	203	197	197	197	a	1 587	1 536	1 536	1 536
	Italy	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
	Japan	m	45	45	45	45	m	224	224	224	224	1 736	1 736	1 736	1 736	1 736
	Korea	48	48	48	48	48	226	226	226	226	226	1 808	1 808	1 808	1 808	1 808
	Latvia	44	44	44	44	44	215	215	215	215	215	1 720	1 720	1 720	1 720	1 720
	Lithuania	44	44	44	44	44	210	210	210	210	210	1 680	1 680	1 680	1 680	1 680
	Luxembourg	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
	Mexico	43	43	43	44	44	210	210	210	214	214	1 260	1 260	1 470	1 712	1 712
	Netherlands	42	42	m	m	m	208	208	m	m	m	1 659	1 659	1 659	1 659	1 659
	New Zealand	41	38	38	38	a	205	192	191	190	a	1 640	1 536	1 528	1 520	a
	Norway	47	45	45	45	45	225	225	225	225	225	1 688	1 688	1 688	1 688	1 688
	Poland	45	45	45	45	45	215	215	215	215	215	1 720	1 720	1 720	1 720	1 720
	Portugal	48	48	48	48	48	225	225	225	225	225	1 575	1 575	1 575	1 575	1 575
	Slovak Republic	44	44	44	44	44	208	208	208	208	208	1 560	1 560	1 560	1 560	1 560
	Slovenia	45	45	45	45	45	213	213	213	213	213	1 704	1 704	1 704	1 704	1 704
	Spain	42	42	44	44	44	200	200	210	210	210	1 500	1 500	1 575	1 575	1 575
	Sweden	46	46	46	46	46	219	219	219	219	219	1 752	1 752	1 752	1 752	1 752
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Turkey	48	48	48	48	48	233	233	233	233	233	1 860	1 860	1 860	1 860	1 860
	United States[2, 3]	46	46	46	46	a	230	230	230	230	a	m	m	m	m	a
	Economies															
	Flemish Comm. (Belgium)	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
	French Comm. (Belgium)	42	42	42	42	42	210	210	210	210	210	a	a	a	a	a
	England (UK)	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
	Scotland (UK)	39	39	39	39	a	195	195	195	195	a	1 365	1 365	1 365	1 365	a
	OECD average	44	44	43	44	45	214	211	210	211	214	1 658	1 630	1 628	1 632	1 691
	EU23 average	44	43	43	43	44	213	208	207	207	212	1 640	1 608	1 597	1 587	1 654
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	42	42	42	42	42	200	200	200	200	200	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See *Definitions and Methodology* sections for more information. Data on vocational programmes at lower secondary level (i.e. Columns 4, 10 and 16) are available for consultation on line. Data available at http://stats.oecd.org/, Education at a Glance Database.

1. Includes working time during students' school holidays.
2. Actual data.
3. Year of reference 2016.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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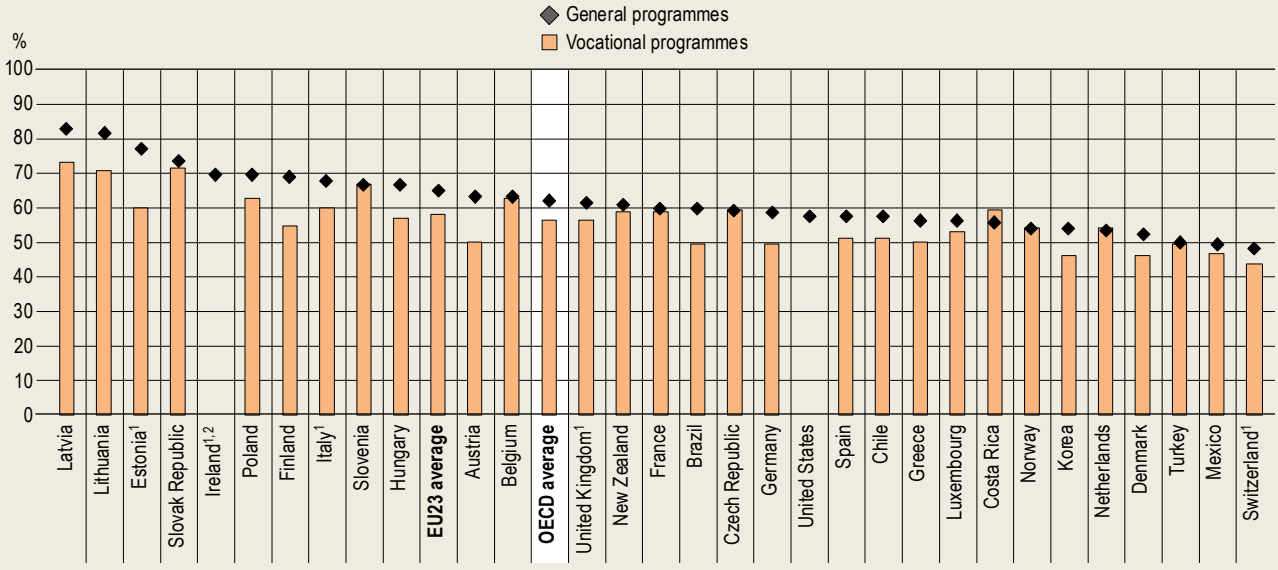
Indicator D5. Who are the teachers?

Highlights

- Although women make up the majority of the teaching profession in upper secondary education, the share of female teachers is significantly higher in general programmes than in vocational ones.
- There are relatively few young teachers (under the age of 30), and the proportion decreases with the level of education. Young teachers make up 12% of the teaching population in primary education, 10% in lower secondary education and 8% in upper secondary education, on average across OECD countries.
- At upper secondary level, the share of teachers below the age of 30 fell by 4 percentage points between 2005 and 2018, on average across OECD countries with available data.

Figure D5.1. Gender distribution of teachers in upper secondary education, by programme orientation (2018)

Percentage of women among teaching staff in public and private institutions



1. Upper secondary includes programmes outside upper secondary level.
2. Public institutions only.

Countries are ranked in descending order of the share of women in general programmes.

Source: OECD/UIS/Eurostat (2020), Table D5.1. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Context

The demand for teachers depends on a range of factors, including average class sizes, required instruction time for students, the use of teaching assistants and other non-classroom staff in schools, enrolment rates at different levels of education, and the starting and ending age of compulsory education. With large proportions of teachers in many OECD countries set to reach retirement age in the next decade and the size of the school-age population projected to increase

in some countries, governments will be under pressure to recruit and train new teachers. There is compelling evidence that the calibre of teachers is the most significant in-school determinant of student achievement, so concerted efforts are needed to attract top talent to the teaching profession and provide them with high-quality training (OECD, 2019[1]).

Teacher retention policies need to promote work environments that encourage effective teachers to continue teaching. In addition, teaching at the pre-primary, primary and lower secondary levels remains largely dominated by women so the gender imbalance in the teaching profession, and its possible effect on students' learning, warrant detailed study (OECD, 2017[2]).

Other findings

- Women make up the majority of teachers in primary and secondary education, while they are under-represented in tertiary education. At all education levels, the largest share of women is found among the new generation of teachers (below the age of 30).
- Between 2005 and 2018, on average across OECD countries, there was a gradual increase in the gender gap in favour of women from primary level to upper secondary level, but a decrease in the gap in favour of men at the tertiary level.
- The share of older teachers (aged 50 and over) increases with the education level, from 32% in primary education to 36% in lower secondary and 39% in upper secondary education.
- On average across OECD countries participating in the Teaching and Learning International Survey (TALIS), around 90% of teachers say they were motivated to join the profession by the opportunity to influence children's development and contribute to society. On average, 76% of teachers report that, if they could decide again, they would still choose to work as a teacher.

Analysis

Gender profile of teachers

Share of female teachers, by level of education

On average across OECD countries, 70% of teachers are women in all levels of education combined. The greatest concentration of female teachers occurs in the earlier years of schooling, and the share shrinks with each successive level of education. While women represent 96% of the teaching staff at pre-primary level and 82% at primary level, they make up 60% at upper secondary and only 44% at tertiary level on average across OECD countries (Table D5.1).

Women account for over 85% of pre-primary teachers in all OECD and partner countries with available data, and over 65% of primary teachers in all countries except Japan (64%), Turkey (62%) and Saudi Arabia (52%). In secondary education, although female teachers continue to dominate, the proportion of female teachers is smaller than at lower levels. Women make up 67% of lower secondary teachers on average across OECD countries, with values ranging from 43% in Japan to 85% in Latvia. At upper secondary level the share of female teachers' drops to 60% on average across OECD countries, with significant variations across countries (from 31% in Japan to 80% in Latvia) (Table D5.1).

At the tertiary level, the gender profile of teachers is reversed, with men making up the majority across OECD countries and female teachers accounting for 44% of the teaching staff on average. In fact, among countries with available data, only in Finland, Latvia, Lithuania and the Russian Federation do women make up more than 50% of teachers in tertiary education. The smallest share of female tertiary teachers among OECD countries is found in Japan (28%) (Table D5.1).

Share of female upper secondary teachers, by programme orientation

The share of women among upper secondary teachers tends to be higher in general than in vocational programmes, although women are over-represented in both types of programmes. In general education, women account for 62% of teachers on average across OECD countries, and there are more female than male teachers in all countries except Switzerland (48%). The share of female teachers is particularly high in countries such as Latvia and Lithuania, where over 80% are women. In contrast, in vocational programmes, women account for a smaller share of teachers: 56% on average across OECD countries. The share of female teachers in vocational education ranges from 44% in Switzerland to 73% in Latvia (Figure D5.1).

In some countries, the share of female teachers differs significantly between general and vocational programmes. For instance, in Austria, Brazil, Finland, Hungary, Latvia and Lithuania, the share of female teachers in general programmes is at least 10 percentage points higher than in vocational programmes, even though women still make up the majority of vocational teachers in these countries. In contrast, the share of female teachers is the same in general and vocational programmes in the Czech Republic (at 60%), the Netherlands (54%), Norway (55%) and Slovenia (67%) (Figure D5.1).

Box D5.1. Potential sources and implications of gender imbalances in the teaching profession

Several factors may contribute to gender imbalances in the teaching profession across levels of education and programme types. One explanation may be cultural: social perceptions of the links between gender and choice of profession may influence both men and women's career choices. This gender bias often arises very early, at home, when parents might base their aspirations for their children's professions on gender stereotypes (Croft et al., 2014[3]; Kane and Mertz, 2012[4]; OECD, 2015[5]). Even within the teaching profession, there are gender imbalances in the different fields of study. At the lower secondary level, women make up a smaller share of teachers in science, mathematics and technology than in the overall teaching population (OECD, 2014[6]; OECD, 2017[2]). This may result from the social perception of science and technology as being a masculine domain, which may discourage women from pursuing tertiary studies in that field (see Indicator B4 and (OECD, 2014[6])).

From an economic point of view, the choice of future jobs is also influenced by young people's expectations for future earning potential. On average across OECD countries, male teachers earn less than their male tertiary-educated counterparts in other professions, while female teachers in primary and lower secondary education earn virtually the same

as women with tertiary degrees in other fields (see Indicator D3 and (OECD, 2017[2])). These differences in relative salaries are likely to make the teaching profession more appealing to women than to men, compared to other professions.

The potential impact of this gender imbalance in the teaching profession on student achievement, student motivation and teacher retention is worthy of study, especially in countries where few men are attracted to the profession (Drudy, 2008[7]; OECD, 2005[8]; OECD, 2009[9]). While there is little evidence that a teacher's gender has an effect on student performance (Antecol, Eren and Ozbeklik, 2012[10]; Holmlund and Sund, 2008[11]), aiming for a better balance between genders could nevertheless have positive effects on all students. In particular, male and female teachers can contribute to students developing positive gender identities and challenge stereotyped views (Hutchings et al., 2008[12]). There is also some evidence that female teachers' attitudes towards some school subjects, such as mathematics, can influence their female students' achievement (Beilock et al., 2010[13]; OECD, 2014[14]).

Share of female teachers, by age group and level of education

The higher proportion of women among young teachers, together with the predominance of female tertiary graduates in the field of education (see Education at a Glance Database), may raise concerns about future gender imbalances at the primary to upper secondary levels, where women already dominate the profession.

In most countries, the share of women is higher among young teachers (under the age of 30) than among older teachers (aged 50 or older). At primary level, the difference between the two age groups is rather small, with women making up 83% of the younger group, compared to 82% of the older group, on average across OECD countries. At lower secondary level, the difference is also small on average: women make up 68% of teachers under the age of 30, and 66% of those of aged 50 or older. The difference grows larger at upper secondary level: on average across OECD countries, 63% of young teachers are women at this level, compared to 56% in the older group (Table D5.2).

However, at tertiary level, where female teachers are in the minority on average, the higher share of women among the younger generation of teachers suggests there will be an increase in gender parity. On average across OECD countries, the share of women is closer to 50% among younger tertiary teachers, accounting for 52% of teachers under the age of 30, compared to 39% among those aged 50 or older (Table D5.2).

These indicators are consistent with the gender distribution dynamics observed over the decade, which point to a gradual increase in the gender gap in the teaching profession at the primary and secondary level, but a decrease at the tertiary level. On average, for all OECD countries with data for both years, the rise in the share of female teachers between 2005 and 2018 has widened the gender gap by 3 percentage points for the primary and secondary levels combined, while it has narrowed the gap by 5 percentage points at the tertiary level. At the primary and secondary levels, the increase exceeds 5 percentage points in countries such as the Czech Republic, Germany, Greece, Ireland, Korea and Slovenia. At the tertiary level, the gender gap has decreased considerably in many countries, with a change of at least 7 percentage points in Belgium, Germany, Japan, the Netherlands and Slovenia (Table D5.2).

The persistent gender imbalances in the teaching profession, together with imbalances in school leadership, have raised a number of concerns, and countries such as the United Kingdom have implemented policies encouraging the recruitment and retention of a diverse and inclusive teacher workforce, including in terms of gender (OECD, 2014[6]; OECD, 2017[2]).

Teachers' age distribution

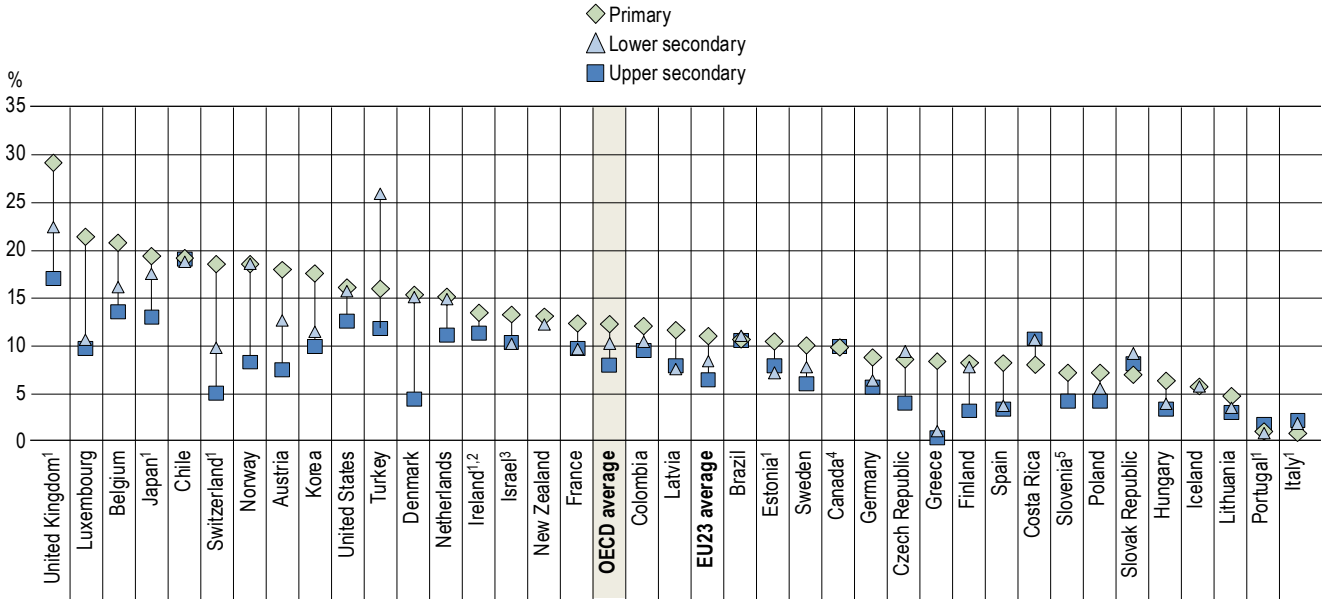
Teachers' age distribution varies considerably across countries and levels of education, and can be affected by a variety of factors, such as the size and age distribution of the population, the duration of tertiary education, and teachers' salaries and working conditions. Declining birth rates, for example, may drive down the demand for new teachers, and more time spent in tertiary education can delay the entrance of teachers into the labour market. Competitive salaries, good working conditions and career development opportunities may have attracted young people to teaching in some countries or helped to retain effective teachers in others.

Young teachers (below the age of 30) only account for a small proportion of the teaching population: 12% in primary education, 10% in lower secondary and 8% in upper secondary, on average across OECD countries. The pattern is particularly striking at the upper secondary level, where young teachers make up less than 10% of the teaching population in most countries. In fact, they account for less than 5% of upper secondary teachers in the Czech Republic, Denmark, Finland, Greece, Hungary, Italy, Lithuania, Poland, Portugal, Slovenia and Spain (Figure D5.2).

On average across OECD countries, more than half of primary, lower secondary and upper secondary teachers are aged between 30 and 49, and a high share of teachers are at least 50 years old. The share of older teachers (aged 50 and over) increases with the education level, from 32% in primary education to 36% in lower secondary and 39% in upper secondary education. In most countries, at least one teacher in every three at upper secondary level is aged 50 or over. There is, however, a high level of variation across countries, with the share at upper secondary level ranging from 15% in Turkey to 63% in Italy (Table D5.3).

The ageing of the teaching force has a number of implications for countries' education systems. In addition to prompting recruitment and training efforts to replace retiring teachers, it may also affect budgetary decisions. In most school systems, teachers' salaries increase with years of teaching experience. Thus, the ageing of teachers increases school costs, which can in turn limit the resources available for other initiatives (see Box D2.3 in Indicator D2). In addition, during the current COVID-19 crisis, the high share of teachers over the age of 50 may raise health concerns, as older individuals are more at risk of developing severe forms of the disease (Jordan, Adab and Cheng, 2020[15]).

Figure D5.2. Share of teachers below the age of 30, by level of education (2018)



1. Upper secondary includes programmes outside upper secondary level.
2. Public institutions only.
3. Public institutions only for upper secondary level.
4. Primary includes pre-primary education.
5. Primary includes lower secondary education.

Countries are ranked in descending order of the share of teachers below the age of 30 in primary education.

Source: OECD/UIS/Eurostat (2020), Table D5.3. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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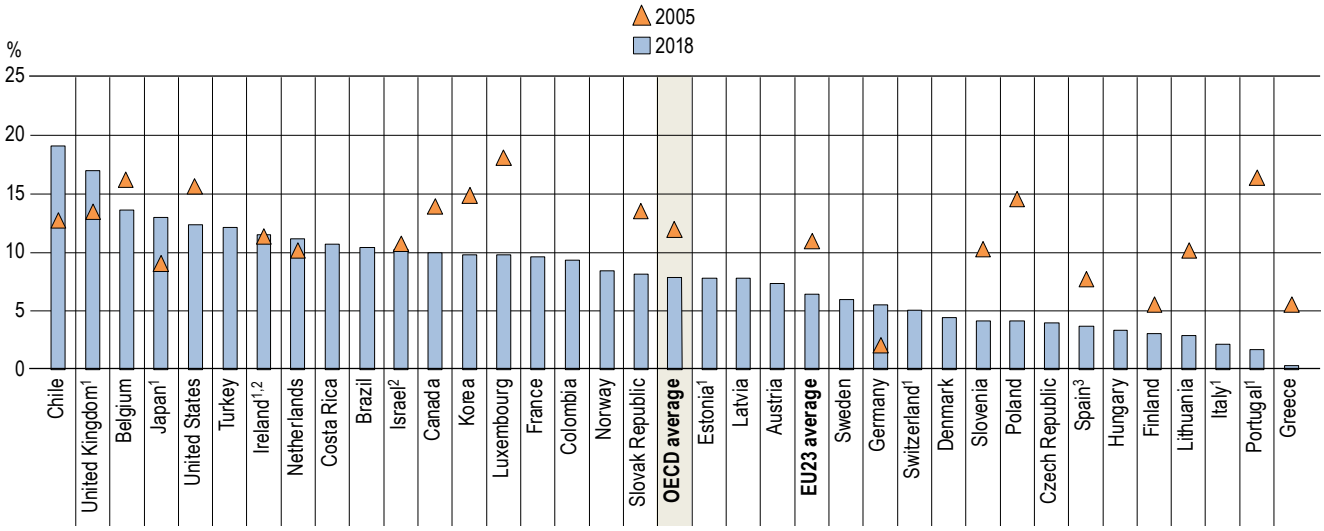
Trends in the share of young upper secondary teachers between 2005 and 2018

As discussed above, upper secondary education is the level with the smallest share of young teachers on average across OECD countries, and this share has been decreasing in recent years. While on average 12% of upper secondary teachers were below the age of 30 in 2005, this proportion had fallen by 4 percentage points in 2018. The largest decreases were observed in Luxembourg (8 percentage points) and Poland (10 percentage points). In Luxembourg, the share of young teachers still remains above the OECD average at 10%, although in Poland it is now below average, at 4% (Figure D5.3).

However, a few countries have experienced an increase in the share of young upper secondary teachers between 2005 and 2018. The largest increases were observed in Chile (6 percentage points), Japan (4 percentage points) and the United Kingdom (4 percentage points) (Figure D5.3). This may partly reflect efforts to implement teacher recruitment

policies. For instance, the United Kingdom launched an ambitious recruitment campaign in the early 2000s, aiming at improving the status of the teaching profession. The campaign used slogans such as “Use your head: teach” or “Turn your talent to teaching”, in order to appeal to young people who were considering teaching but were put off by a number of barriers, including the financial burden of the training. The United Kingdom combined this with financial support for teacher trainees (OECD, 2011[16]). Similarly, Chile implemented the National Teachers Policy in 2017, which sets a new salary scale and professional development system for teachers in publicly funded schools. It also introduced the “Teacher Vocation” scholarship, which covers tuition fees for students in universities (Santiago et al., 2017[17]).

Figure D5.3. Share of upper secondary teachers below the age of 30 (2005 and 2018)



1. Upper secondary includes programmes outside upper secondary level.
2. Public institutions only.
3. Upper secondary includes lower secondary programmes.

Countries are ranked in descending order of the share of teachers below the age of 30 in 2018.

Source: OECD/UIS/Eurostat (2020), Table D5.3 and Education at a Glance Database, http://stats.oecd.org. See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

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Box D5.2. Attracting and retaining teachers: Insights from TALIS 2018

The Teaching and Learning International Survey (TALIS) covers about 260 000 teachers across 48 countries and economies, and provides data on topics such as teachers’ and school leaders’ working environment, their motivations and their job satisfaction. This box focuses on teachers’ motivations to enter the profession and on their job satisfaction, as both factors can influence the attractiveness of the profession and teacher retention.

Looking at individuals’ motivations to become teachers helps understand what aspects of the job make it attractive. A large share of lower secondary teachers affirm that one of their main motivations in becoming a teacher was serving a larger social purpose. In fact, around 90% of teachers across OECD countries mention a sense of self-fulfilment through the opportunity to influence children’s development and contribute to society. Factors related to the teaching schedule, job security and reliability of income are reported as important motivations by around 60-70% of teachers (OECD, 2019[1]).[1]

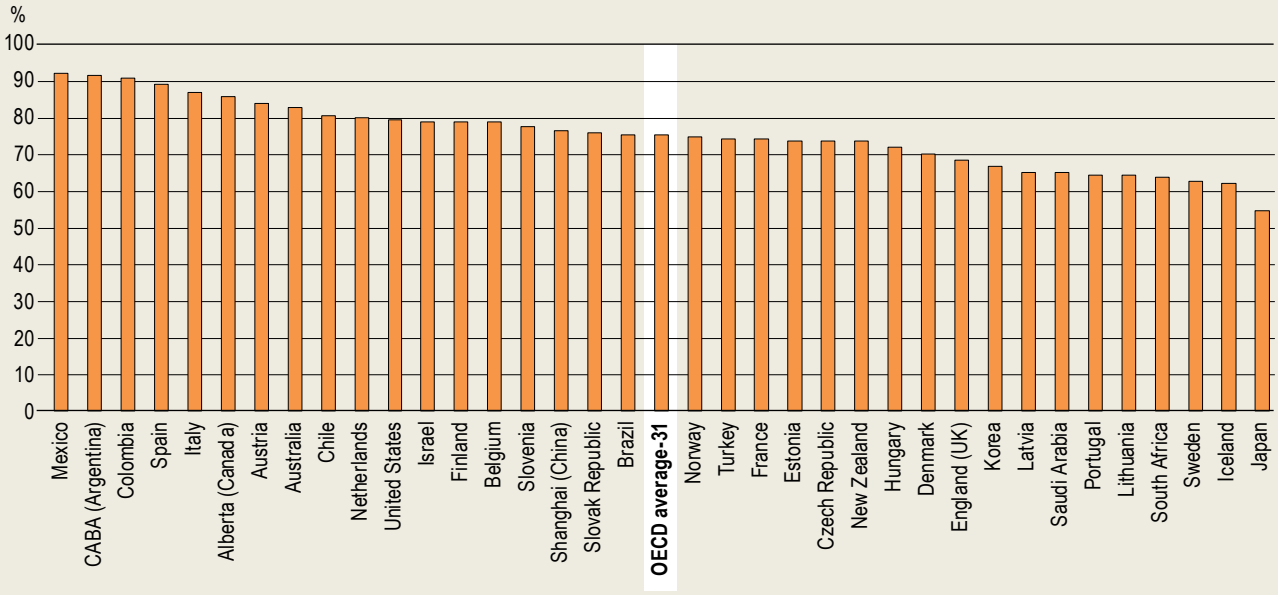
The Teaching and Learning international Survey (TALIS) also offers insights into teachers’ job satisfaction, which can be key to ensuring teacher retention. On average across OECD countries, although only 39% of lower secondary teachers report being satisfied with their salaries, the great majority of them (90%) declare that they are, all in all, satisfied with their job, and that they enjoy working at their current school. In addition, 76% of teachers on average report that, if they

could decide again, they would still choose to work as a teacher. This proportion varies significantly across countries, however. While less than 65% of teachers would still decide to teach in Iceland, Japan, Lithuania, South Africa and Sweden, this share rises to over 90% in Argentina (*Ciudad Autónoma de Buenos Aires*), Colombia and Mexico (Figure D5.4 and (OECD, 2020[18])).

Several factors may help predict teachers' job satisfaction. These include selecting motivated candidates who are eager to become lifelong learners, putting an emphasis on induction and mentoring throughout teachers' careers, and providing opportunities for meaningful and impactful professional learning. Working conditions and school climate (e.g. a collaborative environment), as well as factors related to trust and respect for teachers' work, can also be key to ensuring teachers' satisfaction and the attractiveness of the profession (Schleicher, 2018[19]).

Figure D5.4. Lower secondary teachers' job satisfaction (2018)

Percentage of lower secondary teachers who would still choose to work as a teacher, if they could decide again[1]



1. Includes teachers who "agree" or "strongly agree" with the statement: "If I could decide again, I would still decide to work as a teacher".
Countries and economies are ranked in descending order of the percentage of teachers who would still decide to work as a teacher, if they could decide again.
Source: OECD, TALIS 2018 Database, Table II.2.10. For more information (including standard errors), see https://www.oecd.org/education/talis/talis2018tables.htm.

StatLink https://doi.org/10.1787/888934166042

1. The measures presented in this paragraph correspond to the percentage of lower secondary teachers who report that these elements were of "moderate" or "high" importance in deciding to become a teacher, on average across the 31 OECD countries participating in TALIS.

Definitions

There are two categories of instructional personnel:

- **Teachers' aides and teaching/research assistants** include non-professional personnel or students who support teachers in providing instruction to students.
- **Teaching staff** refers to professional personnel directly involved in teaching to students. The classification includes classroom teachers, special-education teachers and other teachers who work with a whole class of students in a

classroom, in small groups in a resource room, or in one-to-one teaching situations inside or outside a regular class. At the tertiary level, academic staff include personnel whose primary assignment is instruction or research. Teaching staff also include departmental chairs whose duties include some teaching, but exclude non-professional personnel who support teachers in providing instruction to students, such as teachers' aides and other paraprofessional personnel.

Methodology

The share of teachers in the population corresponds to the proportion of teachers in a given age group (e.g. below the age of 30) among the total population of the same age group.

For more information, please see the OECD *Handbook for Internationally Comparative Education Statistics 2018* (OECD, 2018[20]) and Annex 3 for country-specific notes (https://doi.org/10.1787/69096873-en).

Source

Data refer to the academic year 2017/18 and are based on the UNESCO-UIS/OECD/EUROSTAT data collection on education statistics administered by the OECD in 2019 (for details, see Annex 3 at https://doi.org/10.1787/69096873-en).

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Indicator D5 Tables

Table D5.1 Gender distribution of teachers (2018)

Table D5.2 Gender distribution of teachers by age group (2018) and percentage of female teachers for all ages (2005 and 2018)

Table D5.3 Age distribution of teachers (2018)

Cut-off date for the data: 19 July 2020. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en. More breakdowns can also be found at http://stats.oecd.org/, Education at a Glance Database.

StatLink: https://doi.org/10.1787/888934165909

Table D5.1. Gender distribution of teachers (2018)

Percentage of female teachers in public and private institutions by level of education, based on head counts

		Pre-primary	Primary	Lower secondary	Upper secondary			Post-secondary non-tertiary	Tertiary			All levels of education
					General programmes	Vocational programmes	All programmes		Short-cycle tertiary	Bachelor's, master's and doctoral	All tertiary	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
OECD	**Countries**											
	Australia	m	m	m	m	m	m	m	m	47	m	m
	Austria	99	92	72	64	50	56	69	52	41	43	67
	Belgium	97	83	64	63	63	63	45	x(10)	x(10)	48	71
	Canada[1]	x(2)	75 d	x(2)	x(6)	x(6)	75	m	54	44	49	m
	Chile	99	81	68	58	52	56	a	m	m	m	m
	Colombia	97	77	51	x(6)	x(6)	49	65	38	38	38	59
	Costa Rica	94	79	57	56	59	57	a	52	44	44	68
	Czech Republic	100	94	78	60	60	60	43	60	38	38	76
	Denmark	89	68	62	53	46	51	a	40	44	44	65
	Estonia[2]	99	90	83	77	60 d	70 d	x(5, 6)	a	49	49	83
	Finland	97	80	75	69	55	61	55	a	52	52	74
	France	91	83	61	60	59	60	41	52	42	44	68
	Germany	95	87	66	59	50	56	55	45	40	40	67
	Greece	99	72	67	56	50	54	55	a	35	35	65
	Hungary	100	96	77	67	57	63	61	x(10)	x(10)	41	75
	Iceland	94	83	82	m	m	m	m	m	m	m	m
	Ireland[1, 2]	99	85	x(4,6)	70 d	a	70 d	m	x(10)	x(10)	45	m
	Israel[1]	99 d	86	79	x(6)	x(6)	70	m	90	46	49	m
	Italy	99	96	77	68	60 d	64 d	x(5, 6)	a	37	37	77
	Japan	97	64	43	x(6)	x(6)	31 d	x(6, 8, 9)	50 d	23 d	28 d	48
	Korea	99	78	71	54	46	53	a	45	33	36	62
	Latvia	99	92	85	83	73	80	67	68	54	56	84
	Lithuania	99	97	82	82	71	79	65	a	56	56	82
	Luxembourg	96	76	54	56	53	55	28	54	34	36	65
	Mexico	96	69	54	50	47	49	a	m	m	m	m
	Netherlands	88	87	54	54	54	54	a	46	46	46	66
	New Zealand	97	84	67	61	59	61	54	49	50	50	72
	Norway	92	74	74	55	55	55	55	55	46	46	66
	Poland	98	83	75	70	63	66	69	70	45	45	75
	Portugal	99	81	72	x(6)	x(6)	69 d	x(6)	x(10)	x(10)	45	71
	Slovak Republic	100	90	76	74	71	72	68	57	46	46	77
	Slovenia	97	89 d	x(2)	67	67	67	a	45	42	42	80
	Spain	93	77	60	58	52	56	a	51	42	44	65
	Sweden	96	82	65	x(6)	x(6)	54	44	44	45	45	75
	Switzerland	97	83	56	48	44 d	45 d	x(5)	a	35	35	62
	Turkey	95	62	57	51	50	50	a	41	45	44	57
	United Kingdom	96	86	63	62	57 d	60 d	a	x(10)	x(10)	45	68
	United States	94	87	67	58	a	58	x(10)	x(10)	x(10)	50 d	70
	OECD average	96	82	67	62	56	60	55	53	43	44	70
	EU23 average	97	86	70	65	59	63	55	53	44	44	72
Partners	Argentina	m	m	m	m	m	m	a	m	m	m	m
	Brazil	95	88	67	60	50	58	47	45	46	46	70
	China	97	67	56	m	m	53	m	m	m	m	m
	India	m	m	45	m	m	41	m	a	m	42	m
	Indonesia	96	68	57	m	m	56	a	m	m	43	m
	Russian Federation[2]	99	99	83	x(3)	x(8)	x(3,8)	x(8)	72 d	54	62 d	86
	Saudi Arabia	100	52	51	m	m	51	50	25	41	41	m
	South Africa	m	m	m	m	m	58	55	m	m	m	m
	G20 average	96	78	61	m	m	55	m	m	m	43	m

Note: The data for "All levels of education" do not include early childhood educational development (ISCED 01).

1. For Canada, public institutions only at tertiary level. For Ireland, public institutions only for all levels except pre-primary. For Israel, private institutions are only included at primary and bachelor's, master's and doctoral levels.

2. Pre-primary includes early childhood education.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table D5.2. Gender distribution of teachers by age group (2018) and percentage of female teachers for all ages (2005 and 2018)

Percentage of female teachers, by age group and level of education

		Primary		Lower secondary		Upper secondary		All tertiary		Total primary to upper secondary		All tertiary	
		2018		2018		2018		2018		2005	2018	2005	2018
		< 30 years	>= 50 years	< 30 years	>= 50 years	< 30 years	>= 50 years	< 30 years	>= 50 years	All ages			
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD	**Countries**												
	Australia	m	m	m	m	m	m	m	m	m	m	m	m
	Austria	94	92	76	73	72	53	53	38	m	74	m	43
	Belgium	85	79	70	59	68	58	67	44	65 d	70	41	48
	Canada 1, 2	83 d	70 d	x(1)	x(2)	83	70	60	44	73	75	48	49
	Chile	80	81	70	65	60	50	m	m	70	71	m	m
	Colombia	76	78	50	52	47	50	47	30	m	64	m	38
	Costa Rica	66	81	56	57	56	57	46	38	m	69	m	44
	Czech Republic	92	95	73	81	52	58	m	m	71 d	77	40	38
	Denmark	58	71	53	64	54	46	44	40	m	62	m	44
	Estonia 3	84	92	75	85	59 d	73 d	54	45	m	83 d	48	49
	Finland	82	76	77	73	67	57	47	52	69	73	47	52
	France	88	76	62	58	61	57	55	38	m	68	m	44
	Germany	91	86	79	66	73	52	45	31	65	70	32	40
	Greece	88	60	76	63	80	49	45	32	59	66	36	35
	Hungary	92	96	69	76	61	59	46	36	79	79	39	41
	Iceland	76	84	75	84	m	m	m	m	m	m	m	m
	Ireland 2	80	86	x(5)	x(6)	65 d	69 d	m	m	72	79	39	45
	Israel 2	91	84	87	75	83	65	53	45	79	80	m	49
	Italy 3	94	97	67	77	57 d	63 d	50	34	78	78 d	34	37
	Japan 3	65	68	45	40	38 d	23 d	49 d	25 d	46 d	49 d	18 d	28 d
	Korea	74	88	72	60	68	32	66	23	61	68	31	36
	Latvia	85	93	69	86	61	82	56	55	m	87	m	56
	Lithuania	92	97	73	82	68	79	55	53	84 d	85	53	56
	Luxembourg	78	74	63	48	64	50	36	30	m	64	m	36
	Mexico	m	m	m	m	m	m	m	m	56	58	m	m
	Netherlands	88	85	62	46	65	47	50	36	66 d	70	35	46
	New Zealand	87	86	74	67	64	61	50	48	69	72	50	50
	Norway	69	78	69	78	58	50	44	44	m	69	m	46
	Poland	80	85	69	75	59	63	m	m	76	77	41	45
	Portugal 3	88	79	65	72	55 d	70 d	46	40	74 d	74 d	42 d	45
	Slovak Republic	86	93	76	78	78	72	57	43	77	79	42	46
	Slovenia	91 d	89 d	x(1)	x(2)	65	63	86	38	78	89	33	42
	Spain	79	77	64	58	59	53	49	38	62	66	39	44
	Sweden	75	83	56	66	52	51	48	43	m	70	m	45
	Switzerland	88	80	68	51	58 d	41 d	54	30	m	65 d	m	35
	Turkey	75	43	67	36	66	34	54	31	m	56	38	44
	United Kingdom	84	89	66	59	64 d	55 d	48	42	68	72 d	40	45
	United States 4	88	88	69	68	62	56	m	m	74	75	44 d	50 d
	OECD average	83	82	68	66	63	56	52	39	70	72	40	44
	Average for countries with available data for both reference years									69	72	39	44
	EU23 average	85	85	69	69	63	60	52	40	71	74	40	44
Partners	**Argentina**	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	82	92	60	70	54	59	50	42	m	72	m	46
	China	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	42
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	43
	Russian Federation 4, 5	m	m	m	m	x(7)	x(8)	64 d	55 d	86	87	51 d	62 d
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	41
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	43

1. Primary includes pre-primary education.
2. For Canada, public institutions only at tertiary level. For Ireland, public institutions only. For Ireland, public institutions only. For Israel, private institutions are only included at primary and bachelor's, master's and doctoral levels.
3. Upper secondary includes programmes outside upper secondary level. For Japan, tertiary includes programmes outside tertiary level - see Annex 3 for further details.
4. Tertiary includes programmes outside tertiary level - see Annex 3 for further details.
5. Upper secondary is included partly in lower secondary education and partly in tertiary education. Total primary to upper secondary excludes part of upper secondary education.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table D5.3. Age distribution of teachers (2018)

Percentage of teachers in public and private institutions, by level of education and age group, based on head counts

		Primary			Lower secondary			Upper secondary			Primary to upper secondary		
		< 30 years	30-49 years	>= 50 years	< 30 years	30-49 years	>= 50 years	< 30 years	30-49 years	>= 50 years	< 30 years	30-49 years	>= 50 years
	Countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD	Australia	m	m	m	m	m	m	m	m	m	m	m	m
	Austria	18	46	36	13	40	47	7	46	47	13	43	44
	Belgium	21	55	24	16	56	28	14	55	31	17	55	28
	Canada[1, 2]	10 d	63 d	27 d	x(1)	x(2)	x(3)	10	63	27	10	63	27
	Chile	19	57	24	19	55	26	19	54	27	19	55	25
	Colombia	12	50	38	10	53	37	9	53	37	11	51	37
	Costa Rica	8	65	27	11	70	19	11	71	19	9	67	23
	Czech Republic	9	48	43	9	54	37	4	43	53	7	48	44
	Denmark	15	51	33	15	53	32	4	52	43	12	52	36
	Estonia[3]	10	45	45	7	38	55	8 d	40 d	52 d	9 d	42 d	49 d
	Finland	8	59	33	8	60	32	3	48	49	7	56	37
	France	12	65	23	10	59	32	10	59	32	11	61	29
	Germany	9	55	37	6	49	44	6	55	40	7	52	41
	Greece	9	49	42	1	45	54	0	41	59	4	46	49
	Hungary	6	50	43	4	49	47	3	56	41	5	52	44
	Iceland	6	55	39	6	55	39	m	m	m	m	m	m
	Ireland[2]	14	67	19	x(7)	x(8)	x(9)	11 d	63 d	26 d	13	65	22
	Israel[2]	13	65	21	10	62	28	10	57	33	12	62	26
	Italy[3]	1	41	58	2	44	54	2 d	35 d	63 d	2 d	39 d	59 d
	Japan[3]	19	51	29	18	51	31	13 d	48 d	39 d	17 d	50 d	32 d
	Korea	18	67	15	11	59	29	10	59	31	13	63	24
	Latvia	12	50	39	8	42	50	8	41	51	9	45	45
	Lithuania	5	47	48	4	44	52	3	41	56	4	44	52
	Luxembourg	21	61	17	11	63	27	10	63	28	15	62	23
	Mexico	m	m	m	m	m	m	m	m	m	m	m	m
	Netherlands	15	50	34	15	46	39	11	43	46	14	47	39
	New Zealand	13	50	37	12	48	40	m	m	m	12	48	40
	Norway	19	53	28	19	53	28	8	49	42	16	52	32
	Poland	7	58	34	6	63	31	4	61	35	6	60	34
	Portugal[3]	1	57	42	1	52	47	2 d	57 d	41 d	1 d	56 d	43 d
	Slovak Republic	7	63	30	9	53	38	8	49	42	8	55	37
	Slovenia	7 d	58 d	35 d	x(1)	x(2)	x(3)	4	51	45	7	58	35
	Spain	8	59	33	4	58	38	3	58	38	6	58	36
	Sweden	10	54	36	8	55	37	6	50	44	8	53	38
	Switzerland[1]	19	49	32	10	56	35	5 d	52 d	43 d	13 d	52 d	36 d
	Turkey	16	68	16	26	68	6	12	73	15	18	70	12
	United Kingdom[3]	29	55	16	22	60	18	17 d	55 d	28 d	23 d	56 d	20 d
	United States	16	55	29	16	55	29	12	54	34	15	55	30
	OECD average	12	55	32	10	54	36	8	53	39	11	54	35
	EU23 average	11	54	35	9	52	40	6	50	43	9	52	38
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	11	67	22	11	65	24	10	65	25	11	66	23
	China	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m	x	x	x	m	m	m
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m

1. Primary includes pre-primary education.
2. For Canada, public institutions only at tertiary level. For Ireland, public institutions only. For Israel, private institutions are included for all levels except for pre-primary and upper secondary levels.
3. Upper secondary includes programmes outside upper secondary level - see Annex 3 for further details.

Source: OECD/UIS/Eurostat (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Annex 1. Characteristics of education systems

All tables in Annex 1 are available on line at:

StatLink: https://doi.org/10.1787/888934166061

Table X1.1. Typical graduation ages, by level of education (2018)

The typical age refers to the age of the students at the beginning of the school year; students will generally be one year older than the age indicated when they graduate at the end of the school year. The typical age is used for the gross graduation rate calculation.

		Upper secondary		Post secondary non-tertiary		Tertiary								
						Short-cycle tertiary		Bachelor's or equivalent			Master's or equivalent			
		General programmes	Vocational programmes	General programmes	Vocational programmes	General programmes	Vocational programmes	First degree (3-4 years)	Long first degree (more than 4 years)	Second or further degree, (following a bachelor's	Long first degree (at least 5 years)	Second or further degree, (following a bachelor's	Second or further degree, (following a master's or equivalent programme)	Doctoral or equivalent
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
OECD	Countries													
	Australia	17-18	18-32	a	18-37	19-24	18-30	20-23	22-25	22-34	a	22-30	29-44	26-35
	Austria	17-18	16-18	a	19-30	a	18-19	21-24	a	a	24-27	24-28	a	28-34
	Belgium	18-19	18-19	a	20-22	a	21-25	21-23	a	22-24	a	22-24	23-32	27-31
	Canada	17-18	19-34	m	m	a	20-24	22-24	22-24	22-29	22-24	24-29	24-29	29-34
	Chile	17-17	17-17	a	a	a	21-27	22-27	22-28	23-26	24-26	26-35	m	29-36
	Colombia	16-17	16-17	18-21	a	a	19-24	m	m	m	a	25-34	27-39	31-42
	Costa Rica	16-18	17-18	a	a	20-25	20-25	22-27	22-30	a	24-37	a	a	27-49
	Czech Republic	m	m	m	m	m	m	m	m	m	m	m	m	m
	Denmark	18-19	19-25	a	22-38	a	20-24	22-25	a	37-48	35-39	24-27	a	27-32
	Estonia	18-19	18-20	a	20-28	a	a	21-25	a	a	24-26	23-28	a	28-34
	Finland	19-20	19-26	a	32-46	a	a	23-26	a	a	26-28	25-30	30-41	29-37
	France	17-18	16-19	m	m	m	m	m	m	m	m	m	m	26-30
	Germany	18-19	19-22	20-23	21-24	a	22-26	22-25	a	24-30	24-27	24-27	24-27	28-32
	Greece	17-18	17-18	a	20-22	a	a	m	m	m	a	m	m	m
	Hungary	17-19	17-19	a	19-21	a	20-22	21-24	a	27-41	23-26	23-26	a	27-32
	Iceland	18-19	19-26	24-35	22-36	a	22-34	22-25	a	26-41	25-26	24-33	a	28-37
	Ireland	17-18	18-25	a	20-26	m	m	21-23	23-25	23-33	m	m	m	27-32
	Israel	17-18	17-18	m	m	m	m	24-28	27-29	24-33	m	27-36	m	31-37
	Italy	18-19	18-19	a	18-19	a	20-22	21-24	m	m	24-26	24-26	m	27-33
	Japan	17-17	17-17	18-18	18-18	19-19	19-19	21-21	a	a	23-23	23-23	m	26-26
	Korea	18-19	18-19	a	a	a	20-22	23-25	m	a	a	25-31	a	29-38
	Latvia	18-19	20-21	a	20-24	a	21-26	22-24	23-25	24-35	25-29	24-27	a	28-36
	Lithuania	17-18	19-24	a	19-26	a	a	21-22	a	23-30	23-24	24-26	27-29	28-31
	Luxembourg	17-19	17-20	a	21-28	a	21-23	22-24	a	a	a	24-28	25-31	28-32
	Mexico	17-18	17-18	a	a	a	20-22	20-24	m	a	a	23-26	a	24-28
	Netherlands	16-18	18-21	a	a	a	21-27	21-23	a	a	a	23-26	24-27	28-31
	New Zealand	17-18	16-31	17-23	16-27	18-46	18-26	20-23	22-24	21-28	a	23-30	a	27-35
	Norway	18-19	18-22	a	19-32	22-28	21-27	21-24	a	26-32	24-26	24-29	25-29	28-35
	Poland	19-19	19-20	a	21-25	a	23-38	22-24	a	22-34	24-25	24-25	a	29-32
	Portugal	17-17	17-18	a	19-26	a	20-21	21-22	a	33-39	23-24	23-26	a	28-37
	Slovak Republic	18-19	18-19	a	19-27	a	20-23	21-22	a	a	23-24	23-24	24-30	26-29
	Slovenia	18-19	17-19	a	a	a	21-25	21-23	a	a	24-25	24-26	a	27-32
	Spain	17-17	17-21	a	25-45	a	20-23	21-23	a	a	22-25	22-26	28-32	28-38
	Sweden	18-19	18-19	19-23	19-32	21-28	22-30	22-26	a	a	24-28	24-30	a	28-34
	Switzerland	18-22	18-24	21-23	a	a	22-36	23-28	a	30-39	24-29	25-32	26-32	28-34
	Turkey	17-17	17-17	a	a	a	19-22	22-24	a	a	23-24	25-30	a	30-35
	United Kingdom	15-17	16-19	a	a	19-25	18-30	20-22	22-24	20-27	a	23-28	22-33	25-32
	United States	17-18	a	a	19-22	20-21	20-21	21-23	a	a	a	24-31	24-31	26-32
Partners	Argentina[1]	18-20	18-20	m	m	22-24	22-24	22-24	22-24	m	a	24-26	m	27-29
	Brazil	16-17	16-18	a	18-26	m	19-28	20-27	a	m	a	25-31	a	29-37
	China	18-20	18-20	m	m	20-22	20-22	22-24	22-24	m	a	24-26	m	27-29
	India	16-18	16-18	m	m	21-23	21-23	21-23	21-23	m	23-25	23-25	m	28-30
	Indonesia	19-21	19-21	m	m	20-22	20-22	23-25	23-25	m	a	25-27	m	28-30
	Russian Federation	17-18	17-18	a	18-22	a	19-20	21-23	a	a	22-25	22-25	a	25-27
	Saudi Arabia	18-20	18-20	m	m	20-22	20-22	22-24	22-24	m	24-26	24-26	m	28-30
	South Africa[1]	19-21	19-21	m	m	21-23	21-23	22-24	22-24	m	a	24-26	m	27-29

Note: The range of typical age contain at least 50% of the share of graduation rates.

1. Year of reference 2017.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934166080

Table X1.2. Typical age of entry, by level of education (2018)

The typical age refers to the age of the students at the beginning of the school year.

	Countries	Short-cycle tertiary	Bachelor's or equivalent	Master's or equivalent	Doctoral or equivalent
		(1)	(2)	(3)	(4)
OECD	Australia	m	18-20	21-25	22-30
	Austria	17-18	19-21	19-25	25-29
	Belgium	18-20	18-20	21-23	23-27
	Canada	m	m	m	m
	Chile	18-21	18-19	18-31	24-32
	Colombia	17-21	17-21	23-33	25-36
	Costa Rica	17-18	17-18	24-31	28-39
	Czech Republic	19-21	19-20	22-24	24-28
	Denmark	19-26	20-22	23-25	25-28
	Estonia	a	19-20	22-27	24-28
	Finland	a	19-21	22-30	26-32
	France	18-20	18-20	21-23	23-26
	Germany	22-26	18-21	19-24	25-28
	Greece	a	18-19	22-28	23-32
	Hungary	19-21	19-20	19-23	24-27
	Iceland	20-28	20-22	23-29	25-32
	Ireland	18-30	18-19	21-27	22-27
	Israel	18-24	20-24	24-32	26-33
	Italy	19-20	19-19	19-23	24-27
	Japan	18-18	18-18	22-23	24-28
	Korea	18-18	18-18	22-27	23-32
	Latvia	19-23	19-22	22-25	24-30
	Lithuania	a	19-19	23-25	25-28
	Luxembourg	19-22	19-21	22-27	24-28
	Mexico	18-19	18-19	21-34	25-39
	Netherlands	19-23	18-20	22-24	24-28
	New Zealand	17-25	18-20	21-28	22-30
	Norway	20-24	19-20	20-25	25-31
	Poland	19-33	19-20	19-23	24-26
	Portugal	18-20	18-19	18-22	23-33
	Slovak Republic	19-21	19-20	22-23	24-26
	Slovenia	19-21	19-19	22-24	24-28
	Spain	18-20	18-18	18-24	23-30
	Sweden	19-27	19-21	19-24	24-30
	Switzerland	22-26	18-25	22-26	24-30
	Turkey	18-22	18-20	23-27	26-30
	United Kingdom	17-29	18-21	21-30	21-30
	United States	18-22	18-19	22-28	22-27
Partners	Argentina[1]	m	m	22-24	24-26
	Brazil	m	m	m	m
	China	18-20	18-20	22-24	24-26
	India	18-20	18-20	21-23	23-25
	Indonesia	19-21	19-21	23-25	25-27
	Russian Federation	17-18	17-20	21-24	17-20
	Saudi Arabia	18-20	18-20	22-24	25-27
	South Africa[1]	m	m	m	m

Note: The range of typical age contain at least 50% of the share of entry rates.

1. Year of reference 2017.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934166099

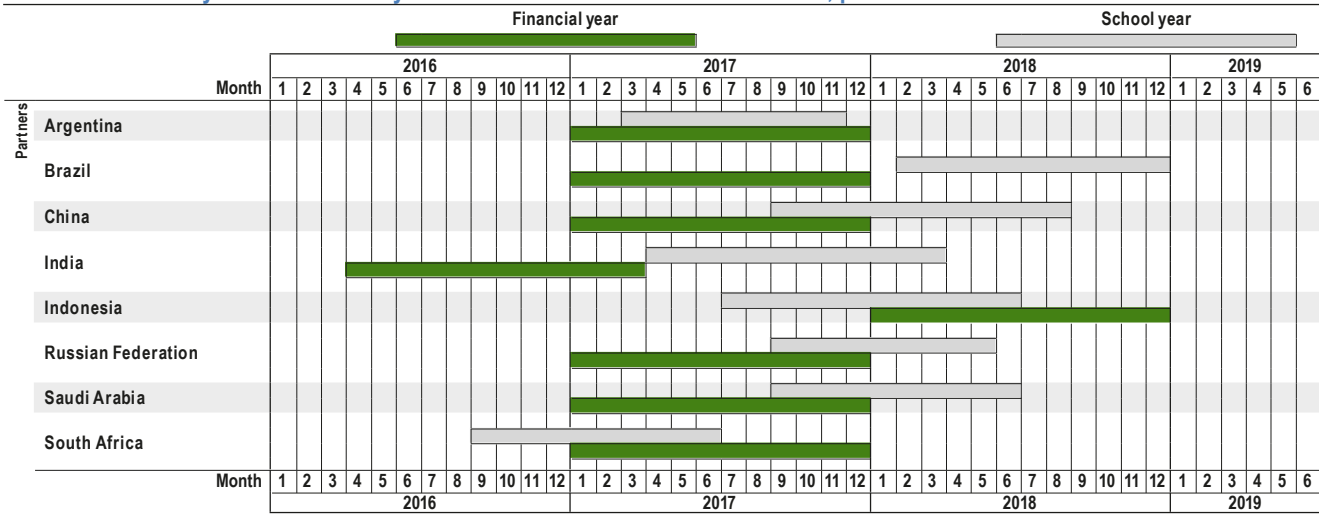
Table X1.3. School year and financial year used for the calculation of indicators, OECD countries



Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934166118

Table X1.4. School year and financial year used for the calculation of indicators, partner countries



Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934166137

Table X1.5. Starting and ending age for students in compulsory education and by level of education (2018)

The age refers to the age of the students at the beginning of the school year

		Compulsory education		Primary education		Lower secondary education		Upper secondary education	
		Starting age	Ending age	Starting age	Ending age	Starting age	Ending age	Starting age	Ending age
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OECD	Countries								
	Australia	6	17	5	11	12	15	16	17
	Austria	6	15	6	9	10	13	14	17
	Belgium	6	18	6	11	12	13	14	17
	Canada	6	16-18	6	11	12	14	15	17
	Chile	6	17	6	11	12	13	14	17
	Colombia	5	16	6	10	11	14	15	16
	Costa Rica	4	16	6	11	12	14	15	16
	Czech Republic	6	15	6	10	11	14	15	18
	Denmark	6	16	6	12	13	15	16	18
	Estonia	7	16	7	12	13	15	16	18
	Finland	7	16	7	12	13	15	16	18
	France	6	16	6	10	11	14	15	17
	Germany	6	18	6	9	10	15	16	18
	Greece	5	14-15	6	11	12	14	15	17
	Hungary	3	16	7	10	11	14	15	18
	Iceland	6	16	6	12	13	15	16	19
	Ireland	6	16	5	12	13	15	16	17
	Israel	3	17	6	11	12	14	15	17
	Italy	6	16	6	10	11	13	14	18
	Japan	6	15	6	11	12	14	15	17
	Korea	6	14	6	11	12	14	15	17
	Latvia	5	16	7	12	13	15	16	18
	Lithuania	7	16	7	10	11	16	17	18
	Luxembourg	4	16	6	11	12	14	15	18
	Mexico	3	17	6	11	12	14	15	17
	Netherlands	5	18	6	11	12	14	15	17
	New Zealand	5	16	5	10	11	14	15	17
	Norway	6	16	6	12	13	15	16	18
	Poland	6	16	7	12	13	15	16	18
	Portugal	6	18	6	11	12	14	15	17
	Slovak Republic	6	16	6	9	10	14	15	18
	Slovenia	6	14	6	11	12	14	15	18
	Spain	6	16	6	11	12	14	15	17
	Sweden	6	15	7	12	13	15	16	18
	Switzerland	4-5	15	7	12	13	15	16	19
	Turkey	5-6	17	6	9	10	13	14	17
	United Kingdom	4-5	16	4-5	10	11	13	14	17
	United States	4-6	17	6	11	12	14	15	17
Partners	Argentina	4	17	6	11	12	14	15	17
	Brazil	4	17	6	10	11	14	15	17
	China	6	14	6	11	12	14	15	17
	India	6	13	6	10	11	13	14	17
	Indonesia	7	15	7	12	13	15	16	18
	Russian Federation	7	17	7	10	11	15	16	17
	Saudi Arabia	6	14	6	11	12	14	15	17
	South Africa	7	15	7	13	14	15	16	18

Note: Ending age of compulsory education is the age at which compulsory schooling ends. For example, an ending age of 18 indicates that all students under 18 are legally obliged to participate in education.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934166156

Annex 2. Reference statistics

All tables in Annex 2 are available on line at:

StatLink: https://doi.org/10.1787/888934166175

Table X2.1. Basic reference statistics in current prices (reference period: calendar year, 2005, 2012, 2015, 2017)

		Gross domestic product (GDP) (adjusted to financial year, in millions of local currency, current prices)				Total government expenditure (in millions of local currency, current prices)			
		2005	2012	2015	2017	2005	2012	2015	2017
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OECD	Countries								
	Australia	959 401	1 517 883	1 643 365	1 806 094	348 130	558 195	622 118	678 312
	Austria	254 075	318 653	344 269	370 296	129 973	163 192	176 030	181 844
	Belgium	310 038	386 175	416 701	446 365	160 792	218 102	223 851	231 707
	Canada	1 357 196	1 787 348	1 993 784	2 054 428	559 532	762 378	812 749	885 266
	Chile	68 831 705	129 947 342	159 553 348	180 211 290	13 864 133	30 008 083	39 699 373	45 703 653
	Colombia	336 940 938	665 883 659	804 692 000	920 194 000	m	m	362 163 000	401 948 000
	Costa Rica	9 532 875	23 371 406	29 281 373	33 014 819	3 146 730	7 341 900	9 670 579	14 409 969
	Czech Republic	3 264 931	4 059 912	4 595 783	5 047 267	1 380 188	1 805 836	1 916 390	1 965 604
	Denmark	1 585 984	1 895 002	2 036 356	2 175 106	812 682	1 098 247	1 110 377	1 114 524
	Estonia	11 336	18 051	20 782	23 776	3 825	7 032	8 155	9 352
	Finland	164 687	201 037	211 516	225 785	80 729	111 456	119 415	121 319
	France	1 765 905	2 088 804	2 198 432	2 295 063	941 123	1 192 859	1 248 656	1 293 953
	Germany	2 288 310	2 745 310	3 030 070	3 244 990	1 071 405	1 233 138	1 334 518	1 441 419
	Greece	199 242	191 204	177 258	180 218	90 778	106 669	94 936	85 492
	Hungary	22 549 020	28 847 930	34 785 204	38 835 221	11 143 538	14 239 130	17 612 176	18 241 747
	Iceland	1 058 882	1 841 729	2 293 948	2 612 973	437 351	807 229	949 126	1 124 114
	Ireland	170 187	175 116	262 833	297 131	56 795	73 686	76 007	77 481
	Israel	639 627	991 667	1 165 324	1 271 555	284 482	407 867	448 036	502 504
	Italy	1 493 635	1 624 359	1 655 355	1 736 602	705 620	821 764	832 927	845 054
	Japan	521 757 250	492 295 675	518 236 950	538 270 275	186 153 000	201 021 600	208 973 200	211 180 600
	Korea	957 447 800	1 440 111 400	1 658 020 400	1 835 698 200	267 103 300	443 590 700	504 008 400	555 679 000
	Latvia	13 587	21 925	24 426	26 798	4 647	8 309	9 270	10 186
	Lithuania	21 002	33 332	37 322	42 269	7 157	12 072	13 105	14 020
	Luxembourg	30 031	44 112	52 066	56 814	m	m	21 606	23 757
	Mexico	9 562 648	15 817 755	18 551 459	21 911 894	2 025 092	4 512 044	5 235 052	5 718 430
	Netherlands	550 883	652 966	690 008	738 146	232 712	305 275	307 826	313 333
	New Zealand	156 652	214 299	245 097	273 675	61 359	91 618	99 029	110 660
	Norway[1]	1 515 409	2 294 240	2 614 085	2 792 035	845 493	1 283 758	1 533 194	1 663 422
	Poland	990 463	1 629 425	1 800 243	1 989 351	438 106	698 362	750 292	820 043
	Portugal	158 553	168 296	179 713	195 947	74 145	82 278	86 707	88 904
	Slovak Republic	50 486	73 484	79 758	84 517	20 056	30 103	36 492	35 083
	Slovenia	29 114	36 253	38 853	42 987	13 507	17 893	18 925	18 941
	Spain	927 357	1 031 099	1 077 590	1 161 878	356 857	501 688	472 962	478 669
	Sweden	2 912 659	3 732 539	4 248 213	4 621 046	1 531 961	1 904 437	2 102 206	2 276 875
	Switzerland	508 900	626 414	654 258	669 542	171 949	208 135	222 506	228 665
	Turkey	673 703	1 569 672	2 338 647	3 110 650	m	525 252	746 115	1 061 533
	United Kingdom	1 339 165	1 672 918	1 875 697	2 014 526	575 464	780 641	811 057	852 489
	United States	12 625 184	15 869 795	17 876 019	19 117 232	4 818 229	6 515 902	6 913 742	7 414 715
Partners	Argentina	582 538	2 637 914	5 954 511	10 644 779	142 284	971 294	2 463 143	4 382 860
	Brazil	2 170 585	4 814 760	5 995 787	6 583 319	863 633	1 792 444	2 317 135	2 533 368
	China	18 731 890	53 858 000	68 599 290	82 075 430	3 427 928	15 178 679	21 896 915	26 234 659
	India	35 812 963	99 440 131	137 640 373	167 731 450	9 761 839	27 210 645	37 262 268	45 868 618
	Indonesia	3 035 611 121	8 615 704 500	11 526 332 800	13 589 825 700	526 114 278	1 622 837 246	2 014 591 077	2 250 751 426
	Russian Federation	23 234 482	68 042 380	83 094 305	92 101 348	6 820 645	23 174 718	29 307 781	31 989 128
	Saudi Arabia	1 230 771	2 759 906	2 453 512	2 582 198	346 471	917 198	1 001 292	860 000
	South Africa	1 639 254	3 253 852	4 049 884	4 653 579	461 829	1 020 652	1 333 492	1 518 601

Note: For countries where GDP is not reported for the same reference period as data on educational finance, GDP is estimated as: wt-1 (GDPt - 1) + wt (GDPt), where wt and wt-1 are the weights for the respective portions of the two reference periods for GDP which fall within the educational financial year. Adjustments were made in Chapter C for Australia, Canada, Japan, New Zealand, the United Kingdom and the United States.

1. The GDP Mainland market value is used for Norway.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934166194

Table X2.2. Basic reference statistics (reference period: calendar year, 2005, 2012, 2015, 2017)

		Purchasing power parity for GDP (PPP) (USD = 1)				Population in thousands on 1st January				GDP deflator (2015 = 100)		
		2005	2012	2015	2017	2005	2012	2015	2017	2005	2012	2017
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
OECD	Countries											
	Australia	1.4	1.5	1.5	1.5	20 177	22 734	23 816	24 602	79.2	99.8	105.6
	Austria	0.9	0.8	0.8	0.8	8 225	8 426	8 630	8 795	83.0	94.1	102.8
	Belgium	0.9	0.8	0.8	0.8	10 479	11 107	11 274	11 375	85.4	96.5	103.5
	Canada	1.2	1.2	1.2	1.2	32 242	34 751	35 703	36 540	84.1	97.3	103.2
	Chile	333.7	347.2	391.4	411.3	16 283	17 450	18 045	18 522	62.8	88.2	109.7
	Colombia	949.5	1 182.0	1 209.0	1 297.1	42 889	46 582	48 203	49 292	65.5	93.3	110.5
	Costa Rica	228.5	355.0	386.9	392.9	4 214	4 651	4 830	4 945	49.3	87.6	104.6
	Czech Republic	14.6	13.3	12.9	12.4	10 234	10 509	10 543	10 590	87.1	95.1	102.7
	Denmark	8.6	7.6	7.3	6.9	5 419	5 591	5 682	5 767	83.9	97.7	101.4
	Estonia	0.5	0.5	0.5	0.5	1 359	1 325	1 313	1 316	63.2	92.3	105.4
	Finland	1.0	0.9	0.9	0.9	5 246	5 414	5 481	5 508	81.9	94.4	100.9
	France	0.9	0.8	0.8	0.8	63 168	65 651	66 581	67 063	88.1	97.5	101.0
	Germany	0.9	0.8	0.8	0.7	81 337	80 426	81 687	82 657	87.3	94.6	102.2
	Greece	0.7	0.7	0.6	0.6	10 987	11 045	10 821	10 755	90.4	104.7	100.4
	Hungary	130.9	125.6	132.5	134.4	10 087	9 920	9 843	9 788	71.0	91.5	104.7
	Iceland	95.8	137.0	141.9	137.1	296	321	331	343	56.1	89.4	102.3
	Ireland	1.0	0.8	0.8	0.8	4 160	4 597	4 696	4 802	91.6	91.8	100.8
	Israel	3.7	4.0	3.9	3.7	6 961	7 907	8 377	8 710	80.7	94.2	101.3
	Italy	0.9	0.7	0.7	0.7	58 191	60 339	60 731	60 537	86.0	97.1	101.8
	Japan	129.6	104.3	103.4	105.4	127 755	127 552	127 110	126 706	104.1	96.5	100.0
	Korea	788.9	854.9	857.4	871.7	48 185	50 200	51 015	51 362	82.9	95.1	104.3
	Latvia	0.4	0.5	0.5	0.5	2 239	2 034	1 977	1 941	64.6	96.7	103.9
	Lithuania	0.4	0.5	0.4	0.4	3 323	2 988	2 905	2 828	71.7	97.7	105.9
	Luxembourg	0.9	0.9	0.9	0.8	466	532	569	597	75.0	95.5	102.5
	Mexico	7.1	7.9	8.3	8.9	107 000	116 885	120 846	123 364	64.2	91.8	112.4
	Netherlands	0.9	0.8	0.8	0.8	16 320	16 755	16 940	17 131	88.7	97.7	101.7
	New Zealand	1.5	1.5	1.5	1.5	4 148	4 418	4 635	4 832	80.1	94.2	105.5
	Norway[1]	9.0	9.0	9.9	9.9	4 623	5 019	5 191	5 277	73.5	93.0	103.8
	Poland	1.9	1.8	1.8	1.7	38 161	38 534	38 455	38 422	80.6	98.5	102.2
	Portugal	0.7	0.6	0.6	0.6	10 503	10 515	10 358	10 300	87.1	95.2	103.3
	Slovak Republic	0.6	0.5	0.5	0.5	5 387	5 406	5 422	5 438	91.3	99.9	100.7
	Slovenia	0.6	0.6	0.6	0.6	2 001	2 057	2 063	2 066	83.9	97.0	102.3
	Spain	0.8	0.7	0.7	0.6	43 663	46 766	46 410	46 533	90.1	99.3	101.7
	Sweden	9.5	8.7	8.9	8.7	9 030	9 519	9 799	10 058	83.6	95.3	103.7
	Switzerland	1.7	1.4	1.2	1.2	7 482	7 997	8 282	8 452	94.1	101.2	98.8
	Turkey	0.8	1.0	1.2	1.4	68 435	75 176	78 218	80 313	47.6	81.2	119.9
	United Kingdom	0.7	0.7	0.7	0.7	60 413	63 705	65 110	66 040	82.5	95.8	104.1
	United States	1.0	1.0	1.0	1.0	295 993	314 255	321 026	325 410	83.5	95.5	102.9
Partners	Argentina	1.1	3.2	6.7	11.6	38 592	41 733	43 132	44 045	13.4	45.4	177.8
	Brazil	1.1	1.6	1.9	2.0	184 991	198 315	203 476	206 805	47.7	80.2	111.9
	China	2.8	3.5	3.5	3.5	1 307 560	1 354 040	1 374 620	1 390 080	68.2	97.1	105.0
	India	10.4	16.0	17.1	17.8	1 114 238	1 235 000	1 283 000	1 316 896	53.9	89.3	107.1
	Indonesia	2 012.5	3 671.5	4 032.3	4 181.1	221 204	245 425	255 462	261 891	45.7	86.9	106.8
	Russian Federation	12.7	18.5	23.6	24.1	143 519	143 202	146 406	146 842	36.0	82.0	108.7
	Saudi Arabia	1.3	1.9	1.4	1.5	23 906	29 086	31 557	32 613	85.6	124.7	104.3
	South Africa	3.5	4.9	5.5	6.1	47 602	52 325	54 750	56 522	52.6	84.9	112.9

1. The GDP Mainland market value is used for Norway.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://doi.org/10.1787/888934166213

Table X2.3. Pre-primary and primary teachers' statutory salaries at different points in their careers, for teachers with the most prevalent qualifications defined at different points in teachers' careers (2019)

Annual salaries in public institutions for teachers with the most prevalent qualifications, in national currency

		Pre-primary				Primary			
		Starting salary	Salary after 10 years of experience	Salary after 15 years of experience	Salary at top of scale	Starting salary	Salary after 10 years of experience	Salary after 15 years of experience	Salary at top of scale
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OECD	**Countries**								
	Australia	69 487	99 777	99 777	102 929	69 487	99 777	99 777	102 929
	Austria	m	m	m	m	37 332	40 382	44 730	65 664
	Canada	m	m	m	m	52 669	88 960	91 930	91 930
	Chile	11 336 748	13 996 292	17 075 690	21 056 196	11 336 748	13 996 292	17 075 690	21 056 196
	Colombia	29 982 801	54 679 960	54 679 960	62 881 908	29 982 801	54 679 960	54 679 960	62 881 908
	Costa Rica	9 225 125	10 856 825	11 672 675	14 120 225	9 317 642	10 965 862	11 789 972	14 262 302
	Czech Republic	308 400	321 600	330 000	367 200	331 200	352 800	368 400	434 400
	Denmark	340 618	386 381	386 381	386 381	392 669	435 901	451 937	451 937
	Estonia	a	a	a	a	14 600	a	a	a
	Finland[1]	29 008	31 542	31 755	31 755	32 815	37 879	40 423	42 849
	France	26 329	30 070	32 111	46 338	26 329	30 070	32 111	46 338
	Germany	m	m	m	m	50 029	58 173	61 403	65 784
	Greece	13 104	15 917	17 156	25 816	13 104	15 917	17 156	25 816
	Hungary	2 340 000	2 959 740	3 178 980	4 494 420	2 340 000	2 959 740	3 178 980	4 494 420
	Iceland	6 176 712	6 344 256	6 676 644	6 850 380	6 130 512	6 298 056	6 630 444	6 804 180
	Ireland	m	m	m	m	36 318	55 348	61 089	70 438
	Israel	104 328	137 519	154 555	273 194	91 296	120 391	134 795	228 588
	Italy	23 993	26 358	28 914	35 150	23 993	26 358	28 914	35 150
	Japan	m	m	m	m	3 356 000	4 772 000	5 601 000	6 930 000
	Korea	31 778 880	47 937 920	56 002 120	89 092 480	31 778 880	47 937 920	56 002 120	89 092 480
	Latvia	8 520	a	a	a	8 520	a	a	a
	Lithuania	9 903	10 982	12 477	14 532	14 304	14 698	16 151	18 726
	Luxembourg	67 391	87 159	98 391	119 057	67 391	87 159	98 391	119 057
	Mexico	222 211	280 488	351 772	443 220	222 211	280 488	351 772	443 220
	Netherlands	35 600	47 303	55 469	58 597	35 600	47 303	55 469	58 597
	New Zealand	m	m	m	m	52 736	80 500	80 500	80 500
	Norway	386 200	446 800	446 800	465 300	425 800	520 300	520 300	559 900
	Poland	31 055	42 875	52 373	54 596	31 055	42 875	52 373	54 596
	Portugal	22 310	27 148	28 803	48 154	22 310	27 148	28 803	48 154
	Slovak Republic	7 894	8 686	9 080	10 006	8 832	10 606	12 414	13 682
	Slovenia	18 658	22 185	27 013	31 224	18 658	23 003	28 024	33 630
	Spain	29 918	32 399	34 557	42 531	29 918	32 399	34 557	42 531
	Sweden[2, 3]	372 000	391 800	415 500	436 800	381 600	422 400	439 800	503 808
	Switzerland	75 000	93 900	m	114 400	80 000	99 500	m	121 800
	Turkey	57 085	58 445	60 873	64 080	57 085	58 445	60 873	64 080
	United States[3]	40 790	53 214	61 235	76 493	41 119	54 457	61 145	71 427
	Economies								
	Flemish Comm. (Belgium)	33 048	41 444	46 659	57 091	33 048	41 444	46 659	57 091
	French Comm. (Belgium)	31 980	39 991	45 026	55 096	31 980	39 991	45 026	55 096
	England (UK)	24 597	a	40 532	40 532	24 597	a	40 532	40 532
	Scotland (UK)	28 260	37 575	37 575	37 575	28 260	37 575	37 575	37 575
Partners	Argentina	m	m	m	m	m	m	m	m
	Brazil	30 651	m	m	m	30 651	m	m	m
	China	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m	m	m
	Saudi Arabia	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m

Note: The definition of teachers' most prevalent qualifications is based on a broad concept, including the typical ISCED level of attainment and other criteria. The most prevalent qualification is defined for each of the four career stages included in this table. In many cases, the minimum qualification is the same as the most prevalent qualification, see Table X3.D3.2 in Annex 3.Please see Annex 2 and *Definitions* and *Methodology* sections for more information. Data available at http://stats.oecd.org/, Education at a Glance Database.

1. Data on pre-primary teachers include the salaries of kindergarten teachers who are the majority.
2. Excludes the social security contributions and pension-scheme contributions paid by the employees.
3. Actual base salaries.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table X2.4. Secondary teachers' statutory salaries at different points in their careers, for teachers with the most prevalent qualifications defined at different points in teachers' careers (2019)

Annual salaries in public institutions for teachers with the most prevalent qualifications, in national currency

		Lower secondary, general programmes				Upper secondary, general programmes			
		Starting salary	Salary after 10 years of experience	Salary after 15 years of experience	Salary at top of scale	Starting salary	Salary after 10 years of experience	Salary after 15 years of experience	Salary at top of scale
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OECD	**Countries**								
	Australia	69 482	99 932	99 932	103 075	69 482	99 932	99 932	103 075
	Austria	36 854	42 335	46 945	70 057	36 251	45 656	51 341	74 705
	Canada	52 669	88 960	91 930	91 930	52 669	88 960	91 930	91 930
	Chile	11 336 748	13 996 292	17 075 690	21 056 196	11 722 716	14 511 173	17 667 688	21 828 132
	Colombia	29 982 801	54 679 960	54 679 960	62 881 908	29 982 801	54 679 960	54 679 960	62 881 908
	Costa Rica	9 605 808	11 305 548	12 155 418	14 705 028	9 605 808	11 305 548	12 155 418	14 705 028
	Czech Republic	331 200	352 800	368 400	436 800	331 200	354 000	368 400	435 600
	Denmark	394 662	441 287	456 291	456 291	375 880	488 480	488 480	488 480
	Estonia	14 600	a	a	a	14 600	a	a	a
	Finland	35 441	40 910	43 658	46 277	37 210	44 556	46 651	49 450
	France[1]	27 709	31 450	33 491	47 855	27 709	31 450	33 491	47 855
	Germany	55 153	64 041	66 827	72 373	58 542	66 956	70 304	82 027
	Greece	13 104	15 917	17 156	25 816	13 104	15 917	17 156	25 816
	Hungary	2 436 000	2 959 740	3 178 980	4 494 420	2 436 000	3 288 600	3 532 200	4 993 800
	Iceland	6 130 512	6 298 056	6 630 444	6 804 180	5 949 744	6 538 356	7 187 328	7 187 328
	Ireland	36 318	57 322	61 680	71 029	36 318	57 322	61 680	71 029
	Israel	91 774	128 874	149 065	238 847	114 125	131 452	146 381	229 856
	Italy	25 829	28 586	31 480	38 596	25 829	29 268	32 356	40 338
	Japan	3 356 000	4 772 000	5 601 000	6 930 000	3 356 000	4 772 000	5 601 000	7 112 000
	Korea	31 838 880	47 997 920	56 062 120	89 152 480	31 118 880	47 277 920	55 342 120	88 432 480
	Latvia	8 520	a	a	a	8 520	a	a	a
	Lithuania	14 304	14 698	16 151	18 726	14 304	14 698	16 151	18 726
	Luxembourg	76 376	96 060	106 005	133 579	76 376	96 060	106 005	133 579
	Mexico	282 725	357 179	449 773	561 754	534 281	618 793	660 355	660 355
	Netherlands	37 809	57 950	66 644	77 507	37 809	57 950	66 644	77 507
	New Zealand	52 736	80 500	80 500	80 500	52 736	80 500	80 500	80 500
	Norway	425 800	520 300	520 300	559 900	514 700	569 100	569 100	631 000
	Poland	31 055	42 875	52 373	54 596	31 055	42 875	52 373	54 596
	Portugal	22 310	27 148	28 803	48 154	22 310	27 148	28 803	48 154
	Slovak Republic[2]	8 832	10 606	12 414	13 682	8 832	10 606	12 414	13 682
	Slovenia[2]	18 658	23 003	28 024	33 630	18 658	23 003	28 024	33 630
	Spain	33 392	36 208	38 559	47 293	33 392	36 208	38 559	47 293
	Sweden[2, 3, 4]	393 600	433 200	452 400	519 000	400 860	447 000	456 000	527 352
	Switzerland	89 400	113 200	m	137 200	100 700	129 600	m	154 700
	Turkey	57 085	58 445	60 873	64 080	57 085	58 445	60 873	64 080
	United States[4]	41 833	57 144	65 086	74 683	41 806	57 107	64 244	73 200
	Economies								
	Flemish Comm. (Belgium)	33 048	41 444	46 659	57 091	41 232	52 554	59 932	72 230
	French Comm. (Belgium)	31 980	39 991	45 026	55 096	39 787	50 717	57 839	69 710
	England (UK)	24 597	a	40 532	40 532	24 597	a	40 532	40 532
	Scotland (UK)	28 260	37 575	37 575	37 575	28 260	37 575	37 575	37 575
Partners	Argentina	m	m	m	m	m	m	m	m
	Brazil	30 651	m	m	m	30 651	m	m	m
	China	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m	m	m
	Saudi Arabia	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m

Note: The definition of teachers' most prevalent qualifications is based on a broad concept, including the typical ISCED level of attainment and other criteria. The most prevalent qualification is defined for each of the four career stages included in this table. In many cases, the minimum qualification is the same as the most prevalent qualification, see Table X3.D3.2 in Annex 3.Please see Annex 2 and *Definitions* and *Methodology* sections for more information. Data available at http://stats.oecd.org/, Education at a Glance Database.

1. Includes the average of fixed bonuses for overtime hours for lower and upper secondary teachers.
2. At the upper secondary level includes teachers working in vocational programmes (in Slovenia and Sweden, includes only those teachers teaching general subjects within vocational programmes).
3. Excludes the social security contributions and pension-scheme contributions paid by the employees.
4. Actual base salaries.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table X2.5. Trends in average teachers' actual salaries, in national currency (2000, 2005, 2010 to 2019)

Average annual salary (including bonuses and allowances) of teachers aged 25-64

		Pre-primary					Primary				
		2000	2005	2010	2018	2019	2000	2005	2010	2018	2019
		(1)	(2)	(3)	(11)	(12)	(13)	(14)	(15)	(23)	(24)
OECD	**Countries**										
	Australia	m	m	77 641	m	91 801	m	m	78 352	m	91 202
	Austria[1]	m	m	m	m	m	m	m	m	49 641	50 764
	Canada	m	m	m	m	m	m	m	m	m	m
	Chile	m	m	m	13 736 317	m	m	m	m	13 504 812	m
	Colombia	m	m	m	m	m	m	m	m	m	m
	Costa Rica	m	m	m	13 676 404	13 745 130	m	m	m	14 386 565	14 513 111
	Czech Republic	m	m	228 603	338 000	m	m	m	290 682	405 900	m
	Denmark[2]	m	m	372 336	374 101	383 356	m	m	452 337	451 870	463 886
	Estonia	m	m	m	12 024	m	m	m	m	17 089	m
	Finland[3]	m	m	29 759	32 571	32 914	28 723	35 654	40 458	43 842	44 408
	France	m	m	31 448	m	m	m	m	30 876	m	m
	Germany	m	m	m	m	m	m	m	m	57 349	58 847
	Greece[4]	m	m	m	17 982	17 512	m	m	m	17 982	17 512
	Hungary	m	m	2 217 300	3 584 532	3 759 324	m	m	2 473 800	3 924 084	4 112 280
	Iceland	m	m	m	6 260 000	6 627 000	m	m	m	7 144 000	7 399 000
	Ireland	m	m	m	m	m	m	m	m	55 835	56 478
	Israel	m	m	110 959	164 286	167 751	m	m	123 151	170 157	172 900
	Italy	m	m	25 774	27 997	29 494	m	m	25 774	27 997	29 494
	Japan	m	m	m	m	m	m	m	m	m	m
	Korea	m	m	m	m	m	m	m	m	m	m
	Latvia	m	m	m	10 566	11 123	m	m	m	14 223	14 593
	Lithuania	m	m	m	11 364	16 920	m	m	m	11 364	16 920
	Luxembourg	m	m	88 315	m	m	m	m	88 315	m	m
	Mexico	m	m	m	m	m	m	m	m	m	m
	Netherlands	m	m	43 374	50 875	51 148	m	m	43 374	50 875	51 148
	New Zealand	m	m	m	m	m	m	m	m	72 453	m
	Norway	m	289 548	368 580	483 676	492 100	m	348 877	422 930	541 702	552 536
	Poland	m	m	40 626	51 340	m	m	m	46 862	61 388	m
	Portugal	m	m	m	32 291	m	m	m	m	29 561	m
	Slovak Republic	m	m	m	10 933	12 031	m	m	m	14 268	15 472
	Slovenia[5]	m	m	m	20 780	m	m	m	m	24 690	m
	Spain	m	m	m	m	m	m	m	m	m	m
	Sweden[6]	204 516	252 268	296 997	381 383	m	239 887	288 154	323 621	432 119	m
	Switzerland	m	m	m	m	m	m	m	m	m	m
	Turkey	m	m	m	m	m	m	m	m	m	m
	United States	38 028	40 268	48 103	52 990	54 088	38 746	41 059	49 133	53 999	55 118
	Economies										
	Flemish Comm. (Belgium)	m	m	41 046	47 311	47 040	m	m	41 543	46 707	46 164
	French Comm. (Belgium)	m	m	m	44 423	45 592	m	m	m	43 849	44 748
	England (UK)	22 968	29 418	33 680	33 913	34 740	22 968	29 418	33 680	33 913	34 740
	Scotland (UK)[7]	m	m	31 884	m	m	m	m	31 884	m	m
Partners	Argentina	m	m	m	m	m	m	m	m	m	m
	Brazil	m	m	m	m	m	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m	m
	Russian Federation[8]	m	m	m	m	m	m	m	m	m	m
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m

		Lower secondary					Upper secondary				
		2000	2005	2010	2018	2019	2000	2005	2010	2018	2019
		(25)	(26)	(27)	(35)	(36)	(37)	(38)	(39)	(47)	(48)
OECD	**Countries**										
	Australia	m	m	78 221	m	92 999	m	m	78 225	m	93 079
	Austria[1]	m	m	m	57 319	58 322	m	m	m	63 465	65 347
	Canada	m	m	m	m	m	m	m	m	m	m
	Chile	m	m	m	13 821 469	m	m	m	m	14 605 998	m
	Colombia	m	m	m	m	m	m	m	m	m	m
	Costa Rica	m	m	m	17 408 159	17 515 256	m	m	m	17 408 159	17 515 256
	Czech Republic	m	m	289 771	402 900	m	m	m	313 534	417 100	m
	Denmark[2]	m	m	457 728	456 405	467 042	m	m	m	541 386	556 070
	Estonia	m	m	m	17 089	m	m	m	m	17 089	m
	Finland[3]	32 919	39 519	44 421	48 585	49 303	37 728	44 051	49 808	54 833	55 731
	France	m	m	37 198	m	m	m	m	41 789	m	m
	Germany	m	m	m	63 153	64 599	m	m	m	67 259	69 457
	Greece[4]	m	m	m	19 079	18 530	m	m	m	19 079	18 530
	Hungary	m	m	2 473 800	3 924 084	4 112 280	m	m	2 814 100	4 120 860	4 357 128
	Iceland	m	m	m	7 144 000	7 399 000	m	m	5 172 300	9 148 000	9 777 000
	Ireland	m	m	m	59 315	60 089	m	m	m	59 315	60 089
	Israel	m	m	126 309	181 625	184 169	m	m	133 790	189 228	195 681
	Italy	m	m	27 170	28 540	31 631	m	m	28 986	30 628	33 796
	Japan	m	m	m	m	m	m	m	m	m	m
	Korea	m	m	m	m	m	m	m	m	m	m
	Latvia	m	m	m	13 552	14 000	m	m	m	14 515	15 271
	Lithuania	m	m	m	11 364	16 920	m	m	m	11 364	16 920
	Luxembourg	m	m	101 471	m	m	m	m	101 471	m	m
	Mexico	m	m	m	m	m	m	m	m	m	m
	Netherlands	m	m	52 831	61 350	61 996	m	m	52 831	61 350	61 996
	New Zealand	m	m	m	73 584	m	m	m	m	79 448	m
	Norway	m	348 877	422 930	541 702	552 536	m	372 694	449 704	585 940	598 490
	Poland	m	m	47 410	62 390	m	m	m	46 147	60 931	m
	Portugal	m	m	m	29 084	m	m	m	m	31 573	m
	Slovak Republic	m	m	m	14 268	15 472	m	m	m	14 660	16 109
	Slovenia[5]	m	m	m	25 380	m	m	m	m	26 763	m
	Spain	m	m	m	m	m	m	m	m	m	m
	Sweden[6]	247 793	290 058	324 639	448 965	m	265 488	315 592	347 967	458 571	m
	Switzerland	m	m	m	m	m	m	m	m	m	m
	Turkey	m	m	m	m	m	m	m	m	m	m
	United States	39 500	41 873	50 158	56 550	57 722	41 124	43 588	52 188	58 997	60 220
	Economies										
	Flemish Comm. (Belgium)	m	m	41 277	45 736	45 724	m	m	54 381	56 061	53 358
	French Comm. (Belgium)	m	m	m	42 609	43 464	m	m	m	54 039	55 007
	England (UK)	25 347	32 355	36 173	38 062	38 796	25 347	32 355	36 173	38 062	38 796
	Scotland (UK)[7]	m	m	31 884	m	m	m	m	31 884	m	m
Partners	Argentina	m	m	m	m	m	m	m	m	m	m
	Brazil	m	m	m	m	m	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m	m
	Russian Federation[8]	m	m	m	m	m	m	m	m	m	m
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m

Note: Years 2011 to 2017 (i.e. Columns 4 to 10, 16 to 22, 28 to 34 and 40 to 46) are available for consultation on line. Data available at http://stats.oecd.org/, Education at a Glance Database.

1. Before 2015, also includes data on actual salaries of head teachers, deputies and assistants.
2. Also includes data on actual salaries of teachers in early childhood educational development programmes for pre-primary education.
3. Also includes data on the majority, i.e. kindergarten teachers only for pre-primary education.
4. At pre-primary and primary levels actual salaries refer to all teachers/school heads in those levels of education combined, including special needs education. At lower and upper secondary levels, actual salaries refer to all teachers/school heads in those levels of education combined, including vocational and special needs education.
5. Also includes data on actual salaries of preschool teachers' assistants for pre-primary education for 2011-2015.
6. Average actual teachers' salaries.
7. Includes all teachers, irrespective of their age.
8. Average actual teachers' salaries for all teachers, irrespective of the level of education they teach.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table X2.6. Reference statistics used in calculating teachers' salaries (2000, 2005 to 2019)

		Purchasing power parity for private consumption (PPP)[1]					Private consumption deflators (2005 = 100)					Reference year for statutory salary data	Reference year for actual salary data
		2017	2018	2019	Jan 2018	Jan 2019	Jan 2000	Jan 2005	Jan 2010	Jan 2015	Jan 2019		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(12)	(17)	(21)	(22)	(23)
OECD	**Countries**												
	Australia	1.54	1.54	1.54	1.54	1.54	88	100	116	129	136	2019	2019
	Austria	0.83	0.83	0.83	0.83	0.83	92	100	110	122	131	2018/19	2018/19
	Canada	1.30	1.30	1.30	1.30	1.30	91	100	106	115	121	2018/19	2018/19
	Chile	485.50	487.40	487.40	486.45	487.40	84	100	123	150	169	2019	2018
	Colombia	1 400.68	1 411.59	1 411.59	1 406.14	1 411.59	72	100	125	148	176	2018	2019
	Costa Rica	371.37	370.57	370.57	370.97	370.57	56	100	159	191	206	2019	2019
	Czech Republic	13.84	13.94	13.94	13.89	13.94	90	100	111	118	126	2018/19	2017/18
	Denmark	7.93	7.81	7.81	7.87	7.81	92	100	111	119	123	2018/19	2018/19
	Estonia	0.60	0.61	0.61	0.61	0.61	83	100	126	145	159	2018/19	2017/18
	Finland	0.94	0.93	0.93	0.94	0.93	93	100	110	122	126	2018/19	2018/19
	France	0.84	0.84	0.84	0.84	0.84	92	100	107	112	116	2018/19	2017
	Germany	0.79	0.79	0.79	0.79	0.79	93	100	107	114	119	2018/19	2018/19
	Greece	0.65	0.64	0.64	0.65	0.64	87	100	116	115	115	2018/19	2018/19
	Hungary	149.53	152.18	152.18	150.85	152.18	73	100	126	146	158	2018/19	2018/19
	Iceland	155.93	153.72	153.72	154.83	153.72	81	100	153	182	190	2018/19	2018/19
	Ireland	0.98	0.98	0.98	0.98	0.98	83	100	100	104	108	2018/19	2018/19
	Israel	4.24	4.19	4.19	4.22	4.19	93	100	114	123	125	2018/19	2018/19
	Italy	0.77	0.77	0.77	0.77	0.77	88	100	110	118	121	2018/19	2018/19
	Japan	114.27	114.00	114.00	114.13	114.00	105	100	97	97	98	2018/19	2018/19
	Korea	988.50	989.66	989.66	989.08	989.66	85	100	113	124	130	2019	2019
	Latvia	0.56	0.57	0.57	0.56	0.57	77	100	139	152	164	2018/19	2018/19
	Lithuania	0.49	0.50	0.50	0.50	0.50	99	100	131	142	153	2018/19	2018/19
	Luxembourg	0.96	0.96	0.96	0.96	0.96	90	100	110	119	125	2018/19	2018/19
	Mexico	10.09	10.32	10.32	10.21	10.32	78	100	128	160	188	2018/19	2018/19
	Netherlands	0.86	0.86	0.86	0.86	0.86	88	100	107	115	121	2018/19	2018/19
	New Zealand	1.59	1.58	1.58	1.59	1.58	92	100	113	120	126	2019	2018
	Norway	10.73	10.73	10.73	10.73	10.73	91	100	111	121	133	2018/19	2018/19
	Poland	1.86	1.88	1.88	1.87	1.88	84	100	113	124	129	2018/19	2017/18
	Portugal	0.66	0.66	0.66	0.66	0.66	85	100	111	118	123	2018/19	2017/18
	Slovak Republic	0.59	0.59	0.59	0.59	0.59	76	100	115	125	131	2018/19	2018/19
	Slovenia	0.64	0.65	0.65	0.64	0.65	76	100	116	122	127	2018/19	2017/18
	Spain	0.71	0.71	0.71	0.71	0.71	85	100	113	120	125	2018/19	2018/19
	Sweden	9.25	9.39	9.39	9.32	9.39	93	100	108	113	121	2018	2018
	Switzerland	1.36	1.33	1.33	1.34	1.33	97	100	105	103	104	2019	2018/19
	Turkey	1.71	1.94	1.94	1.83	1.94	28	100	145	205	314	2018/19	2018/19
	United States	1.00	1.00	1.00	1.00	1.00	90	100	111	120	127	2018/19	2018/19
	Economies												
	Flemish Comm. (Belgium)[2]	0.85	0.85	0.85	0.85	0.85	90	100	111	120	127	2018/19	2018/19
	French Comm. (Belgium)[2]	0.85	0.85	0.85	0.85	0.85	90	100	111	120	127	2018/19	2018/19
	England (UK)[3]	0.78	0.79	0.79	0.78	0.79	95	100	112	123	131	2018/19	2018/19
	Scotland (UK)[3]	0.78	0.79	0.79	0.78	0.79	95	100	112	123	131	2018/19	2017/18
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	2.22	2.25	2.25	2.04	2.25	65	100	135	197	241	2017	2017
	China	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	25.65	26.06	26.06	25.86	26.06	48	100	160	231	286	2018/19	2017/18
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m

Note: Private consumption deflators for years 2006 to 2009, 2011 to 2014 and 2016 to 2018 (i.e. Columns 8 to 11, 13 to 16 and 18 to 20) are available for consultation on line. See *Definitions* and *Methodology* sections for more information. Data available at http://stats.oecd.org/, Education at a Glance Database.

1. Data on PPPs and GDP for countries now in the Euro area are shown in euros.

2. Data on PPPs and deflators refer to Belgium.

3. Data on PPPs and deflators refer to the United Kingdom.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table X2.7. Distribution of teachers by minimum or most prevalent qualifications and level of education (2019)

Teachers who have either minimum or a higher than minimum (and most prevalent) qualification

		Pre-primary			Primary			Lower secondary			Upper secondary		
		Is there a difference between "minimum" and "most prevalent" qualifications?	Percentage of teachers in salary range based on minimum qualification of teachers to enter the teaching profession in 2019	Percentage of teachers in a salary range based on a higher than minimum qualification (and most prevalent) to enter the teaching profession in 2019	Is there a difference between "minimum" and "most prevalent" qualifications?	Percentage of teachers in salary range based on minimum qualification of teachers to enter the teaching profession in 2019	Percentage of teachers in a salary range based on a higher than minimum qualification (and most prevalent) to enter the teaching profession in 2019	Is there a difference between "minimum" and "most prevalent" qualifications?	Percentage of teachers in salary range based on minimum qualification of teachers to enter the teaching profession in 2019	Percentage of teachers in a salary range based on a higher than minimum qualification (and most prevalent) to enter the teaching profession in 2019	Is there a difference between "minimum" and "most prevalent" qualifications?	Percentage of teachers in salary range based on minimum qualification of teachers to enter the teaching profession in 2019	Percentage of teachers in a salary range based on a higher than minimum qualification (and most prevalent) to enter the teaching profession in 2019
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD	**Countries**												
	Australia	m	100	a	m	100	a	m	100	a	m	100	a
	Austria	m	a	a	No	100	a	No	100	a	No	100	a
	Canada	a	a	a	Yes	m	a	Yes	m	a	Yes	m	a
	Chile	No	m	a	No	m	a	No	m	a	No	m	a
	Colombia[1]	Yes	5	47	Yes	12	42	No	m	m	No	m	m
	Costa Rica	Yes	0	93	Yes	0	75	Yes	0	52	Yes	0	52
	Czech Republic	No	100	a	No	100	a	No	100	a	No	100	a
	Denmark	No	100	a	No	100	a	No	100	a	No	100	a
	Estonia	a	a	a	a	m	a	a	m	a	a	m	a
	Finland	No	m	a	No	m	a	No	m	a	No	m	a
	France	No	99	a	No	99	a	No	83	a	No	66	a
	Germany	No	a	a	No	100	a	No	100	a	No	100	a
	Greece	No	100	a	No	100	a	No	100	a	No	100	a
	Hungary	No	m	a	No	m	a	Yes	m	a	No	m	a
	Iceland	No	m	a	No	m	a	No	m	a	No	m	a
	Ireland	No	a	a	No	23	a	No	22	a	No	22	a
	Israel	No	68	a	No	58	a	No	47	a	No	46	a
	Italy	No	100	a	No	100	a	No	100	a	No	100	a
	Japan	m	m	m	No	m	m	No	m	m	No	m	m
	Korea	Yes	m	m	No	m	a	Yes	m	m	Yes	m	m
	Latvia	No	100	a	No	100	a	No	100	a	No	100	a
	Lithuania	No	m	m	No	m	m	No	m	m	No	m	m
	Luxembourg	No	90	a	No	83	a	No	71	a	No	85	a
	Mexico	No	m	m	No	m	m	No	m	m	No	m	m
	Netherlands	No	100	a	No	100	a	No	100	a	No	100	a
	New Zealand	Yes	a	a	Yes	m	m	Yes	m	m	Yes	m	a
	Norway	No	m	a	Yes	40	48	Yes	40	48	Yes	12	48
	Poland	Yes	0	92	Yes	0	97	Yes	a	98	Yes	100	a
	Portugal	No	100	a	No	100	a	No	100	a	No	100	a
	Slovak Republic	No	m	a	No	m	a	No	m	a	No	m	a
	Slovenia	No	100	a	No	100	a	No	100	a	No	100	a
	Spain	No	100	a	No	100	a	No	100	a	No	100	a
	Sweden[1]	No	100	a	No	100	a	No	100	a	No	100	a
	Switzerland	No	m	a	No	m	a	No	m	a	No	m	a
	Turkey	No	m	a	No	m	a	No	m	a	No	m	a
	United States	No	47	a	Yes	43	47	Yes	38	50	Yes	34	53
	Economies												
	Flemish Comm. (Belgium)	No	100	a	No	100	a	No	96	a	Yes	38	62
	French Comm. (Belgium)	No	99	a	No	95	a	No	85	a	Yes	7	81
	England (UK)	Yes	99	a	Yes	99	a	Yes	97	a	Yes	97	a
	Scotland (UK)	No	100	a	No	100	a	No	100	a	No	100	a
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	No	m	a	No	m	a	No	m	a	No	m	a
	China	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	m	a	a	m	a	a	m	a	a	m	a	a
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m

Note: See *Definitions* and *Methodology* sections for more information. Data available at http://stats.oecd.org/, Education at a Glance Database.

1. Year of reference is 2018

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table X2.8. Distribution of teachers aged 25-64 by educational attainment and level of education (2019)

		Pre-primary			Primary			Lower secondary			Upper secondary		
		Attainment at ISCED level 5 or lower	Attainment at ISCED level 6	Attainment at ISCED level 7 or 8	Attainment at ISCED level 5 or lower	Attainment at ISCED level 6	Attainment at ISCED level 7 or 8	Attainment at ISCED level 5 or lower	Attainment at ISCED level 6	Attainment at ISCED level 7 or 8	Attainment at ISCED level 5 or lower	Attainment at ISCED level 6	Attainment at ISCED level 7 or 8
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD	**Countries**												
	Australia	m	m	m	0	100	0	0	100	0	0	100	0
	Austria	m	m	m	m	m	m	m	m	m	m	m	m
	Canada	m	m	m	m	m	m	m	m	m	m	m	m
	Chile[1]	1	99	x(2)	0	100	x(5)	0	100	x(8)	1	99	x(11)
	Colombia	m	m	m	m	m	m	m	m	m	m	m	m
	Costa Rica	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic[1]	74	18	9	7	4	89	5	5	90	2	3	95
	Denmark	m	m	m	m	m	m	m	m	m	0	0	100
	Estonia[1]	31	49	20	9	27	64	6	21	74	3	15	81
	Finland	25	68	8	2	4	94	2	3	95	0	1	99
	France[2, 3]	16	60	24	16	60	24	5	64	31	5	64	31
	Germany	m	m	m	0	0	100	0	0	100	0	0	100
	Greece	x(4)	x(5)	x(6)	0	87	13	x(10)	x(11)	x(12)	1	75	23
	Hungary	4	95	2	1	81	18	1	81	18	0	21	78
	Iceland	9	84	8	2	85	13	2	85	13	m	m	m
	Ireland	a	m	m	a	m	m	a	m	m	a	m	m
	Israel	3	68	29	3	58	40	2	47	52	7	46	47
	Italy	m	m	m	m	m	m	m	m	m	m	m	m
	Japan	m	m	m	m	m	m	m	m	m	m	m	m
	Korea	16	59	25	0	72	27	0	66	34	0	61	39
	Latvia	18	82	x(2)	6	94	x(5)	7	93	x(8)	2	98	x(11)
	Lithuania	19	81	x(2)	3	97	x(5)	1	99	x(8)	1	99	x(11)
	Luxembourg	m	m	m	m	m	m	m	m	m	m	m	m
	Mexico	3	79	9	0	98	1	4	80	14	m	m	m
	Netherlands	0	83	17	0	83	17	0	64	36	0	64	36
	New Zealand[1]	m	m	m	10	88	3	10	86	4	3	86	11
	Norway	8	92	1	4	87	9	4	87	9	2	46	52
	Poland	2	7	91	0	3	97	a	2	97	a	0	99
	Portugal[1]	0	12	88	0	8	92	0	3	97	0	3	97
	Slovak Republic	m	m	m	m	m	m	m	m	m	m	m	m
	Slovenia[1]	22	58	20	20	4	76	24	2	74	2	2	97
	Spain	x(2)	100	0	x(5)	100	0	0	0	100	0	0	100
	Sweden[1]	39	58	4	5	70	25	4	24	72	2	13	85
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m
	Turkey	m	m	m	m	m	m	m	m	m	m	m	m
	United States	2	45	53	2	41	57	3	37	61	4	33	63
	Economies												
	Flemish Comm. (Belgium)	0	100	0	0	98	2	0	99	1	0	38	62
	French Comm. (Belgium)	0	99	1	1	94	4	2	83	16	1	10	90
	England (UK)	1	43	56	1	43	56	1	20	79	1	20	79
	Scotland (UK)	m	100	m	m	100	m	m	100	m	m	100	m
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil[3]	24	75	1	20	79	1	11	86	3	5	91	4
	China	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m	m	m	m	m	m	m
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m

Note: See *Definitions* and *Methodology* sections for more information. Data available at http://stats.oecd.org/, Education at a Glance Database.

1. Year of reference 2018.

2. Data for pre-primary level refer to pre-primary and primary combined. Data for lower secondary level refer to lower secondary and upper secondary combined.

3. Year of reference 2017.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table X2.9. Distribution of school heads aged 25-64 by educational attainment and level of education (2019)

		Pre-primary			Primary			Lower secondary			Upper secondary		
		Attainment at ISCED level 5 or lower	Attainment at ISCED level 6	Attainment at ISCED level 7 or 8	Attainment at ISCED level 5 or lower	Attainment at ISCED level 6	Attainment at ISCED level 7 or 8	Attainment at ISCED level 5 or lower	Attainment at ISCED level 6	Attainment at ISCED level 7 or 8	Attainment at ISCED level 5 or lower	Attainment at ISCED level 6	Attainment at ISCED level 7 or 8
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD	**Countries**												
	Australia	m	m	m	0	100	0	0	100	0	0	100	0
	Austria	m	m	m	m	m	m	m	m	m	m	m	m
	Canada	m	m	m	m	m	m	m	m	m	m	m	m
	Chile[1]	1	99	x(2)	0	100	x(5)	0	100	x(8)	0	100	x(11)
	Colombia	m	m	m	m	m	m	m	m	m	m	m	m
	Costa Rica	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic[1]	60	20	19	2	2	97	2	2	97	1	2	97
	Denmark	0	100	0	0	100	0	0	100	0	0	0	100
	Estonia[1]	1	30	69	2	12	86	3	10	87	0	6	94
	Finland	36	50	14	1	7	92	1	5	94	0	0	100
	France[2]	16	60	24	16	60	24	m	m	m	m	m	m
	Germany	m	m	m	m	m	m	m	m	m	m	m	m
	Greece	x(4)	x(5)	x(6)	0	75	25	x(10)	x(11)	x(12)	0	44	56
	Hungary	m	m	m	m	m	m	m	m	m	m	m	m
	Iceland	m	m	m	m	m	m	m	m	m	m	m	m
	Ireland	a	m	m	a	m	m	a	m	m	a	m	m
	Israel	a	a	a	0	8	92	0	2	98	3	22	76
	Italy	a	a	a	0	0	100	0	0	100	0	0	100
	Japan	m	m	m	m	m	m	m	m	m	m	m	m
	Korea	0	9	90	0	12	88	0	9	91	0	7	93
	Latvia	0	100	x(2)	0	100	x(5)	0	100	x(8)	0	100	x(11)
	Lithuania	1	99	x(2)	0	100	x(5)	0	100	x(8)	0	100	x(11)
	Luxembourg	m	m	m	m	m	m	m	m	m	m	m	m
	Mexico	m	m	m	m	m	m	m	m	m	m	m	m
	Netherlands	4	68	29	4	68	29	14	44	42	14	44	42
	New Zealand[1]	m	m	m	59	41	0	57	43	0	80	20	0
	Norway	4	96	0	2	89	9	2	89	9	1	46	53
	Poland[1]	a	1	99	a	1	99	a	0	100	a	0	100
	Portugal[1]	0	5	95	0	5	95	0	5	95	0	5	95
	Slovak Republic	m	m	m	m	m	m	m	m	m	m	m	m
	Slovenia	m	m	m	m	m	m	m	m	m	m	m	m
	Spain	x(2)	100	0	x(5)	100	0	0	0	100	0	0	100
	Sweden[1]	45	43	10	14	44	40	14	44	40	9	25	63
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m
	Turkey	95	4	1	95	4	1	95	1	1	0	0	0
	United States	0	1	99	0	2	98	0	2	98	0	2	98
	Economies												
	Flemish Comm. (Belgium)	0	100	0	0	96	4	0	97	3	0	0	100
	French Comm. (Belgium)	0	98	2	0	96	4	0	80	20	0	24	76
	England (UK)	0	54	46	0	54	46	0	17	82	0	17	82
	Scotland (UK)	m	m	m	m	m	m	m	m	m	m	m	m
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil[2]	m	m	m	m	m	m	m	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m	m	m	m	m	m	m
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m

Note: See *Definitions* and *Methodology* sections for more information. Data available at http://stats.oecd.org/, Education at a Glance Database.

1. Year of reference 2018.
2. Year of reference 2017.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://doi.org/10.1787/69096873-en).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Annex 3. Sources, methods and technical notes

Annex 3 on sources and methods is available in electronic form only. It can be found at:

https://doi.org/10.1787/69096873-en

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Many people have contributed to the development of this publication.

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The OECD wishes to thank them all for their valuable efforts.

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Education at a Glance 2020

OECD INDICATORS

Education at a Glance is the authoritative source for information on the state of education around the world. It provides data on the structure, finances and performance of education systems across OECD countries and a number of partner economies. More than 100 charts and tables in this publication – as well as links to much more available on the educational database – provide key information on the output of educational institutions; the impact of learning across countries; access, participation and progression in education; the financial resources invested in education; and teachers, the learning environment and the organisation of schools.

The 2020 edition includes a focus on vocational education and training, investigating participation in vocational education and training at various levels of education, the labour market and social outcomes of vocational graduates as well as the human and financial resources invested in vocational institutions. Two new indicators on how vocational education and training systems differ around the world and on upper secondary completion rate complement this topic. A specific chapter is dedicated to the Sustainable Development Goal 4, and investigates the quality and participation in secondary education.



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