Education at a Glance 2021

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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. This 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. This 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, Antonio Carvalho, Éric Charbonnier, Manon Costinot, Bruce Golding, Yanjun Guo, Corinne Heckmann, Massimo Loi, 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 Heewoon Bae, Pablo Fraser, Gabor Fulop, Julie Hepp, Noémie Le Donné and Violeta Lanza Robles. 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 the INES programme more generally are listed at the end of this publication.

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 COVID-19 pandemic has hit our health, economic, and social sectors hard. It has also exposed and highlighted some systemic weaknesses hampering genuine social mobility. Equality of opportunity is a key ingredient for a strong and cohesive democratic society. Unlike policies that address the consequences, education can tackle the sources of inequality of opportunity, by creating a more level playing field for people of all ages to acquire the skills that power better jobs and better lives.

Too many from disadvantaged backgrounds remain less likely to participate in education, perform well, find suitable employment, or pursue lifelong learning. As a result, they are also less likely to develop the skills needed to succeed in our changing economy. On average across OECD countries, a child from a disadvantaged family is expected to take five generations to reach the average national income.

Accordingly, the theme of this edition of *Education at a Glance* is equality of opportunity for access, participation, and progression in education. It focuses on participation in education, learning outcomes and teacher training for diversity in the classroom. Factors such as gender, socio-economic status, country of origin or geography, are also shown to influence performance and trajectories. And it includes a spotlight on COVID-19, by exploring measures implemented around the world to ensure continuity and equitable learning during school disruptions.

Differences in educational progress and outcomes

While the short and long-term effects of COVID-19 on learning are still uncertain, the pandemic risks exacerbating these existing learning gaps. We know that those from disadvantaged backgrounds face greater challenges adapting to the changes imposed by the pandemic. School closures have tended to last longer in countries with lower learning outcomes. Moreover, disadvantaged children are less likely to have access to adequate tools for remote learning, a quiet place to study at home, or the support of their parents or guardians.

Socio-economic status also influences educational pathways. Those students without at least one tertiary-educated parent are more likely to enrol in upper secondary vocational programmes than in general ones and less likely to complete the level. Those without upper secondary education face disadvantages in the labour market. In 2020, the unemployment rate of young adults that had not completed upper secondary education is almost twice as high as for those with higher qualifications. In contrast, those from advantaged backgrounds are overrepresented in general upper secondary programmes and among entrants to bachelor programmes, which risks amplifying perceptions that certain educational tracks hold more societal value than others.

Children from an immigrant background tend to be at a disadvantage compared to their native-born peers when it comes to access to and participation in education, even after accounting for social background. Labour market outcomes vary greatly for foreign-born adults with different levels of education, reflecting the supply and demand for different skills, the difficulties tertiary-educated foreign-born adults face in gaining recognition for their education and experience earned abroad, and lower wage expectations of foreign workers in some countries.

Gender disparities also persist and influence educational trajectories and opportunities in the labour market. Boys are more likely than girls to repeat a grade and underperform in reading, and less likely to complete upper secondary education. When it comes to selecting an educational trajectory, boys are usually overrepresented in vocational paths and less likely to enter and graduate from tertiary education. Women outnumber men in participation rates to formal adult learning. Yet they remain less likely to be employed and earn less than men across all levels of educational attainment and OECD countries, even among those having graduated from the same field of study.

Rethinking equity in education in today's digital world

Despite these findings, this edition of Education at a Glance also shows that those challenges can be successfully addressed. Comparative data, policy analysis and best practice provide important insights.

The comparisons show that improved social mobility and better equality of opportunity is indeed possible, with lessons from the most equitable education systems highlighting the importance of starting early, so that children, particularly those from disadvantaged backgrounds, acquire solid foundations, including cognitive, social and emotional skills, and a sustained habit of learning which will carry them through life.

Towards this, investment in teachers is needed to develop capacity in understanding individual students' needs and tailor their learning strategies accordingly. However, while 94% of teachers across the OECD countries participating in the OECD Teaching and Learning International Survey (TALIS) reported having participated in continuous professional development activities over the past 12 months, only around 20% reported participating in training about teaching in a multicultural or multilingual settings, with significant cross-country variation.

Technological innovation has implications for education changing the demand for knowledge and skills, but it is also transforming the education sector itself. During the pandemic, we have seen some of the downsides, from student screen fatigue and adaptation stress, to the risk of those without access to adequate tools for remote learning falling behind. But we have also seen how technology can make learning more granular, more adaptive and more interactive for students. It can help teachers better understand how different students learn differently and it can assist education systems better match resources to needs. Here, the knowledge and confidence that teachers have in utilising technology and integrating it into education is essential.

Finally, we know that preparing students for lifelong learning to up-skill and re-skill as adults is key to ensuring they are resilient to mega trends and external shocks. Yet, on average across OECD countries, participation in adult learning by low-skilled individuals is a staggering 40 percentage points below that of high-skilled adults. Older adults are 25 percent less likely to train than 25-34 year-olds. So in addition to starting early, educators need to work more closely with other government sectors and business to help promote flexible pathways in and out of education that evolve alongside labour market demands.

As we navigate through the immediate and longer-term effects of the pandemic, the continued globalisation and digitalisation of our economies, the OECD will continue the essential work of rigorous evidence-based analysis and policy innovation to help address education and skills needs.

We all benefit when we all grow and prosper.



Mathias Cormann

Secretary-General, OECD

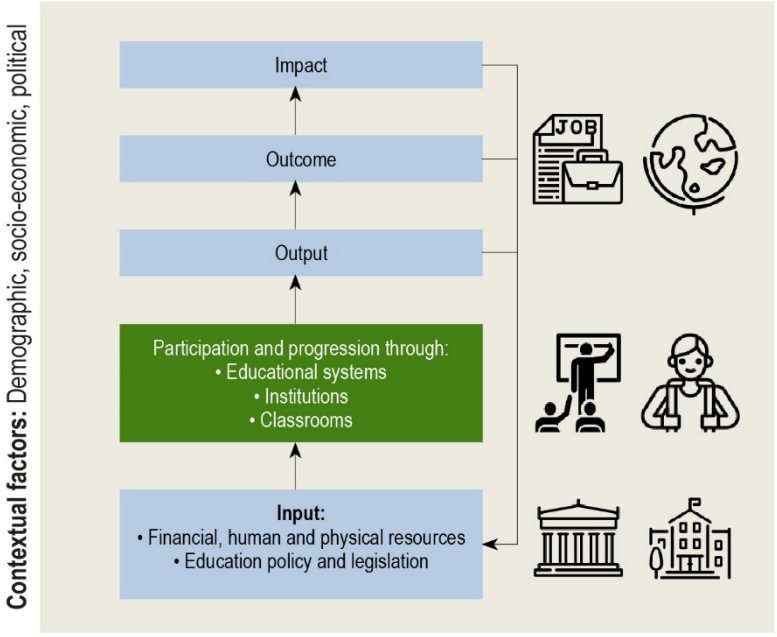
Introduction: The indicators and their framework

The organising framework

Education at a Glance 2021: 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 the 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 2021* 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, for example, 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.

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, the 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 the 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 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 an indicator to this universal education agenda. The analysis 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 chapter draws on the general framework of *Education at a Glance*.

Equity in *Education at a Glance 2021*

As the selected theme for this year's publication, equity is at the forefront of *Education at a Glance 2021*. Equity in education means that access, participation and progression to obtain a quality education are available to all and that personal or social circumstances – such as gender, socio-economical or immigrant background – are not obstacles to achieving educational potential. Therefore, a large number of indicators in this year's edition analyse participation and progression through education, as well as the outcomes of education across a number of equity dimensions: gender, immigrant background or country of origin, and subnational regions. The socio-economic dimension is assessed through an analysis of education indicators by type of educational institution, whether public or private, as well as through the educational finance indicators. A new indicator on the criteria considered to allocate public funds to schools complements this analysis. The indicator sheds light on how resource allocation mechanisms can support efforts towards greater equity in schools, considering differences in size (the number of students, teaching and non-teaching staff, and facilities provided), location (rural, remote or urban), programmes offered (e.g. special educational needs programmes, different vocational fields, a focus on sports or the arts) and characteristics of the student population (for example, specific elements of disadvantage). A second new indicator examines teacher attrition rates among male and female teachers and complements the analysis on gender equity among the teaching profession.

In line with this general focus of the publication, the SDG indicator in *Education at a Glance 2021* focuses on the status of Target 4.5 that aims to "eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations" by 2030.

Maintaining equity has been particularly challenging in the context of the COVID-19 pandemic. Disadvantaged students are most likely to struggle with distance learning, and are more at risk of disengaging with education during sustained periods of school closures. Similarly, those with lower educational attainment face higher uncertainty and instability in the job market. A supplemental COVID-19 spotlight released jointly with this publication complements the thematic focus on equity. It explores in greater depth the educational response during the pandemic, analysing the measures implemented across the world to ensure educational continuity and equitable learning during school disruptions (OECD, 2021[1]).

Table A summarises the indicators and chapters that contribute to the analysis of equity in this year's *Education at a Glance*.

Table A. Indicators including an analysis of equity in *Education at a Glance 2021*, by equity dimension

Chapter	Indicator number	Indicator	Equity dimensions			
			Gender	Socio-economic status	Country of origin	Subnational
Chapter A: The output of educational institutions and the impact of learning	A1	To what level have adults studied?	X		X	X
	A2	Transition from education to work: Where are today's youth?	X		X	X
	A3	How does educational attainment affect participation in the labour market?	X		X	X
	A4	What are the earnings advantages from education?	X		X	
	A5	What are the financial incentives to invest in education?	X			
	A6	How are social outcomes related to education?		X		

Chapter	Indicator number	Indicator	Equity dimensions			
			Gender	Socio-economic status	Country of origin	Subnational
	A7	To what extent do adults participate equally in education and learning?	X			X
Chapter B: Access to education, participation and progression	B1	Who participates in education?	X	X		X
	B2	How do early childhood education systems differ around the world?				X
	B3	Who is expected to graduate from upper secondary education?	X	X	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?		X		
Chapter C: Financial resources invested in education	C1	How much is spent per student on educational institutions?		X		X
	C2	What proportion of national wealth is spent on educational institutions?				
	C3	How much public and private investment in educational institutions is there?		X		
	C4	What is the total public spending on education?				
	C5	How much do tertiary students pay and what public support do they receive?		X		
	C6	On what resources and services is education funding spent?		X		
	C7	Which factors influence the salary cost of teachers per student?				
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?				X
	D2	What is the student-teacher ratio and how big are classes?		X		
	D3	How much are teachers and school heads paid?	X			X
	D4	How much time do teachers and school heads spend teaching and working?				X
	D5	Who are the teachers?	X			
	D6	How are public funds allocated to schools?		X		
	D7	What proportion of teachers leave the teaching profession?	X			

Reference

OECD (2021), *The state of global education – 18 months into the pandemic*, OECD Publishing, Paris, https://doi.org/10.1787/1a23bb23-en. [1]

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[2]).

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 and on the Education at a Glance Database (http://stats.oecd.org) 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; two partner countries that participate in the INES programme, 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 come from the regular INES data collections or from other international or national sources.

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, 2021[3]). 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.

For consistency, national and subnational entities are referred to as "countries" and "economies", respectively, throughout the 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 (PIAAC) and 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 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 TALIS present an OECD-31 average. This is the arithmetic average 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 for which data are available or can be estimated. It reflects the value for a given indicator when 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 of the OECD countries for which valid data are available, considered as a single entity.

For tables using trend series, the OECD 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 EU22 average is also presented. It is calculated as the unweighted mean of the data values of the 22 countries that are members of both the European Union and the OECD for which data are available or can be estimated. The 22 countries 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 and Sweden. This publication presents time series which extend beyond the date of the United Kingdom's withdrawal from the European Union on 1 February 2020. In order to maintain consistency over time, the "European Union" aggregate compiled and presented here by the OECD Secretariat excludes the United Kingdom for the entire time series.

The EU22 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 single entity.

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, EU22 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/EU22/G20 average" refers to the OECD, EU22 or G20 countries included in the respective comparisons. OECD, EU22 and G20 averages are not calculated if more than 40% of countries have missing information or have information

included in other columns. In this case, a regular average is presented, which 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), an instrument for compiling statistics on education internationally. ISCED 2011 was formally adopted in November 2011 and is the basis of the levels presented in this publication.

Table B lists the ISCED 2011 levels used in *Education at a Glance 2021* (OECD/Eurostat/UNESCO Institute for Statistics, 2015[4]).

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: six 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 three 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 three 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. Programmes at this level are usually 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 two 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: three to four 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 programme 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

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.

Fields of education and training

Within ISCED, programmes and related qualifications can be classified by field of education and training as well as by level. 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) (UNESCO Institute for Statistics, 2014[5]) 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; 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. The term STEM (science, technology, engineering and mathematics) refers to the aggregation of the broad fields of natural sciences; mathematics and statistics; information and communication technologies; and engineering, manufacturing and construction.

Standard error (S.E.)

Some of 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, $10\% - 1.96 * 2.6 = 5\%$ and $10\% + 1.96 * 2.6 = 15\%$.

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.
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.
q	Data have been withdrawn at the request of the country concerned.
r	Values are below a certain reliability threshold and should be interpreted with caution.
x	Data are 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 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. It also provides access to the data underlying the indicators and to a comprehensive glossary for technical terms used in this publication.

This web-publication contains interactive features: Hyperlinked sections allow the reader to access data of interest quickly. The majority of charts displayed may be customised. Data series may be removed or added by clicking on them and the data point value appears when hovering over a data series with a mouse. Some charts display a "Compare" button, with additional customisation opportunities. Readers may change the display of an indicator, select countries to compare, and analyse additional data breakdowns.

All post-production changes to this publication are listed at: https://www.oecd.org/about/publishing/corrigenda.htm (corrections).

Education at a Glance uses the OECD's StatLinks service. A URL below each table and figure 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 provide 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. It is also updated at regular intervals. 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 used for reference. When a consecutive number does not appear, that column is available on the StatLlink.

Abbreviations used in this report

AES	Adult Education 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 (2021), *OECD Regional Statistics (database)*, http://stats.oecd.org/Index.aspx?DataSetCode=REGION_DEMOGR. [3]

OECD (2021), *The state of global education – 18 months into the pandemic*, OECD Publishing, Paris, https://doi.org/10.1787/1a23bb23-en. [1]

OECD (2018), *OECD Handbook for Internationally Comparative Education Statistics: Concepts, Standards, Definitions and Classifications*, OECD Publishing, Paris, https://doi.org/10.1787/9789264304444-en. [2]

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. [4]

UNESCO Institute for Statistics (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. [5]

Executive summary

Achieving basic education and equitable education outcomes is still a challenge

An upper secondary degree remains the basic level of education expected of young adults to contribute effectively to society. However, one in five adults across the OECD has not attained upper secondary education and in some countries, a significant share of children leave school early. In 2019, at least 10% of school-aged youth were not in school in about a quarter of OECD countries. Among the factors influencing education performance, socio-economic status has a greater impact on the literacy skills of 15-year-olds than gender or country of origin. Socio-economic status also tends to influence the programme orientation students pursue, as students without a tertiary-educated parent, a proxy for socio-economic status, are more likely to enrol in upper secondary vocational programmes than in general programmes. Those without upper secondary education face disadvantages in the labour market. In 2020, the unemployment rate of young adults that had not completed upper secondary education was almost twice as high as those with higher qualifications. While unemployment increased by 1-2 percentage points between 2019 and 2020 due to the COVID-19 crisis, there is no clear pattern across adults with different educational attainment levels. Lifelong learning has emerged more than ever as critical for adults to upskill and reskill in a changing world. Yet, more than half of adults did not participate in adult learning in 2016, and the pandemic further reduced opportunities to do so.

Immigrant background tends to influence learning trajectories while employment prospects of foreign-born adults vary greatly across countries

On average across the OECD, foreign-born adults account for 22% of all adults with below upper secondary attainment, 14% of those with upper secondary or post-secondary non-tertiary education, and 18% of tertiary-educated adults. Being a first- or second-generation immigrant affects students' likelihood of completing upper secondary education: in almost all countries with available data, the upper secondary completion rate of first- or second generation immigrants was lower than that for students without an immigrant background. In most OECD countries, employment rates are lower among tertiary-educated foreign-born adults than among their native-born peers, but the opposite is often observed among those with lower educational attainment. In about half of OECD countries with data, foreign-born adults with below upper secondary education earn more relative to their native-born peers than those with tertiary education, while the opposite is true in the other countries. These opposing trends reflect the dynamics of supply and demand for different skills, the difficulties tertiary-educated foreign-born adults face in gaining recognition for their education and experience earned abroad, and lower wage expectations of foreign workers in some countries.

Financial support can facilitate access to non-compulsory levels of education

On average across countries, expenditure on educational institutions amounted to approximately USD 9 300 per student at pre-primary level; USD 10 500 at primary, secondary and post-secondary non tertiary level; and USD 17 100 at tertiary level. The public sector funds 90% of total expenditure on primary and secondary institutions on average, often compulsory in most OECD countries. Funding formulas, which use equity criteria such as socio-economic characteristics of students or students with disabilities, to allocate funds to schools are the most commonly used at these levels. Private provision of education is more common at pre-primary and tertiary education, serving about a third of children or students enrolled at the level. However, the share of private funding from households and other private entities is generally lower at pre-primary level (17%) than at tertiary level (30%) on average. Financial support can facilitate access for disadvantaged families, although public-to-private transfers are less common at pre-primary than at tertiary level. In some countries where tuition for a bachelor progamme is higher than USD 4 000, at least 60% of students benefited from a public grant, scholarship or government-

guaranteed private loan. Public funding on primary to tertiary education has, however, been rising. It increased by 10% between 2012 and 2018, although at a slower rate than total government expenditure (12%) over this period.

The rise in education of recent decades has not benefited men as much as women

Young men are more likely than young women to lack an upper secondary qualification on average across OECD countries. Boys make up about 60% of upper secondary-school repeaters on average and are more likely to pursue vocational education than general education. In 2019, men represented 55% of upper secondary graduates from vocational programmes, compared to 45% in general ones. Men are also less likely to enter and graduate from tertiary education. In 2019, women made up 55% of new entrants to tertiary education on average. If current patterns continue, it is expected that 46% of young women will graduate with a tertiary degree for the first time before they turn 30, 15 percentage points more than men. Despite their strong participation in higher education, the share of women decreases with higher tertiary level: In 2020, women made up only 45% of adults with a doctoral degree on average across OECD countries. Women are also less likely than men to enter a STEM field of study, although this share has increased in slightly more than half of OECD countries with data between 2013 and 2019. Despite higher attainment, the employment rate for women is lower than that of men, with a particularly large gap at lower levels of educational attainment. Women also earn on average about 76-78% of men's salaries regardless of educational attainment, although the gender gap narrowed by 2 percentage points on average between 2013 and 2019.

Men are less likely to enter and remain in the teaching profession

Between 2005 and 2019, the gender gap among teachers widened at the primary and secondary levels, and narrowed at the tertiary level. In 2019, less than 5% of pre-primary teachers were men, compared to 18% at primary level, 40% at upper secondary level and more than 50% at tertiary level on average. Attracting male teachers to the profession is particularly difficult: while the average actual salary of female teachers is equal to or higher than the average earnings of full-time, tertiary-educated female workers, primary and secondary male teachers only earn 76 85% the average earnings of full time, tertiary-educated male workers. It is also difficult to retain men in the teaching profession. In 2016, attrition rates in primary to secondary public institutions varied from 3.3% to 11.7% across OECD countries; however, male teachers had higher attrition rates than their female colleagues on average across countries with available data. While statutory salaries have remained generally stable in the last decade, actual salaries have been on the rise, increasing by 11% at pre-primary level, 9% at primary, 11% at lower secondary and 10% at upper secondary between 2010 and 2019 on average across countries and economies with data. Tasks and responsibilities also contribute to the attractiveness of the profession. Teaching makes up an important part of teachers' responsibilities, representing 51% of their working time on average at primary level and 44% at lower secondary level.

Other findings

In more than half of the countries with available data, the enrolment rate of 15 19 year olds varies more within countries than across them.

On average across OECD countries, average class size does not differ between public and private institutions by more than two students per class in primary and secondary education.

Tertiary students from lower or lower middle-income countries are less likely to travel abroad to study; they make up less than a third of the international student pool.

The association between education and life expectancy at age 30 is greater for men than for women: men with tertiary attainment can expect to live around six years longer than those with below upper secondary attainment compared to three years more for women.

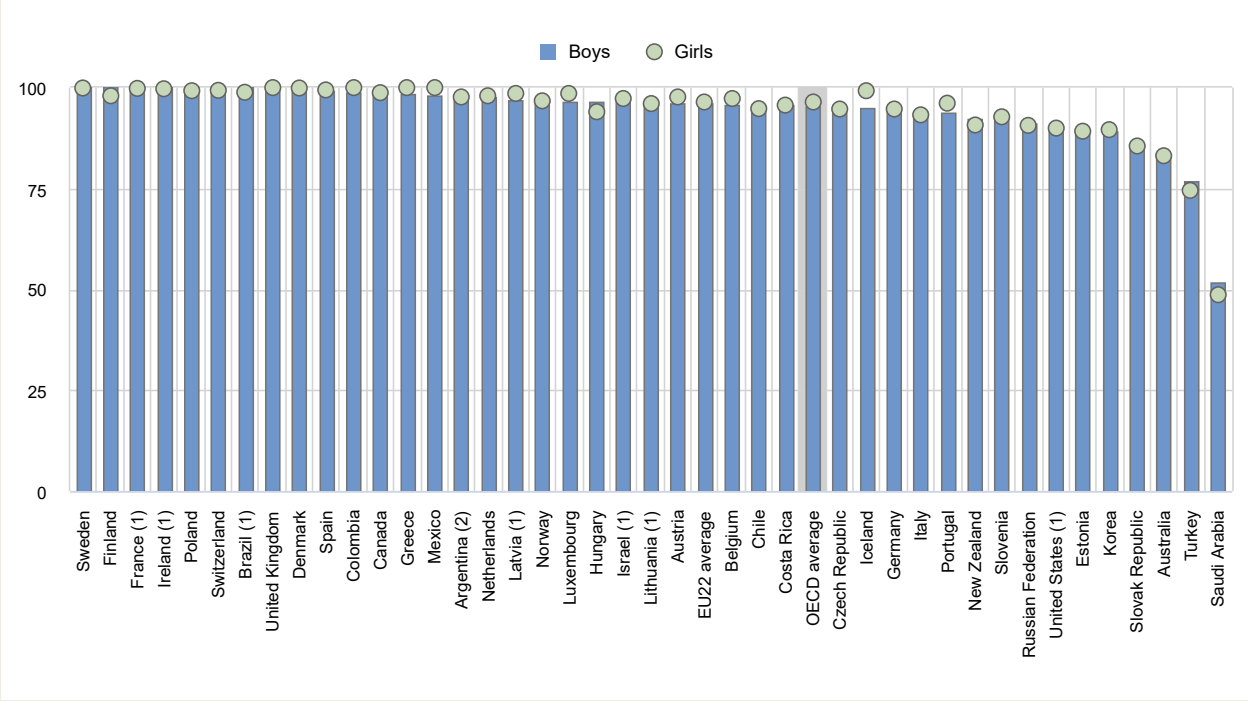
Youth in the Education Sustainable Development Goal

Highlights

- The Education Sustainable Development Goal (SDG) agenda is a universal call for action to promote inclusive and equitable access to quality education, and to ensure that all students can fulfil their potential. It includes a variety of indicators, notably on access to education, learning outcomes and means of implementation.
- On average across OECD countries, around 95% of boys and girls are enrolled in early childhood education and care (ECEC) one year before the official primary school entry age (SDG Indicator 4.2.2). Although participation in ECEC is similar for boys and girls, ensuring equity in access to ECEC can remain a challenge when it comes to socio-economic background.
- In terms of equity in learning outcomes, 15-year-old girls tend to outperform boys in reading. Reading performance also varies significantly depending on students' socio-economic background and immigrant status (SDG Indicators 4.1.1 and 4.5.1). On average across OECD countries, there are only about seven socio-economically disadvantaged students scoring above PISA level 2 in reading for every ten advantaged students scoring above this level.

Figure 1. Participation rate in organised learning one year before the official primary entry age (2019)

SDG Indicator 4.2.2, in per cent



1. The source for population data is the UOE data collection for demographic data (Eurostat/DEM) instead of the United Nations Population Division.
2. Year of reference 2018 instead of 2019.

Countries are ranked in descending order of participation rates in organised learning one year before the official primary entry age for boys.

Source: OECD (2021). The official data sources for this indicator are the UOE data collection for enrolment data and the United Nations Population Division for population data. See *Source* section for more information (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

StatLink https://stat.link/6w2yj0

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 2030 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, such as 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.

The COVID-19 crisis has posed significant challenges for education systems around the world, notably in terms of equity, as youth from disadvantaged backgrounds may be more likely to face difficulties studying remotely or returning to school after they reopen (OECD, 2021[2]). This edition of Education at a Glance proposes a focus on the theme of equity, and this chapter investigates equity in the Education SDG, looking at aspects such as participation in education, learning outcomes and teacher training for diversity in the classroom.

Other findings

- Although most countries had managed to limit the proportion of upper secondary out-of-school youth in 2019, this proportion still exceeds 10% in about one-quarter of OECD and partner countries (SDG Indicator 4.1.4).
- In terms of gender parity, upper secondary out-of-school rates tend to be similar for men and women, with a difference of 3 percentage points or less across genders in most countries (SDG Indicator 4.1.4).
- Training and targeted professional development can support teachers to identify and address foreign or migrant students' learning needs. However, while 94% of teachers across the OECD countries participating in TALIS reported having participated in continuous professional development activities over the past 12 months, only around 20% of them reported having participated in training about "teaching in a multicultural or multilingual setting" and about "communicating with people from different cultures" (SDG Indicator 4.c.7).
- There is significant cross-country variation in teachers' self-reported participation in training about "teaching in a multicultural or multilingual setting", with values ranging from 10% or less in France and the Netherlands to over 40% in Alberta (Canada), New Zealand and the United States (SDG Indicator 4.c.7).

Analysis

SDG 4 and its associated targets set an ambitious agenda that encompasses access, participation, quality and equity in education. The analysis below builds on selected SDG 4 indicators in order to investigate equity in access to education and in learning outcomes.

Ensuring equity in school participation

Participation in early childhood education and care

The SDG 4 agenda reaffirms the importance of children's participation in ECEC, by dedicating an entire target (4.2) to "ensuring that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education". Indicator 4.2.2, in particular, investigates the participation rate in organised learning one year before the official starting age. As shown in Figure 1, on average across OECD countries, about 95% of boys and girls are enrolled in ECEC one year before the official primary school entry age. There is, however, significant cross-country variation, with values ranging from less than 80% in Saudi Arabia and Turkey to at least 99% for both genders in Brazil, Canada, Colombia, Denmark, France, Greece, Ireland, Poland, Spain, Sweden, Switzerland and the United Kingdom.

Ensuring equitable access to ECEC can be crucial in promoting equity, as children's early experiences can strongly influence future life outcomes such as education, employment, health, citizenship and life satisfaction (OECD, 2018[3]). As shown in Figure 1, in all countries with available data, enrolment rates in ECEC are similar for boys and girls, with a difference of at most 3 percentage points across genders. In contrast, ensuring equity in access to ECEC by socio-economic background remains a challenge in many countries. For instance, evidence has shown that enrolment in ECEC tends to be significantly lower for children whose mother has not attained tertiary education than for others (OECD, 2018[4]). In addition, participation rates in ECEC tend to be lower for children from low-income households than for those from high-income households (OECD, 2020[5]). Many factors may contribute to the observed lower enrolment rates for low-income children. In addition to costs and affordability issues, factors such as the availaility of childcare, cultural norms, parents' labour market prospects and, in some countries, the availability of lengthy homecare allowance, may play an important role (OECD, 2016[6]; Pavolini and Van Lancker, 2018[7]).

Participation in upper secondary education

Upper secondary out-of-school rates

One way the SDG agenda monitors participation in education is through out-of-school rates, which are 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 4.1.4). As shown in Figure 2, on average across OECD countries, there is a 7% upper secondary out-of-school rate. While the majority of countries had managed to limit the proportion of out-of-school youth (less than 5%) in 2019, about one-quarter of OECD and partner countries still had a large proportion of out-of-school youth (over 10%). Mexico exhibits the highest out-of-school rates among all OECD and partner countries, with over 25% of upper secondary school-aged youth not enrolled.

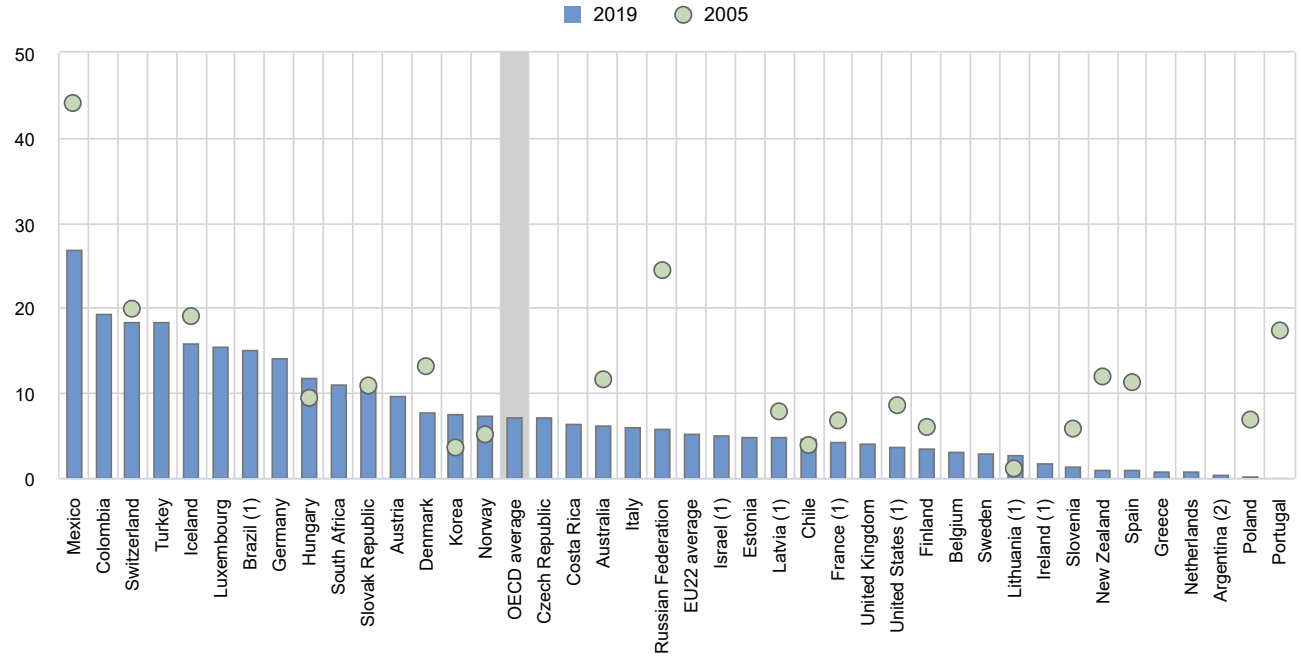
In terms of gender parity, upper secondary out-of-school rates tend to be similar for men and women. The difference between young women and men in out-of-school rates remains at or below 3 percentage points in almost all countries, except in Mexico, where the out-of-school rate is 4 percentage points higher among men (SDG database).

As shown in Figure 2, some countries experienced a significant decrease in out-of-school rates at upper secondary level between 2005 and 2019. This is the case in the Russian Federation (decrease by 19 percentage points), Mexico (17 percentage points), Portugal (17 percentage points), New Zealand (11 percentage points) and Spain (10 percentage points). These large decreases may reflect continuous policy efforts to retain students of upper secondary education age in school (OECD, 2019[8]). This progress, however, may be threatened by the COVID-19 pandemic, which has resulted in widespread school closures and the risk that many youth – especially the most disadvantaged – may not return to school when they reopen. Government initiatives to tackle this issue have included implementing school-based mechanisms to track vulnerable student groups not returning to school and providing financial incentives such as cash, food or transport, or waived school fees for vulnerable students to return to school. The latter, for instance, was implemented in Costa Rica, Estonia, Poland, Portugal, Hungary, Spain and Turkey (OECD, 2021[2]).

A corrigendum has been issued for this page.
See: https://www.oecd.org/about/publishing/Corrigendum_Education-at-a-Glance-2021.pdf

Figure 2. Upper secondary out-of-school rate (2005 and 2019)

SDG Indicator 4.1.4, in per cent



The upper secondary out-of-school rate is defined as the percentage of children in the official age range for upper secondary education who are not enrolled in school.
1. The source for population data is the UOE data collection for demographic data (Eurostat/DEM) instead of the United Nations Population Division.
2. Year of reference 2018 instead of 2019.
Countries are ranked in descending order of out-of-school rates in 2019.
Source: OECD (2021). The official data sources for this indicator are the UOE data collection for enrolment data and the United Nations Population Division for population data. See *Source* section for more information (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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Upper secondary completion rates

Increasing upper secondary attainment requires ensuring students can both access programmes and complete them. 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. 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 (Indicator B3 in OECD (2020[9])).

There can also be a significant gap in upper secondary completion rates, depending on students' immigrant status. As shown in Indicator B3, completion rates are lower for first- and second-generation immigrants than for non-immigrants in most countries with available data (Denmark, Finland, France, Norway, Sweden and the United States). The only exception is Iceland, where upper secondary completion rates for first-generation immigrants who arrived at or before the age of 6 (79%) are higher than those for non-immigrants (75%). As for socio-economic background, students from likely disadvantaged backgrounds (proxied by parental education) tend to be over-represented in vocational programmes, which may raise equity concerns knowing that completion rates tend to be lower in vocational than in general programmes (Indicator B3).

Ensuring equity in learning outcomes

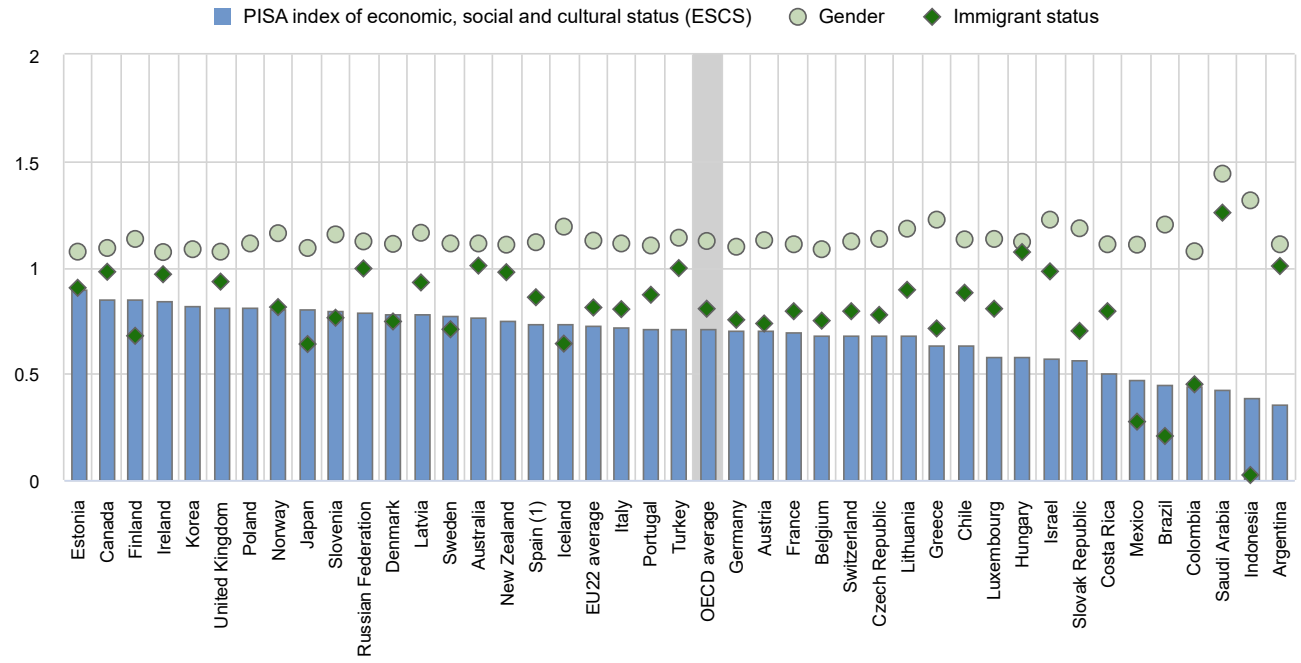
Learning outcomes at the age of 15, by demographic group

Education policy aims not only to provide access to all levels of education, but also to ensure that all students, regardless of their gender, socio-economic background or immigrant status, can gain the necessary skills to guide them through life. The OECD Programme for International Student Assessment (PISA) provides valuable insights about students' performance at the age of 15. As such, it is used to monitor SDG Indicator 4.1.1, which measures the "Proportion of children and young people at the end of lower secondary achieving at least a minimum proficiency level (i.e. level 2 or above in the PISA context) in reading and mathematics" in almost 90 countries (including the data from PISA for Development).

Figure 3 displays parity indices for Indicator 4.1.1 (see Methodology section for methodology), measured along gender, socio-economic background and immigrant status (see *Definitions* section). Among 15-year-olds, girls outperform boys in reading in all countries and economies with available data. This pattern is particularly visible in Brazil, Greece, Indonesia, Israel and Saudi Arabia, where the percentage of students reaching PISA level 2 is at least 20% higher for girls than for boys.

Figure 3. Reading performance and gender, ESCS and immigrant status parity indices (2018)

SDG Indicator 4.1.1: Proportion of 15-year-olds achieving at least a proficiency level 2 (PISA)



How to read this figure: In Turkey, the proportion of children from the bottom quartile of the PISA ESCS index achieving at least PISA level 2 in reading is almost 30% lower than that of children from the top ESCS quartile. The proportion of students achieving at least PISA level 2 in reading is almost 15% higher for girls than for boys.The proportion of immigrants achieving at least PISA level 2 in reading is almost equal to that of non-immigrants (a parity index of 1 indicates perfect parity).

Note: The ESCS parity index refers to the ratio of the value for the bottom quartile over the value for the top quartile of the ESCS index. ESCS refers to the PISA index of economic, social and cultural status. The gender parity index refers to the ratio of the female value over the male value. The immigrant status parity index refers to the ratio of the value for immigrants over the value for non-immigrants. See Box 1 for more information on the methodology.

1. In 2018, some regions in Spain conducted their high-stakes exams for tenth-grade students earlier in the year than in the past, which resulted in the testing period for these exams coinciding with the end of the PISA testing window. Because of this overlap, a number of students were negatively disposed towards the PISA test and did not try their best to demonstrate their proficiency. Although the data of only a minority of students show clear signs of lack of engagement (see *PISA 2018 Results Volume I*, Annex A9), the comparability of PISA 2018 data for Spain with those from earlier PISA assessments cannot be fully ensured.

Countries are ranked in descending order of the parity index based on the PISA index of economic, social and cultural status.

Source: OECD (2018), *PISA 2018 Database*. See *Source* section for more information (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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Students' reading performance also varies significantly by socio-economic background. On average across OECD countries, the percentage of students achieving PISA level 2 is around 30% lower for students from the bottom quartile of the PISA economic, social and cultural status (ESCS) index than for students from the top quartile. Moreover, all countries with available data exhibit some level of performance gap, although the extent of disparities varies across countries (with a gap ranging from 15% or less in Canada, Estonia and Finland to at least 50% in Argentina, Brazil, Colombia, Costa Rica, Indonesia, Mexico and Saudi Arabia) (Figure 3).

Finally, students' reading performance also tends to be strongly influenced by their immigrant status. On average across OECD countries, the percentage of students reaching PISA level 2 in reading is about 20% lower for students with an immigrant background than for non-immigrants. The disparity in favour of non-immigrants is particularly visible in Brazil, Colombia, Indonesia and Mexico, where the share of students reaching PISA level 2 is at least 45% lower for immigrants than for non-immigrants. In contrast, in Argentina, Australia, Hungary, Turkey and Saudi Arabia students with an immigrant background score at least as well as non-immigrants. These cross-country differences may reflect, in part, differences in immigrant students' socio-economic status (OECD, 2019[10]).

The observed disparities in reading achievement by gender, socio-economic background and immigrant status raise important equity concerns, as they may have long-term consequences for boys' and girls' academic and professional lives (OECD, 2019[10]).

Box 1. Measuring inequity in education and the parity index

Measuring equity is challenging for at least three reasons. First, the notion of equity is linked to a normative framework of fairness, which may differ across countries and cultures. Second, there is a general lack of data availability because equity indicators often require more refined data that allow for disaggregation among different groups in the population. As an additional challenge, in the case of the SDG framework, this disaggregation must also follow internationally agreed definitions that do not always match the national definitions. Third, there are several different methods for measuring equity, all of which have advantages and disadvantages, and that could lead to different conclusions about the degree of inequity in a given country (UNESCO-UIS, 2018[11]).

The main indicator chosen to measure equity across the SDG 4 agenda is the parity index. It is defined as the ratio between the values of a given indicator for two different groups, with the value of the likely most disadvantaged group in the numerator. In Figure 3, for gender, the numerator is girls and the denominator is boys. For socio-economic background, the numerator is students from the lowest quartile of the PISA index of economic, social and cultural status (ESCS), and the denominator is students from the highest quartile of the ESCS. For immigrant status, the numerator is students with an immigrant background and the denominator is non-immigrants. A parity index between 0.97 and 1.03 indicates parity between the two considered groups. A value of less than 0.97 indicates a disparity in favour of the likely most advantaged group, and a value greater than 1.03 indicates a disparity in favour of the most disadvantaged group.

The use of a parity index provides the relative magnitude of the disparity in a simple, easy-to-communicate way. However, it also has some drawbacks, such as being sensitive to low values and not being symmetrical around 1 (perfect equality). For example, if the enrolment rate is 40% for girls and 50% for boys, the gender parity index (GPI) has a value of 0.8 (UNESCO-UIS, 2010[12]). If the female and male values are reversed, the GPI has a value of 1.25, which gives the mistaken impression of greater gender disparity because 1.25 is at a greater distance from 1 than 0.8. To solve this, an adjusted parity index, which is symmetrical around 1, is used in the tables and figures of this indicator whenever values for the likely advantaged and likely disadvantaged groups are switched for an observation.

For more information on measuring inequity in education, please see the UNESCO *Handbook on Measuring Equity in Education* (UNESCO-UIS, 2018[11]). The handbook provides a conceptual framework for measuring equity in education and offers thorough methodological guidance on how to calculate and interpret various types of equity indicators.

Preparing teachers for diversity in the classroom

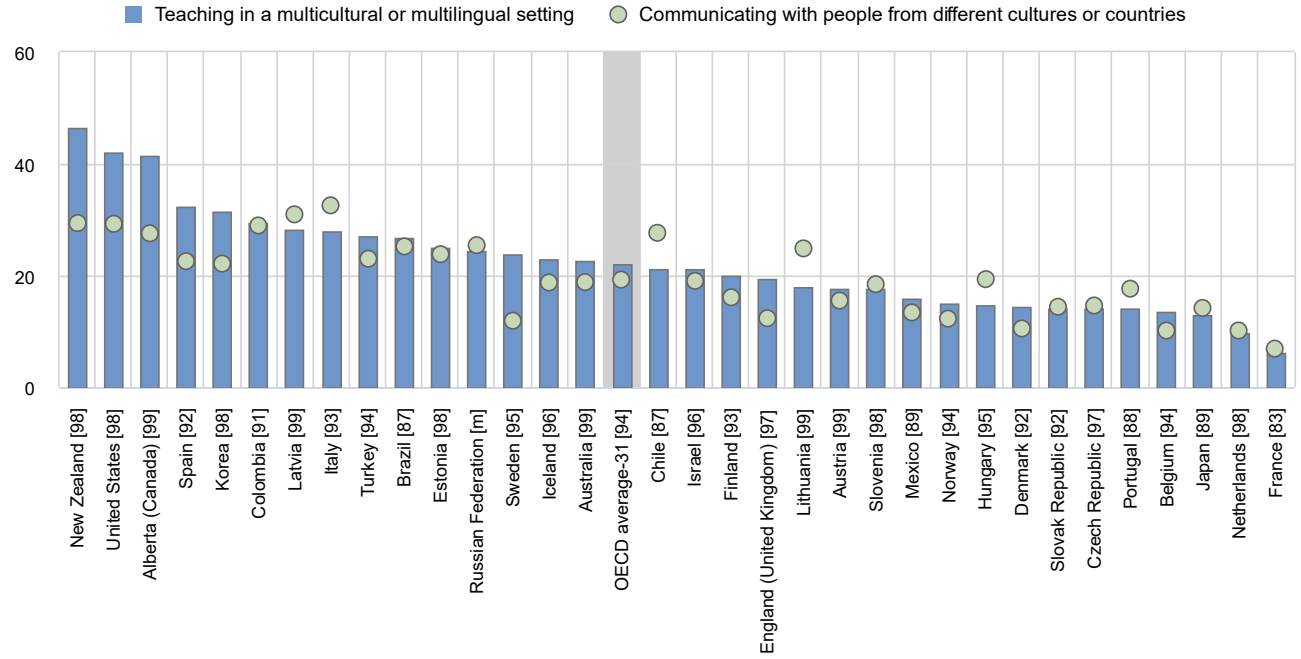
Demographic changes and large-scale migration have raised challenges for education systems, as teachers work to meet the needs of an increasingly diverse student body. As shown in the previous section, there are important equity concerns, as students' learning outcomes tend to vary significantly depending on their immigrant status.

Data from the OECD Teaching and Learning International Survey (TALIS) provide valuable insights about teachers' feeling of preparedness to teach in a diverse classroom. On average across OECD countries participating in TALIS, 15% of lower secondary teachers report needing training about "teaching in a multicultural or multilingual setting" and 11% about "communicating with people from different cultures or countries". There is, however, significant cross-country variation. England (United Kingdom) and the Netherlands exhibit the lowest reported need for these types of training, at 5% of teachers or less. In contrast, in Brazil, Colombia and Mexico, this percentage reaches at least 30% for both types of training (OECD, 2019[13]). Several factors may explain the high reported need for training in Latin American countries. For instance, a recent influx of migrants into the region has contributed to an increase in cultural diversity among students (OECD, 2015[14]). Moreover, in recent decades, a number of programmes have been implemented to build more diverse classrooms, which translated into a higher need for teacher training about teaching students from diverse backgrounds (OECD, 2016[15]; 2018[16]; Santiago et al., 2017[17]).

Education systems can play an important role in preparing teachers to work in a diverse classroom, notably by ensuring the availability of targeted training opportunities. The SDG agenda investigates teachers' participation in continuous 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 TALIS can help monitor this measure. As shown in Figure 4, on average across OECD countries, 94% of teachers report having participated in continuous professional development activities over the past 12 months. However, only around 20% of teachers reported having participated in training about "teaching in a multicultural or multilingual setting" and about "communicating with people from different cultures".

Figure 4. Percentage of lower secondary teachers who participated in professional development in the following areas in the 12 months prior to the survey (2018)

SDG Indicator 4.c.7, in per cent



Note: The number in square brackets corresponds to the percentage of teachers who participated in professional development activities overall.
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 (2018), *TALIS 2018 Database*. See *Source* section for more information (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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There is significant cross-country variation in teachers' participation in training about diversity in the classroom. The lowest shares of teachers participating in continuous professional development activities about "teaching in a multicultural or multilingual setting" are found in France and the Netherlands (below 10%). In contrast, in Alberta (Canada), New Zealand and the United States, which have a long tradition of tackling instruction in diverse settings, over 40% of teachers participate in this type of training (OECD, 2015[14]) (Figure 4).

The relationship between the reported participation in training and the need for training allows for further insights. The Netherlands, for instance, exhibits both low levels of need (below 5%) and participation (below 10%) in continuous professional development about "teaching in a multicultural or multilingual setting". This may reflect the fact that teachers already feel sufficiently prepared to teach in a diverse environment. As for the three OECD countries and economies with the highest participation rates in training about diversity (Alberta [Canada], New Zealand and the United States), they exhibit a low reported need for this type of training (less than 10% of teachers). One explanation may be that, in these countries, participation in training about diversity effectively prepares teachers to work in a diverse classroom, leading to lower self-reported needs for this type of training (OECD, 2019[13]). Finally, countries such as Brazil and Colombia exhibit both high reported needs for training about "teaching in a multicultural or multilingual setting" (over 43%) and high reported participation in this type of training (over 26%). This may reflect teachers' desire for further development, even after participating in training on that topic (OECD, 2019[13]).

Definitions

SDG Indicator	Definition
4.2.2	Participation rate in organised learning one year before the official starting age
4.1.4.	Upper secondary out-of-school rate
4.1.1.	Proportion of children and young people at the end of lower secondary achieving at least a minimum proficiency level in reading and mathematics
4.5.1	Parity indices for all education indicators that can be disaggregated
4.c.7	Percentage of teachers who received in-service training in the last 12 months by type of 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://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3.pdf).

Source

Indicator	Source
4.2.2.	UOE 2020 data collection and United Nations Population Division (unless otherwise specified)
4.1.4.	UOE 2020 data collection and United Nations Population Division (unless otherwise specified)

References

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Figures Youth in the education sustainable development goals

Figure 1.	Participation rate in organised learning one year before the official primary entry age (2019)
Figure 2.	Upper secondary out-of-school rate (2005 and 2019)
Figure 3.	Reading performance and gender, ESCS and immigrant status parity indices (2018)
Figure 4.	Percentage of lower secondary teachers who participated in professional development in the following areas in the 12 months prior to the survey (2018)

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Cut-off date for the data: 17 June 2021. 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*.

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

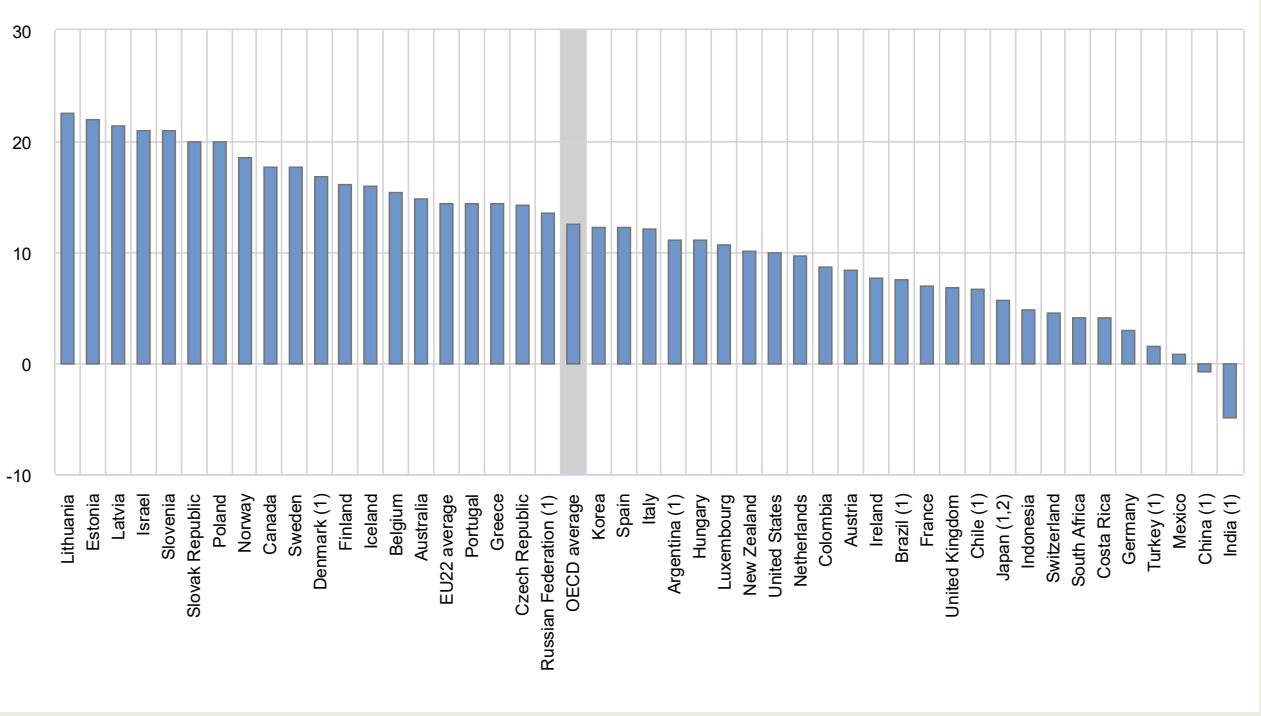
Indicator A1. To what level have adults studied?

Highlights

- Despite the educational expansion experienced over recent decades, on average across OECD countries, in 2020, 15% of younger adults (25-34 year-olds) still do not have an upper secondary degree, and young men are more likely than young women to lack an upper secondary qualification: 16% of young men and 13% of young women.
- In all OECD countries, the expansion of tertiary education has been to the advantage of women, but the share of women (25-64 year-olds) tends to decrease the higher the level of tertiary education. On average, women account for 56% of adults with a bachelor's or equivalent degree, 54% among adults with a master's or equivalent degree, and 45% of those with a doctoral or equivalent degree.
- On average across the OECD, foreign-born adults account for 22% of all adults with below upper secondary attainment, 14% among those attaining upper secondary or post-secondary non-tertiary education, and 18% among tertiary-educated adults.

Figure A1.1. Difference between the share of 25-34 year-old women and men with tertiary attainment (2020)

In percentage points



Note: A data point above 0 means there are more women than men attaining tertiary education. A data point below 0 means there are more men than women attaining tertiary education.

1. Year of reference differs from 2020. Refer to the source table 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-point difference between the share of tertiary-educated women and men.

Source: OECD (2021), Table A1.2. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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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 that has reached a certain level of education and holds 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.

Educational attainment of the native-born and foreign-born population should inform policies related to human capital. In some cases, similarities or divergences between the two groups can signal the need for formal and/or non-formal adult education programmes (see Indicator A7). According to the *International Migration Outlook 2020* (OECD, 2020[1]), migrant workers are on the frontline of the COVID-19 crisis, as in the health sector they account for 24% of medical doctors and 16% of nurses. The size and characteristics of this group vary across countries, and it is important to analyse these elements to better understand the composition of a country's population. It is also important to consider how a country's geographic location or proximity to other countries affects the demographics of its foreign-born population. According to the OECD *Demography and Population database*, for example, in almost all European OECD countries, most immigrants are from Europe (OECD, 2021[2]).

Other findings

- Among the younger adults (25-34 year-olds), on average across OECD countries, 45% have tertiary education. In all OECD countries, tertiary attainment is higher among younger women, at 52%, than it is among younger men, at 39%.
- Age at arrival in the country has different associations across OECD countries: in Australia, Denmark, Estonia, Israel, Luxembourg and Switzerland, the share of adults with tertiary attainment is at least 10 percentage points higher among those who arrived in the country after age 15 compared to those who arrived before that age, while in Hungary and Sweden the share of adults with tertiary attainment is about 10 percentage points lower among those who arrived in the country after age 15.
- On average across OECD countries, the share of 25-34 year-olds with upper secondary or post-secondary non-tertiary education as their highest level of attainment has fallen from 44% in 2010 to 40% in 2020, as younger adults are more likely to pursue tertiary education than they were a decade ago.

Analysis

Education is an asset not only because of its intrinsic value, but also because it provides individuals with skills and also acts as a signal of such skills. As a result, investments in education yield high returns later in life (OECD, 2020[3]). Yet, there are differences across countries in educational attainment that stem from countries' different social and economic structure as well as from the institutional features of their education system (Müller and Kogan, 2009[4]).

On average across OECD countries, 41% of adults (25-64 year-olds) have an upper secondary or post-secondary non-tertiary degree as their highest level of education, compared to 21% who have not obtained such a degree and 39% who have a tertiary degree (Figure A1.3).

On average across OECD countries, the share of adults with below upper secondary attainment as their highest level of education has decreased from 27% in 2010 to 20% in 2020. The decrease has been more remarkable for women than for men: from 27% to 20% for women and from 26% to 22% for men over the last decade. For adults with upper secondary or post-secondary non-tertiary attainment, the decrease was only 3 percentage points: from 44% in 2010 to 41% in 2020. This decrease has run parallel to the expansion of tertiary education witnessed for adult education over the last decade; it increased 9 percentage points (from 30% to 39%) and is higher for women (11 percentage points; from 31% in 2010 to 42% in 2020) than for men (7 percentage points; from 28% to 35%) (OECD, 2021[5]).

Below upper secondary attainment

Attaining 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[6]).

Despite the educational expansion experienced over the past decades, on average across OECD countries, in 2020, 21% of adults (25-64 year-olds) still do not have an upper secondary degree. And in Colombia, Costa Rica, Mexico, Portugal and Turkey, the most attained level of education for the adult population is below upper secondary (Figure A1.3).

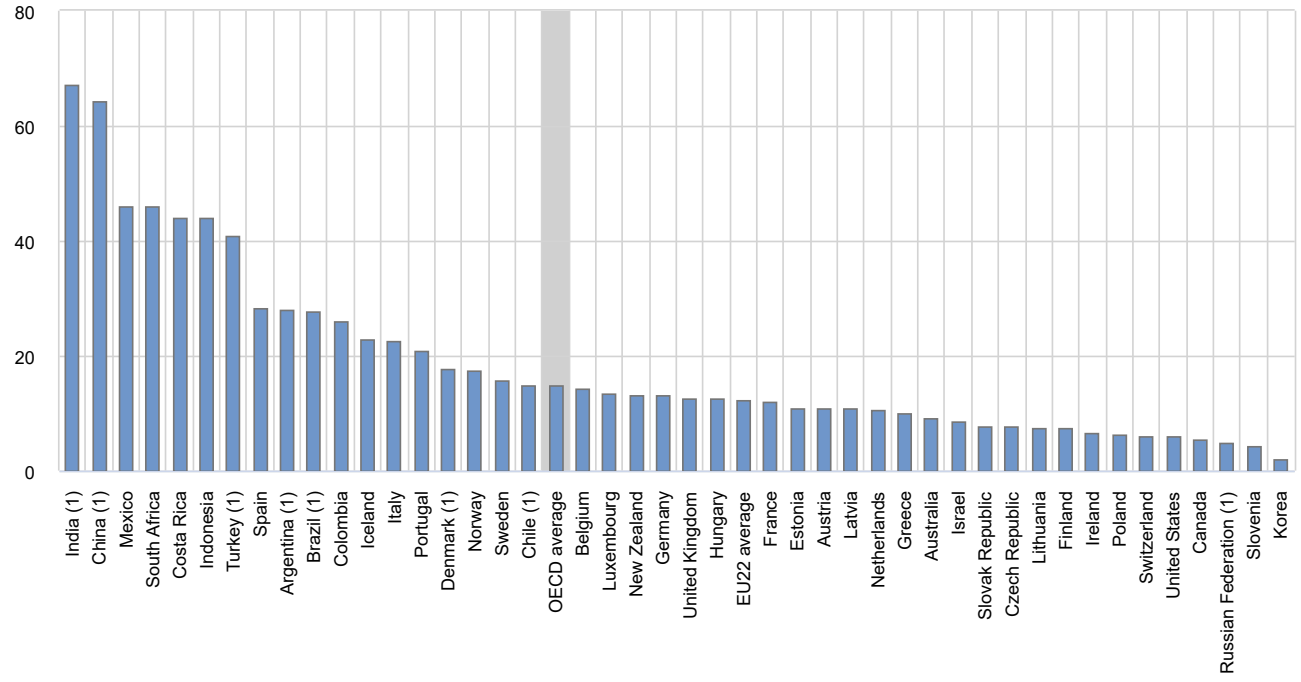
On average across OECD countries, in 2020, 15% of younger adults (25-34 year-olds) still do not have an upper secondary degree, compared to 29% of older adults (55-64 year-olds). In most OECD countries, the majority of younger adults (25-34 year-olds) have attained at least upper secondary education. However, in Costa Rica, Mexico and Turkey, the percentage of young adults with below upper secondary attainment as their highest level of education is more than 40% (Figure A1.2 and Table A1.4, available on line).

On average across OECD countries, the share of younger adults with below upper secondary attainment as their highest level of education has decreased from 20% in 2010 to 15% in 2020. The decrease has been more remarkable in countries which initially had a high share of younger adults with below upper secondary attainment. For example, in Costa Rica, Mexico and Turkey, more than 50% of 25-34 year-olds had not attained upper secondary education in 2010 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 the Czech Republic, the Slovak Republic and Sweden, the proportion of younger adults with below upper secondary attainment has increased over the last decade, but the percentages in these countries are still rather low in 2020: 8%, 8% and 16%, respectively (Table A1.2 and Figure A1.2).

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 16% for young men and 13% for young women. The gender gap is 10 percentage points or higher in Iceland and Spain. Indonesia and Turkey are the exceptions, where the share of young women with below upper secondary attainment is about 3 percentage points higher than the share of young men with the same educational attainment. In addition, in about one-fifth of OECD and partner countries with comparable data for 2010 and 2020 – Canada, Costa Rica, Iceland, Mexico, South Africa – the gender gap has increased over the last decade (Table A1.2).

Figure A1.2. Share of 25-34 year-olds with below upper secondary attainment (2020)

In per cent



1. Year of reference differs from 2020. Refer to the source table for more details.
Countries are ranked in descending order of the share of 25-34 year-olds with below upper secondary attainment.
Source: OECD (2021), Table A1.2. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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Upper secondary or post-secondary non-tertiary attainment

On average across OECD countries, 41% of adults (25-64 year-olds) have an upper secondary or post-secondary non-tertiary degree as their highest level of education. However, countries show very different shares; it is below 25% in Costa Rica, Luxembourg, Mexico, Spain and Turkey. Sometimes this low percentage is balanced with a high percentage of adults with tertiary attainment (Figure A1.3).

Among OECD countries, the share of 25-34 year-olds with upper secondary or post-secondary non-tertiary education as their highest level of attainment ranges from 23% in Costa Rica to 59% in the Czech Republic. On average across the OECD, this share has fallen, from 44% in 2010 to 40% in 2020, as younger adults are more likely to pursue tertiary education than they were a decade ago. However, upper secondary or post-secondary non-tertiary attainment represents the most commonly attained level of education among 25-34 year-olds in 14 OECD countries: Austria, Chile, Colombia, the Czech Republic, Estonia, Finland, Germany, Greece, Hungary, Italy, Latvia, Poland, the Slovak Republic and Slovenia (Table A1.2).

A gender difference is also observed among 25-34 year-olds with upper secondary or post-secondary non-tertiary attainment. Across OECD countries, on average, 45% of younger men (25-34 year-olds) have this level of education as their highest attainment, while the share is 10 percentage points lower among younger women (35%). In 2010, this difference was smaller, at six percentage points (47% for younger men and 41% for younger women) (Table A1.2). The share of younger women with upper secondary or post-secondary non-tertiary education as their highest level of attainment is lower than that of younger men because the pattern is reversed for tertiary education. On average across OECD countries in 2020, the difference between the share of 25-34 year-old women and men with tertiary attainment is 13 percentage points, in favour of women (Table A1.2).

Tertiary attainment

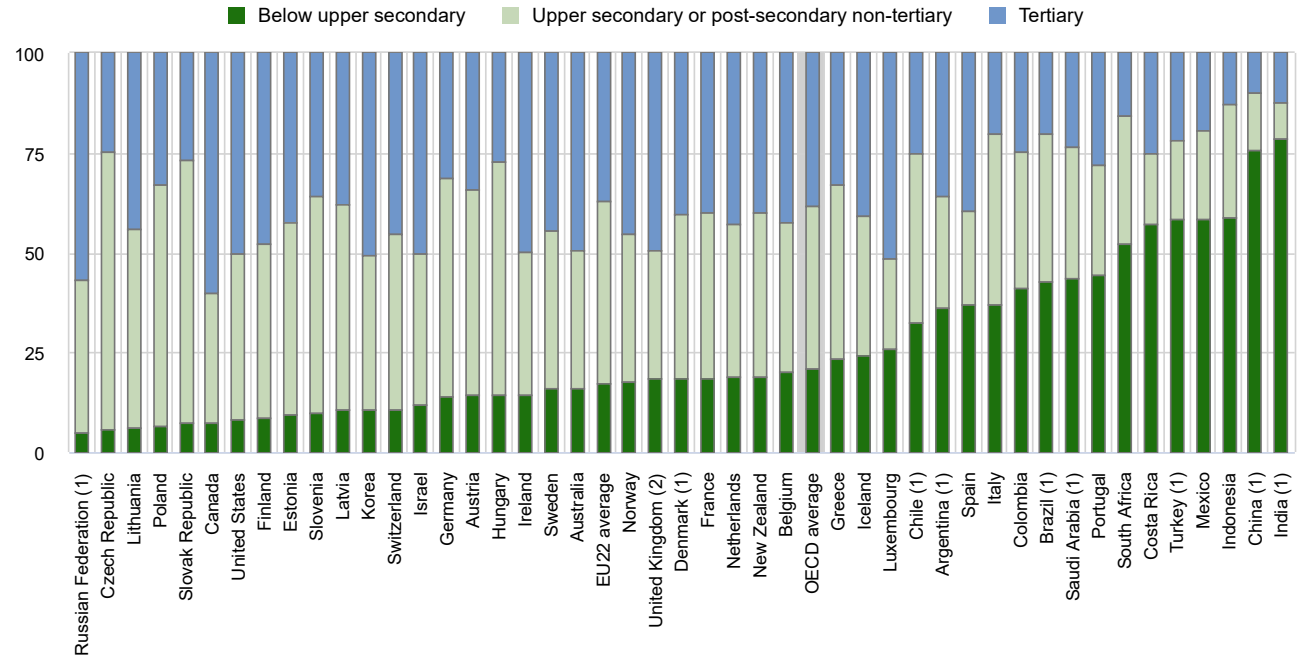
On average across OECD countries, 39% of adults have tertiary attainment. Across OECD and partner countries, this percentage ranges from 20% or less in Brazil, China, India, Indonesia, Italy, Mexico and South Africa to 50% or more in Canada, Ireland, Israel, Luxembourg, Korea, the Russian Federation and the United States (Figure A1.3).

The share of 25-34 year-olds with a tertiary degree has increased between 2010 and 2020 in all OECD and partner countries with available data for both years. The OECD average has increased by 9 percentage points, from 37% in 2010 to 45% in 2020. In Portugal, the Slovak Republic, Switzerland and Turkey, the increase is 15 percentage points or more (Table A1.2).

From a gender perspective, younger women (25-34 year-olds) are more likely than men to attain tertiary education in all OECD countries. On average across the OECD, 52% of younger women have a tertiary degree, compared to 39% of younger men, and the average gender gap in favour of younger women has widened between 2010 and 2020. Among countries with comparable data between 2010 and 2020, only in Costa Rica, France, Finland, Latvia 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 are under-represented in the broad field of science, technology, engineering and mathematics (OECD, 2019[6]).

Figure A1.3. Educational attainment of 25-64 year-olds (2020)

In per cent



Compare your country: https://www.compareyourcountry.org/education-at-a-glance-2021/en/0/3000+3001+3002/default (age group 25-34 year-olds) or https://www.compareyourcountry.org/education-at-a-glance-2021/en/1/all/default (by gender)

1. Year of reference differs from 2020. 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 25-64 year-olds with below upper secondary attainment.

Source: OECD (2021), Table A1.1. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

StatLink https://stat.link/fvdtr4

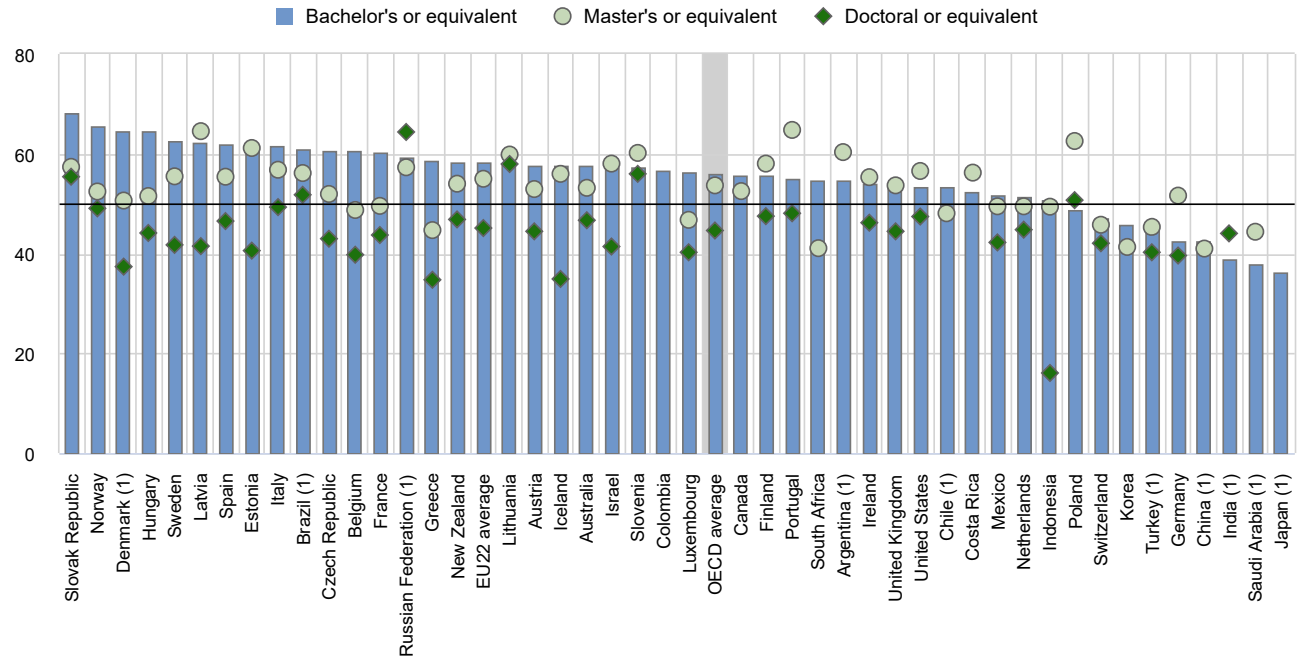
In most OECD and partner countries, the largest share of tertiary-educated 25-64 year-olds have attained a bachelor's or equivalent degree, though the share varies substantially across countries. In Austria, the Czech Republic, Estonia, France, Italy, Latvia, Luxembourg, Poland, Portugal, the Russian Federation, the Slovak Republic, Slovenia and Spain, those with a master's degree represent a larger share than bachelor's share (Table A1.1). 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[6]), while for the Russian Federation it is related to the fact that the implementation of programmes leading to a university bachelor's degree is relatively recent.

The largest differences among countries for tertiary levels are seen for short-cycle educational attainment. On average across OECD countries, 7% of 25-64 year-olds have a short-cycle tertiary degree as their highest educational attainment, but the share is less than 1% in the Czech Republic, Italy, Poland and the Slovak Republic while it exceeds 20% in Canada and Japan. In Austria, Canada and France, the most common attainment among tertiary-educated 25-64 year-olds is a short-cycle degree (Table A1.1).

In all OECD countries, more women than men have attained tertiary education overall (Figure A1.1), but the share of women tends to decrease the higher the level of tertiary education. On average, women account for 56% of adults with a bachelor's or equivalent degree, 54% among adults with a master's or equivalent degree, and 45% of those with doctoral or equivalent degree. This pattern does not hold true for Costa Rica, Finland, Germany, Ireland, Latvia, Lithuania, Poland, Portugal, Slovenia and the United States, where the share of women is the highest among adults with a master's or equivalent degree (Figure A1.4).

Figure A1.4. Share of women among all 25-64 year-olds with at least a bachelor's or equivalent degree, by level of tertiary education (2020)

In per cent



Note: Data are not available for some tertiary levels of education because they are included in another category. Refer to Table A1.1 for more details.
1. Year of reference differs from 2020. Refer to Education at a Glance Database for more details.
Countries are ranked in descending order of the share of women among all 25-64 year-olds with a bachelor's or equivalent degree.
Source: OECD (2021), Education at a Glance Database, http://stats.oecd.org. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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For the younger adults (25-34 year-olds), on average across OECD countries, 45% have tertiary attainment. In all OECD and partner countries, except India, tertiary attainment is higher among younger women than among younger men. On average across OECD countries, 52% of 25-34 year-old women have tertiary attainment, compared to 39% of 25-34 year-old men, representing a 13 percentage-point difference. In Germany, Mexico and Turkey, the share of tertiary-educated younger adults is similar between men and women, while in Estonia, Israel, Latvia, Lithuania, Poland and Slovenia the difference in favour of women is 20 percentage points or more (Figure A1.1).

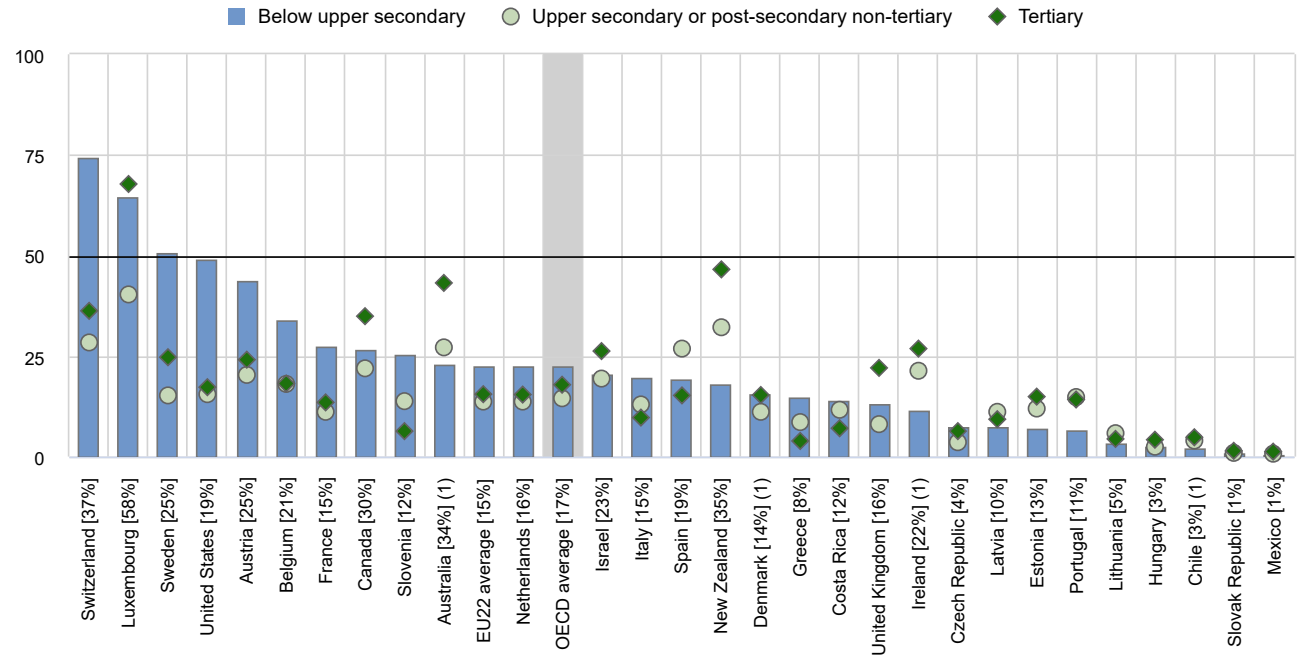
Immigration background and educational attainment

As foreign-born adults make up 17% of the population 25-64 years old on average across OECD countries, it is important for countries to know the general human capital of their foreign-born population. Educational attainment levels of native-born and foreign-born adults vary greatly across OECD countries. On average, the percentage of adults with below upper secondary attainment is 19% and 22% for native- and foreign-born adults respectively; the percentage for upper secondary or post-secondary non-tertiary attainment is 44% and 37%; and for tertiary attainment 37% and 41% (Table A1.3).

On average across the OECD, foreign-born adults account for 22% of all adults with below upper secondary attainment, 14% among those attaining upper secondary or post-secondary non-tertiary attainment, and 18% among tertiary-educated adults. In most OECD countries, foreign-born adults have the highest share among all adults for having attained below upper secondary education. Only in Australia, Canada, Chile, Estonia, Hungary, Ireland, Israel, Luxembourg, New Zealand and the United Kingdom can the opposite be observed: the share of foreign-born adults among all adults with a given level of educational attainment is the highest among tertiary-educated adults (Figure A1.5).

Figure A1.5. Share of foreign-born adults among all 25-64 year-olds, by level of educational attainment (2020)

In per cent



Note: The percentage in square brackets represents the share of foreign-born adults among all 25-64 year-olds.
1. Year of reference differs from 2020. Refer to Education at a Glance Database for more details.
Countries are ranked in descending order of the share of foreign-born adults among all 25-64 year-olds with below upper secondary attainment.
Source: OECD (2021), Table A1.3 and Education at a Glance Database, http://stats.oecd.org. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

StatLink https://stat.link/z9oeab

Age at arrival in the country also has different associations across OECD countries. In Australia, Denmark, Estonia, Luxembourg and Switzerland, the share of adults with tertiary attainment is more than 10 percentage points higher among those who arrived in the country after age 15 compared to those who arrived before that age, while in Hungary and Sweden the share of adults with tertiary attainment is about 10 percentage points lower among those who arrived in the country after age 15 (Table A1.3).

The only element that shows some consistency across OECD countries is that the share of tertiary-educated adults among native-born and foreign-born adults tends to follow the overall country pattern. In Canada, for example, the share of tertiary-educated adults is high among native-born adults (56%), and is even higher among foreign-born adults (70%), regardless of their age at arrival in the country. In Italy, the opposite situation is observed: the share of tertiary-educated adults is generally low, regardless of whether they are native-born (21%) or foreign-born (13%) and regardless of their age at arrival in the country. Similarly, in countries with a high share of adults with below upper secondary attainment, this share will be large for both the native- and the foreign-born population (Table A1.3).

Evidence from the OECD Programme for International Student Assessment (PISA) shows that in most countries and economies, immigrant students (including students born in the country with parents born abroad) scored lower in PISA 2018 than non-immigrants, but after accounting for students' and schools' socio-economic profile, in a small group of countries and economies, immigrant students outperformed their native-born peers. This was the case in Australia; Hong Kong (China), Saudi Arabia; and the United States. In Canada, Israel, the Russian Federation and the United Kingdom, the difference in reading performance between immigrant and non-immigrant students was not statistically significant after accounting for students' and schools' socio-economic profile (OECD, 2019[7]).

Subnational variations in educational attainment

National level data often hide important regional inequalities. For instance, in Brazil, the share of adults aged 25-64 with below upper secondary attainment varies from 30% in the Federal District to 67% in Alagoas, a difference of more than 35 percentage points. In Canada, Colombia, Mexico, Portugal and Turkey, the differences in the share between the region with the largest and the region with the lowest shares of adults with below upper secondary education exceeds 30 percentage points (OECD, 2021[8]).

In most OECD and partner countries and economies, capital city regions concentrate large shares of highly educated people. In 30 out of 34 OECD and partner countries with available data and at least 2 subnational regions, the highest share of 25-64 year-olds with tertiary attainment is found in the capital region. In the Russian Federation, three out of four adults in the capital region have attained tertiary attainment (city of Moscow: 75%), and in the United States and the United Kingdom, two out of three adults have done so (Greater London: 68%, District of Columbia: 67%). An exception to these general patterns are found in Israel, the Netherlands, Spain and Switzerland, where the highest share of adults with tertiary attainment is found outside the capital region (OECD, 2021[8]).

Many countries with relatively high tertiary attainment rates have strong regional inequalities. For example, in United States, the tertiary attainment rate at the national level in 2019 was 48%, ranging from 32% to 67% across regions, one of the widest disparities across OECD and partner countries. In the Czech Republic, Hungary, Poland, the Russian Federation, the United Kingdom and the United States, the difference in the share of people with tertiary attainment between the region with the highest share and the region with the lowest share exceeds 30 percentage points. On the other hand, in a few countries, often with a smaller number of subnational regions, the differences in the share between the region with the largest share of adults with tertiary attainment and the region with the lowest share is much less. The smallest difference can be found in Belgium and Ireland, respectively with a 10 and 8 percentage-point gap (OECD, 2021[8]).

In contrast to the over-representation of adults with tertiary attainment in the capital city region, adults with lower educational attainment levels are more likely to be over-represented outside the region with the capital city. This is the case for both adults with upper secondary or post-secondary non-tertiary attainment and those with below upper secondary attainment. Adults in these groups display even the lowest share in the capital region in 20 out of 34 countries. In contrast, in Belgium, Brussels Capital Region concentrates the highest share (27%) of adults with below upper secondary attainment across Belgian regions. In the Mexico City region, about one out of three adults (30%) have upper secondary or post-secondary non-tertiary attainment, which is the highest share across regions (OECD, 2021[8]).

When interpreting the results on subnational entities, readers should take into account that the population size of subnational entities can vary widely within countries. For example, in 2020, in Canada, the population aged 15 and over of Nunavut is 26 894, while the population aged 15 and over of the province of Ontario is 12 217 700 (OECD, 2021[9]).

Definitions

Age groups: Adults refer to 25-64 year-olds; **younger adults** refer to 25-34 year-olds; **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 successfully completed by an individual.

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

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 (note that each GCSE, General Certificate of Secondary Education, qualification is offered in a specific school subject) 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[10]).

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

When interpreting the results on subnational entities, readers should take into account that the population size of subnational entities can vary widely within countries. For example, in 2020, in Canada, the population aged 15 and over of Nunavut is 26 894, while the population aged 15 and over of the province of Ontario is 12 217 700 (OECD, 2021[9]). Also, regional disparities tend to be higher when more subnational entities are used in the analysis.

Please see the *OECD Handbook for Internationally Comparative Education Statistics* (OECD, 2017[11])for more information and Annex 3 for country-specific notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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, 2021[8]).

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Indicator A1 Tables

Tables Indicator A1. To what level have adults studied?

Table A1.1.	Educational attainment of 25-64 year-olds (2020)
Table A1.2.	Trends in educational attainment of 25-34 year-olds, by gender (2010 and 2020)
Table A1.3.	Educational attainment of native- and foreign-born 25-64 year-olds, by age at arrival in the country (2020)
WEB Table A1.4	*Educational attainment, by age group and gender (2020)*

StatLink https://stat.link/ymnkor

Cut-off date for the data: 17 June 2021. 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*.

Table A1.1. Educational attainment of 25-64 year-olds (2020)

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
		Less than primary	Primary	Completion of intermediate lower secondary programmes	Lower secondary	Completion of intermediate upper secondary programmes	Upper secondary	Post-secondary non-tertiary	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)
OECD	Countries												
	Australia	0	3	a	13	a	29	5	12	27	9	2	100
	Austria	x(2)	1[d]	a	13	a	49	3	15	5	13	1	100
	Belgium	3	4	a	13	a	36	1	1	23	18	1	100
	Canada	x(2)	2[d]	a	6	a	22	10	26	23	11[d]	x(10)	100
	Chile[1]	7	5	a	21	a	42	a	9	15	2[d]	x(10)	100
	Colombia	x(4)	x(4)	a	36[d]	5	34[d]	x(6)	x(9)	25[d]	x(9)	x(9)	100
	Costa Rica	11	27	8	8	3	17	0	6	16	3	c	100
	Czech Republic	0	0	a	6	a	69[d]	x(6)	0	7	17	1	100
	Denmark[1]	x(2)	2[d]	a	16	a	41	0	5	20	14	1	100
	Estonia	0	1	a	9	a	39	9	6	14	22	1	100
	Finland	x(2)	1[d]	a	8	a	42	1	10	20	17	1	100
	France	1	4	a	13	a	42	0	15	11	13	1	100
	Germany	x(2)	4[d]	a	10	a	42	13	1	17	12	2	100
	Greece	1	11	0	9	2	33	10	2	23	8	1	100
	Hungary	0	1	a	13	a	51	8	1	13	12	1	100
	Iceland	x(2)	0[d]	a	24	a	29	7	2	21	16	1	100
	Ireland	0	4	a	10	a	21	15	7	29	13	1	100
	Israel	3	3	a	6	a	38	a	12	24	13	1	100
	Italy	1	4	a	32	a	42	1	0	5	15	1	100
	Japan[1]	x(6)	x(6)	a	x(6)	a	47[d]	x(8)	21[d]	31[d]	x(9)	x(9)	100
	Korea	x(2)	4[d]	a	7	a	39	a	14	32	4[d]	x(10)	100
	Latvia	0	0	a	8	2	38	14	4	15	19	0	100
	Lithuania	0	0	0	4	2	31	19	a	28	15	1	100
	Luxembourg	c	8	a	17	a	21	2	5	16	28	2	100
	Mexico	10	15	2	27	4	22	a	1	17	2	0	100
	Netherlands	1	4	a	13	a	38	0	2	25	15	1	100
	New Zealand	x(4)	x(4)	a	19[d]	a	26	15	4	29	6	1	100
	Norway	0	1	a	17	a	36	2	11	20	13	1	100
	Poland	0	5	a	1	a	57	3	0	7	25	1	100
	Portugal	2	23	a	20	a	26	1	c	8	19	1	100
	Slovak Republic	0	1	0	6	0	64	2	0	3	23	1	100
	Slovenia	0	0	a	9	a	54	a	7	8	16	5	100
	Spain	2	6	a	29	a	23	0	12	11	16	1	100
	Sweden	x(2)	3[d]	a	11	3	32	8	10	18	15	2	100
	Switzerland	0	2	a	8	a	44[d]	x(6)	x(9, 10, 11)	23[d]	20[d]	3[d]	100
	Turkey[1]	5	38	a	15	a	20	a	6	13	2	0	100
	United Kingdom	c	0	a	18	12	20	a	10	25	13	2	100
	United States	1	2	a	5	a	42[d]	x(6)	11	25	12	2	100
	OECD average	2	5	m	14	m	37	6	7	18	14	1	100
	EU22 average	1	4	m	12	m	40	6	5	15	16	1	100
Partners	Argentina[1]	5	17	7	5	3	28	a	14	20	1	m	100
	Brazil[1]	12	18	a	13	a	37	a	x(9)	19[d]	1	0	100
	China[1]	3	25	a	47	a	15[d]	x(6)	6	3	0[d]	x(10)	100
	India[1]	35	13	a	30	a	8	1	x(9)	9[d]	x(9)	3	100
	Indonesia	12	28	a	19	a	29	0	3	5	5	0	100
	Russian Federation[1]	x(2)	1[d]	a	4	a	19	20	25	3	28	1	100
	Saudi Arabia[1]	12	14	a	18	a	27	6	0	24[d]	0	x(9)	100
	South Africa	10	4	5	6	28	32	m	8	7	1[d]	x(10)	100
	G20 average	8	11	m	16	m	29	m	10	17	8	m	100

Note: In most countries data refer to ISCED 2011. For India 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. Total might not add up to 100% for the averages because of missing data for some levels for some countries.

1. Year of reference differs from 2020: 2019 for Denmark, Iceland, India, Japan and Turkey; 2018 for Argentina and the Russian Federation; 2017 for Chile; 2016 for Saudi Arabia and 2010 for China.

Source: OECD/ILO/UIS (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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

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A corrigendum has been issued for this page.
See: https://www.oecd.org/about/publishing/Corrigendum_Education-at-a-Glance-2021.pdf

Table A1.2. Trends in educational attainment of 25-34 year-olds, by gender (2010 and 2020)

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	
		2010	2020	2010	2020	2010	2020	2010	2020	2010	2020	2010	2020	2010	2020	2010	2020	2010	2020
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
OECD	Countries																		
	Australia	17[b]	11	14[b]	7	15[b]	9	44[b]	42	36[b]	31	40[b]	36	39[b]	47	50[b]	62	44[b]	55
	Austria	11	11	13	11	12	11	58	52	50	44	54	48	31	37	37	46	34	41
	Belgium	20[b]	16	16[b]	13	18[b]	14	42[b]	43	34[b]	31	38[b]	37	38[b]	41	49[b]	56	44[b]	49
	Canada	9	7	7	4	8	5	42	38	30	23	36	30	48	56	64	73	56	64
	Chile[1, 2]	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	30	m	22	m	26	m	45	m	44	m	44	m	26	m	34	m	30
	Costa Rica	59	48	51	40	55	44	18	21	20	26	19	23	23	31	29	35	26	32
	Czech Republic	5[b]	8	7[b]	7	6[b]	8	75[b]	66	68[b]	52	72[b]	59	20[b]	26	25[b]	40	23[b]	33
	Denmark[1]	23	20	17	15	20	18	46	42	38	29	42	35	30	39	45	56	38	47
	Estonia	18	14	9	7	13	11	54	53	43	38	49	46	28	33	48	55	38	43
	Finland	11	8	7	7	9	7	58	55	45	40	52	48	31	37	48	53	39	45
	France	17	13	15	11	16	12	44	41	38	36	41	39	38	46	47	53	43	49
	Germany	13[b]	14	14[b]	12	14[b]	13	62[b]	52	59[b]	51	60[b]	52	25[b]	33	27[b]	36	26[b]	35
	Greece	30[b]	12	19[b]	9	24[b]	10	44[b]	52	45[b]	40	44[b]	46	26[b]	37	36[b]	51	31[b]	44
	Hungary	14	12	13	12	14	12	65	62	55	51	60	57	21	25	31	36	26	31
	Iceland	33	28	24	17	29	23	41	41	34	36	37	39	26	31	42	47	34	38
	Ireland	17[b]	8	12[b]	5	14[b]	6	42[b]	38	33[b]	33	37[b]	35	42[b]	54	55[b]	62	48[b]	58
	Israel	15[b]	10	9[b]	7	12[b]	8	50[b]	53	38[b]	35	44[b]	44	36[b]	37	53[b]	58	44[b]	47
	Italy	32[b]	25	26[b]	20	29[b]	23	51[b]	52	49[b]	45	50[b]	49	16[b]	23	25[b]	35	21[b]	29
	Japan[1, 3]	m	m	m	m	m	m	m	m	m	m	m	m	54[bd]	59[d]	60[bd]	64[d]	57[bd]	62[d]
	Korea	2[b]	2	2[b]	2	2[b]	2	40[b]	34	32[b]	21	36[b]	28	57[b]	64	66[b]	76	61[b]	70
	Latvia	21	14	12	7	16	11	56	52	42	38	49	45	24	34	46	55	35	44
	Lithuania	14[b]	10	9[b]	5	12[b]	7	48[b]	44	36[b]	27	42[b]	36	38[b]	46	55[b]	68	46[b]	56
	Luxembourg	17[b]	18	15[b]	9	16[b]	13	41[b]	29	39[b]	27	40[b]	28	42[b]	53	46[b]	64	44[b]	58
	Mexico	62	47	61	46	62	46	21	29	21	29	21	29	17	25	18	26	18	25
	Netherlands	19[b]	12	15[b]	9	17[b]	11	43[b]	40	41[b]	34	42[b]	37	38[b]	47	44[b]	57	41[b]	52
	New Zealand	22	15	19	12	21	13	m	47	m	39	m	43	m	39	m	49	m	44
	Norway	19	19	15	16	17	17	42	39	29	24	36	32	39	42	56	60	47	51
	Poland	8[b]	8	5[b]	5	6[b]	6	62[b]	60	50[b]	43	57[b]	51	30[b]	33	45[b]	53	37[b]	42
	Portugal	55	24	41	18	48	21	27	41	28	33	27	37	18	35	31	49	25	42
	Slovak Republic	6[b]	8	6[b]	7	6[b]	8	75[b]	63	64[b]	43	70[b]	53	19[b]	29	30[b]	49	24[b]	39
	Slovenia	8[b]	5	5[b]	4	7[b]	4	69[b]	60	55[b]	39	62[b]	50	23[b]	36	40[b]	57	31[b]	45
	Spain	40	34	29	23	35	28	25	25	25	24	25	24	35	41	46	54	40	47
	Sweden	10[b]	18	8[b]	14	9[b]	16	54[b]	42	43[b]	28	49[b]	35	36[b]	40	49[b]	58	42[b]	49
	Switzerland	11[b]	6	14[b]	6	12[b]	6	50[b]	43	51[b]	39	50[b]	41	39[b]	51	36[b]	55	37[b]	53
	Turkey[1]	52[b]	39	64[b]	43	58[b]	41	29[b]	26	20[b]	21	25[b]	24	19[b]	35	16[b]	36	17[b]	35
	United Kingdom[4]	17[b]	15	17[b]	10	17[b]	12	39[b]	33	35[b]	30	37[b]	32	44[b]	52	48[b]	59	46[b]	56
	United States	13	6	10	6	12	6	50	47	42	38	46	42	37	47	48	57	42	52
	OECD average	21	16	18	13	20	15	47	45	41	35	44	40	32	39	42	52	37	45
	EU22 average	19	14	14	10	16	12	52	48	45	38	48	43	30	37	41	52	35	45
Partners	Argentina[1]	m	32	m	24	m	28	m	33	m	31	m	32	m	34	m	45	m	40
	Brazil[1, 2]	51[b]	33	44[b]	23	47[b]	28	39[b]	48	43[b]	50	41[b]	49	10[b]	20	13[b]	27	12[b]	24
	China	63	m	66	m	64	m	19	m	16	m	18	m	18	m	18	m	18	m
	India[1, 2]	58	63	70	72	64	67	26	15	18	11	22	13	16	22	12	17	14	19
	Indonesia	59[b]	43	63[b]	45	61[b]	44	32[b]	41	27[b]	34	30[b]	38	9[b]	16	11[b]	21	10[b]	18
	Russian Federation[1]	9	6	6	4	7	5	46	39	34	27	40	33	45	55	60	69	53	62
	Saudi Arabia[1]	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	56	48	56	44	56	46	11	39	11	39	11	39	33	13	33	17	33	15
	G20 average	32	25	31	23	31	24	38	38	33	32	35	35	32	38	38	46	35	42

Note: In most countries there is a break in the time series, represented by the code "b", as data for 2020 refer to ISCED 2011 while data for 2010 refer to ISCED-97. For India 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. Total might not add up to 100% for the averages because of missing data for some levels for some countries.

1. Year of reference differs from 2020: 2019 for Denmark, India, Japan and Turkey; 2018 for Argentina and the Russian Federation; 2017 for Chile.
2. Year of reference differs from 2010: 2009 for Brazil and Chile; 2011 for India.
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).

Source: OECD/ILO/UIS (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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

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Table A1.3. Educational attainment of native- and foreign-born 25-64 year-olds, by age at arrival in the country (2020)

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

		Percentage of native-born adults among 25-64 year-olds	Percentage of foreign-born adults among 25-64 year-olds	Below upper secondary					Upper secondary or post-secondary non-tertiary					Tertiary				
				Native-born adults	Foreign-born adults			Total	Native-born adults	Foreign-born adults			Total	Native-born adults	Foreign-born adults			Total
					Arrived in the country by the age of 15	Arrived in the country at 16 or older	Total			Arrived in the country by the age of 15	Arrived in the country at 16 or older	Total			Arrived in the country by the age of 15	Arrived in the country at 16 or older	Total	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
	Countries																	
OECD	Australia[1]	66	34	19	17	9	11	17	40	37	26	29	36	41	46	64	60	47
	Austria	75	25	11	26	25	25	14	55	49	40	42	51	35	25	35	33	34
	Belgium	79	21	17	27	33	32	20	39	42	29	32	37	44	31	37	36	42
	Canada	70	30	8	5	7	7	8	36	27	23	24	32	56	68	70	70	60
	Chile[1]	96	3	36	14	21	20	35	42	53	48	48	42	22	33	31	31	22
	Colombia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Costa Rica	88	12	56	x(6)	x(6)	68	57	18	x(11)	x(11)	17	18	26	x(16)	x(16)	15	25
	Czech Republic	96	4	6	x(6)	x(6)	10	6	70	x(11)	x(11)	55	69	24	x(16)	x(16)	35	25
	Denmark[1]	86	14	18	36	20	21	19	43	35	34	35	42	38	29	46	44	39
	Estonia	87	13	10	9	2	5	9	49	50	42	46	48	41	41	55	49	42
	Finland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	France	85	15	16	25	37	33	19	44	43	26	31	42	40	33	37	36	40
	Germany	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Greece	92	8	20	30	40	38	21	46	52	46	47	46	34	18	15	15	33
	Hungary	97	3	14	10	13	13	14	59	43	49	48	58	27	47	38	39	27
	Iceland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Ireland[1]	78	22	21	16	8	9	18	37	35	35	35	36	43	49	57	55	46
	Israel	77	23	12	8	11	10	11	40	40	27	32	38	48	52	62	58	51
	Italy	85	15	35	42	51	49	37	44	44	36	38	43	21	14	13	13	20
	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	90	10	11	11	5	8	11	51	59	56	57	52	38	30	39	35	38
	Lithuania	95	5	6	x(6)	x(6)	4	6	49	x(11)	x(11)	57	50	44	x(16)	x(16)	39	44
	Luxembourg	40	58	20	31	24	25	23	46	38	20	22	32	35	31	56	53	45
	Mexico	99	1	59	x(6)	x(6)	28	58	22	x(11)	x(11)	28	22	19	x(16)	x(16)	44	19
	Netherlands	84	16	18	24	28	27	19	39	41	29	33	38	43	35	43	41	43
	New Zealand	65	35	24	14	9	10	19	43	36	37	37	41	33	50	54	53	40
	Norway	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Poland	99	1	7	x(6)	x(6)	c	7	61	x(11)	x(11)	38	60	33	x(16)	x(16)	60	33
	Portugal	89	11	47	28	27	27	45	26	34	39	37	27	27	39	34	36	28
	Slovak Republic	99	1	8	c	8	6	8	66	62	52	56	66	27	35	40	38	27
	Slovenia	88	12	8	11	23	20	10	53	65	60	61	54	38	24	17	19	36
	Spain	81	19	37	39	36	37	37	21	29	33	32	23	42	32	31	31	40
	Sweden	75	25	11	31	37	32	16	45	23	27	24	39	45	46	36	44	45
	Switzerland	63	37	4	14	23	22	11	50	54	31	34	44	46	32	46	44	45
	Turkey	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	United Kingdom	84	16	19	14	15	15	18	35	28	14	16	32	46	58	71	68	49
	United States	81	19	5	18	22	21	8	44	39	32	34	42	51	43	46	45	50
	OECD average	83	17	19	21	21	22	20	44	42	36	37	42	37	38	43	41	38
	EU22 average	85	15	17	25	25	22	18	47	44	38	41	46	36	33	37	38	36
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	m

Note: The percentage of native- and foreign-born adults might not add up to 100% for some countries because of some missing data on country of birth. . See *Definitions* and *Methodology* sections for more information. Data and more breakdown's are available at http://stats.oecd.org/ Education at a Glance Database.

1. Year of reference differs from 2020: 2019 for Australia; 2017 for Denmark, Germany and Ireland; 2015 for Chile.

Source: OECD/ILO/UIS (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf)).

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

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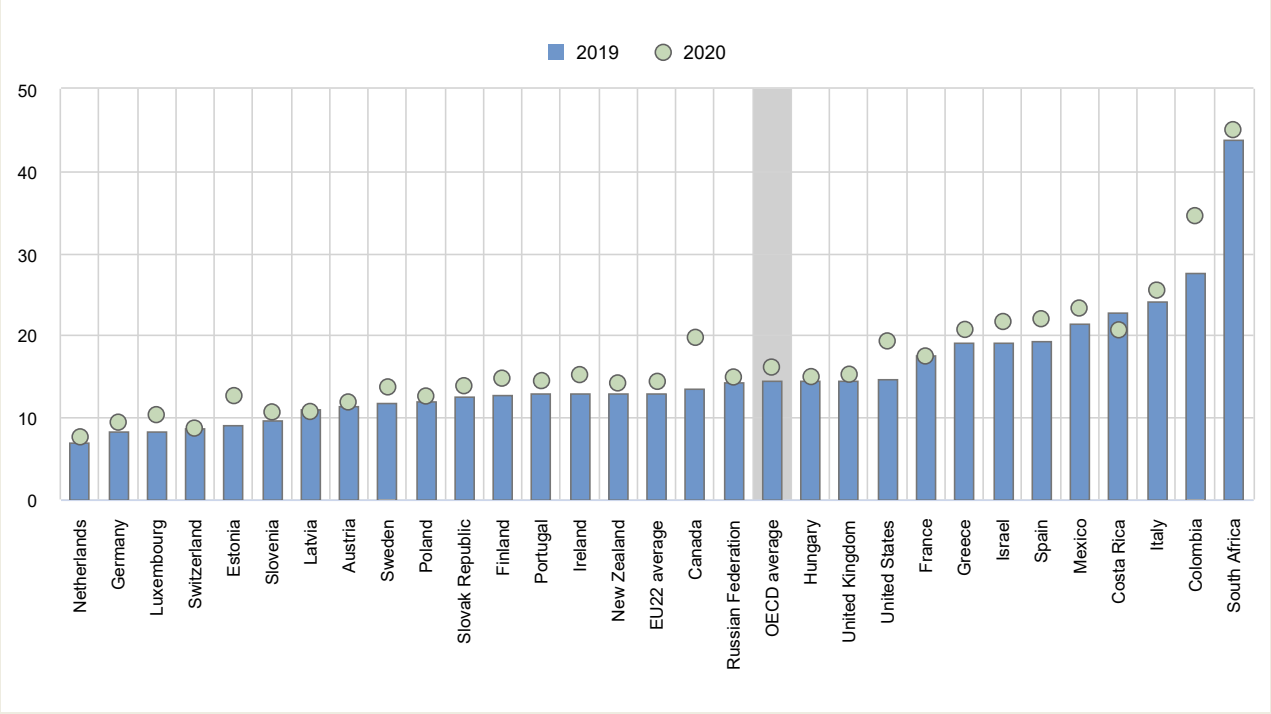
Indicator A2. Transition from education to work: Where are today's youth?

Highlights

- Despite the economic slowdown since the outbreak of the COVID-19 pandemic in 2020, in most countries, the share of young adults (18-24 year-olds) neither in employment nor in education or training (NEET) has not changed remarkably between 2019 and 2020. However, a few countries, including Canada, Colombia and the United States, have experienced an increase of more than 4 percentage points in the share of NEETs.
- In almost all OECD and partner countries, the share of inactive population among NEETs is higher for women than for men. On average, in 2020, almost 70% of NEET women are inactive, while the share is about 50% among NEET men.
- On average across OECD countries, foreign-borns are more likely to be NEETs than native-borns: 19% of foreign-born 15-29 year-olds are NEETs, while 14% of native-born 15-29 year-olds are NEETs.

Figure A2.1. Trends in the share of NEETs among 18-24 year-olds (between 2019 and 2020, annual data)

In per cent



Countries are ranked in ascending order of the share of 18-24 year-old NEETs in 2020.

Source: OECD (2021), Table A2.2. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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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 others 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 others 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.

Young immigrants are particularly at risk. According to the *International Migration Outlook 2020* (OECD, 2020[1]), 14% of the total population in OECD countries are foreign-born. In most countries, migrant youth experience higher unemployment rates than their non-migrant peers.

Other findings

- Approximately half of 18-24 year-olds have left the education system on average across OECD countries. However, there are broad variations in the proportion of employed among youth not in education: 82% are employed in Norway and less than 50% are employed in Greece, Italyand Turkey.
- The share of young adults who are NEETs in 2020 was 15.0% on average across OECD countries, one of the lowest rates since 2000. This reflects the decreasing trend since the 2008 financial crisis.
- The gender gap in inactivity rates among 18-24 year-old NEETs is the highest in the Slovak Republic, Sweden, and Turkey (at least 30 percentage points). In these countries, the share of NEETs among youth is mostly driven by the high share of inactive female NEETs.
- Among foreign-born young adults, arrival in the host country at an early age can reduce the risk of being NEET. On average across OECD countries, 22% of those who arrived in the country at the age of 16 or older are NEET, compared with only 14% of those who arrived by the age of 15.

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 NEET 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 those in this age group are no longer in compulsory education, but a significant proportion of them will still be continuing their studies.

Analysis

Education and the labour market for the youth and the impact of the COVID-19 pandemic

The COVID-19 pandemic made economic conditions in 2020 difficult in most countries and they remain difficult in 2021. The job vacancy rate, the share of total posts that are vacant, in the 20 European countries of the OECD has dropped by about 25% from 2.2% in Q2 2019 to 1.6% in Q2 2020 as companies stopped hiring due to lockdown restrictions and a difficult economic context (Eurostat[2]). In many countries, the economic crisis has led to massive job losses, with no certainty that all jobs will be recreated after the economic crisis as the pandemic accelerated broader economic transformations, such as the digitalisation and transformation of jobs.

In hard economic times, the transition from education to work, which is always difficult, becomes really problematic. In the aftermath of the 2008 financial crisis, the unemployment rate among youth increased by almost twice the rate of the unemployment rate among adults (Bell and Blanchflower, 2011[3]). Indeed, the rise of youth unemployment during the first months of 2020 in some countries seems to repeat this scenario. For instance, in the United States, the unemployment rate among youth (15-24 year-olds) increased from 7.8% in February 2020 to 27.4% in April 2020. In Canada it increased from 10.4% to 27.3% over the same period. In many countries, unemployment rates reversed after the peak, but remained at a higher level than at the beginning of the year (OECD, 2021[4]) (OECD, 2020[5]). Moreover, vast research has shown that starting a career during a recession will have lasting economic and social consequences on job opportunities, pay, confidence and well-being (Scarpetta, Sonnet and Manfredi, 2010[6]).

The share of young adults (18-24 year-olds) neither in employment nor in education or training (NEET) has not changed remarkably between 2019 and 2020 in most countries with comparable annual data, and has increased from 14.4% in 2019 to 16.1% in 2020, on average across OECD countries. However, this share has increased by more than 4 percentage points over this period in Canada, Colombia and the United States (Figure A2.1). Similarly, the increase in the share of NEETs among 25-29 year-olds is particularly marked only in the aforementioned countries and has increased from 16.4% in 2019 to 18.6% in 2020, on average across OECD countries. Annual data have been used for this analysis, which could hide some important variations over the months (Fry and Barroso, 2020[7]).

The share of NEETs has increased only slightly between 2019 and 2020 in many countries, partly because more young people have extended their studies. Particularly, in Austria, France, Poland, Portugal and Slovenia, further education helped to limit the increase in the share of NEETs. For instance, in Portugal, the share of young adults aged 18-24 year-olds that are NEET has increased by less than 2 percentage points between 2019 and 2020, while the increase in young adults in education has increased by 4 percentage points, from 54% in 2019 to 58% in 2020. Similarly, in France, the share of NEETs has remained stable between 2019 and 2020, but the share of young adults in education has increased by 2 percentage points, from 54% to 56% over this period (Table A2.2).

Governments across the world reacted quickly to the economic challenges that the youth are facing. For example, the European Commission has launched the “Youth Employment Support: A bridge to jobs for the next generation” (European Commission, 2020[8]). Depending on the speed of the economic recovery, the education-to-work transition may be smoother in the future.

Labour-market outcomes of young adults once they leave education

On average across OECD countries, almost half (47%) of 18-24 year-olds are not in the education system. In Brazil, Colombia and Israel, more than 65% of these young adults are not in education. The pattern is reversed in Greece, Luxembourg and the Netherlands and Slovenia, where about two out of three young adults are in education (Figure A2.1. and Table A2.1).

For the older group of 25-29 year-olds, only 16% are in education on average across OECD countries, and the share is less than 10% in Belgium, Colombia, the Czech Republic, France, Hungary, Latvia, Lithuania, Mexico, Poland and the Slovak Republic. However, in Denmark, Estonia, Finland, Iceland, Israel and Sweden, over 25% of 25-29 year-olds are in education (OECD, 2021[9]).

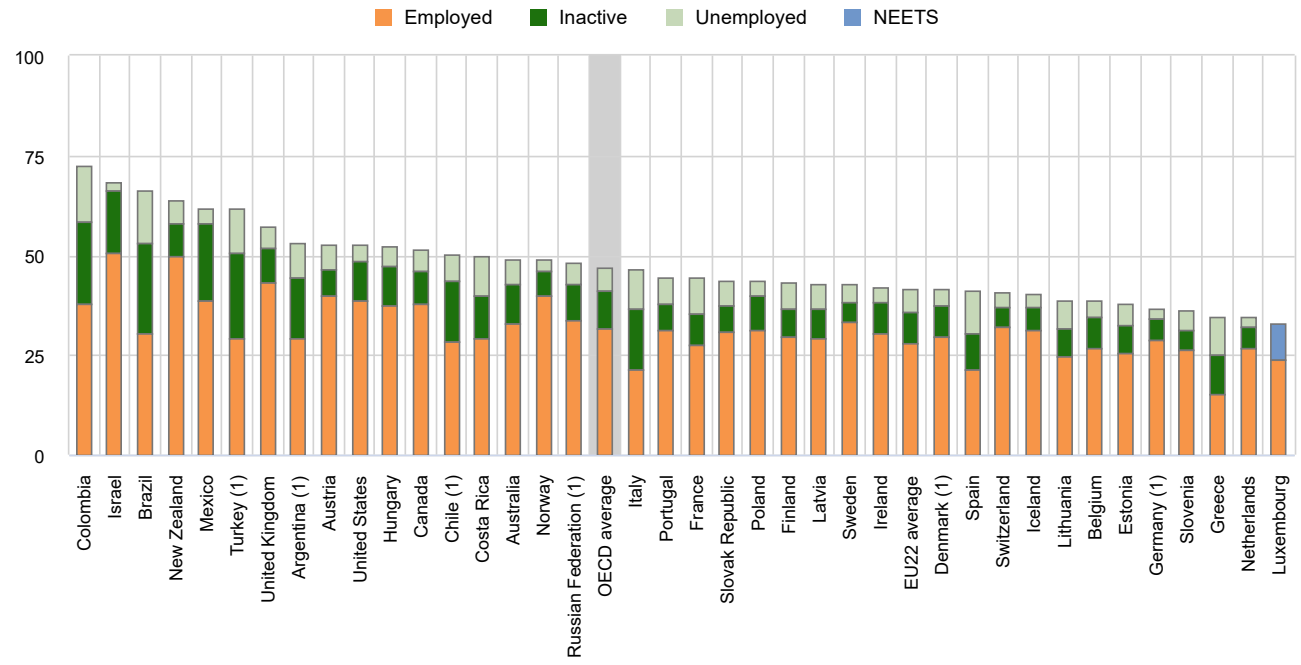
Young adults no longer in education may be employed, unemployed or inactive. On average across OECD countries, among the 47% of young adults aged 18-24 years-old who are not in education, about two-thirds of young adults are employed and about a third i are inactive or unemployed (20% are inactive and 13% are unemployed). The proportion of young adults who are employed varies considerably from country to country. Across OECD and partner countries, among all 18-24 year-olds

not in education, 75% or more are employed in Austria, Germany, Iceland, the Netherlands, New Zealand, Sweden, Switzerland and the United Kingdom, and 80% or more are employed in Norway. In other countries, young people have experienced more difficulty entering the labour market when they leave the education system. For instance, in Brazil, Greece, Italy and Turkey, less than half of 18-24 year-olds who are not in education are employed (Figure A2.2.).

On average across OECD countries, 15.1% of 18-24 year-olds are NEETs. Across OECD and partner countries, the range of NEETs is large: in Germany, Iceland, Luxembourg, the Netherlands, Norway, Slovenia, Sweden and Switzerland, the share of NEETs is less than 10%; it is between 20% and 30% in Argentina, Chile, Costa Rica, Italy and Mexico; and more than 30% in Brazil, Colombia and Turkey. In most countries, inactivity is more common than unemployment: on average across OECD countries, 9.3% of 18-24 year-olds are inactive NEETs and 5.9% are unemployed NEETs. However, in France, Iceland, Portugal and Spain, the share of unemployed NEETs exceeds that of inactive NEETs (Figure A2.2.).

Figure A2.2. Percentage of 18-24 year-olds not in education, by labour-market status (2020)

In per cent



Note: NEET refers to young people neither in employment nor in education or training.
1. Year of reference differs from 2020. 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 (2021),Table A2.1. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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In 2020, the share of NEET young adults aged 18-24 years old was 15.1% on average across OECD countries, one of the lowest rates since 2000. This reflects the decreasing trend since the 2008 financial crisis. The share on average across OECD countries was 18.7% in 2009, reaching its peak of 19.2% in 2010, then gradually decreasing each year since (Table A2.1 and OECD (2021[9])).

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, 16.5% of 18-24 year-old women are NEET while the share among men of the same age is slightly lower (14.0%). Although women are more likely to be NEET,

the reasons for being so are not the same as for men: in almost all OECD and partner countries, most NEET women are inactive while most NEET men are unemployed. On average, in 2020 almost 70% of NEET women were inactive, while the share was about 50% among NEET men. The Slovak Republic, Sweden and Turkey show a strong gender gap in the composition of the inactive population: at least 30 percentage points in favour of men (OECD, 2021[9]) and Figure A2.3.).

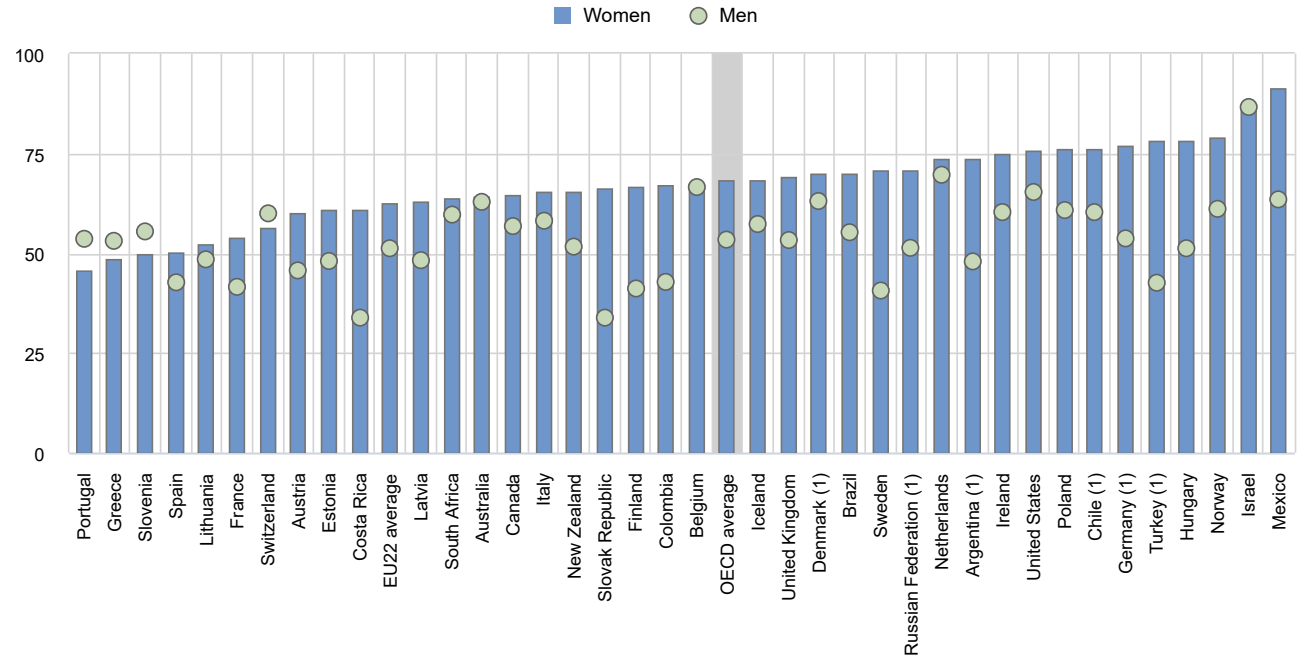
Several reasons account for inactivity among women, among them childcare responsibilities, while health and other factors are more prevalent factors of inactivity among men (OECD, 2016[10]). When interpreting the figures for inactive NEETs, it should be noted that some are only temporarily inactive and 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[11]).

Young adults in their upper 20s 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 remains more or less stable among men. On average across OECD countries, among 18-24 year-olds, 11.2% of women and 7.5% of men are inactive NEETs, a gender gap of 4 percentage points. Among 25-29 year-olds, the share increases to 17.3% for women and decreases to 6.4% for men, a gender gap of more than 10 percentage points (OECD, 2021[9]).

The differences in the share of unemployed NEETs by gender and age are small. On average across OECD and partner countries, the share of 18-24 and 25-29 year-old women who are NEETs and unemployed is approximately 1-2 percentage points below the share for men. Shares of unemployed NEETs are all at about 5-7%, with the exceptions of Brazil, Colombia, France, Greece, Italy, South Africa, Spain and Turkey, all of which are above 7% for both genders and ages 18-24 and 25-29 (OECD, 2021[9]).

Figure A2.3. Share of inactive among 18-24 year-old NEETs, by gender (2020)

In per cent



Note: NEET refers to young people neither in employment nor in education or training.
1. Year of reference differs from 2020. Refer to Education at a Glance Database for details.
Countries are ranked in ascending order of the share of the inactive among 18-24 year-old NEET women.
Source: OECD (2021), Refer to Education at a Glance database, http://stats.oecd.org. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

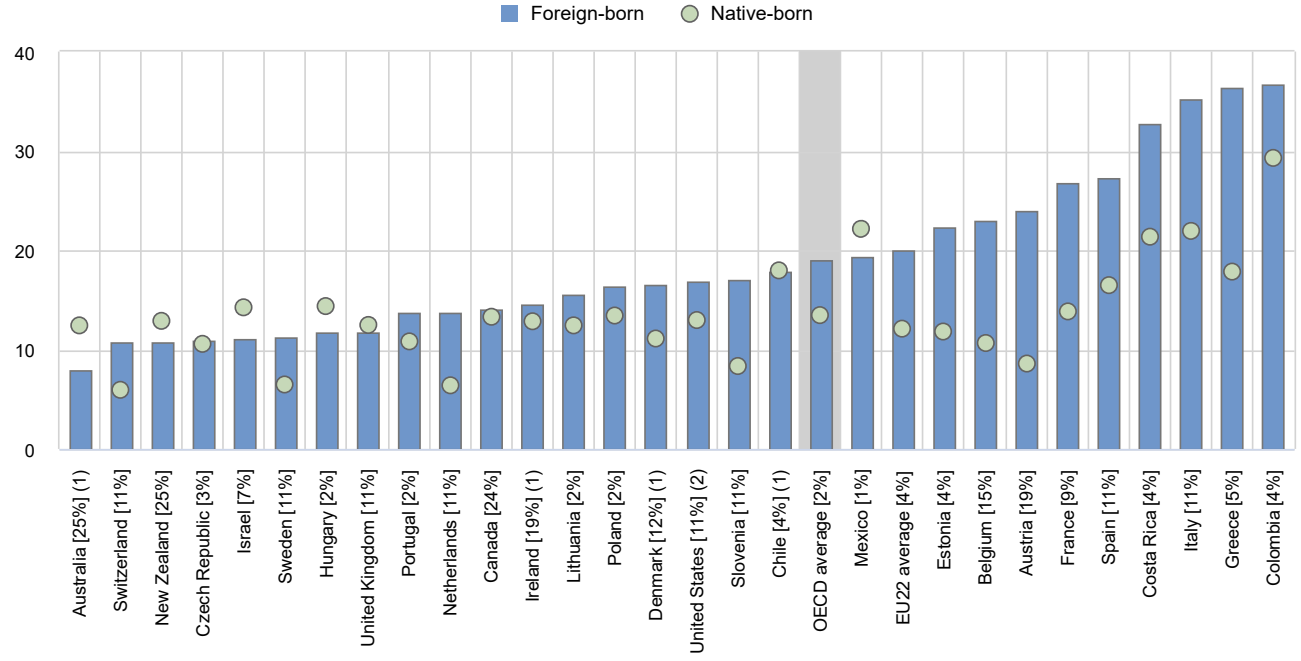
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In most OECD and partner countries, foreign-born young adults (15-29 year-olds) are more likely to be NEET than native-born ones. On average across OECD countries, 19% of foreign-born young adults are NEET, compared to 14% of their native-born peers. This pattern is particularly evident in Austria and Greece, where the difference exceeds 15 percentage points, but also in Belgium, Costa Rica, Estonia, France, Italy and Spain, where the difference in the share of NEETs between these two groups is still more than 10 percentage points. However, in some countries, no significant difference in the share of NEETs among native-born and foreign-born adults is found; this is the case in Canada, Chile, the Czech Republic and the United Kingdom (Figure A2.4.).

Early arrival in the country is associated with a lower risk of being NEET. On average across OECD countries, the share of NEETs among the native-born and those who arrived by the age of 15 or younger are 14% among both groups, while the share of NEETs among those who arrived at age of 16 or later is 22%. In Italy and Slovenia, the difference in the share of NEETs among foreign-born young adults who arrived in the country at the age of 16 or older is particularly high and exceeds 20 percentage points. This underlines the importance of education in helping younger people acquire sufficient language and cultural skills to participate in society and other key skills required by the labour market (OECD, 2018[12]).

Figure A2.4. Percentage of native-born and foreign-born 15-29 year-old NEETs (2020)

In per cent



Note: NEET refers to young people neither in employment nor in education or training. The percentage in square brackets represents the share of foreign-born 15-29 year-olds.
1. Year of reference differs from 2020. Refer to the source table for more details.
2. The age group refers to 16-29 year-olds instead of 15-29 year-olds.
Countries are ranked in ascending order of the percentage of 15-29 year-old foreign-born NEETs.
Source: OECD (2021), Table A2.3. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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Subnational variations in the percentage of young people who are NEET

The proportion of young people who are neither employed nor in education or training (NEET) shows significant subnational variation as well as national variation across OECD and partner countries. Across OECD countries and regions, the share of 18-24 year-old NEETs ranges from as low as 2% in Toukai (Japan) to as high as 50% in South-eastern Anatolia – Middle (Turkey) (OECD, 2021[13]).

In 18 OECD and partner countries, the subnational regions with the highest share of 18-24 year-old NEETs have at least a 10 percentage-point higher rate than the regions with the lowest shares. In Colombia, Greece, Italy, the Russian Federation and Turkey, the gap is higher than 20 percentage points. For instance, one of the highest regional disparities in the share of NEETs are found in Italy: in Sicily, more than one out of three young adults are NEET (39%), which is almost 30 percentage points higher than the share of NEETs in the Province of Bolzano-Bozen, the region with the lowest share of NEETs (11%) (OECD, 2021[13]).

Across the OECD and partner countries, regional differences in NEET rates are the smallest in Denmark, Finland, Japan, the Netherlands, Norway and Slovenia, where the difference between the regions with the highest and lowest shares is less than 5 percentage points. Each of these countries has ten or fewer subnational regions. In Japan, the share of NEETs is less than 5% in all ten subnational regions (OECD, 2021[13]).

Income and job opportunities tend to be more concentrated in cities across the OECD. However, distinct trends can be observed in the relative proportions of NEETs in capital cities across OECD countries. In 14 out of 34 OECD and partner countries with available data and at least 2 subnational regions, the capital city region has the lowest share of NEETs, while in Austria and Belgium, the capital city region has the highest NEET rate in the country (OECD, 2021[13]).

Definitions

Educational attainment refers to the highest level of education successfully completed by an individual.

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).

In the first section in this indicator, "Education and the labour market for the youth and the impact of the COVID-19 pandemic", annual data from national labour force surveys (LFS) have been used for 2019 and 2020.

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

When interpreting the results on subnational entities, readers should take into account that the population size of subnational entities can vary widely within countries.

Please see the *OECD Handbook for Internationally Comparative Education Statistics 2018* (OECD, 2018[14]) for more information and Annex 3 for country-specific notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

Source

For information on the sources, see Indicator A1.

Data on subnational regions for selected indicators are available in the *OECD Regional Statistics* (database) (OECD, 2021[13]).

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Indicator A2 tables

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

Table A2.1	Percentage of 18-24 year-olds in education/not in education, by work status (2020)
Table A2.2	Trends in the percentage of young adults in education/not in education, by gender, age group and work status (2019 and 2020, annual data)
Table A2.3	Percentage of native-born and foreign-born 15-29 year-old NEETs, by age at arrival in the country (2020)

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Cut-off date for the data: 17 June 2021. 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*.

Table A2.1. Percentage of 18-24 year-olds in education/not in education, by work status (2020)

		In education						Not in education					
		Employed							NEET				
		Students in work-study programmes	Other employed	Total	Unemployed	Inactive	Total	Employed	Unemployed	Inactive	Total	Total	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	22	27	4.4	20	51	33	5.8	10.2	16.0	49	100
	Austria	8	12	20	0.7	26	47	40	5.9	6.5	12.4	53	100
	Belgium	1	7	8	0.9	52	61	27	4.0	8.1	12.1	39	100
	Canada	x(2)	22[d]	22	2.8	24	49	38	5.4	8.1	13.6	51	100
	Chile[1]	x(2)	9[d]	9	3.0	38	50	28	6.6	15.3	21.9	50	100
	Colombia	a	7	7	3.3	17	28	38	14.0	20.5	34.5	72	100
	Costa Rica	a	16	16	9.6	24	50	29	10.1	10.6	20.7	50	100
	Czech Republic	m	m	m	m	m	m	m	m	m	m	m	m
	Denmark[1]	x(2)	32[d]	32	3.3	23	59	30	3.9	7.7	11.7	41	100
	Estonia	c	24	24	4.6	34	62	26	5.4	6.6	12.0	38	100
	Finland	x(2)	20[d]	20	6.0	31	57	30	6.7	6.9	13.6	43	100
	France	8	5	13	0.9	42	56	28	8.8	8.0	16.8	44	100
	Germany[1]	17	16	33	1.0	29	63	29	2.8	5.3	8.1	37	100
	Greece	a	6	6	1.4	59	66	15	9.5	9.8	19.3	34	100
	Hungary	a	3	3	c	45	48	37	4.9	10.0	15.0	52	100
	Iceland	a	37	37	4.1	19	60	31	3.3	5.6	9.0	40	100
	Ireland	a	26	26	1.9	31	58	30	3.8	7.8	11.6	42	100
	Israel	x(2)	11[d]	11	0.7	20	32	51	2.3	15.4	17.7	68	100
	Italy	a	3	3	1.1	50	54	22	9.5	15.3	24.8	46	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	16	16	1.9	39	57	29	6.1	7.7	13.8	43	100
	Lithuania	a	17	17	0.3	44	61	25	6.9	7.0	13.9	39	100
	Luxembourg	a	10	10	c	55	67	24	c	c	9.0	33	100
	Mexico	a	9	9	0.8	28	38	39	3.7	19.6	23.3	62	100
	Netherlands	x(2)	40[d]	40	3.8	22	66	27	2.2	5.5	7.6	34	100
	New Zealand	a	18	18	2.0	16	36	50	5.8	8.4	14.2	64	100
	Norway	1	21	22	3.2	26	51	40	2.8	6.0	8.8	49	100
	Poland	a	8	8	0.9	47	56	31	3.9	8.7	12.6	44	100
	Portugal	a	5	5	2.4	47	55	31	6.6	6.5	13.2	45	100
	Slovak Republic	c	2	2	0.2	54	56	31	6.2	6.6	12.8	44	100
	Slovenia	x(2)	16[d]	16	0.4	47	64	26	4.8	5.2	10.0	36	100
	Spain	x(2)	8[d]	8	3.4	47	59	21	10.7	9.2	19.9	41	100
	Sweden	a	18	18	7.4	32	57	33	4.4	5.0	9.4	43	100
	Switzerland	18	18	36	2.0	21	59	32	3.5	4.9	8.4	41	100
	Turkey[1]	a	13	13	4.4	21	38	29	11.1	21.1	32.2	62	100
	United Kingdom	5	15	20	1.7	21	43	43	5.4	8.4	13.8	57	100
	United States	x(2)	20[d]	20	1.5	26	47	39	4.1	9.8	13.8	53	100
	OECD average	m	15	17	2.6	34	53	32	5.9	9.3	15.1	47	100
	EU22 average	m	14	16	2.2	41	59	28	5.9	7.7	13.3	41	100
Partners	**Argentina**[1]	a	12	12	4.3	31	47	29	8.8	15	24.1	53	100
	Brazil	a	12	12	4.7	17	34	30	13.1	23	35.9	66	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[1]	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	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: 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. Reference year differs from 2020: 2019 for Denmark, Germany, the Russian Federation and Turkey; 2018 for Argentina; 2017 for Chile.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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 gender, age group and work status (2019 and 2020, annual data)

		18-24 year-olds						18-24 year-olds						18-24 year-olds					
		Total						Men						Women					
		2019			2020			2019			2020			2019			2020		
		In education	Not in education		In education	Not in education		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		Employed	NEET		Employed	NEET
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
OECD	Countries																		
	Australia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Austria	47	42	11.4	49	40	11.9	43	45	11.3	46	41	13.3	50	38	11.5	51	38	10.5
	Belgium	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Canada	39	47	13.5	40	41	19.8	36	50	14.3	35	44	21.2	43	44	12.6	45	37	18.2
	Chile	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Colombia	30	43	27.6	28	38	34.5	30	53	17.0	27	50	22.9	30	32	37.7	28	27	45.5
	Costa Rica	50	27	22.8	50	29	20.7	48	34	18.9	47	39	14.6	53	19	27.4	54	19	27.1
	Czech Republic	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Denmark	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Estonia	56	35	9.3	57	30	12.6	51	41	8.2	56	34	10.8	62	28	10.5	59	26	14.5
	Finland	55	32	12.8	55	31	14.8	52	35	12.9	51	33	16.5	59	29	12.6	59	28	13.0
	France	54	29	17.5	56	27	17.5	51	31	18.3	53	29	17.9	57	27	16.6	59	24	17.1
	Germany	62	29	8.2	62	28	9.4	61	31	7.5	61	30	9.1	64	27	9.0	64	26	9.7
	Greece	65	16	19.0	64	16	20.7	63	18	19.0	62	18	20.4	67	14	19.0	65	14	21.0
	Hungary	50	35	14.5	48	37	15.0	46	42	11.4	45	43	12.2	54	28	17.6	50	32	17.8
	Iceland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Ireland	54	33	12.9	56	29	15.2	53	34	13.0	55	29	15.9	55	33	12.8	57	29	14.5
	Israel	29	52	19.0	30	49	21.7	26	56	18.1	27	52	21.0	33	47	20.0	32	45	22.4
	Italy	53	23	24.2	54	21	25.5	49	27	24.0	48	26	25.6	58	18	24.5	60	15	25.4
	Japan	m	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	m
	Latvia	61	28	10.9	60	29	10.7	57	31	12.2	55	35	10.4	66	24	9.5	65	24	11.1
	Lithuania	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Luxembourg	64	27	8.3	65	24	10.3	58	33	9.3	64	25	10.8	71	21	c	67	23	9.9
	Mexico	38	41	21.5	38	39	23.3	37	53	9.5	38	50	12.2	38	29	33.5	39	27	34.2
	Netherlands	65	28	6.9	66	27	7.6	64	29	7.3	63	29	8.0	67	27	6.5	68	25	7.3
	New Zealand	36	51	13.0	36	50	14.2	36	53	11.4	36	51	12.6	36	49	14.7	36	48	16.0
	Norway	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Poland	54	34	11.9	56	31	12.6	50	40	10.2	51	37	11.5	59	27	13.7	62	24	13.7
	Portugal	54	33	12.9	58	27	14.5	52	36	11.8	54	31	14.7	57	29	14.0	62	23	14.2
	Slovak Republic	56	32	12.5	57	29	13.8	49	41	10.5	50	37	12.3	63	22	14.5	64	20	15.5
	Slovenia	63	27	9.6	66	23	10.6	57	34	8.2	62	28	9.7	70	19	11.1	71	18	11.7
	Spain	58	23	19.2	59	19	22.0	54	26	19.4	55	22	23.0	62	19	19.0	63	16	20.9
	Sweden	49	40	11.7	50	36	13.7	45	43	12.0	46	40	14.1	53	36	11.4	54	33	13.3
	Switzerland	56	35	8.8	57	34	8.7	54	35	10.9	55	34	10.6	58	35	6.6	59	34	6.7
	Turkey	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	United Kingdom	41	44	14.5	42	43	15.2	40	45	14.5	40	44	16.2	42	43	14.5	44	42	14.2
	United States[1]	43	42	14.6	43	38	19.3	41	45	14.1	40	41	19.0	46	39	15.1	45	35	19.5
	OECD average	51	34	14.4	52	32	16.1	48	39	13.2	49	36	15.1	55	30	16.0	55	28	17.2
	EU22 average	57	30	13.0	58	28	14.4	53	34	12.6	54	31	14.2	61	26	13.8	61	24	14.5
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	52	34	14.4	53	32	14.9	49	38	c	50	37	13.0	54	30	16.7	56	27	16.8
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	41	15	43.8	43	12	45.0	41	18	41.1	44	14	42.4	42	12	46.5	43	9	47.7
	G20 average	m	m	m	m	m	m	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. The age groups refer to 16-19 year-olds instead of 15-19 year-olds, 16-29 year-olds instead of 15-29 year-olds.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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

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Table A2.3. Percentage of native-born and foreign-born 15-29 year-old NEETs, by age at arrival in the country (2020)

		Native-born	Foreign-born			Total
			Arrival in the country by the age of 15	Arrival in the country at 16 or older	Total	
		(1)	(2)	(3)	(4)	(5)
OECD	Countries					
	Australia[1]	12	7	8	8	11
	Austria	9	17	28	24	12
	Belgium	11	15	34	23	12
	Canada	13	12	19	14	13
	Chile[1]	18	14	19	18	18
	Colombia	29	x(4)	x(4)	37	30
	Costa Rica	21	x(4)	x(4)	33	22
	Czech Republic	11	x(4)	x(4)	11	11
	Denmark[1]	11	14	20	17	12
	Estonia	12	16	26	22	12
	Finland	m	m	m	m	m
	France	14	23	30	27	15
	Germany	m	m	m	m	m
	Greece	18	31	46	36	19
	Hungary	14	c	13	12	14
	Iceland	m	m	m	m	m
	Ireland[1]	13	16	14	14	13
	Israel	14	10	15	11	14
	Italy	22	27	49	35	23
	Japan	m	m	m	m	m
	Korea	m	m	m	m	m
	Latvia	13	c	c	c	14
	Lithuania	12	x(4)	x(4)	16[r]	13
	Luxembourg	c	c	c	c	9
	Mexico	22	x(4)	x(4)	19	22
	Netherlands	6	10	19	14	7
	New Zealand	13	10	12	11	12
	Norway	m	m	m	m	m
	Poland	13	x(4)	x(4)	16	13
	Portugal	11	12	17	14	11
	Slovak Republic	14	c	m	c	14
	Slovenia	8	2	29	17	9
	Spain	16	22	35	27	18
	Sweden	6	9	14	11	8
	Switzerland	6	8	13	11	7
	Turkey	m	m	m	m	m
	United Kingdom	12	10	13	12	12
	United States[2]	13	14	21	17	13
	OECD average	14	14	22	19	14
	EU22 average	12	16	27	20	13
Partners	Argentina	m	m	m	m	m
	Brazil	m	m	m	m	m
	China	m	m	m	m	m
	India	m	m	m	m	m
	Indonesia	m	m	m	m	m
	Russian Federation	m	m	m	m	m
	Saudi Arabia	m	m	m	m	m
	South Africa	m	m	m	m	m
	G20 average	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. Reference year differs from 2020: 2019 for Australia; 2017 for Denmark, Germany and Ireland; 2015 for Chile.

2. The age group refers to 16-29 year-olds.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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

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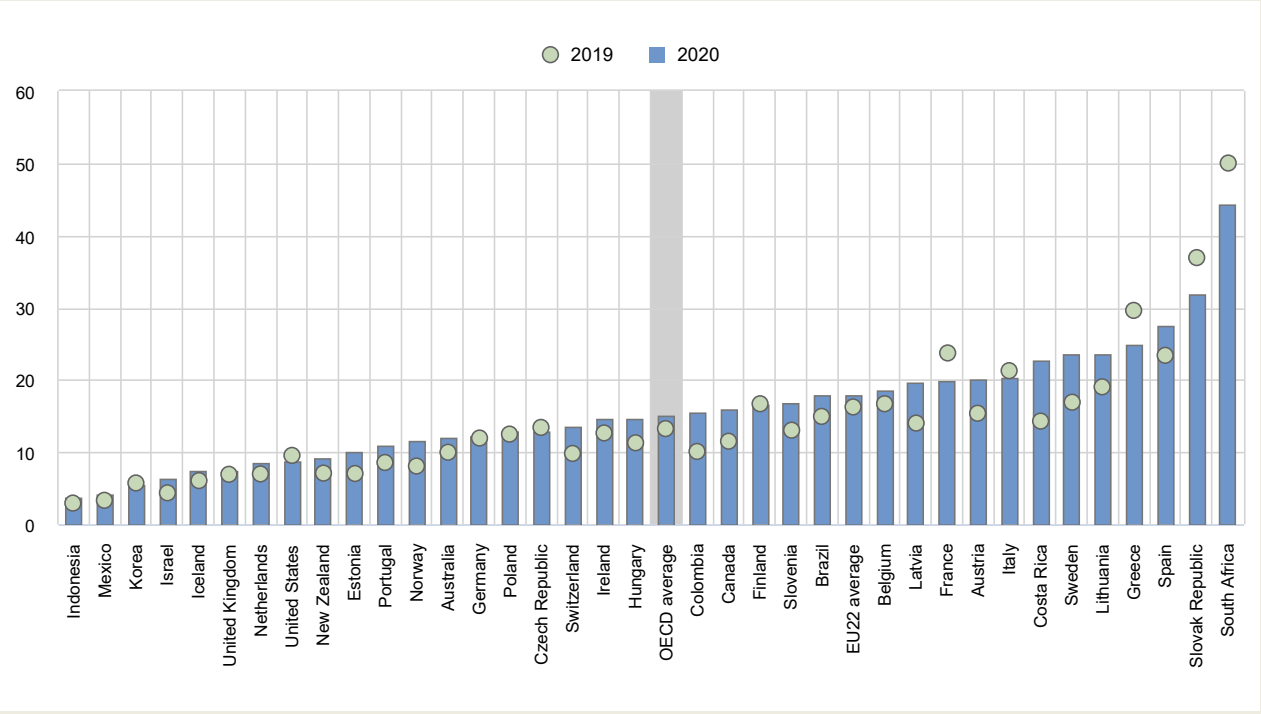
Indicator A3. How does educational attainment affect participation in the labour market?

Highlights

- On average across OECD countries, 58% of 25-34 year-old adults who have not completed upper secondary education are employed compared to 78% among those with upper secondary or post-secondary non-tertiary attainment and 85% among those with tertiary attainment.
- On average across OECD countries, the employment rate of younger women (aged 25-34) without upper secondary attainment is 43%, compared to 69% for their male peers, but the disparities narrow as educational attainment increases: 80% and 87% for tertiary-educated women and men, respectively.
- Foreign-born adults with tertiary attainment have lower employment prospects than their native-born peers in most countries with available data. However, labour-market outcomes for foreign-born adults without upper secondary attainment are mixed across OECD countries.

Figure A3.1. Trends in unemployment rates of 25-34 year-olds with below upper secondary attainment (2019 and 2020)

In per cent



Compare your country: https://www.compareyourcountry.org/education-at-a-glance-2021/en/2/3044+3045+3046/trend//OAVG

Countries are ranked in ascending order of the unemployment rate of 25-34 year-olds with below upper secondary attainment in 2020.

Source: OECD (2021), Table A3.3. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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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 (OECD, 2021[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.

With continued migration flows across OECD countries, the labour-market situation of foreign-born adults stimulates the public debate. According to the *International Migration Outlook 2020* (OECD, 2020[3]), 14% of the total population in OECD countries are foreign-born. The important rise in humanitarian migration has largely contributed to the growing preoccupation with reviewing migration policies. However, humanitarian migration makes up only a part of total population flows. A large share of migrants moves for work reasons, and there is evidence of positive social and economic returns to migration. Overall, foreign-born adults largely contribute to increasing the workforce, and they generally contribute more in taxes and social contributions than they receive in benefits (OECD, 2014[4]).

Other findings

- On average across OECD countries, in 2020, the unemployment rate is almost twice as high for those who have not completed upper secondary education as for those with higher qualifications: 15% of younger adults (aged 25-34) without upper secondary attainment are unemployed, compared to around 8% for those with a higher level of education (i.e. upper secondary, post-secondary non-tertiary attainment or tertiary attainment).
- In all OECD countries, unemployment rates decrease with time since graduation. In 2018, on average across OECD countries, one out of five (21%) young adults with upper secondary attainment were unemployed during the first two years after graduation. The unemployment rate decreases to 14% two to three years after graduation, and to 12% four to five years after graduation.

Analysis

Educational attainment and labour-market outcomes

Upper secondary attainment is often considered the minimum requirement for successful labour-market integration. Adults without this level of education are less employed, regardless of their age. On average across OECD countries, the employment rate is 58% for adults (25-64 year-olds) without upper secondary education and 75% for those with upper secondary or post-secondary non-tertiary education as their highest attainment, i.e. 17 percentage points more. On average across OECD countries, the employment rate for tertiary-educated adults increases by a further 10 percentage points (84%) compared to those with upper secondary or post-secondary non-tertiary education as their highest attainment (Table A3.1).

The employment premium of upper secondary or post-secondary non-tertiary attainment compared to lower educational attainment levels is the highest and exceeds 20 percentage points in Austria, Belgium, the Czech Republic, Denmark, Finland, Hungary, Israel, Poland, the Slovak Republic, Slovenia and Sweden. In contrast, the employment premium is less than 5 percentage points in Colombia, Indonesia and Saudi Arabia (Table A3.1).

Inversely, unemployment rates are decreasing with higher educational attainment levels. On average across OECD countries, the unemployment rate is 10.6% for adults without upper secondary attainment, 6.6% for those with upper secondary or post-secondary non-tertiary attainment, and 4.7% for those with tertiary attainment. In Austria, Belgium, the Czech Republic, Germany, Hungary, Lithuania, Norway, Poland, the Slovak Republic and Sweden, the unemployment rates of adults without upper secondary attainment are more than twice as high than that of adults with upper secondary or post-secondary non-tertiary attainment (OECD, 2021[5]).

Educational attainment, unemployment and the impact of the COVID-19 pandemic

The COVID-19 pandemic has caused an unprecedented economic crisis that began in most countries in 2020. In early 2020, the quarantine or sickness of workers and lockdown measures interrupted international supply chains following the spread of the virus, leading to a severe “supply shock” which affected many countries. At the same time, the economy was affected by a “demand shock” as people in many countries were forced to lockdown and the disposable income for many workers shrank due to fewer hours worked or from having been dismissed. The massive economic shock not only affected countries where governments responded with restrictive measures (e.g. lockdown), but also countries relying more on social conformity and/or social capital rather than on enforced confinement (OECD, 2020[6]).

In the most affected countries, including those with lower levels of employment protection, unemployment rates skyrocketed within a few weeks. For instance, in the United States, the unemployment rate jumped from 3.5% in February 2020 to 14.7% in April 2020, in Canada from 5.7% to 13.1% and in Colombia from 12.3% to 21.0% over the same period. In many countries, unemployment rates reversed after the peak, but remained at a higher level than they were at the beginning of the year (OECD, 2020[6]).

In many OECD countries, unemployment rates have increased between 2019 and 2020 for each level of education. Unlike the 2008 crisis, there is no clear pattern of which education levels are the most affected by the crisis in 2020 compared to 2019. In general, those with secondary or tertiary attainment are affected in often-equal proportions by the increase in unemployment rates between 2019 and 2020. However, in a few countries, such as Austria, Latvia, Lithuania and Sweden, the unemployment rate for 25-34 year-old adults who have not attained upper secondary education has increased by at least five percentage points between 2019 and 2020, while it has remained stable over this period for other levels of education (the increase is no more than three percentage points). On average across OECD countries, the unemployment rate among 25-34 year-olds with below upper secondary attainment is 15.1% in 2020, showing an increase of about 2 percentage points in one year’s time. The increase is the largest in Austria, Colombia, Costa Rica, Latvia, Lithuania and Sweden, where the unemployment rate among young adults with below upper secondary attainment has grown by at least 5 percentage points over this period. France, Greece and the Slovak Republic show the opposite pattern: in these countries, the unemployment rate among 25-34 year-olds with below upper secondary attainment has fallen by at least 4 percentage points between 2019 and 2020. However, these figures should be interpreted with caution, as these three countries have seen the inactivity rate of those who have not attained upper secondary education increase over the same period Figure A3.1. and Table A3.3).

On average across OECD countries, the unemployment rates among younger adults with upper secondary or post-secondary non-tertiary attainment have increased by 2 percentage points between 2019 and 2020, and the unemployment rates have increased by 1 percentage point among those with tertiary attainment. The increase in unemployment rates among younger

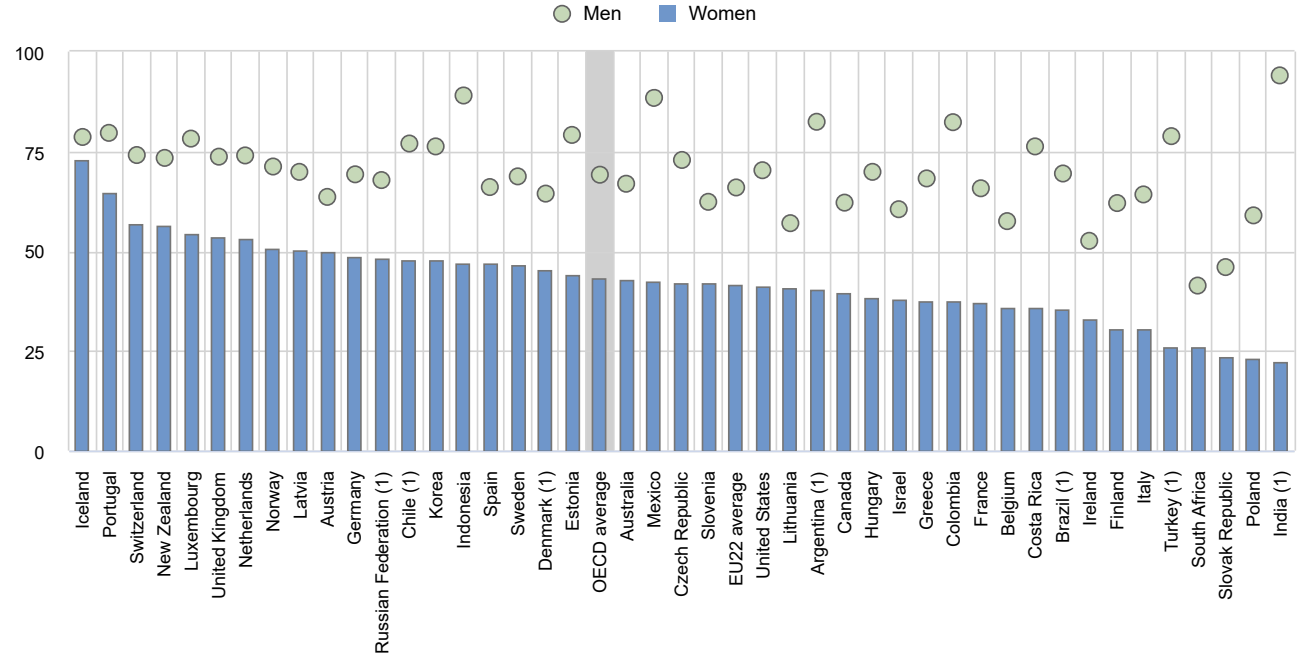
adults with these levels of educational attainments has exceeded 5 percentage points in Colombia and Costa Rica. (Table A3.3).

Unemployment statistics do not capture all of the labour-market slack due to COVID-19, as some unemployed individuals may be classified as "out of the labour force" because, due to the pandemic, they are unable to actively seek employment or are not available for work. Therefore, the difficulties related to the lockdown and the whole economic context have led to an increase in inactivity rates in some countries. For instance, in Brazil, Israel, Italy, Slovenia and South Africa, inactivity rates of young adults with below upper secondary attainment have increased by at least 5 percentage points between 2019 and 2020. Women have been particularly affected: for instance, in Italy, the inactivity rate among women without upper secondary attainment has risen from 53% in 2019 to 59% in 2020 and that of men from 18% in 2019 to 22% in 2020 (Table A3.3 and OECD (2021[5])).

The availability of job retention schemes in many countries has limited the impact of the economic crisis on unemployment rates in 2020. Job retention schemes, such as the "Kurzarbeit" in Germany, the "Activité partielle" in France or the "Expediente de Regulación Temporal de Empleo" in Spain allowed preserving jobs at companies experiencing a temporary drop in business activity, while providing income support to workers whose hours have been reduced or who are temporarily laid off (OECD, 2020[6]).

Figure A3.2. Employment rates of 25-34 year-olds with below upper secondary attainment, by gender (2020)

In per cent



1. Year of reference differs from 2020. Refer to Education at a Glance Database for details.

Countries are ranked in descending order of the employment rate of 25-34 year-old women with below upper secondary attainment in 2020.

Source: OECD (2021), Education at a Glance Database, http://stats.oecd.org. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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Educational attainment and unemployment, by age and gender

In many OECD and partner countries, unemployment rates are especially high among younger adults with lower educational attainment levels. On average across OECD countries, in 2020, the unemployment rate for younger adults (25-34 year-olds)

lacking upper secondary attainment is 15.1%, significantly higher than that for those with upper secondary or post-secondary non-tertiary attainment (8.9%). The unemployment rate for tertiary-educated younger adults is 6.6% (Table A3.3).

The situation is especially severe for younger adults without upper secondary attainment in the Slovak Republic and South Africa, where more than 30% of younger adults are unemployed. The unemployment rate is also high in Austria, Belgium, Costa Rica, France, Greece, Italy, Latvia, Lithuania, Spain and Sweden, where about one in five or more younger adults are unemployed (Table A3.3).

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 below upper secondary attainment is three times higher than that of younger adults with upper secondary or post-secondary non-tertiary education as their highest attainment. The employment premium is the highest in Sweden, where the unemployment rate of young adults without upper secondary attainment is about four times higher than that of the higher educated adults (23.6% compared to 6.2%) (Table A3.3).

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 tertiary attainment on unemployment rates is particularly high in Lithuania and the United States. In these countries, the unemployment rate among younger adults with upper secondary or post-secondary non-tertiary attainment is at least double that of tertiary-educated younger adults (Table A3.3).

Young women without upper secondary attainment are particularly affected by high unemployment. On average across OECD countries, the unemployment rate among young women without upper secondary attainment is 17.8% compared to 13.6% among young men. In a few countries including Colombia, Costa Rica, Estonia, Greece and Spain, the gender gap in unemployment rates exceeds 10 percentage points, while in Australia, Austria, Israel, Mexico, New Zealand, the United Kingdom and the United States, men and women are similarly affected by unemployment, the difference in unemployment rates for men and women is less than 2 percentage points (OECD, 2021[5]).

With higher educational attainment levels, unemployment levels tend to be not only lower, but also similar between men and women. On average across OECD countries, the difference in unemployment rates is 2.6 percentage points among young adults with upper secondary or post-secondary non-tertiary attainment and 0.6 percentage points among tertiary-educated young adults. Nevertheless, in Colombia, Greece and Turkey, the gender gaps among tertiary-educated adults exceeds 5 percentage points (OECD, 2021[5]).

Educational attainment and employment, by age and gender

On average across OECD countries, higher educational attainment is associated with higher employment rates for each age group. Among younger adults (25-34 year-olds), the average employment rate is 58% for those with below upper secondary attainment, 76% for those with upper secondary or post-secondary non-tertiary attainment as their highest attainment, and 83% for those with a tertiary degree (Table A3.2). 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 older adults have already left the labour force (OECD, 2021[5]).

In all OECD and partner countries except Norway, women have lower employment rates than men, regardless of educational attainment, but gender disparities in employment rates narrow as educational attainment increases. On average across OECD countries, the gender difference in employment rates among 25-64 year-olds without upper secondary attainment is 21 percentage points (68% for men and 47% for women). The difference shrinks to 15 percentage points among adults with upper secondary or post-secondary non-tertiary education as their highest attainment (82% for men and 67% for women), and to 8 percentage points among tertiary-educated younger adults (89% for men and 81% for women) (OECD, 2021[5]).

Employment rates are particularly low for younger women without upper secondary attainment. On average across OECD countries, the employment rate of 25-34 year-old women without upper secondary attainment is 43%, compared to 69% for their male peers, a gender gap of 26 percentage points (OECD, 2021[5]).

In most OECD and partner countries, less than half of younger women (25-34 year-olds) without upper secondary attainment are employed, but in Turkey, only one in four younger women with below upper secondary attainment are employed, compared to more than three in four younger men are. In contrast, in about half of OECD and partner countries, the employment rates of younger men without upper secondary attainment exceed 70% and reach almost full employment

(around 90%) in Indonesia and Mexico. In Iceland, younger men without upper secondary attainment have relatively high employment rates (79%), with concurrent high employment rates for women (73%) (Figure A3.2.).

Disparities by gender in employment rates narrow as educational attainment increases and are the lowest among tertiary-educated adults. On average across OECD countries, the gender difference in employment rates among 25-34 year-olds with tertiary attainment is 7 percentage points among tertiary-educated men and women (87% for men and 80% for women). The lowest difference in employment rates (no more than 2 percentage points) are found in Belgium, Iceland, Lithuania, the Netherlands, Norway and Slovenia. However, in some countries, the gender difference among young adults with tertiary attainment is still very large and exceeds 20 percentage points in the Czech Republic, Hungary, the Slovak Republic and Turkey (OECD, 2021[5]).

The high employment rate of women hides a higher likelihood for women to be in part-time or part-year employment compared to men. On average across OECD countries, women are about twice as likely as men to work part-time or part-year, regardless of educational attainment (OECD, 2021[7]).

Educational attainment and inactivity, by age and gender

The gender difference in employment rates is also reflected in the gender difference in the percentage of inactive people (i.e. individuals not employed and not looking for a job). Women have consistently higher inactivity rates than men across all educational attainment levels, but the rates are especially high among those who have not completed upper secondary education. Among younger adults with below upper secondary attainment, the difference in inactivity rates for men and women is 27 percentage points (20% for men and 48% for women), while the difference for those with upper secondary or post-secondary non-tertiary attainment is 17 percentage points (10% for men and 27% for women), and the difference for those with tertiary attainment is 7 percentage points (7% for men and 14% for women) (OECD, 2021[5]).

The gender gap in inactivity rates of younger adults (25-34 year-olds) without upper secondary attainment is the highest in Turkey (62 percentage points), and the gap is 40 percentage points or more in Argentina, Colombia, India, Indonesia and Mexico. Even though the difference in inactivity rates of men and women decreases with higher educational attainment levels, in one-third of OECD and partner countries, the gender gap in inactivity rates of adults with tertiary attainment is still more than 10 percentage points, and it is above 20 percentage points in the Czech Republic (28 percentage points) and the Slovak Republic (23 percentage points). In only a few countries, including Iceland, Norway and Slovenia is the gender gap in inactivity rates of tertiary-educated adults almost closed (less than 2 percentage points) (OECD, 2021[5]).

Labour-market outcomes for foreign-born adults by educational attainment

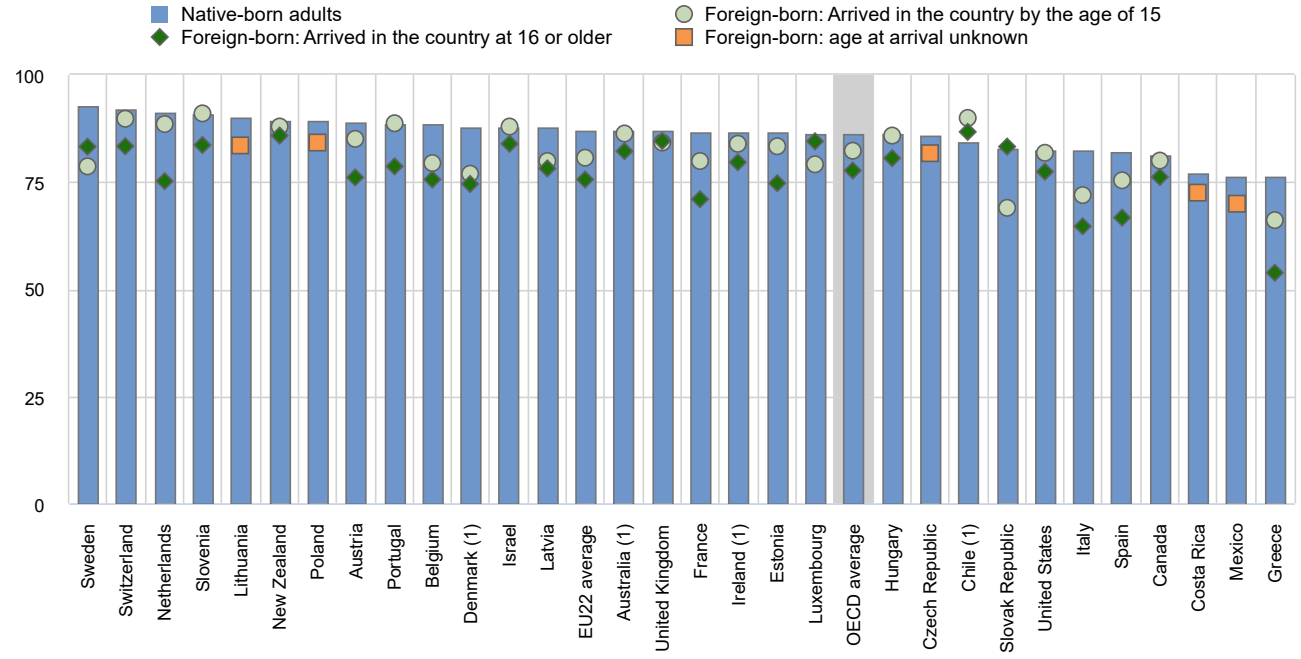
The labour-market outcomes for foreign-born adults compared to outcomes for native-born adults vary widely across OECD countries. For both native-born and foreign-born adults, the likelihood of being employed increases with higher educational attainment, but it increases more steeply for native-born adults than for foreign-born adults: among adults without upper secondary attainment, 57% of native-born adults and 61% of foreign-born adults are employed, while among adults with tertiary attainment, 86% of native-born adults and 79% of foreign-born adults are employed, an increase in employment rates of 29 percentage points for native-born adults and 18 percentage points for foreign-born adults (Table A3.4).

Among countries with available data, there are both higher and lower levels of employment rates for adults without upper secondary attainment for native-born versus foreign-born adults. For example, in Chile, the Czech Republic, Hungary, Israel and the United States, the employment rates of foreign-born adults without upper secondary attainment are more than 10 percentage points higher than those of their native-born peers. In contrast, in Denmark, the Netherlands and Sweden, the employment rates of foreign-born adults with below upper secondary attainment are more than 10 percentage points lower than those of their native-born peers (Table A3.4).

Foreign-born adults have more difficulty finding a job than their native-born peers, as they face various problems, such as recognition of credentials obtained abroad and/or language difficulties ((OECD, 2017[8])). In addition, as shown in the European Union Minorities and Discrimination Survey (European Union Agency for Fundamental Rights, 2017[9]), foreign-born adults also often face discrimination when looking for work, particularly foreign-born adults from North Africa. Thus, foreign-born workers are likely to have a lower reservation wage (the lowest wage rate at which a worker would be willing to accept a particular type of job), and this implies that they are more likely to accept any job they can get. This may explain the fact that, in many countries, the employment rate for foreign-born adults with low educational attainment is higher than the rate for their native-born peers. Social policy and income support systems in a country may also play a role.

Figure A3.3. Employment rates of native- and foreign-born 25-64 year-olds with tertiary attainment, by age at arrival in the country (2020)

In per cent



1. Year of reference differs from 2020. Refer to the source table for more details.

Countries are ranked in descending order of the employment rate of tertiary-educated native-born adults.

Source: OECD (2021), Table A3.4. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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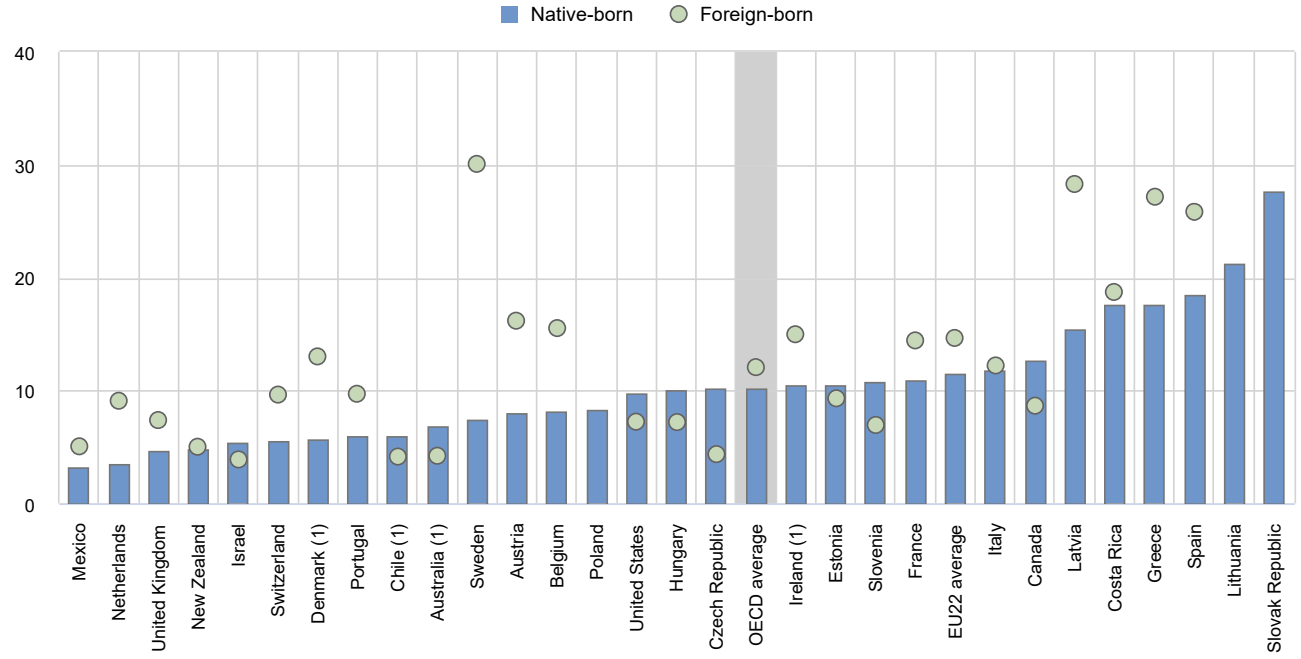
While labour-market outcomes for foreign-born adults without upper secondary attainment are mixed across OECD countries, foreign-born adults with tertiary attainment have lower employment prospects than their native-born peers in most countries with available data. In Austria, Belgium, Denmark, France, Greece, Italy, the Netherlands, Spain and Sweden, the gap in the employment rate between tertiary-educated native-born and foreign-born adults is more than 10 percentage points, systematically in favour of tertiary-educated native-born adults (Table A3.4).

For foreign-born adults with a tertiary degree, the age at arrival in the country determines employment prospects. In most countries, the employment rates for foreign-born adults who arrived by the age of 15 are higher than rates for those who arrived in the country at a later age. For instance, in Austria, Estonia, France, Greece, the Netherlands, Portugal and Spain, early arrival yields an employment advantage of around 10 percentage points (Figure A3.3).

Since foreign-born adults who arrived in the country at an early age have spent some years in the education system of the host country and gained credentials recognised by the host country, their labour-market outcomes are better than of those who arrived at a later age with a foreign qualification. Foreign-born adults often face problems getting their education and experience recognised in their host country. Such challenges also explain why foreign-born adults are often overqualified for their positions (OECD, 2017[8]) Therefore, in recent years, an increasing number of countries have implemented measures to facilitate the recognition of qualifications and validation of skills (OECD, 2017[10]).

Figure A3.4. Unemployment rates of 25-64 year-olds with below upper secondary attainment, by migration status (2020)

In per cent



1. Year of reference differs from 2020. Refer to Education at a Glance Database for details.
Countries are ranked in ascending order of the unemployment rate of 25-64 year-olds native-born adults with below upper secondary attainment.
Source: OECD (2021), refer to Education at a Glance Database, http://stats.oecd.org. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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The lower employment rates of foreign-born adults are reflected in higher inactivity and higher unemployment rates among foreign-born adults compared to their native-born peers. On average across OECD countries with available data, the unemployment rate is 12.2% for foreign-born adults without upper secondary attainment, while the respective rate is 10.3% among their native-born peers. Among those with upper secondary or post-secondary non-tertiary attainment, the unemployment rate among foreign-born adults is 9.5%, more than 3 percentage points higher than that of native-born adults (5.9%). A similar difference is observed for those with tertiary attainment (7.5% compared to 3.9%) (Figure A3.4.).

In Austria, Belgium, Denmark, Greece, Latvia, the Netherlands, Spain and Sweden, the unemployment rates of foreign-born adults without upper secondary attainment exceeds that of their native-born peers by at least 5 percentage points. Hence, in a few countries, including Canada, Israel and the United States, unemployment rates of foreign-born adults with below upper secondary attainment are lower than that of those born in the country (Figure A3.4.).

Unemployment rates of recent upper secondary graduates

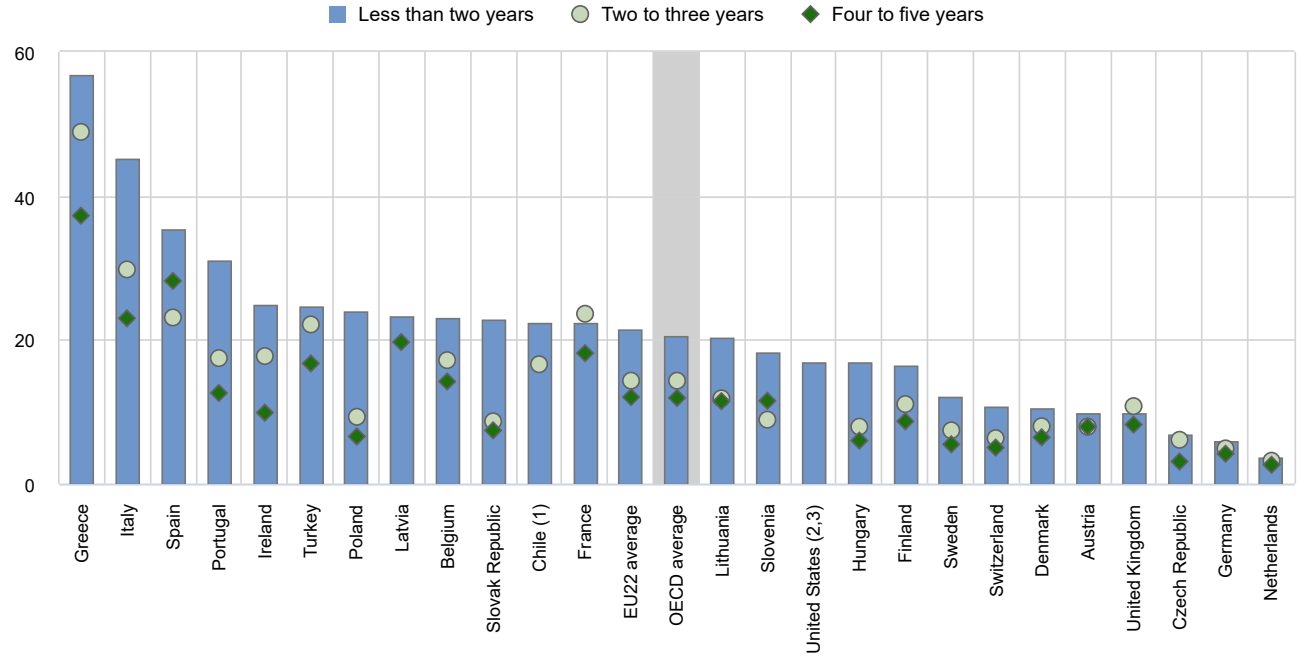
The transition from education to work is a major step in people's lives. Young adults who leave the education system often face different challenges in finding employment. The health crisis we are experiencing linked to the spread of COVID-19 will undoubtedly have an impact on youth unemployment that 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 for recent graduates (see Indicators A2 and A3 in *Education at a Glance 2020* (OECD, 2020[11]).

In all OECD countries with available data on recent upper secondary graduates, unemployment rates decrease significantly during the first years following graduation, but then tend to stabilise. In 2018, on average across OECD countries, 20.6% of

young adults who had recently completed upper secondary education and were not studying any further were not able to find a job within two years of graduation. The unemployment rate among young adults with upper secondary attainment who graduated two to three years earlier is 14.3%, 6.3 percentage points lower than among those who graduated less than two years earlier. Among young adults who graduated four to five years earlier, the unemployment rate is 12.0%, which is only 2.3 percentage points lower (Figure A3.5.).

Figure A3.5. Unemployment rates of recent graduates not in education with upper secondary education as their highest level of education, by years since graduation (2018)

Adults aged 15-34 at graduation; in per cent



1. Data reported under the category "Less than two years" refer to one year since completing education.
2. 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.
3. Data source differs from the EU-LFS.
Countries are ranked in descending order of the unemployment rate of graduates with upper secondary education less than two years after graduation.
Source: OECD (2021), Table A3.5, available on line. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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The differences in unemployment rates of recent upper secondary graduates across OECD countries are larger than the overall differences in unemployment rates among the wider population. Among adults who completed upper secondary education less than two years before, the highest unemployment rate is found in Greece (56.7%) and it is above 30% in Italy, Portugal and Spain. At the other end of the spectrum, the unemployment rate of these recent graduates is less than 10% in the Czech Republic, Germany and the Netherlands. The difference between the countries with the lowest and highest rates exceeds 50 percentage points, much larger than the differences observed across countries for adults with upper secondary attainment. The country with the highest unemployment rate for upper secondary educated 25-64 year-olds is Costa Rica (16.9%) and Greece (17.4%) and the country with the lowest rate is the Czech Republic (2.2%), a difference of less than 20 percentage points (Figure A3.5. and OECD (2021[5])).

In some countries, school-to-work transitions are particularly difficult and labour-market outcomes remain challenging for several years following graduation. In Greece, Italy, Portugal and Spain, around one out of three or more upper secondary graduates are unemployed the first two years after graduation. In all of these countries, the unemployment rates decreased four to five years after graduation, by about 20 percentage points in Greece, Italy and Portugal and by 10 percentage points

in Spain. However, four to five years after graduation, unemployment rates of recent graduates are still higher than in most other OECD countries. In contrast, in other countries, including Austria, Germany, the Netherlands and the United Kingdom, the unemployment rates of recent graduates are at most 10% the first two years after graduation, which is half of the OECD average, and they reduced only slightly the following years (Figure A3.5).

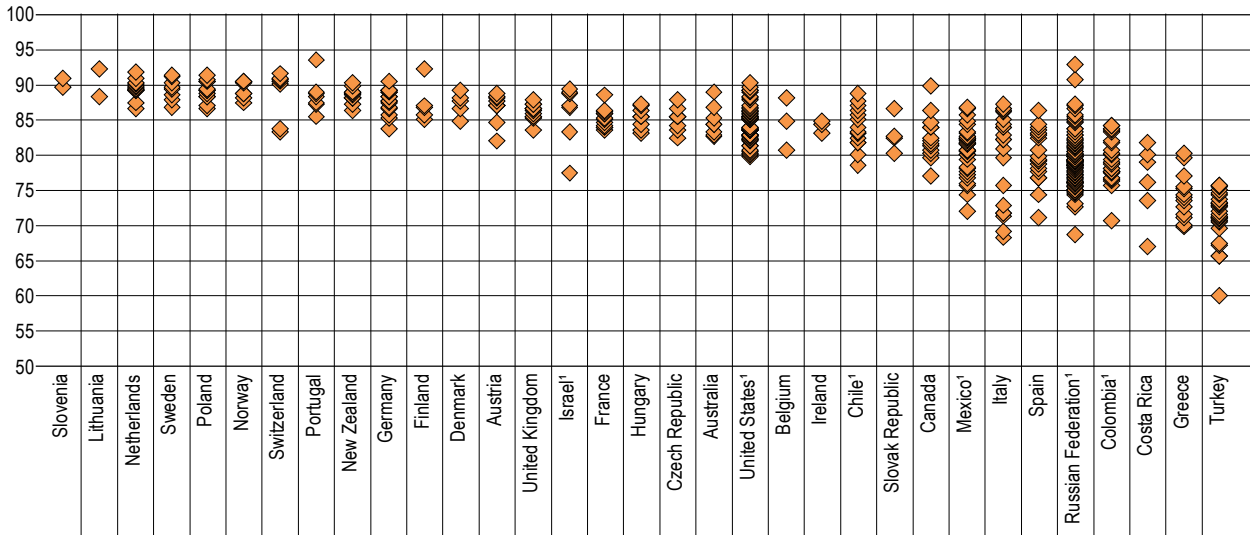
Subnational variation in employment rates

On average, across OECD and partner countries with subnational data on labour-force status, there is more regional variation in employment rates among those with lower levels of educational attainment. For example, in the United States, employment rates for 25-64 year-old adults who have not completed upper secondary education range from 41% in West Virginia to 73% in Wyoming, while the range across regions for adults with tertiary attainment is 10 percentage points, from 80% in Alaska to 90% in the District of Columbia (OECD, 2021[12]).

In a few countries, there is very little regional variation in employment rates among adults with tertiary attainment. In Denmark, France, Hungary, Ireland, Lithuania, New Zealand, Norway, Poland, Slovenia, Sweden and the United Kingdom, there is less than a 5 percentage-point difference in employment rates between different regions of the country. Other countries have a broader range of employment rates among regions: the widest disparities of about 20 or more percentage points are observed in Italy and the Russian Federation. For instance, in Italy, the employment rate ranges from 68% in Calabria to 87% in the Aosta Valley (Figure A3.6).

Figure A3.6. Employment rates of tertiary-educated adults, by subnational regions (2020)

Employed 25-64 year-olds among all 25-64 year-olds; in per cent



1. Year of reference differs from 2020: 2019 for Colombia and the United States; 2018 for Mexico; 2017 for Australia, Israel and Chile; 2016 for Canada and the Russian Federation.

Countries are ranked in descending order of the national employment rates for tertiary-educated adults (unweighted average of regions).

Source: OECD INES/CFE Subnational Data Collection. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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Despite the concentration of economic and administrative activities in the capital city regions, in most countries, the regions with the capital cities are not those with the highest employment rates. In Austria and Lithuania, the employment rates of adults with below upper secondary attainment are the lowest in the capital city region. For instance, in Austria, the employment rates of adults with below upper secondary attainment are 64% in Vorarlberg and 46% in Vienna, the capital city. Only in 6 countries are the highest rates found in the capital city region. Similarly, in 5 countries, the employment rates of adults with upper secondary or post-secondary non-tertiary attainment are the lowest in the capital city region and the highest in only 5 countries. In contrast, the employment opportunities in the capital city regions seems to be more advantageous for adults with

tertiary attainment. In 9 countries (Colombia, the Czech Republic, Hungary, Ireland, Lithuania, the Slovak Republic, Slovenia, the United Kingdom and the United States), adults with tertiary attainment have the highest employment rates in the capital city regions. For instance, in Colombia, the employment rate ranges from 71% in Chocó to 84% in the Bogotá Capital District. In a few countries, including Austria, Belgium and Israel, the employment rates in the capital city region are the lowest across regions in the country (Figure A3.6 and OECD (2021[12])).

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 successfully completed by an individual.

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 26 EU 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; plus 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.

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 graduation 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.

When interpreting the results on subnational entities, readers should take into account that the population size of subnational entities can vary widely within countries.

Please see the *OECD Handbook for Internationally Comparative Education Statistics* (OECD, 2018[13]) for more information and Annex 3 for country-specific notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

Source

For information on sources, see Indicator A1.

Data on subnational regions for selected indicators are available in the *OECD Regional Statistics (database)* (OECD, 2021[12]).

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Indicator A3 tables

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

Table A3.1	Employment rates of 25-64 year-olds, by educational attainment (2020)
Table A3.2	Trends in employment rates, by educational attainment and age group (2019 and 2020)
Table A3.3	Trends in unemployment and inactivity rates of 25-34 year-olds (2019 and 2020)
Table A3.4	Employment rates of native- and foreign-born 25-64 year-olds, by age at arrival in the country and educational attainment (2020)
WEB Table A3.5	*Unemployment rates of young adults who have recently completed education, by educational attainment and years since graduation (2018)*

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Cut-off date for the data: 17 June 2021. 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*.

Table A3.1. Employment rates of 25-64 year-olds, by educational attainment (2020)

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

		Below upper secondary	Upper secondary or post-secondary non-tertiary			Tertiary					All levels of education
			Upper secondary	Post-secondary non-tertiary	Total	Short-cycle tertiary	Bachelor's or equivalent	Master's or equivalent	Doctoral or equivalent	Total	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD	Countries										
	Australia	56	73	81	74	77	82	82	93	81	75
	Austria	54	76	82	76	85	80	89	92	86	76
	Belgium	47	73	86	73	83	85	88	93	86	73
	Canada	54	67	77	70	77	80	83[d]	x(7)	79	75
	Chile[1]	62	72	a	72	81	85	93[d]	x(7)	84	72
	Colombia	62	66[d]	x(2)	66	x(6)	74[d]	x(6)	x(6)	74	66
	Costa Rica	57	64	c	64	65	79	90	c	77	63
	Czech Republic	57	84[d]	x(2)	84	96	82	86	94	86	82
	Denmark[1]	61	82	87	82	87	85	91	94	88	80
	Estonia	63	80	79	79	84	83	87	85	85	80
	Finland	54	74	98	75	83	86	89	98	87	79
	France	53	72	62	72	83	84	88	90	85	74
	Germany	63	81	87	82	89	88	90	93	89	81
	Greece	52	61	66	62	67	74	81	91	75	64
	Hungary	56	79	84	79	84	84	88	92	86	78
	Iceland	70	81	85	81	83	84	92	93	88	81
	Ireland	52	69	75	72	78	85	87	92	85	75
	Israel	49	71	a	71	83	86	91	92	87	76
	Italy	52	70	75	70	79	74	83	94	81	66
	Japan[1, 2]	x(2)	81[d]	x(5)	m	82[d]	89[d]	x(6)	x(6)	86[d]	84
	Korea	61	70	a	70	76	76	85[d]	x(7)	77	73
	Latvia	65	75	76	76	87	85	88	96	87	79
	Lithuania	54	72	75	73	a	89	91	99	90	79
	Luxembourg	61	75	77	75	79	81	87	92	85	76
	Mexico	63	68	a	68	71	76	83	92	76	66
	Netherlands	63	82	85	82	89	88	92	94	90	82
	New Zealand	71	80	85	82	89	88	87	92	88	82
	Norway	61	79	85	79	83	90	92	90	89	81
	Poland	47	72	72	72	75	87	90	97	89	76
	Portugal	70	82	80	82	c	83	90	92	88	78
	Slovak Republic	36	77	81	77	91	73	84	89	83	75
	Slovenia	48	76	a	76	85	89	92	94	90	78
	Spain	56	69	64	69	77	79	83	90	80	69
	Sweden	63	86	82	85	84	89	93	91	89	83
	Switzerland	69	81[d]	x(2)	81	x(6, 7, 8)	89[d]	89[d]	93[d]	89	83
	Turkey[1]	50	60	a	60	65	75	84	92	74	57
	United Kingdom[3]	64	80	a	80	82	87	87	93	86	80
	United States	55	69[d]	x(2)	69	78	82	85	89	82	74
	OECD average	58	74	79	75	81	83	88	93	84	76
	EU22 average	56	76	79	76	83	83	88	93	86	77
Partners	Argentina[1]	64	74	a	74	79	82	94	m	81	73
	Brazil[1]	52	66	a	66	x(6)	79[d]	84	87	79	63
	China	m	m	m	m	m	m	m	m	m	m
	India[1]	57	61	75	63	x(6)	61[d]	x(6)	64	62	59
	Indonesia	73	74[d]	x(2)	74	76	85	83	95	82	75
	Russian Federation[1]	54	69	77	73	79	88	87	63	83	78
	Saudi Arabia[1]	62	61	82	65	x(6)	74[d]	x(6)	x(6)	74	66
	South Africa	40	53	m	53	67	77	84[d]	x(7)	73	m
	G20 average	57	70	m	70	m	80	m	m	79	70

Note: In most countries, data refer to ISCED 2011. For India 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 differs from 2020: 2019 for Denmark, India, Japan and Turkey; 2018 for Argentina and the Russian Federation; 2017 for Chile; 2016 for Saudi Arabia.
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).

Source: OECD/ILO (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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

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A corrigendum has been issued for this page.
See: https://www.oecd.org/about/publishing/Corrigendum_Education-at-a-Glance-2021.pdf

Table A3.2. Trends in employment rates, by educational attainment and age group (2019 and 2020)

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

		Below upper secondary						Upper secondary or post-secondary non-tertiary						Tertiary					
		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	
		2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
OECD	Countries																		
	Australia	61	57	64	58	70	63	81	75	83	78	84	79	86	81	87	85	88	86
	Austria	58	57	67	64	69	66	86	83	88	86	87	86	86	86	91	91	93	92
	Belgium	52	48	55	54	61	60	81	78	82	82	81	80	88	87	92	91	91	90
	Canada	57	54	61	60	63	60	79	72	81	77	81	77	86	82	88	84	88	85
	Chile	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Colombia	70	63	75	68	73	65	74	65	78	70	75	68	81	73	85	77	84	77
	Costa Rica	67	59	72	63	68	61	74	64	80	70	75	71	82	75	89	87	85	82
	Czech Republic	57	59	69	67	66	68	82	80	91	90	94	93	78	76	90	87	97	97
	Denmark	56	m	63	m	68	m	79	m	88	m	86	m	84	m	93	m	93	m
	Estonia	69	68	68	67	60	65	81	79	89	86	85	85	83	81	88	87	94	92
	Finland	49	48	60	58	66	64	77	74	83	83	84	83	85	86	90	90	92	92
	France	51	52	60	60	65	67	75	74	82	80	83	83	87	85	90	90	91	90
	Germany	59	60	66	65	69	70	84	86	88	87	88	87	88	88	92	92	94	93
	Greece	54	55	63	61	62	62	63	60	72	71	68	68	73	70	85	83	84	85
	Hungary	58	54	68	63	69	68	82	79	89	86	89	89	84	82	89	89	95	95
	Iceland	79	77	78	73	75	71	83	81	85	81	89	85	89	82	92	89	91	91
	Ireland	49	45	54	52	59	59	76	69	79	76	77	76	88	86	89	87	88	87
	Israel	58	51	57	55	52	51	71	66	77	75	78	76	87	85	91	90	91	91
	Italy	53	49	60	58	61	60	64	62	76	76	79	78	68	67	86	86	90	90
	Japan[1]	m	m	m	m	m	m	x(13)	m	x(15)	m	x(17)	m	88[d]	m	87[d]	m	89[d]	m
	Korea	62	62	64	56	67	63	66	64	74	73	77	75	76	75	78	77	82	81
	Latvia	65	64	76	71	64	65	79	78	82	82	81	81	89	86	93	89	91	91
	Lithuania	55	52	61	61	56	59	79	78	82	81	81	78	92	90	94	93	94	93
	Luxembourg	77	70	84	79	72	72	86	85	84	87	80	84	89	86	89	90	88	88
	Mexico	67	65	70	67	68	65	72	68	77	73	75	70	81	78	85	82	83	79
	Netherlands	64	65	68	66	70	68	85	84	86	85	86	86	92	92	92	91	92	92
	New Zealand	69	66	76	74	77	77	82	81	85	84	87	85	89	89	89	88	91	90
	Norway	63	62	64	63	64	62	84	81	84	84	83	81	89	89	92	91	91	92
	Poland	47	45	56	59	58	60	79	79	82	82	80	81	89	89	92	92	94	95
	Portugal	79	73	83	82	77	79	86	82	90	87	87	86	86	84	92	92	93	94
	Slovak Republic	33	35	47	42	46	43	81	78	86	84	88	86	79	77	88	86	94	94
	Slovenia	62	54	66	61	70	68	86	84	90	90	89	88	89	90	95	95	97	95
	Spain	63	58	69	65	64	63	71	65	78	75	77	74	79	75	87	84	86	85
	Sweden	65	59	72	68	67	65	83	82	91	89	92	90	87	85	93	92	93	94
	Switzerland	69	66	78	74	76	77	86	85	86	85	86	86	90	90	91	90	91	91
	Turkey	52	m	57	m	53	m	61	m	69	m	59	m	72	m	83	m	77	m
	United Kingdom[2]	67	65	69	69	71	70	85	84	85	85	86	85	90	91	91	91	90	90
	United States	57	57	63	60	60	60	74	71	76	74	75	75	85	84	86	85	86	85
	OECD average	60	58	66	64	66	65	78	76	83	81	82	81	85	83	89	88	90	89
	EU22 average	58	56	65	63	64	64	79	77	84	83	84	83	85	83	90	89	92	92
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	63	55	68	61	63	57	73	67	78	72	74	68	86	80	89	85	85	82
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	55	m	62	m	62	m	56	m	69	m	76	m	54	m	73	m	76	m
	Indonesia	70	68	78	76	79	78	74	71	79	77	80	78	83	81	88	87	90	87
	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	33	34	36	48	33	48	33	45	33	59	33	63	33	63	33	78	33	85
	G20 average	58	m	63	m	63	m	70	m	75	m	75	m	78	m	82	m	83	m

1. Data for tertiary education include upper secondary or post-secondary non-tertiary programmes (less than 5% of the adults are in this group).
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).

Source: OECD/ILO (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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

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A corrigendum has been issued for this page.
See: https://www.oecd.org/about/publishing/Corrigendum_Education-at-a-Glance-2021.pdf

Table A3.3. Trends in unemployment and inactivity rates of 25-34 year-olds (2019 and 2020)

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					
		Below upper secondary		Upper secondary or post-secondary non-tertiary		Tertiary		Below upper secondary		Upper secondary or post-secondary non-tertiary		Tertiary	
		2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD	Countries												
	Australia	10	12	5	8	3	6	32	35	15	18	11	14
	Austria	15	20	4	6	4	4	31	29	10	12	11	10
	Belgium	17	19	6	7	4	4	38	41	14	16	9	9
	Canada	12	16	7	12	5	8	36	36	16	18	10	11
	Chile	m	m	m	m	m	m	m	m	m	m	m	m
	Colombia	10	15	12	19	12	18	22	26	16	20	8	10
	Costa Rica	14	23	12	23	9	17	22	24	16	18	10	10
	Czech Republic	13	13	2	3	1	2	34	33	16	17	21	22
	Denmark	10	m	6	m	7	m	37	m	16	m	9	m
	Estonia	7	10	5	8	3	5	26	24	14	14	14	15
	Finland	17	17	7	9	5	5	41	42	17	18	11	10
	France	24	20	11	11	6	7	33	35	15	16	8	8
	Germany	12	12	3	4	3	4	33	32	13	11	9	8
	Greece	30	25	26	25	19	21	23	26	16	21	10	11
	Hungary	11	15	3	4	2	3	34	36	16	17	14	16
	Iceland	6	7	5	9	4	8	16	17	12	12	7	11
	Ireland	13	15	6	8	4	5	44	48	19	24	9	10
	Israel	4	6	5	6	4	5	40	45	26	30	9	11
	Italy	21	20	14	13	12	11	33	38	25	28	23	25
	Japan[1]	m	m	x(5)	m	3[d]	m	m	m	x(11)	m	10[d]	m
	Korea	6	6	7	7	6	6	34	35	29	31	19	20
	Latvia	14	20	7	9	4	7	24	21	14	14	7	8
	Lithuania	19	24	8	11	3	4	33	31	14	13	4	5
	Luxembourg	c	c	c	c	4	7	c	21	8	9	7	8
	Mexico	3	4	4	5	6	7	31	32	25	28	14	17
	Netherlands	7	8	3	4	2	3	31	29	12	12	6	6
	New Zealand	7	9	4	4	2	3	26	27	15	16	9	9
	Norway	8	11	3	5	3	4	31	30	13	15	8	8
	Poland	13	13	4	4	3	3	46	48	18	18	9	9
	Portugal	9	11	6	10	7	8	14	18	9	9	7	8
	Slovak Republic	37	32	6	7	3	5	47	48	14	16	18	19
	Slovenia	13	17	6	7	5	5	29	35	9	10	6	6
	Spain	23	28	17	20	12	15	17	19	15	18	11	12
	Sweden	17	24	5	6	4	6	22	22	13	12	9	9
	Switzerland	10	13	5	6	4	4	23	24	9	10	6	6
	Turkey	16	m	15	m	15	m	38	m	28	m	15	m
	United Kingdom[2]	7	7	3	4	2	3	28	29	13	13	7	6
	United States	10	9	6	8	2	3	37	38	21	23	13	13
	OECD average	13	15	7	9	5	7	31	32	16	17	11	11
	EU22 average	16	18	7	9	5	6	32	32	14	16	11	11
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	15	18	13	15	8	10	26	34	16	22	7	11
	China	m	m	m	m	m	m	m	m	m	m	m	m
	India	3	m	8	m	17	m	43	m	39	m	36	m
	Indonesia	3	4	4	5	5	5	28	30	23	25	13	14
	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	50	44	50	35	50	24	33	39	33	31	33	17
	G20 average	14	m	11	m	9	m	33	m	22	m	15	m

1. Data for tertiary education include upper secondary or post-secondary non-tertiary programmes (less than 5% of the adults are in this group).
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).

Source: OECD/ILO (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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

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Table A3.4. Employment rates of native- and foreign-born 25-64 year-olds, by age at arrival in the country and educational attainment (2020)

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

		Below upper secondary					Upper secondary or post-secondary non-tertiary					Tertiary				
			Foreign-born					Foreign-born					Foreign-born			
		Native-born	Arrived in the country by the age of 15	Arrived in the country at 16 or older	Total	Total	Native-born	Arrived in the country by the age of 15	Arrived in the country at 16 or older	Total	Total	Native-born	Arrived in the country by the age of 15	Arrived in the country at 16 or older	Total	Total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD	**Countries**															
	Australia[1]	61	55	59	57	61	79	75	75	75	78	87	86	82	83	85
	Austria	55	56	52	53	54	77	78	71	72	76	89	85	76	77	86
	Belgium	49	37	45	44	47	75	64	65	65	73	88	79	76	76	86
	Canada	55	59	52	53	54	71	70	66	67	70	81	80	76	76	79
	Chile[1]	62	54	83	81	62	71	78	83	81	72	84	90	87	85	84
	Colombia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Costa Rica	56	x(4)	x(4)	63	57	64	x(9)	x(9)	65	64	77	x(14)	x(14)	73	77
	Czech Republic	55	x(4)	x(4)	77	57	84	x(9)	x(9)	85	84	86	x(14)	x(14)	82	86
	Denmark[1]	64	56	53	53	62	83	64	69	69	81	88	77	75	76	86
	Estonia	62	69	c	64	63	80	77	72	74	79	87	83	75	78	85
	Finland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	France	54	51	51	51	53	74	61	63	62	72	87	80	71	74	85
	Germany	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Greece	49	60	55	56	50	63	60	51	53	62	76	66	54	57	75
	Hungary	55	c	72	72	56	79	89	76	78	79	86	86	81	82	86
	Iceland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Ireland[1]	51	49	48	48	51	72	63	71	70	72	87	84	80	80	85
	Israel	45	60	77	73	51	70	78	77	77	71	88	88	84	85	87
	Italy	50	58	60	59	52	71	65	64	64	70	82	72	65	66	81
	Japan	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
	Latvia	65	60	57[r]	56	65	76	68	72	69	76	88	80	78	79	87
	Lithuania	55	x(4)	x(4)	c	54	74	x(9)	x(9)	67	73	90	x(14)	x(14)	84	90
	Luxembourg	57	60	63	63	61	74	85	70	73	73	86	79	84	84	85
	Mexico	63	m	m	64	63	68	x(9)	x(9)	60	68	76	x(14)	x(14)	70	76
	Netherlands	66	55	50	52	63	84	77	69	72	82	91	89	75	79	90
	New Zealand	72	71	64	66	71	83	81	79	79	82	89	88	86	86	88
	Norway	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Poland	47	m	m	c	47	72	x(9)	x(9)	77	72	89	x(14)	x(14)	84	89
	Portugal	69	79	71	75	70	82	80	75	77	82	89	89	79	84	88
	Slovak Republic	36	m	m	c	36	77	75	78	77	77	83	69	83	78	83
	Slovenia	46	63[r]	52	54	48	76	74	75	75	76	91	91	84	86	90
	Spain	57	58	55	55	56	71	65	64	64	69	82	75	67	68	80
	Sweden	74	51	57	53	63	87	75	77	75	85	93	79	83	79	89
	Switzerland	65	72	71	71	69	83	81	77	77	81	92	90	83	84	89
	Turkey	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	United Kingdom[2]	65	59	64	63	65	80	75	82	80	80	87	84	85	85	86
	United States	47	68	63	64	55	69	73	69	70	69	83	82	77	78	82
	OECD average	57	59	60	61	57	76	73	72	72	75	86	82	78	79	85
	EU22 average	56	58	56	58	55	77	72	69	71	76	87	80	76	78	86
Partners	**Argentina**	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
	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: 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 differs from 2020: 2019 for Australia; 2017 for Denmark, Germany and Ireland; 2015 for Chile.
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).
Source: OECD/ILO (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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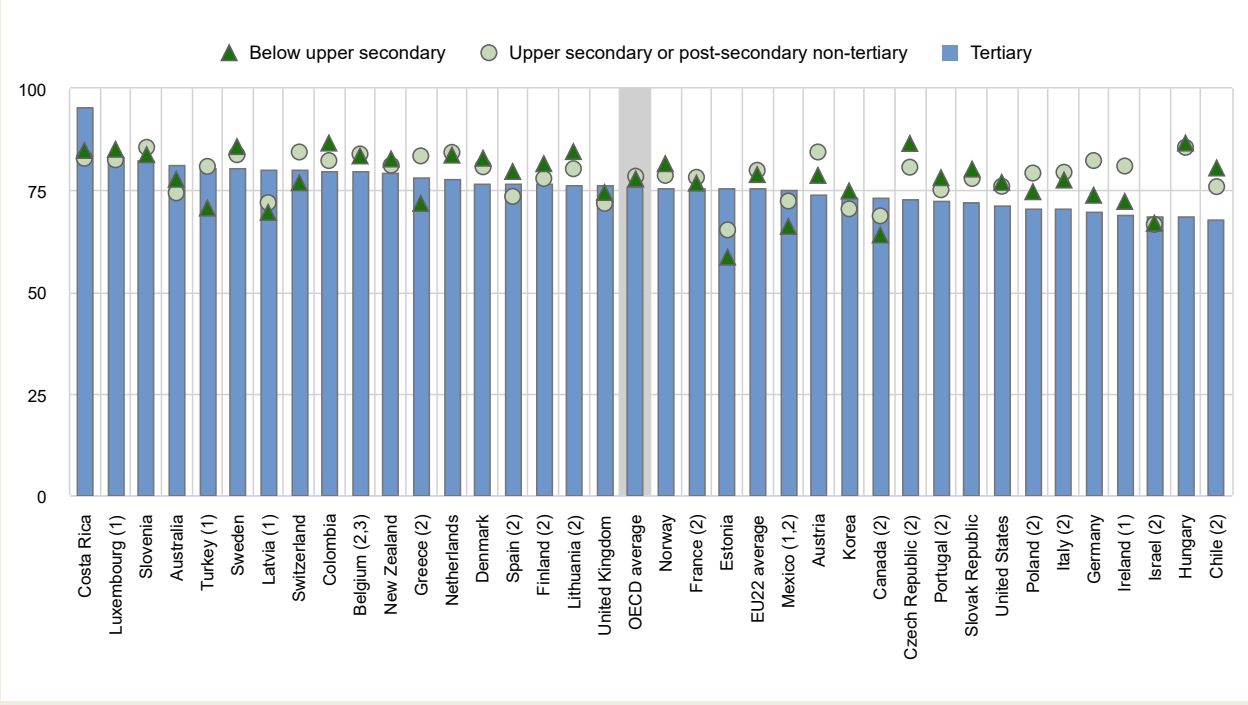
Indicator A4. What are the earnings advantages from education?

Highlights

- A gender gap in earnings persists across all levels of educational attainment, and a large gender gap in earnings is observed among tertiary-educated workers. On average across OECD countries, tertiary-educated women working full time only earn 76% of the earnings of their male peers.
- Adults with below upper secondary attainment usually face large earnings disadvantages: on average across OECD countries, 27% of these adults earn only at or below half the median earnings of all workers. The share varies widely across countries, ranging from 50% in Norway, 43% in Germany and 41% in the United States to 10% in Belgium, 9% in Latvia and Portugal, and 0% in Poland and Slovenia.
- Wage differentials across levels of educational attainment tend to increase with age. On average across OECD countries, younger adults (25-34 year-olds) with tertiary attainment working full time and part time earn 38% more than their peers with upper secondary attainment; 45-54 year-olds earn 70% more.

Figure A4.1. Women's earnings as a percentage of men's earnings for full-time full-year workers, by educational attainment (2019)

25-64 year-olds; in per cent



1. Earnings net of income tax.
2. Year of reference differs from 2019. Refer to the source table for more details.
3. There is a break in the series.

Countries are ranked in descending order of the earnings of tertiary-educated women as a percentage of tertiary-educated men's earnings.

Source: OECD (2021), Table A4.3. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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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 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 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, 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

- In most OECD countries, the gender gap between the earnings of tertiary-educated men and women narrowed between 2013 and 2019, by an average of 2 percentage points.
- On average across OECD countries, the earnings advantage of tertiary-educated younger adults fell by 6 percentage points between 2013 and 2019. Hungary and Turkey are the only two countries with a considerable decrease in the earnings advantage of tertiary-educated younger adults (26 percentage points and 34 percentage points, respectively).
- In Chile, France, Slovenia, Switzerland, Turkey and the United States, the earnings of foreign-born workers with tertiary attainment are the same as or even higher than the earnings of their native-born peers.

Note

This indicator presents two types of relative earnings. The first uses men's earnings as a baseline. The results reflect gender disparities in earnings. The second uses the earnings of adults with upper secondary attainment as a baseline. The results reflect the difference in earnings between adults with upper secondary attainment and those with other attainment levels. 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 attainment.

Analysis

Gender disparities in earnings

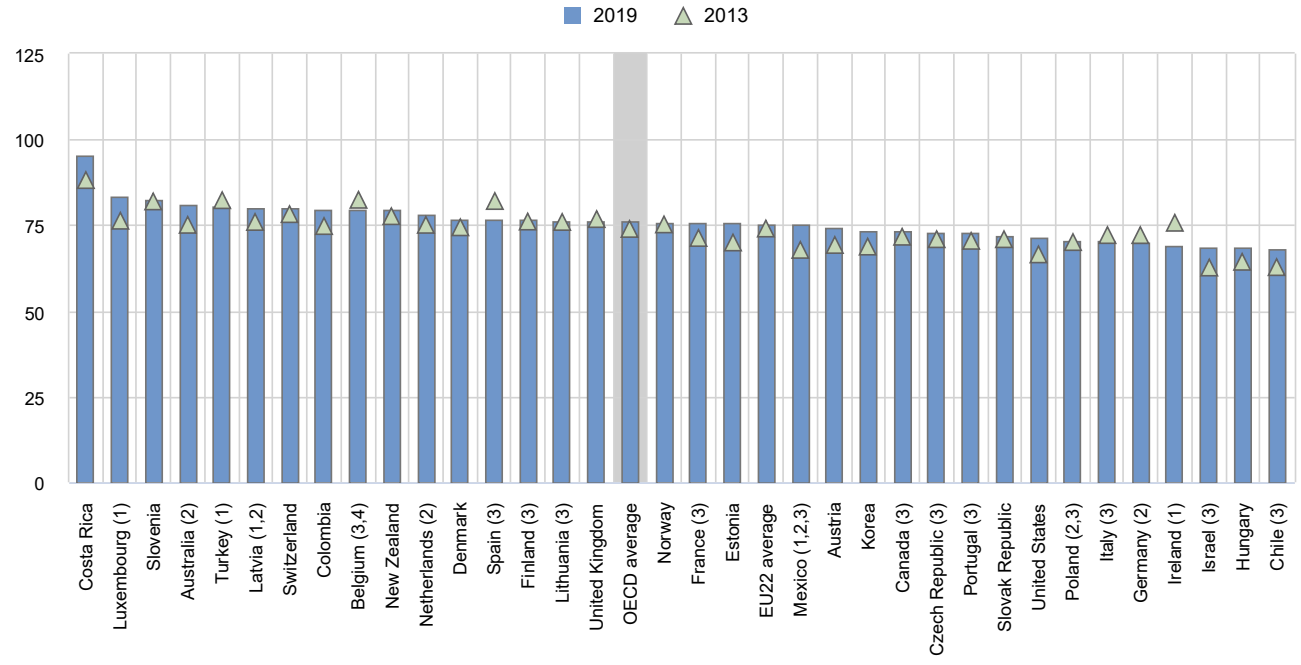
Women do not earn as much as men in any OECD country. On average across the OECD, among adults with below upper secondary attainment, women with earnings from work (including full- and part-time workers) earn only 66% of men's earnings. This gender gap of 34% in earnings is slightly higher than the gap for adults with a higher level of educational attainment: 31% among adults with upper secondary or post-secondary non-tertiary attainment, and 30% among those with tertiary attainment (OECD, 2021[1])

The gender gap in average earnings tends to be lower among full-time full-year workers, as women are more likely to work part time than men. Across OECD countries, 27% of women aged 25-64 and 15% of men in the same age group work part time or part year (OECD, 2021[1]). On average, among adults working full time, tertiary-educated women earn 76% of the earnings of their male peers. Women with below upper secondary attainment or upper secondary or post-secondary non-tertiary attainment earn 78% of the earnings of similarly educated men (Figure A4.1).

There is great variation in the earnings level of full-time working women compared to those of men. In nearly half of OECD countries, the lowest gender gap in earnings is observed among adults with below upper secondary attainment. This is the case for Chile, the Czech Republic and Hungary, it is more than 10 percentage points lower than the difference among tertiary-educated workers. In more than half of OECD countries, the gender gap is the widest among tertiary-educated adults. Australia, Canada, Costa Rica, Estonia, Israel, Latvia, Mexico and the United Kingdom are the only countries where the earnings of tertiary-educated women are closer to those of men when compared to women with lower attainment levels (Figure A4.1).

Figure A4.2. Trends in women's earnings as a percentage of men's earnings (2013 and 2019)

Full-time full-year workers with tertiary education, 25-64 year-olds; in per cent



1. Earnings net of income tax.
2. Year of reference differs from 2013: 2014 for Germany, Latvia, Mexico, the Netherlands and Poland; 2012 for Australia.
3. Year of reference differs from 2019. Refer to the source table for more details.
4. There is a break in the series.

Countries are ranked in descending order of the earnings of 25-64 year-old women as a percentage of men's earnings in 2019.

Source: OECD (2021), Table A4.3 and *Education at a Glance Database*, http://stats.oecd.org. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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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, while women's educational choices are still directed at fields associated with lower earnings, including education, and arts and humanities. However, women's earnings still do not surpass men's earnings even in the same field of study (OECD, 2019[2]). Other reasons may relate to difficulties in combining a professional career with household and family responsibilities. To manage these different commitments, women are more likely to seek less competitive paths and greater flexibility at work, leading to lower earnings than men with the same educational attainment (OECD, 2016[3]).

In recent years, awareness of the differences in pay between men and women has risen. Many countries have introduced 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[4]). In most OECD countries, the gender gap between the earnings of tertiary-educated men and women narrowed between 2013 and 2019. However, gender disparities in earnings seem to be an ongoing problem, as the average gap only closed by about 2 percentage points. Only Australia, Chile, Costa Rica, Estonia, Israel, Luxembourg and Mexico experienced a decrease of more than 5 percentage points. This gap even widened in Germany, Ireland, Italy, Spain, Turkey and the United Kingdom (Figure A4.2).

Distribution of earnings relative to the median

A strongly skewed earnings distribution signals income inequality, which may affect the social cohesion of communities and have a significant impact on economic growth. Data on the distribution of earnings among groups with different levels of education show the degree to which earnings centre around the country median. "Median earnings" refer to the earnings of all workers (including full-time and part-time workers), without adjusting for differences in hours worked.

The likelihood of earning less than the median decreases with educational attainment. On average across OECD countries, 68% of tertiary-educated adults earn more than the median of all workers; this likelihood falls to 44% for adults with upper secondary or post-secondary non-tertiary attainment, and to 27% for adults with below upper secondary attainment (OECD, 2021[1]). The difference is even more striking when considering the share of adults earning twice the median. Across OECD countries, an average of 24% of tertiary-educated workers belong to this category of earners, compared to only 7% of those with upper secondary or post-secondary non-tertiary attainment and 3% for those with below upper secondary attainment (Table A4.2).

In some countries, the earnings distribution is more skewed than in others. In Chile, Costa Rica, Colombia, Mexico and Portugal, over 80% of tertiary-educated workers earn more than the median (OECD, 2021[1]). Moreover, in Costa Rica, Mexico and Portugal, over 50% of tertiary-educated workers earn more than twice the median (Table A4.2). In these countries, the share of tertiary-educated adults is much lower than the OECD average (see Indicator A1).

At the other extreme of the earnings distribution, less-educated adults usually face large earnings disadvantages. On average across OECD countries, 10% of tertiary-educated workers earn at or below half the median, while 27% of those with below upper secondary attainment do so (Table A4.2).

The share of workers with below upper secondary attainment earning at or below half the median varies substantially across OECD countries, ranging from highs of 50% in Norway, 43% in Germany and 41% in the United States to lows of 10% in Belgium, 9% in Latvia and Portugal, and 0% in Poland and Slovenia (Figure A4.3).

Relative earnings, by educational attainment

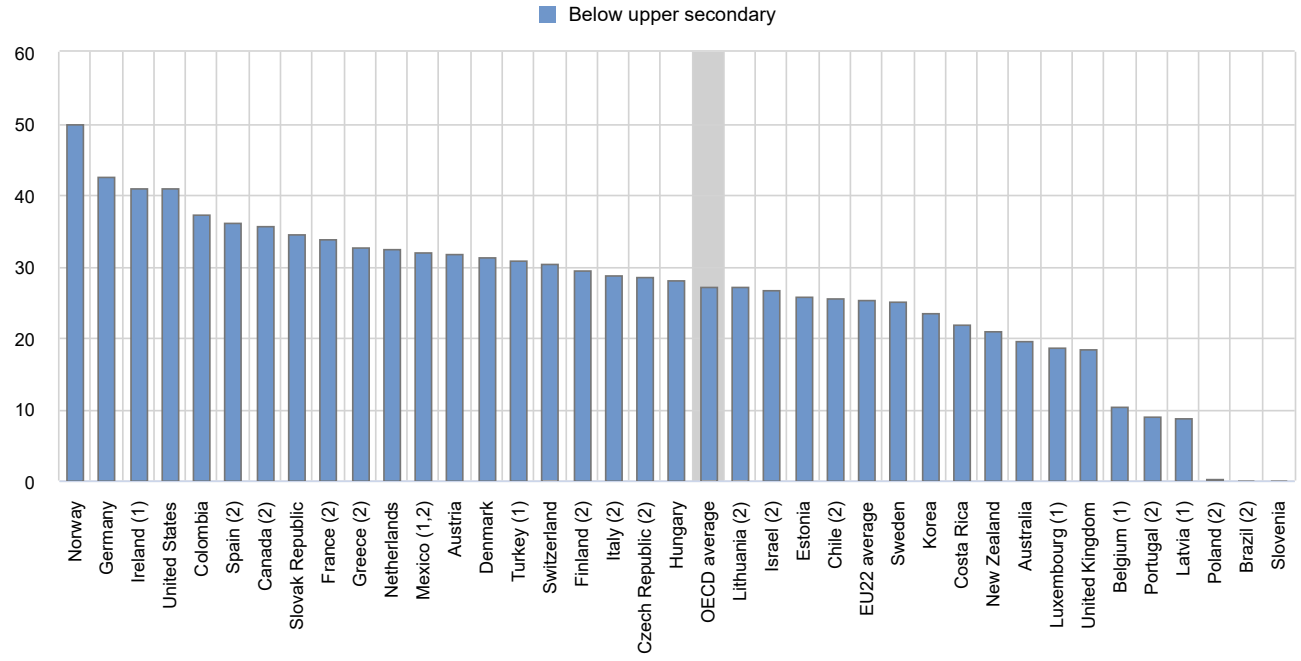
On average across OECD countries, 25-64 year-olds with below upper secondary attainment working full time earn 22% less than those with upper secondary attainment, while full-time workers with tertiary attainment have an earnings advantage of about 57% (Table A4.1).

The relative earnings disadvantages for adults with below upper secondary attainment are generally smaller than the earnings advantages of tertiary-educated adults. The earnings disadvantage for adults lacking an upper secondary degree represents about 33% in the Czech Republic and the Slovak Republic, which is the highest across OECD countries, while it is less than 10% in Finland, Latvia and New Zealand (Table A4.1).

A corrigendum has been issued for this page.
See: https://www.oecd.org/about/publishing/Corrigendum_Education-at-a-Glance-2021.pdf

Figure A4.3. Percentage of adults with below upper secondary attainment earning at or below half the median (2019)

25-64 year-old full- and part-time workers; in per cent



Note: Median earnings refers to earnings from all workers without adjusting for differences in hours worked.
1. Earnings net of income tax.
2. Year of reference differs from 2019. Refer to the source table for more details.
Countries are ranked in descending order of the percentage of adults with below upper secondary attainment earning at or below half of the median.
Source: OECD (2021), Table A4.2. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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Having a tertiary degree carries a considerable earnings advantage in most OECD countries. The relative earnings for full-time workers are the highest in Chile, Colombia and Costa Rica, where adults with tertiary education earn more than twice as much as those with upper secondary education (Table A4.1). In all of these countries, the share of adults with tertiary attainment is among the lowest across OECD countries (about 25%), which may partially explain the large earnings advantage associated with a tertiary degree in these countries (see Indicator A1). In contrast, in Australia, Denmark, Estonia, Norway and Sweden, this earnings advantage is less than 30% for tertiary-educated adults working full-time, compared to those with upper secondary attainment (Table A4.1).

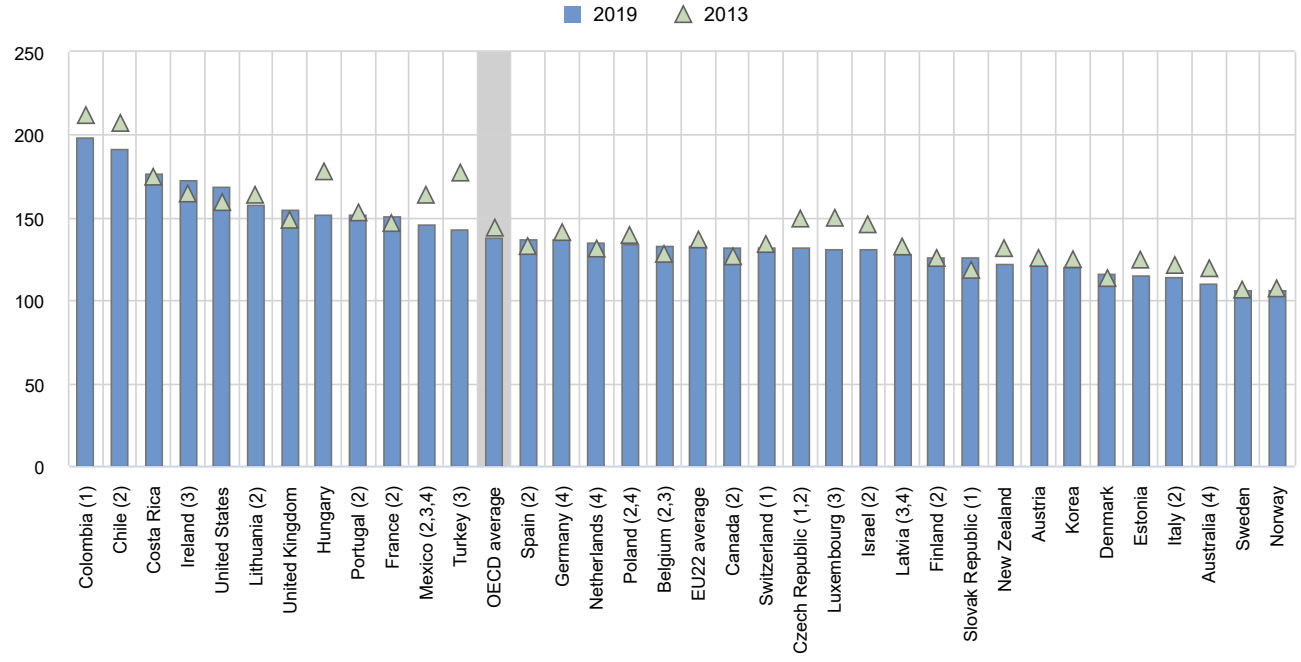
The earnings advantage also increases with level of tertiary attainment. In most OECD countries, full-time workers with a master's or doctoral or equivalent degree earn more than those with a bachelor's or equivalent degree, who in turn earn more than those with a short-cycle tertiary degree. On average across OECD countries, those with a short-cycle tertiary degree only earn about 23% more than those with upper secondary attainment. The earnings advantage reaches 45% for those with a bachelor's or equivalent degree and 95% for those with a master's or doctoral or equivalent degree. There are some exceptions to this general pattern. In Estonia and Portugal, full-time workers with a short-cycle tertiary degree earn even less than those with upper secondary attainment, while in Austria, Denmark, Finland, Greece, the Netherlands and Norway, the earnings of workers with a short-cycle tertiary degree exceed the earnings of those with a bachelor's or equivalent degree (Table A4.1).

Relative earnings of tertiary-educated workers, by age and over time

Higher educational attainment is also associated with faster increases in earnings throughout a person's working life, meaning the wage differentials across educational attainment levels tend to increase with age. On average across OECD countries, younger adults (25-34 year-olds) with tertiary attainment working full time and part time earn 38% more than their peers with upper secondary attainment; 45-54 year-olds earn 70% more. The increase in earnings between these two age groups holds true for all OECD countries except the United Kingdom, although the size of the difference varies considerably across countries, ranging from less than 20 percentage points in Canada, Estonia, France, Spain and the United States to over 70 percentage points in Chile and Colombia (OECD, 2021[1]).

Figure A4.4. Trends in relative earnings of 25-34 year-old adults with tertiary attainment (2013 and 2019)

Full-time and part-time workers; upper secondary education = 100; in per cent



1. Index 100 refers to combined ISCED levels 3 and 4 in the ISCED 2011 classification. See *Reader's Guide* for list of ISCED levels.
2. Year of reference differs from 2019. Refer to *Education at a Glance Database* for more details.
3. Earnings net of income tax.
4. Year of reference differs from 2013: 2014 for Germany, Latvia, Mexico, the Netherlands and Poland; 2012 for Australia.

Countries are ranked in descending order of the relative earnings of tertiary-educated 25-34 year-olds in 2019.

Source: OECD (2021), *Education at a Glance Database*, http://stats.oecd.org. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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In most OECD countries, higher earnings advantage of older workers could be mostly related to seniority-based pay schemes (where wages rise with seniority) and to growing work experience and responsibilities (OECD, 2019[5]). However, it is also possible that the earnings advantage has fallen for younger generations, as they may face more competition in the labour market due to the rapid expansion of tertiary education (Bar-Haim, Chauvel and Hartung, 2019[6]). On average across OECD countries, the earnings advantage of tertiary-educated younger adults fell by 6 percentage points between 2013 and 2019. In nearly half of OECD countries, this difference decreased by less than 10 percentage points. Hungary and Turkey are the only two countries with a considerable drop in the earnings advantage of tertiary-educated younger adults (26 percentage points and 34 percentage points, respectively). The earnings advantage slightly increased over the same period in Belgium, Canada,

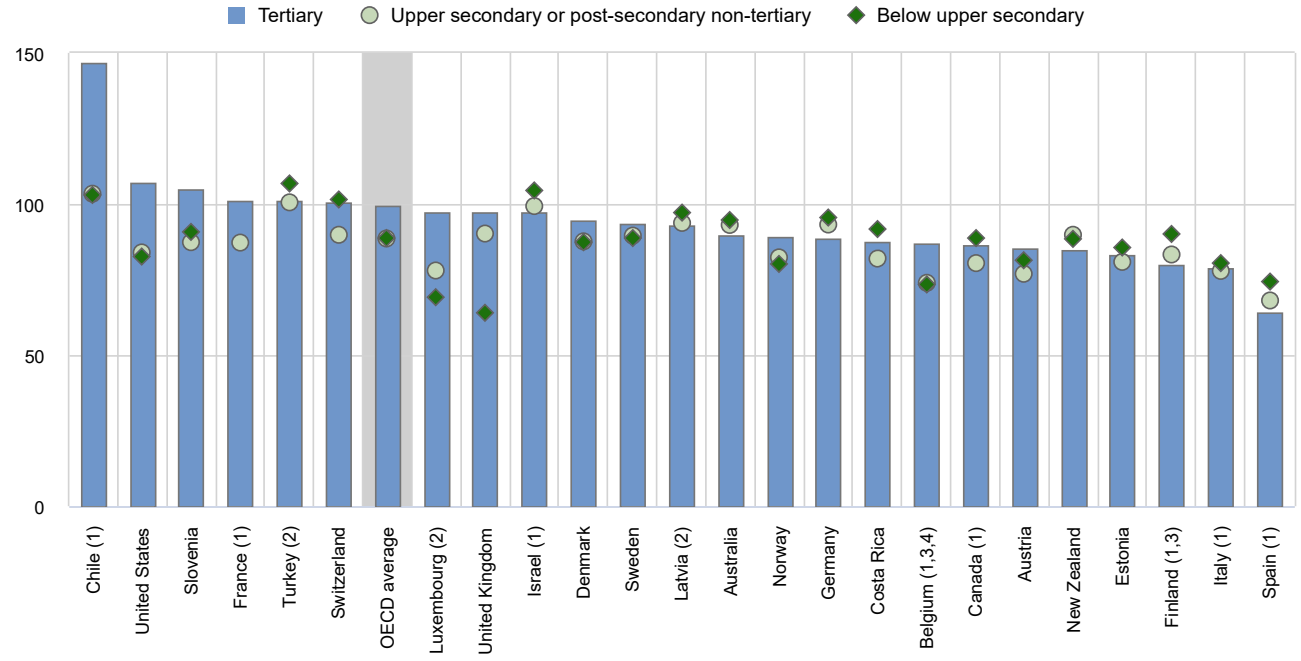
Costa Rica, Denmark, Finland, France, Ireland, the Netherlands, the Slovak Republic, Spain, the United Kingdom and the United States. (Figure A4.4).

Differences in earnings between native-born and foreign-born workers, by educational attainment

Foreign-born adults have more difficulty finding a job than their native-born peers, as they face various problems such as recognition of credentials obtained abroad, lack of skills, language difficulties or discrimination when looking for work. Foreign-born workers (full-time workers) are therefore more likely to accept any job they can get, which affects their level of earnings compared to their native-born peers (OECD, 2017[7]).

Figure A4.5. Earnings of foreign-born workers as a percentage of earnings of native-born workers, by educational attainment (2019)

25-64 year-old full-time full-year workers; in per cent



Note: Only countries with data from 2017 onwards are shown in this figure.
1. Year of reference differs from 2019. Refer to the source table for more details.
2. Earnings net of income tax.
3. Data refer to full-time and part-time workers.
4. There is a break in the series.
Countries are ranked in descending order of the earnings of tertiary-educated foreign-born workers as a percentage of the earnings of tertiary-educated native-born workers.
Source: OECD (2021), Table A4.4. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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On average across OECD countries, foreign-born adults with below upper secondary attainment working full time earn 11% less than their native-born peers. The earnings gap in favour of native-born adults is above 30% in Luxembourg and the United Kingdom. In contrast, foreign-born adults with below upper secondary attainment earn slightly more than their native-born peers in Chile, Israel, Switzerland and Turkey (Figure A4.5).

In most OECD countries except Chile, Israel and Turkey, foreign-born adults with upper secondary or post-secondary non-tertiary education also face a disadvantage in earnings compared to their native-born peers. Moreover, the earnings gap

between native- and foreign-born adults is similar to the one among those with below upper secondary attainment. The United Kingdom is the only country where the earnings gap narrows by more than 25 percentage points (from 36% to 10%) (Figure A4.5).

In Chile, France, Slovenia, Switzerland, Turkey and the United States, the earnings of foreign-born workers with tertiary attainment are the same as or even higher than the earnings of their native-born peers. In Chile, foreign-born tertiary-educated workers earn 47% more than their native-born peers (Figure A4.5).

Box A4.1. Inequalities in household wealth and educational attainment of the head of household

Education at a Glance has consistently shown that higher levels of educational attainment translate into higher earnings and better employment opportunities. Beyond the publication, the patterns of higher earnings for those with higher levels of education have been well documented in numerous government studies and in the research literature. While earnings data are critical for understanding differentials in remuneration for labour-force participation, wealth data provide important background information on household resilience to losses of earnings. Even when earnings and educational attainment levels are similar, individuals with more wealth have additional flexibility in using liquid or long-term assets to meet immediate financial needs such as a mortgage or rent, car payments, utilities, food, or other living expenses.

As wealth allows households to consume more than what they make through their income and can protect them from future shocks to their income, there is a growing interest among policy makers to assess the distribution of wealth within society and between different types of households. Household wealth inequality can be measured by the ratio between mean and median net wealth. As median wealth represents the conditions of the "typical" household, when the mean household net wealth is much higher than the median amounts, this reflects the fact that household net wealth is more concentrated at the top of the distribution. Higher mean to median ratios of household net wealth signal greater wealth inequality. Across OECD countries, the ratio is less than 1.5 in Belgium and Slovenia, while it is more than 8 in the Netherlands and the United States (OECD, 2021[8]).

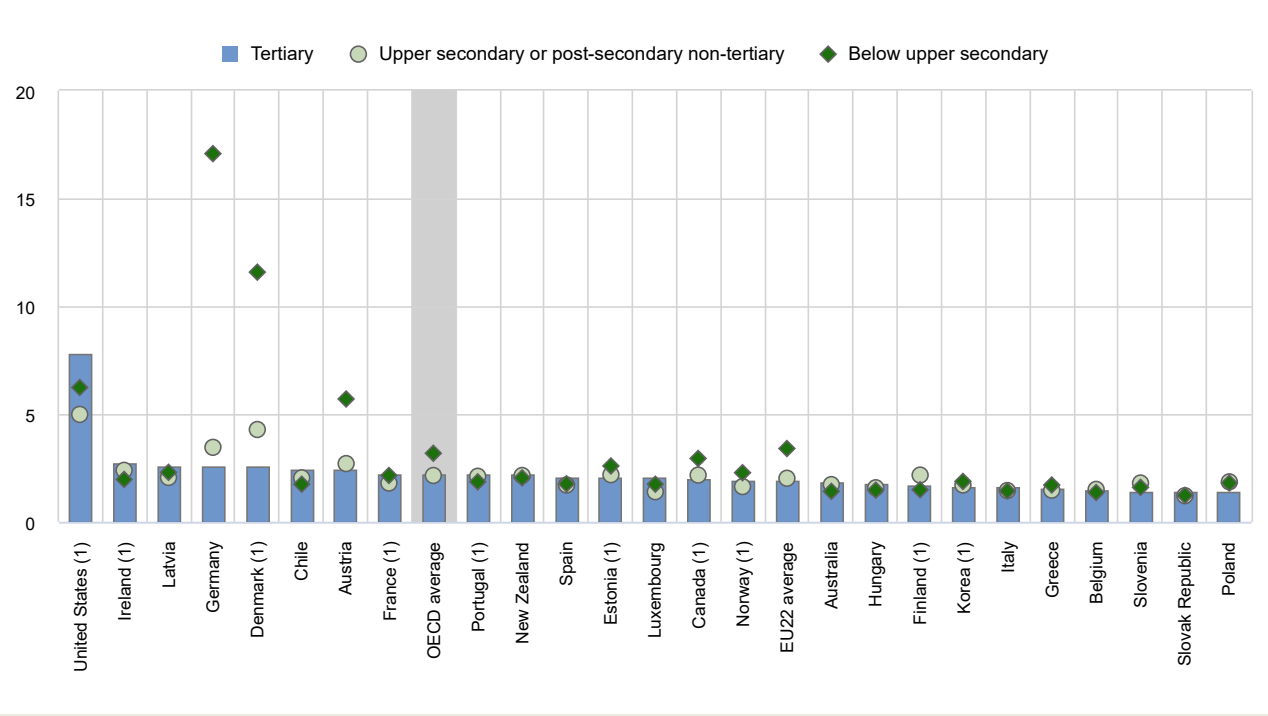
The overall average of mean to median ratio of household net wealth might hide some important variations by household characteristics. For instance, wealth inequality varies according to the educational attainment of the head of household. On average across OECD countries, mean wealth is three times as high as the median wealth among households headed by a person with below upper secondary attainment, while the ratio falls to two among households headed by a person with a higher level of educational attainment (Figure A4.6).

In many of the OECD countries with available data, there is only a small variation of wealth inequality when comparing different levels of educational attainment. Only in Austria, Denmark and Germany is the mean to median ratio for households headed by a person with below upper secondary attainment at least twice as high as the ratio for households headed by a person with a higher level of educational attainment. Wealth inequality is most considerable in Denmark and Germany, where mean wealth is more than ten times as high as median wealth among households headed by a person with below upper secondary attainment. On the other hand, the United States displays the highest wealth inequality for households headed by a tertiary-educated person across the OECD. The United States' mean to median ratio is 8, while it is no more than 3 in the other OECD countries with available data (Figure A4.6).

It is noteworthy that wealth inequality is measured at the household level, and that educational attainment is taken from the household reference person. In addition, household wealth data are presented without adjustments of the household size. As the head of household's educational attainment may correlate to other demographic factors, the comparison may imply some risks of underestimating or overestimating the size of the impact of educational attainment on wealth inequality.

Figure A4.6. Wealth inequality, by educational attainment of the household head (2014)

Wealth inequality measured as mean to median ratio for household net wealth



1. Year of reference differs from 2014: 2016 for Canada and the United States; 2015 for Denmark, France, Korea and Norway; 2013 for Estonia, Finland, Ireland and Portugal.

Countries are ranked in descending order of the wealth inequality among households headed by a tertiary-educated person.

Source: OECD (2021), *Wealth Database*, http://stats.oecd.org. See *Source* section for more information and Annex 3 for definitions and notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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Definitions

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

Educational attainment refers to the highest level of education successfully completed by an individual.

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 health care 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 (2019)" illustrate the earnings variations among individuals. The median earnings refer to all adults with earnings from work, regardless of educational attainment.

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://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

Source

This 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, 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://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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OECD (2016), *OECD Employment Outlook 2016*, OECD Publishing, Paris, https://dx.doi.org/10.1787/empl_outlook-2016-en. [3]

Indicator A4 tables

Tables Indicator A4. What are the earnings advantages from education?

Table A4.1	Relative earnings of workers, by educational attainment (2019)
Table A4.2	Level of earnings relative to median earnings, by educational attainment (2019)
Table A4.3	Women's earnings as a percentage of men's earnings, by educational attainment and age group (2019)
Table A4.4	Foreign-born workers' earnings as a percentage of native-born workers' earnings, by educational attainment (2019)

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Cut-off date for the data: 17 June 2021. 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*.

Table A4.1. Relative earnings of workers, by educational attainment (2019)

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

				Tertiary			
		Below upper secondary	Post-secondary non-tertiary	Short-cycle tertiary	Bachelor's or equivalent	Master's, doctoral or equivalent	Total
		(1)	(2)	(3)	(4)	(5)	(6)
OECD	Countries						
	Australia	88	102	109	126	140	125
	Austria	78	110	128	109	174	146
	Belgium[1]	88[b]	108[br]	c	129[b]	164[b]	144[b]
	Canada[1]	85	116	116	144	186	140
	Chile[1]	71	a	138	279	457	241
	Colombia[2]	71	m	m	m	m	228
	Costa Rica	75	c	119	203	323	203
	Czech Republic[1, 2]	63	m	116	128	166	158
	Denmark	90	123	110	113	146	124
	Estonia	92	89	88	129	140	129
	Finland[1]	100	114	119	120	158	135
	France[1]	95	m	125	141	196	153
	Germany	80	111	138	161	175	162
	Greece[1]	81	102	162	132	170	138
	Hungary	81	113	129	160	205	169
	Iceland	m	m	m	m	m	m
	Ireland	96	104	132	157	181	157
	Israel[1]	75	a	106	139	200	149
	Italy[1]	80	m	x(6)	x(6)	x(6)	137
	Japan	m	m	m	m	m	m
	Korea	79	a	108	136	182	133
	Latvia[3]	92	98	129	133	153	142
	Lithuania[1]	92	106	a	167	193	180
	Luxembourg[3]	79	95	121	130	151	142
	Mexico[1, 3]	80	a	117	153	308	158
	Netherlands	86	105	131	132	177	149
	New Zealand	89	98	113	127	152	130
	Norway	85	100	119	107	134	119
	Poland[1]	85	100	m	141	159	155
	Portugal[1]	78	107	95	169[d]	x(4)	169
	Slovak Republic[2]	77	m	117	123	158	154
	Slovenia	82	a	135	140	184	164
	Spain[1]	82	c	112	129	172	145
	Sweden	87	118	108	115	143	124
	Switzerland[2]	79	m	x(4, 5)	132[d]	156[d]	144
	Turkey[3]	78	a	x(6)	x(6)	x(6)	161
	United Kingdom	75	a	118	143	164	144
	United States	74	m	111	163	231	173
	OECD average	82	m	120	143	187	153
	EU22 average	85	106	122	136	168	149
Partners	Argentina	m	m	m	m	m	m
	Brazil	m	m	m	m	m	m
	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

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 available at http://stats.oecd.org/, *Education at a Glance Database*.

1. Year of reference differs from 2019: 2018 for Belgium, Canada, the Czech Republic, Finland, Greece, Israel, Lithuania, Mexico, Poland, Portugal and Spain; 2017 for Chile, France and Italy.

2. Index 100 refers to the combined ISCED levels 3 and 4 in the ISCED 2011 classification. See *Reader's Guide* for list of ISCED levels.

3. Earnings net of income tax.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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 (2019)

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 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 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 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	50	18	8	6	14	41	26	9	9	11	30	29	15	16
	Austria	32	44	19	4	2	17	32	30	13	8	14	17	21	18	30
	Belgium[1]	10	63	23	4	c	6	57	33	3	1	2	30	50	13	6
	Canada[2]	36	34	18	6	6	28	29	22	10	10	21	23	21	14	20
	Chile[2]	25	50	18	4	3	13	41	26	10	10	4	16	18	14	48
	Colombia	37	35	21	4	3	20	28	35	9	8	7	12	23	14	44
	Costa Rica	22	50	22	4	3	11	37	32	10	10	5	13	17	14	51
	Czech Republic[2]	29	58	12	1	0	5	49	34	8	3	3	20	39	18	21
	Denmark	31	40	23	4	2	17	38	33	8	4	14	24	38	14	11
	Estonia	26	46	7	13	8	18	47	8	19	8	13	32	11	26	18
	Finland[2]	29	36	25	6	3	21	39	29	7	3	13	23	33	17	15
	France[2]	34	38	21	4	3	22	38	29	7	4	11	19	32	18	20
	Germany	43	34	17	4	c	21	37	28	9	4	12	19	25	20	23
	Greece[2]	33	38	21	5	3	18	34	34	10	5	10	21	35	19	14
	Hungary	28	51	16	4	1	8	46	27	11	7	4	18	31	17	29
	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[2]	27	49	16	5	3	19	44	21	8	9	10	27	23	15	26
	Italy[2]	29	34	26	7	4	18	31	30	12	9	13	21	28	15	23
	Japan	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Korea	23	63	11	2	c	13	53	22	9	3	6	36	27	18	12
	Latvia[1]	9	63	18	7	3	5	59	24	8	4	2	31	35	19	13
	Lithuania[2]	27	47	19	5	c	17	46	22	10	5	13	22	23	18	25
	Luxembourg[1]	19	63	13	4	c	11	52	25	10	3	4	29	30	20	18
	Mexico[1, 2]	32	31	21	8	8	16	21	25	15	24	6	10	15	16	53
	Netherlands	32	35	23	7	2	23	34	27	11	6	13	20	26	18	22
	New Zealand	21	42	25	6	6	19	36	27	10	8	13	27	28	15	18
	Norway	50	27	17	4	2	23	29	32	10	5	16	18	38	15	13
	Poland[2]	0	72	21	5	2	0	59	28	8	5	0	30	35	16	19
	Portugal[2]	9	54	25	7	5	5	36	29	12	17	3	12	17	18	50
	Slovak Republic	34	45	16	4	1	16	36	30	11	6	12	17	28	21	23
	Slovenia	0	84	14	1	0	0	64	28	6	2	0	23	33	23	20
	Spain[2]	36	30	21	7	5	25	28	23	12	12	16	20	19	16	30
	Sweden	25	45	25	4	1	15	36	35	9	4	14	25	37	14	10
	Switzerland	30	50	17	1	c	21	40	31	6	2	10	23	34	19	15
	Turkey[1]	31	45	18	4	2	16	34	31	12	6	11	16	18	26	30
	United Kingdom	18	54	21	5	3	14	48	25	8	4	7	30	31	17	16
	United States	41	41	13	3	3	25	39	21	8	7	13	23	24	14	26
	OECD average	27	46	19	5	3	16	40	27	10	7	10	22	27	17	24
	EU22 average	25	48	19	5	3	14	42	28	10	6	9	22	29	18	21
Partners	**Argentina**	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
	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 available at: http://stats.oecd.org/, *Education at a Glance Database*.

1. Earnings net of income tax.

2. Year of reference differs from 2019: 2018 for Canada, the Czech Republic, Finland, Greece, Israel, Lithuania, Mexico, Poland, Portugal and Spain; 2017 for Chile, France and Italy.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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 (2019)

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	79	74	74	82	71	81	84	77
	Austria	79	81	82	84	82	89	74	75	81
	Belgium[1]	83[b]	c	c	84[b]	79[br]	94[br]	80[b]	85[b]	76[b]
	Canada[1]	64	61	67	69	64	72	73	77	73
	Chile[1]	81	89	74	76	76	71	68	71	68
	Colombia	87	82	84	82	79	81	80	78	76
	Costa Rica	85	87	72	83	84	c	95	98	107
	Czech Republic[1]	86	86	87	81	75	89	73	69	84
	Denmark	83	81	83	81	79	81	77	79	71
	Estonia	59	59	63	65	63	69	75	74	80
	Finland[1]	81	80	80	78	76	77	77	76	73
	France[1]	77	c	c	78	82	81	76	77	64
	Germany	74	64	c	82	86	80	70	77	70
	Greece[1]	72	64	70	83	85	78	78	80	81
	Hungary	87	88	85	86	82	88	68	65	74
	Iceland	m	m	m	m	m	m	m	m	m
	Ireland	72	c	c	81	77	82	69	78	55
	Israel[1]	67	63	77	67	62	65	69	69	70
	Italy[1]	77	75	83	79	78	80	71	78	61
	Japan	m	m	m	m	m	m	m	m	m
	Korea	75	69	74	70	73	67	73	77	76
	Latvia[2]	70	66	62	72	70	73	80	74	92
	Lithuania[1]	85	85	91	80	78	83	76	75	78
	Luxembourg[2]	85	74[r]	c	82	82	c	83	88	84
	Mexico[1,2]	66	66	68	72	72	78	75	77	71
	Netherlands	84	85	87	84	89	84	78	90	79
	New Zealand	83	84	83	81	77	85	79	76	80
	Norway	81	79	81	79	77	79	76	77	72
	Poland[1]	75	73	76	79	73	86	71	69	73
	Portugal[1]	78	78	75	75	76	69	73	76	71
	Slovak Republic	80	79	81	78	74	85	72	67	79
	Slovenia	84	81	83	86	82	92	83	80	87
	Spain[1]	80	84	78	73	72	68	77	76	77
	Sweden	86	84	85	84	83	82	80	81	75
	Switzerland	77	75	76	84	87	83	80	85	85
	Turkey[2]	71	73	63	81	81	c	80	81	62
	United Kingdom	74	90	65	72	68	73	76	81	74
	United States	77	76	73	76	75	75	71	74	62
	OECD average	78	77	77	78	77	79	76	78	75
	EU22 average	79	77	80	80	78	81	75	77	76
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: See *Definitions* and *Methodology* sections for more information. Data and more breakdowns available at: http://stats.oecd.org/, *Education at a Glance Database*.

1. Year of reference differs from 2019: 2018 for Belgium, Canada, the Czech Republic, Finland, Greece, Israel, Lithuania, Mexico, Poland, Portugal and Spain; 2017 for Chile, France and Italy.

2. Earnings net of income tax.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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

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Table A4.4. Foreign-born workers' earnings as a percentage of native-born workers' earnings, by educational attainment (2019)

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	95	81	104	93	88	93	90	90	94
	Austria	81	82	70	77	81	71	85	91	89
	Belgium[1, 2]	73[b]	m	m	74[b]	m	m	87[b]	m	m
	Canada[2]	89	90	87	80	81	80	86	85	82
	Chile[2]	103	108	87[r]	103	113	83[r]	147	171	191[r]
	Colombia[2]	101	c	c	125	96[r]	c	226	161[r]	c
	Costa Rica	92	92	c	82	c	c	87	c	c
	Czech Republic	m	m	m	m	m	m	m	m	m
	Denmark	87	87	90	88	88	90	94	99	99
	Estonia	86	88	74	81	84	94	83	90	87
	Finland[1, 2]	90	91	93	83	80	85	80	84	76
	France[2]	c	c	c	87	c	c	101	c	c
	Germany	95	96	c	93	95	100	89	84	90
	Greece	m	m	m	m	m	m	m	m	m
	Hungary	m	m	m	m	m	m	m	m	m
	Iceland	m	m	m	m	m	m	m	m	m
	Ireland[2]	85	c	c	85	72	c	93	78	c
	Israel[2]	104	m	m	99	m	m	97	m	m
	Italy[2]	80	82	79	78	74	89	79	90	73
	Japan	m	m	m	m	m	m	m	m	m
	Korea	m	m	m	m	m	m	m	m	m
	Latvia[3]	97	c	c	94	100	100	93	119	88
	Lithuania	m	m	m	m	m	m	m	m	m
	Luxembourg[3]	69	65	c	78	70	72[r]	97	94	110
	Mexico	m	m	m	m	m	m	m	m	m
	Netherlands	m	m	m	m	m	m	m	m	m
	New Zealand	88	99	84	90	87	97	85	82	93
	Norway	80	79	83	82	82	83	89	89	90
	Poland	m	m	m	m	m	m	m	m	m
	Portugal	m	m	m	m	m	m	m	m	m
	Slovak Republic	m	m	m	m	m	m	m	m	m
	Slovenia	91	87	97	87	87	89	105	107	101
	Spain[2]	74	82	69	68	71	48	64	72	55
	Sweden	89	87	89	90	90	89	94	95	88
	Switzerland	102	90	100	90	90	93	101	100	103
	Turkey[3]	107	c	c	101	94	c	101	106	c
	United Kingdom	64	62	59	90	90	83	97	96	102
	United States	83	93	82	84	80	86	107	112	94
	OECD average	89	m	m	89	m	m	100	m	m
	EU22 average	m	m	m	m	m	m	m	m	m
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: See *Definitions* and *Methodology* sections for more information. Data and more breakdowns available at: http://stats.oecd.org/, *Education at a Glance Database*.

1. Data refer to full-time and part-time workers. The averages do not take into account these two countries.
2. Year of reference differs from 2019: 2018 for Belgium, Canada, Finland, Israel and Spain; 2017 for Chile, France and Italy; 2016 for Colombia and Ireland.
3. Earnings net of income tax.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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

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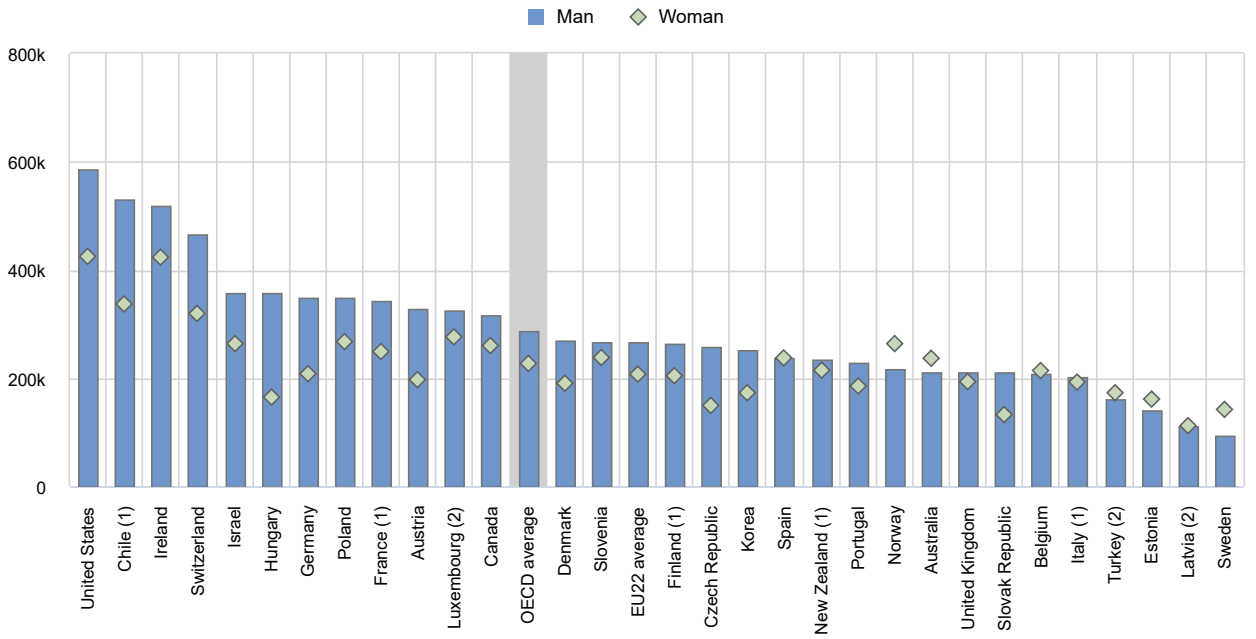
Indicator A5. What are the financial incentives to invest in education?

Highlights

- Adults who complete tertiary education benefit from positive financial returns over their working-age life because they are more likely to be employed and to earn more than those without this degree.
- Investing in tertiary education also pays off in the long run for the public sector, since tertiary-educated adults pay higher income taxes and social contributions.
- On average across the OECD, a man or a woman can expect to receive around USD 7 for each USD they invested in tertiary education, but women tend to have lower foregone earnings (therefore lower total costs) and lower total benefits than men.

Figure A5.1. Private net financial returns for a man or a woman attaining tertiary education (2018)

Compared with returns to upper secondary education, in equivalent USD converted using PPPs for GDP



Note: Future costs and benefits are discounted at a rate of 2%.
1. Year of reference differs from 2018. Refer to the source table for more details.
2. Only net earnings are available and the calculations use these values as if they were gross earnings.
Countries are ranked in descending order of the private net financial returns of a tertiary education for a man.
Source: OECD (2021), Tables A5.1 and A5.2. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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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 health or well-being (see Indicator A6).

Other findings

- 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.
- For 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.

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 for individuals to invest in tertiary education

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.

Adults completing a higher level of education benefit from positive financial returns over their working-age life. The gains associated with a higher level of education that individuals can expect to receive over their career exceed the cost they bear during their studies. This is true for tertiary education, but it also holds for upper secondary education. 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 (Table A5.1. , Table A5.2, and Tables A5.7 and A5.8 available on line).

Investing in tertiary education pays off in the long run for both men and women. On average across the OECD, the private financial returns to tertiary education are USD 287 200 for a man and USD 226 800 for a woman. The private net financial returns to tertiary education is higher for a man than it is for a woman in most OECD countries, although younger women (25-34 year-olds) are more likely than younger men to complete tertiary education (see Indicator A1). This is partially related to the fact that the gap in earnings and employment between upper secondary and tertiary education is higher for women than it is for men. The only countries where women have higher private financial returns than men are Australia, Belgium, Estonia, Norway, Spain, Sweden and Turkey (Figure A5.1).

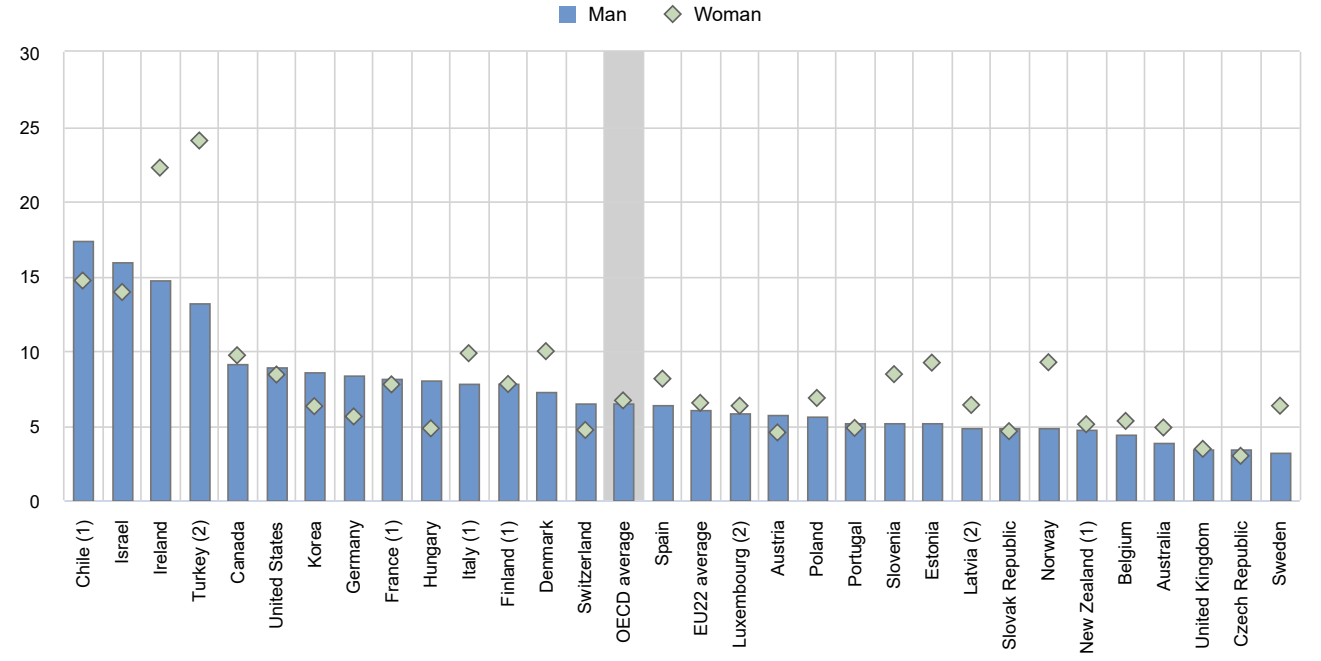
Across OECD countries, the average internal rate of return to tertiary education is 15% for men and 19% for women, below the average internal rate of return to upper secondary education (25% for men and 36% for women). The lower internal rate of return to tertiary education compared to upper secondary education is due to the higher total costs of attaining tertiary education (Table A5.1 and Table A5.2, and Tables A5.7 and A5.8, available on line).

Another way to analyse returns to education is through the benefit-cost ratio, expressed as the private financial benefit of attaining an additional level of education for each USD invested in it. Across OECD countries, the average private financial benefit for each USD invested in tertiary education is around USD 6 for a man and USD 7 for a woman, although women receive lower private net financial returns than men from tertiary education (Figure A5.2). 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 (Figure A5.3).

The total costs of attaining tertiary education vary across countries, and there are considerable gender differences. Turkey has the lowest total costs for both men and women (USD 13 200 for a man and USD 7 500 for a woman), while Switzerland has comparably high costs for both men and women (USD 85 100 and USD 86 600, respectively). This represents the highest costs for a woman across all countries with available data. The Czech Republic has the highest costs for a man (USD 109 500) (Figure A5.3). Note that these figures have been adjusted for purchasing power parity (PPP) and therefore they provide a comparable measure of the financial effort that individuals in different countries must make to finance their education, relative to their ordinary cost of living. Because figures have been PPP-adjusted, nominal exchange rates have already been accounted for. For instance, even though the currency used in Sweden is relatively stronger (in terms of nominal exchange rates) than the currency in Chile, paying for tertiary education in Chile entails a greater financial effort relative to the ordinary cost of living than it does in Sweden. In terms of PPP-adjusted total costs of investing in tertiary education, the United States is the country where individuals make the greatest financial effort to finance their education (total costs of investing In tertiary education), relative to their ordinary cost of living (Table A5.1. and Table A5.2). These differences can be understood in light of the different higher education funding policies in place in different countries, whereby states provide varying degrees of public support to higher education.

Figure A5.2. Private financial benefits for each equivalent USD invested in tertiary education for a man or a woman (2018)

Compared with returns to upper secondary education, in equivalent USD converted using PPPs for GDP



Note: Future costs and benefits are discounted at a rate of 2%.
1. Year of reference differs from 2018. Refer to the source table for more details.
2. Only net earnings are available and the calculations use these values as if they were gross earnings.
Countries are ranked in descending order of the private total benefits for each equivalent USD invested in tertiary education for a man.
Source: OECD (2021), Tables A5.1 and A5.2. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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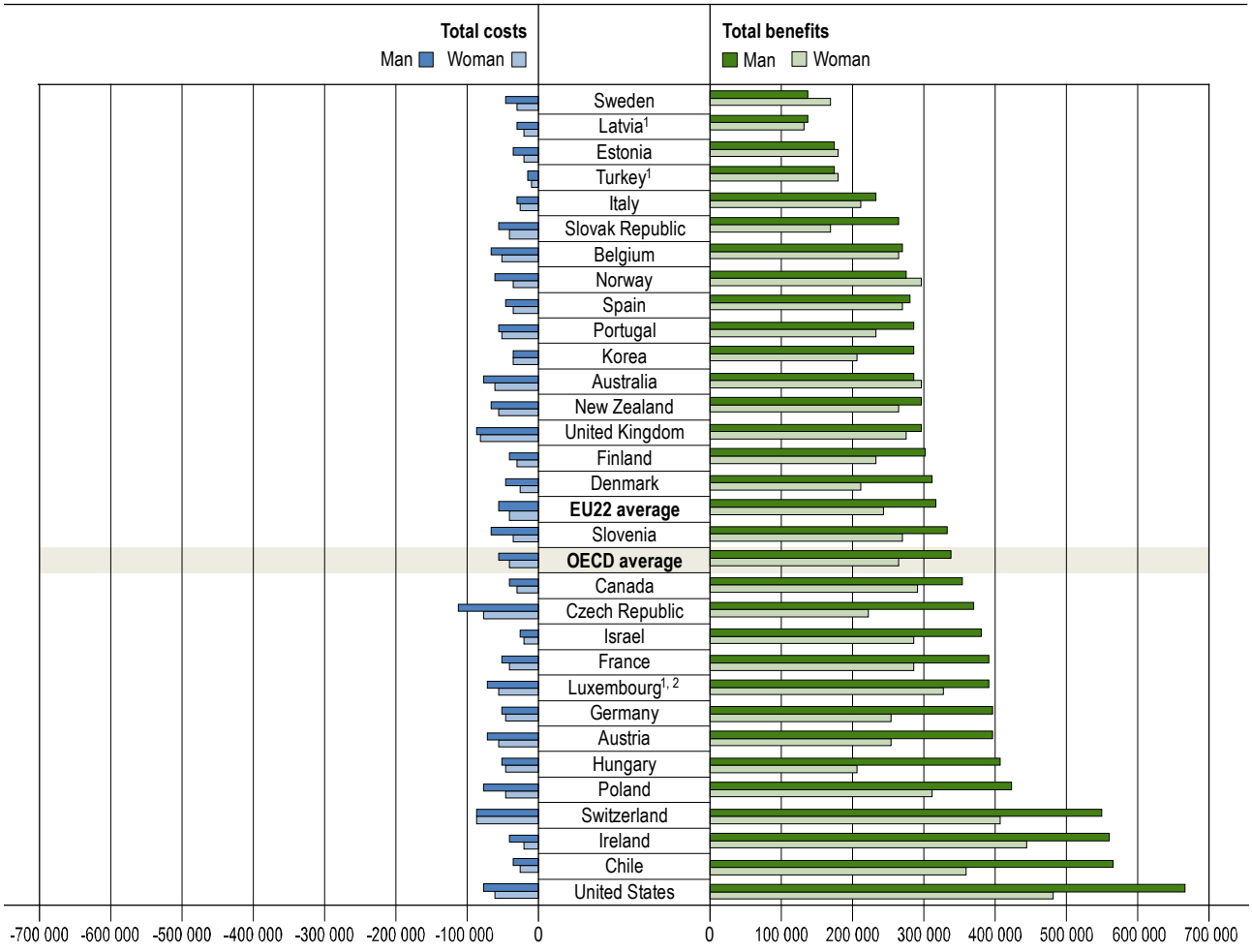
On average across OECD countries, the direct costs of tertiary education amount to USD 10 000 for both men and women, which is more than three times the direct costs of upper secondary education. The direct costs are particularly high in the United Kingdom and the United States: tuition fees and living expenses during tertiary education amount to more than USD 40 000 (USD 40 200 in the United States and 53 600 in the United Kingdom) 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 42 900 for a man and USD 30 000 for a woman (Table A5.1. and Table A5.2).

As for total costs, the total benefits from tertiary education are also higher for a man than for a woman. On average across the OECD, they are about USD 340 100 for a tertiary-educated man and only USD 266 800 for a tertiary-educated woman. Australia, Estonia, Norway, Sweden and Turkey are the only OECD countries where women enjoy higher total benefits from tertiary education than men (Figure A5.3).

Further education yields higher gross earnings benefits over an individual's career. Across OECD countries, the average gross earnings benefits are USD 534 600 for a tertiary-educated man and USD 389 400 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 (Table A5.1. and Table A5.2).

Figure A5.3. Private costs and benefits for a man or a woman attaining tertiary education (2018)

Compared with returns to upper secondary education, in equivalent USD converted using PPPs for GDP



Note: Future costs and benefits are discounted at a rate of 2%.

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

2. Year of reference differs from 2018. Refer to the source table for more details.

Countries are ranked in ascending order of total private benefits for a man attaining tertiary education.

Source: OECD (2021), Tables A5.1 and A5.2. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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Financial incentives for governments to invest in tertiary education

Higher levels of educational attainment also lead to higher returns for the public sector. On average across the OECD, the public net financial returns for attaining tertiary education is about USD 127 000 for a man and USD 60 600 for a woman. The net financial returns on investment for governments are generally closely related to the private net returns: those countries where individuals benefit the most from pursuing tertiary education are also those where governments gain the largest returns. For tertiary education, this is the case for men in Ireland and the United States, countries with very large net private and public returns for tertiary education (Figure A5.1. and Figure A5.4).

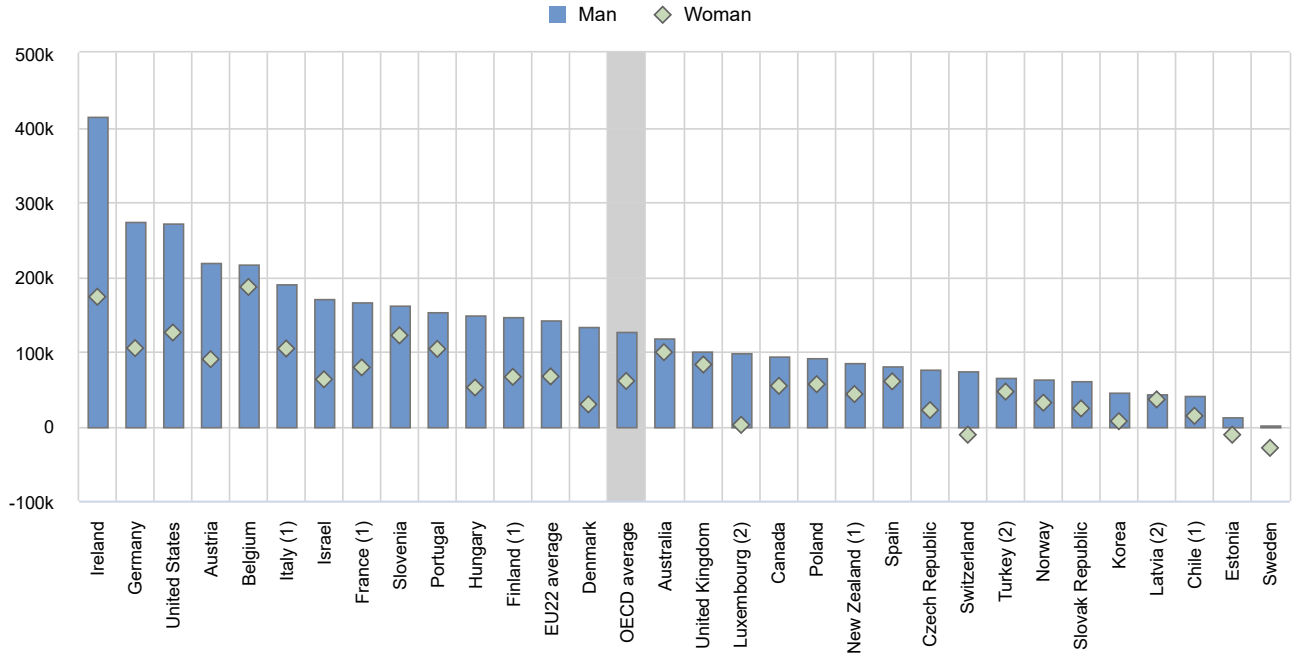
As for private financial returns, public financial returns can be also analysed through the internal rate of return, which equalises the costs and benefits related to educational investment. On average across the OECD, the internal rate of return from tertiary education to governments is 8% for a man and 6% for a woman (Table A5.4).

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

Across OECD countries, the average total costs of tertiary education for governments amount to USD 67 500 for a man and USD 62 000 for a woman. 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 (Table A5.3 and Table A5.4). 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).

Figure A5.4. Public net financial returns for a man or a woman attaining tertiary education (2018)

Compared with returns to upper secondary education, in equivalent USD converted using PPPs for GDP



Note: Future costs and benefits are discounted at a rate of 2%.
1. Year of reference differs from 2018. Refer to the source table for more details.
2. Only net earnings are available and the calculations use these values as if they were gross earnings.
Countries are ranked in descending order of the public net financial returns of tertiary education for a man.
Source: OECD (2021), Tables A5.3 and A5.4. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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Countries with high direct public costs (more than USD 80 000 and up to USD 185 000 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 (at USD 17 000 for men and USD 16 400 for women) across all OECD countries with available data (Table A5.3 and Table A5.4).

On average in the OECD, the total public benefits are USD 194 500 for a tertiary-educated man, broken down into income tax effects (USD 140 500) and social contribution effects (USD 54 000). For a tertiary-educated woman, the total public benefits are USD 122 600, composed of income tax effects (USD 81 700) and social contribution effects (USD 40 900). Among OECD countries, Germany and Ireland have the largest total public benefits for tertiary-educated men (over USD 350 000) and Belgium has the largest public benefits for tertiary-educated women (over USD 250 000) (Table A5.4).

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 2.9 for a man and USD 2.0 for a woman (Table A5.3 and Table A5.4).

In Estonia, Sweden and Switzerland, the total public benefits do not cover the total public costs of tertiary education for women, so the net financial returns are negative. In all countries, governments receive more benefit from each USD invested in tertiary education for a man than for a woman. The difference by gender is mainly due to the fact that the public benefits for men are greater than the public benefits for women. This suggests that governments have a role to play in improving women's integration into the labour market (Figure A5.4, Table A5.3 and Table A5.4).

Financial incentives by level of tertiary education

The net financial 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 or equivalent are greater than from obtaining a short-cycle tertiary degree. Although the total costs of a bachelor's, master's or doctoral degree or equivalent tend to be higher, the total benefits accrued during individuals' working lives compensate for the higher initial costs (Tables A5.5 and A5.6, available on line). Private net financial returns for tertiary education overall would therefore underestimate the value of investing in bachelor's, master's and doctoral degrees or equivalent, especially in countries with a relatively large share of adults whose highest level of attainment is short-cycle tertiary (see Indicator A1).

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 makes a considerable difference when analysing the returns to long-term investments, as is the case with investment in education.

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 analyses use discount rates higher than 2%, but the rate used varies across countries (OECD, 2018[1]).

In order to assess the size of the impact of the discount rate, it is helpful to perform a sensitivity analysis. Table A5.5 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.

Table A5.a. Net financial returns for a man attaining tertiary education, by discount rate (2018)

Compared with returns to upper secondary education, in equivalent USD converted using PPPs for GDP

		Discount rate		
		2%	3.75%	8%
OECD	Countries			
	Australia	212 100	115 200	13 200
	Austria	328 800	180 100	30 800
	Belgium	209 400	113 600	14 600
	Canada	316 400	200 700	72 400
	Chile[1]	531 400	342 200	134 900
	Czech Republic	258 200	137 100	7 600
	Denmark	269 800	162 500	46 700
	Estonia	139 800	86 900	27 700
	Finland[1]	264 300	163 900	54 000
	France[1]	344 300	208 600	64 900
	Germany	350 000	214 500	68 600
	Hungary	357 800	227 200	79 900
	Ireland	519 600	331 900	129 000
	Israel	358 000	239 400	102 300
	Italy[1]	203 300	102 500	9 200
	Korea	251 700	159 000	57 600
	Latvia[2]	111 800	70 500	23 200
	Luxembourg[2, 3]	325 500	194 600	56 000
	New Zealand[1]	233 800	136 900	36 600
	Norway	217 800	114 700	10 200
	Poland	349 700	212 700	60 900
	Portugal	229 700	123 300	17 900
	Slovak Republic	210 300	119 600	21 800
	Slovenia	267 700	151 200	31 000
	Spain	236 600	141 300	40 000
	Sweden	94 000	36 900	-17 200
	Switzerland	465 800	281 200	81 800
	Turkey[2, 3]	161 400	103 200	38 800
	United Kingdom	210 800	121 200	22 800
	United States	587 400	375 600	139 300
	OECD average	287 200	174 200	49 900
	EU22 average	266 800	160 500	41 800

Note: Values are based on the difference between men who attained tertiary education and those who attained upper secondary education. Values have been rounded up to the nearest hundred. Direct costs to education do not include student loans. Costs and benefits are earned over a working-age life and are transferred back to the start of the investment.

1. Year of reference 2017.

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

3. 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.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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

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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.

Educational attainment refers to the highest level of education successfully completed by an individual.

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

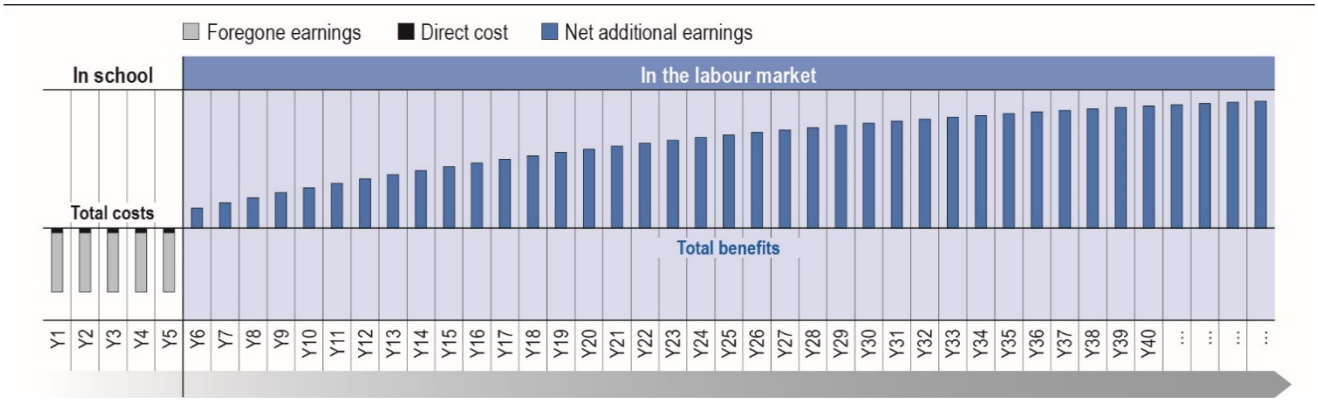
The effective retirement age could be slightly above the theoretical retirement age of 64 in some OECD countries (OECD, 2019[2]). Returns to education are studied from the perspective of financial investment.

Two periods are considered (Diagram A5.1):

1. time spent in education during which the private individual and the government pay the cost of education
2. 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 NPV of the investment. To allow direct comparisons of costs and benefits, the NPV expresses the 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 PPPs.

Source

The source for the direct costs of education is the UOE data collection on finance (year of reference 2018 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 (2016-18).

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 2021* (OECD, 2021[3]).

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 2021* (OECD, 2021[3]).

References

OECD (2021), *Taxing Wages 2021*, OECD Publishing, Paris, https://doi.org/10.1787/83a87978-en. [3]

OECD (2019), *Pensions at a Glance 2019: OECD and G20 Indicators*, OECD Publishing, Paris, https://dx.doi.org/10.1787/b6d3dcfc-en. [2]

OECD (2018), *Education at a Glance 2018: OECD Indicators*, OECD Publishing, Paris, https://dx.doi.org/10.1787/eag-2018-en. [1]

Indicator A5 tables

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

Table A5.1	Private costs and benefits for a man attaining tertiary education (2018)
Table A5.2	Private costs and benefits for a woman attaining tertiary education (2018)
Table A5.3	Public costs and benefits for a man attaining tertiary education (2018)
Table A5.4	Public costs and benefits for a woman attaining tertiary education (2018)
WEB Table A5.5	*Private/public costs and benefits for a man attaining tertiary education, by level of tertiary education (2018)*
WEB Table A5.6	*Private/public costs and benefits for a woman attaining tertiary education, by level of tertiary education (2018)*
WEB Table A5.7	*Private costs and benefits for a man attaining upper secondary education (2018)*
WEB Table A5.8	*Private costs and benefits for a woman attaining upper secondary education (2018)*
WEB Table A5.9	*Public costs and benefits for a man attaining upper secondary education (2018)*
WEB Table A5.10	*Public costs and benefits for a woman attaining upper secondary education (2018)*

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Cut-off date for the data: 17 June 2021. 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*.

Table A5.1. Private costs and benefits for a man attaining tertiary education (2018)

As compared with a man attaining 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	-36 900	-36 900	**-73 800**	441 700	-155 800	0	**285 900**	**212 100**	9%	3.9
	Austria	0	-69 800	**-69 800**	713 600	-200 400	-114 600	**398 600**	**328 800**	10%	5.7
	Belgium	-1 800	-60 200	**-62 000**	582 000	-225 200	-85 400	**271 400**	**209 400**	9%	4.4
	Canada	-14 600	-24 600	**-39 200**	503 900	-131 800	-16 500	**355 600**	**316 400**	19%	9.1
	Chile[1]	-16 600	-15 800	**-32 400**	621 300	-14 000	-43 500	**563 800**	**531 400**	28%	17.4
	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	-5 400	-104 100	**-109 500**	531 500	-105 300	-58 500	**367 700**	**258 200**	8%	3.4
	Denmark	0	-42 900	**-42 900**	566 300	-253 600	0	**312 700**	**269 800**	14%	7.3
	Estonia	0	-33 500	**-33 500**	243 400	-66 200	-3 900	**173 300**	**139 800**	15%	5.2
	Finland[1]	0	-39 100	**-39 100**	530 100	-177 200	-49 500	**303 400**	**264 300**	16%	7.8
	France[1]	-5 300	-42 700	**-48 000**	624 800	-147 300	-85 200	**392 300**	**344 300**	16%	8.2
	Germany	-4 000	-43 600	**-47 600**	771 500	-236 900	-137 000	**397 600**	**350 000**	16%	8.4
	Greece	m	m	**m**	m	m	m	**m**	**m**	m	m
	Hungary	-11 700	-39 400	**-51 100**	614 900	-92 200	-113 800	**408 900**	**357 800**	17%	8.0
	Iceland	m	m	**m**	m	m	m	**m**	**m**	m	m
	Ireland	-2 100	-35 800	**-37 900**	1 015 800	-417 600	-40 700	**557 500**	**519 600**	28%	14.7
	Israel	-8 700	-15 200	**-23 900**	576 900	-130 900	-64 100	**381 900**	**358 000**	31%	16.0
	Italy[1]	-4 000	-25 800	**-29 800**	467 900	-188 900	-45 900	**233 100**	**203 300**	9%	7.8
	Japan	m	m	**m**	m	m	m	**m**	**m**	m	m
	Korea	-7 000	-26 400	**-33 400**	354 500	-39 300	-30 100	**285 100**	**251 700**	20%	8.5
	Latvia[2]	-11 200	-17 700	**-28 900**	211 400	-47 500	-23 200	**140 700**	**111 800**	15%	4.9
	Lithuania	m	m	**m**	m	m	m	**m**	**m**	m	m
	Luxembourg[2, 3]	0	-67 600	**-67 600**	687 400	-208 900	-85 400	**393 100**	**325 500**	14%	5.8
	Mexico	m	m	**m**	m	m	m	**m**	**m**	m	m
	Netherlands	m	m	**m**	m	m	m	**m**	**m**	m	m
	New Zealand[1]	-19 000	-43 800	**-62 800**	422 200	-125 600	0	**296 600**	**233 800**	12%	4.7
	Norway	0	-57 300	**-57 300**	455 300	-142 900	-37 300	**275 100**	**217 800**	9%	4.8
	Poland	-3 000	-72 100	**-75 100**	579 200	-51 200	-103 200	**424 800**	**349 700**	13%	5.7
	Portugal	-11 100	-43 700	**-54 800**	483 800	-146 100	-53 200	**284 500**	**229 700**	10%	5.2
	Slovak Republic	-7 500	-47 500	**-55 000**	376 300	-60 600	-50 400	**265 300**	**210 300**	10%	4.8
	Slovenia	-4 800	-59 100	**-63 900**	578 000	-118 700	-127 700	**331 600**	**267 700**	11%	5.2
	Spain	-14 900	-29 200	**-44 100**	401 400	-95 200	-25 500	**280 700**	**236 600**	14%	6.4
	Sweden	0	-43 100	**-43 100**	241 400	-93 000	-11 300	**137 100**	**94 000**	6%	3.2
	Switzerland	-12 800	-72 300	**-85 100**	741 000	-144 000	-46 100	**550 900**	**465 800**	14%	6.5
	Turkey[2, 3]	-3 000	-10 200	**-13 200**	268 200	-53 400	-40 200	**174 600**	**161 400**	23%	13.2
	United Kingdom	-53 600	-33 800	**-87 400**	433 200	-84 100	-50 900	**298 200**	**210 800**	10%	3.4
	United States	-40 200	-34 400	**-74 600**	998 100	-259 700	-76 400	**662 000**	**587 400**	20%	8.9
	OECD average	-10 000	-42 900	**-52 900**	534 600	-140 500	-54 000	**340 100**	**287 200**	15%	6.4
	EU22 average	-4 600	-48 300	**-52 900**	537 900	-154 300	-63 900	**319 700**	**266 800**	13%	6.0

Note: Values are based on the difference between men who attained tertiary education and those who attained upper secondary education. Values have been rounded up to the nearest hundred. Direct costs to education do not include student loans. Costs and benefits are earned over a working-age life and are transferred back to the start of the investment.

1. Year of reference 2017.
2. Only net earnings are available and the calculations use these values as if they were gross earnings.
3. 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.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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

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Table A5.2. Private costs and benefits for a woman attaining tertiary education (2018)

As compared with a woman attaining 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	-36 900	-24 200	**-61 100**	429 900	-132 400	0	**297 500**	**236 400**	13%	4.9
	Austria	0	-55 600	**-55 600**	427 500	-92 400	-82 500	**252 600**	**197 000**	9%	4.5
	Belgium	-1 800	-48 000	**-49 800**	533 900	-168 200	-102 300	**263 400**	**213 600**	14%	5.3
	Canada	-14 600	-15 300	**-29 900**	394 900	-73 800	-30 800	**290 300**	**260 400**	24%	9.7
	Chile[1]	-16 600	-8 000	**-24 600**	391 800	-3 000	-27 400	**361 400**	**336 800**	30%	14.7
	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	-5 400	-70 500	**-75 900**	321 600	-61 100	-35 400	**225 100**	**149 200**	8%	3.0
	Denmark	0	-21 200	**-21 200**	348 300	-136 600	0	**211 700**	**190 500**	22%	10.0
	Estonia	0	-19 600	**-19 600**	224 500	-40 400	-3 600	**180 500**	**160 900**	26%	9.2
	Finland[1]	0	-30 200	**-30 200**	377 800	-107 900	-35 200	**234 700**	**204 500**	19%	7.8
	France[1]	-5 300	-31 600	**-36 900**	426 700	-79 500	-61 200	**286 000**	**249 100**	19%	7.8
	Germany	-4 000	-41 200	**-45 200**	452 900	-106 000	-93 400	**253 500**	**208 300**	12%	5.6
	Greece	m	m	**m**	m	m	m	**m**	**m**	m	m
	Hungary	-11 700	-31 500	**-43 200**	313 000	-47 000	-57 900	**208 100**	**164 900**	12%	4.8
	Iceland	m	m	**m**	m	m	m	**m**	**m**	m	m
	Ireland	-2 100	-17 800	**-19 900**	654 400	-182 800	-28 600	**443 000**	**423 100**	56%	22.3
	Israel	-8 700	-11 700	**-20 400**	372 200	-50 600	-37 400	**284 200**	**263 800**	31%	13.9
	Italy[1]	-4 000	-17 800	**-21 800**	357 200	-108 900	-33 900	**214 400**	**192 600**	14%	9.8
	Japan	m	m	**m**	m	m	m	**m**	**m**	m	m
	Korea	-7 000	-25 800	**-32 800**	237 800	-11 600	-20 200	**206 000**	**173 200**	20%	6.3
	Latvia[2]	-11 200	-9 600	**-20 800**	193 500	-39 600	-21 300	**132 600**	**111 800**	18%	6.4
	Lithuania	m	m	**m**	m	m	m	**m**	**m**	m	m
	Luxembourg[2, 3]	0	-52 000	**-52 000**	522 800	-129 400	-64 900	**328 500**	**276 500**	15%	6.3
	Mexico	m	m	**m**	m	m	m	**m**	**m**	m	m
	Netherlands	m	m	**m**	m	m	m	**m**	**m**	m	m
	New Zealand[1]	-19 000	-33 600	**-52 600**	349 200	-82 200	0	**267 000**	**214 400**	16%	5.1
	Norway	0	-32 100	**-32 100**	431 700	-100 200	-35 400	**296 100**	**264 000**	19%	9.2
	Poland	-3 000	-42 700	**-45 700**	422 900	-34 700	-75 400	**312 800**	**267 100**	17%	6.8
	Portugal	-11 100	-37 400	**-48 500**	375 600	-100 200	-41 300	**234 100**	**185 600**	10%	4.8
	Slovak Republic	-7 500	-29 000	**-36 500**	236 900	-36 300	-31 800	**168 800**	**132 300**	10%	4.6
	Slovenia	-4 800	-27 300	**-32 100**	459 100	-87 300	-101 500	**270 300**	**238 200**	15%	8.4
	Spain	-14 900	-18 400	**-33 300**	369 600	-75 500	-23 500	**270 600**	**237 300**	17%	8.1
	Sweden	0	-26 700	**-26 700**	236 200	-51 000	-16 500	**168 700**	**142 000**	11%	6.3
	Switzerland	-12 800	-73 800	**-86 600**	509 600	-71 900	-31 700	**406 000**	**319 400**	13%	4.7
	Turkey[2, 3]	-3 000	-4 500	**-7 500**	254 400	-35 700	-38 200	**180 500**	**173 000**	36%	24.1
	United Kingdom	-53 600	-25 900	**-79 500**	388 100	-71 600	-43 800	**272 700**	**193 200**	12%	3.4
	United States	-40 200	-17 300	**-57 500**	667 000	-133 400	-51 000	**482 600**	**425 100**	21%	8.4
	OECD average	-10 000	-30 000	**-40 000**	389 400	-81 700	-40 900	**266 800**	**226 800**	19%	6.7
	EU22 average	-4 600	-33 100	**-37 700**	381 800	-88 700	-47 900	**245 200**	**207 500**	17%	6.5

Note: Values are based on the difference between women who attained tertiary education and those who attained upper secondary education. Values have been rounded up to the nearest hundred. Direct costs to education do not include student loans. Costs and benefits are earned over a working-age life and are transferred back to the start of the investment.

1. Year of reference 2017.

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

3. 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.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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

StatLink https://stat.link/soxdn8

Table A5.3. Public costs and benefits for a man attaining tertiary education (2018)

As compared with a man attaining 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	-29 100	-8 200	**-37 300**	155 800	0	**155 800**	**118 500**	9%	4.2
	Austria	-73 100	-23 600	**-96 700**	200 400	114 600	**315 000**	**218 300**	7%	3.3
	Belgium	-61 200	-32 400	**-93 600**	225 200	85 400	**310 600**	**217 000**	8%	3.3
	Canada	-44 000	-10 600	**-54 600**	131 800	16 500	**148 300**	**93 700**	7%	2.7
	Chile[1]	-15 800	-1 200	**-17 000**	14 000	43 500	**57 500**	**40 500**	8%	3.4
	Colombia	m	m	**m**	m	m	**m**	**m**	m	m
	Costa Rica	m	m	**m**	m	m	**m**	**m**	m	m
	Czech Republic	-51 600	-36 800	**-88 400**	105 300	58 500	**163 800**	**75 400**	5%	1.9
	Denmark	-94 100	-25 600	**-119 700**	253 600	0	**253 600**	**133 900**	5%	2.1
	Estonia	-52 800	-5 500	**-58 300**	66 200	3 900	**70 100**	**11 800**	3%	1.2
	Finland[1]	-72 900	-8 100	**-81 000**	177 200	49 500	**226 700**	**145 700**	7%	2.8
	France[1]	-53 300	-12 200	**-65 500**	147 300	85 200	**232 500**	**167 000**	8%	3.5
	Germany	-78 600	-21 300	**-99 900**	236 900	137 000	**373 900**	**274 000**	9%	3.7
	Greece	m	m	**m**	m	m	**m**	**m**	m	m
	Hungary	-37 400	-19 800	**-57 200**	92 200	113 800	**206 000**	**148 800**	10%	3.6
	Iceland	m	m	**m**	m	m	**m**	**m**	m	m
	Ireland	-37 800	-5 300	**-43 100**	417 600	40 700	**458 300**	**415 200**	17%	10.6
	Israel	-25 000	- 600	**-25 600**	130 900	64 100	**195 000**	**169 400**	15%	7.6
	Italy[1]	-38 200	-5 500	**-43 700**	188 900	45 900	**234 800**	**191 100**	8%	5.4
	Japan	m	m	**m**	m	m	**m**	**m**	m	m
	Korea	-22 500	-2 700	**-25 200**	39 300	30 100	**69 400**	**44 200**	7%	2.8
	Latvia[2]	-23 100	-5 500	**-28 600**	47 500	23 200	**70 700**	**42 100**	8%	2.5
	Lithuania	m	m	**m**	m	m	**m**	**m**	m	m
	Luxembourg[2, 3]	-184 500	-12 100	**-196 600**	208 900	85 400	**294 300**	**97 700**	4%	1.5
	Mexico	m	m	**m**	m	m	**m**	**m**	m	m
	Netherlands	m	m	**m**	m	m	**m**	**m**	m	m
	New Zealand[1]	-34 200	-7 700	**-41 900**	125 600	0	**125 600**	**83 700**	8%	3.0
	Norway	-96 100	-20 800	**-116 900**	142 900	37 300	**180 200**	**63 300**	4%	1.5
	Poland	-39 400	-24 600	**-64 000**	51 200	103 200	**154 400**	**90 400**	7%	2.4
	Portugal	-33 600	-12 300	**-45 900**	146 100	53 200	**199 300**	**153 400**	8%	4.3
	Slovak Republic	-37 400	-14 200	**-51 600**	60 600	50 400	**111 000**	**59 400**	6%	2.2
	Slovenia	-51 300	-33 500	**-84 800**	118 700	127 700	**246 400**	**161 600**	7%	2.9
	Spain	-38 000	-2 000	**-40 000**	95 200	25 500	**120 700**	**80 700**	7%	3.0
	Sweden	-87 700	-14 900	**-102 600**	93 000	11 300	**104 300**	**1 700**	2%	1.0
	Switzerland	-102 700	-13 500	**-116 200**	144 000	46 100	**190 100**	**73 900**	4%	1.6
	Turkey[2, 3]	-26 900	-2 000	**-28 900**	53 400	40 200	**93 600**	**64 700**	8%	3.2
	United Kingdom	-26 500	-8 400	**-34 900**	84 100	50 900	**135 000**	**100 100**	11%	3.9
	United States	-54 000	-9 600	**-63 600**	259 700	76 400	**336 100**	**272 500**	12%	5.3
	OECD average	-54 100	-13 400	**-67 500**	140 500	54 000	**194 500**	**127 000**	8%	2.9
	EU22 average	-60 300	-16 600	**-76 900**	154 300	63 900	**218 200**	**141 300**	7%	2.8

Note: Values are based on the difference between men who attained tertiary education and those who attained upper secondary education. Values have been rounded up to the nearest hundred. Direct costs to education do not include student loans. Costs and benefits are earned over a working-age life and are transferred back to the start of the investment.

1. Year of reference 2017.

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

3. 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.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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

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Table A5.4. Public costs and benefits for a woman attaining tertiary education (2018)

As compared with a woman attaining 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	-29 100	-4 300	**-33 400**	132 400	0	**132 400**	**99 000**	11%	4.0
	Austria	-73 100	-12 300	**-85 400**	92 400	82 500	**174 900**	**89 500**	5%	2.0
	Belgium	-61 200	-23 200	**-84 400**	168 200	102 300	**270 500**	**186 100**	9%	3.2
	Canada	-44 000	-6 700	**-50 700**	73 800	30 800	**104 600**	**53 900**	6%	2.1
	Chile[1]	-15 800	- 600	**-16 400**	3 000	27 400	**30 400**	**14 000**	5%	1.9
	Colombia	m	m	**m**	m	m	**m**	**m**	m	m
	Costa Rica	m	m	**m**	m	m	**m**	**m**	m	m
	Czech Republic	-51 600	-23 400	**-75 000**	61 100	35 400	**96 500**	**21 500**	3%	1.3
	Denmark	-94 100	-13 300	**-107 400**	136 600	0	**136 600**	**29 200**	3%	1.3
	Estonia	-52 800	-2 800	**-55 600**	40 400	3 600	**44 000**	**-11 600**	1%	0.8
	Finland[1]	-72 900	-4 300	**-77 200**	107 900	35 200	**143 100**	**65 900**	5%	1.9
	France[1]	-53 300	-9 000	**-62 300**	79 500	61 200	**140 700**	**78 400**	6%	2.3
	Germany	-78 600	-16 600	**-95 200**	106 000	93 400	**199 400**	**104 200**	5%	2.1
	Greece	m	m	**m**	m	m	**m**	**m**	m	m
	Hungary	-37 400	-15 900	**-53 300**	47 000	57 900	**104 900**	**51 600**	5%	2.0
	Iceland	m	m	**m**	m	m	**m**	**m**	m	m
	Ireland	-37 800	- 300	**-38 100**	182 800	28 600	**211 400**	**173 300**	13%	5.5
	Israel	-25 000	- 400	**-25 400**	50 600	37 400	**88 000**	**62 600**	10%	3.5
	Italy[1]	-38 200	- 800	**-39 000**	108 900	33 900	**142 800**	**103 800**	7%	3.7
	Japan	m	m	**m**	m	m	**m**	**m**	m	m
	Korea	-22 500	-2 600	**-25 100**	11 600	20 200	**31 800**	**6 700**	3%	1.3
	Latvia[2]	-23 100	-2 300	**-25 400**	39 600	21 300	**60 900**	**35 500**	7%	2.4
	Lithuania	m	m	**m**	m	m	**m**	**m**	m	m
	Luxembourg[2, 3]	-184 500	-8 300	**-192 800**	129 400	64 900	**194 300**	**1 500**	2%	1.0
	Mexico	m	m	**m**	m	m	**m**	**m**	m	m
	Netherlands	m	m	**m**	m	m	**m**	**m**	m	m
	New Zealand[1]	-34 200	-5 100	**-39 300**	82 200	0	**82 200**	**42 900**	6%	2.1
	Norway	-96 100	-8 400	**-104 500**	100 200	35 400	**135 600**	**31 100**	3%	1.3
	Poland	-39 400	-14 400	**-53 800**	34 700	75 400	**110 100**	**56 300**	6%	2.0
	Portugal	-33 600	-4 600	**-38 200**	100 200	41 300	**141 500**	**103 300**	8%	3.7
	Slovak Republic	-37 400	-7 300	**-44 700**	36 300	31 800	**68 100**	**23 400**	4%	1.5
	Slovenia	-51 300	-15 800	**-67 100**	87 300	101 500	**188 800**	**121 700**	7%	2.8
	Spain	-38 000	-1 300	**-39 300**	75 500	23 500	**99 000**	**59 700**	6%	2.5
	Sweden	-87 700	-9 100	**-96 800**	51 000	16 500	**67 500**	**-29 300**	1%	0.7
	Switzerland	-102 700	-12 600	**-115 300**	71 900	31 700	**103 600**	**-11 700**	2%	0.9
	Turkey[2, 3]	-26 900	- 800	**-27 700**	35 700	38 200	**73 900**	**46 200**	7%	2.7
	United Kingdom	-26 500	-6 400	**-32 900**	71 600	43 800	**115 400**	**82 500**	11%	3.5
	United States	-54 000	-5 300	**-59 300**	133 400	51 000	**184 400**	**125 100**	9%	3.1
	OECD average	-54 100	-7 900	**-62 000**	81 700	40 900	**122 600**	**60 600**	6%	2.0
	EU22 average	-60 300	-9 700	**-70 000**	88 700	47 900	**136 600**	**66 600**	6%	2.0

Note: Values are based on the difference between women who attained tertiary education and those who attained upper secondary education. Values have been rounded up to the nearest hundred. Direct costs to education do not include student loans. Costs and benefits are earned over a working-age life and are transferred back to the start of the investment.

1. Year of reference 2017.
2. Only net earnings are available and the calculations use these values as if they were gross earnings.
3. 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.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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

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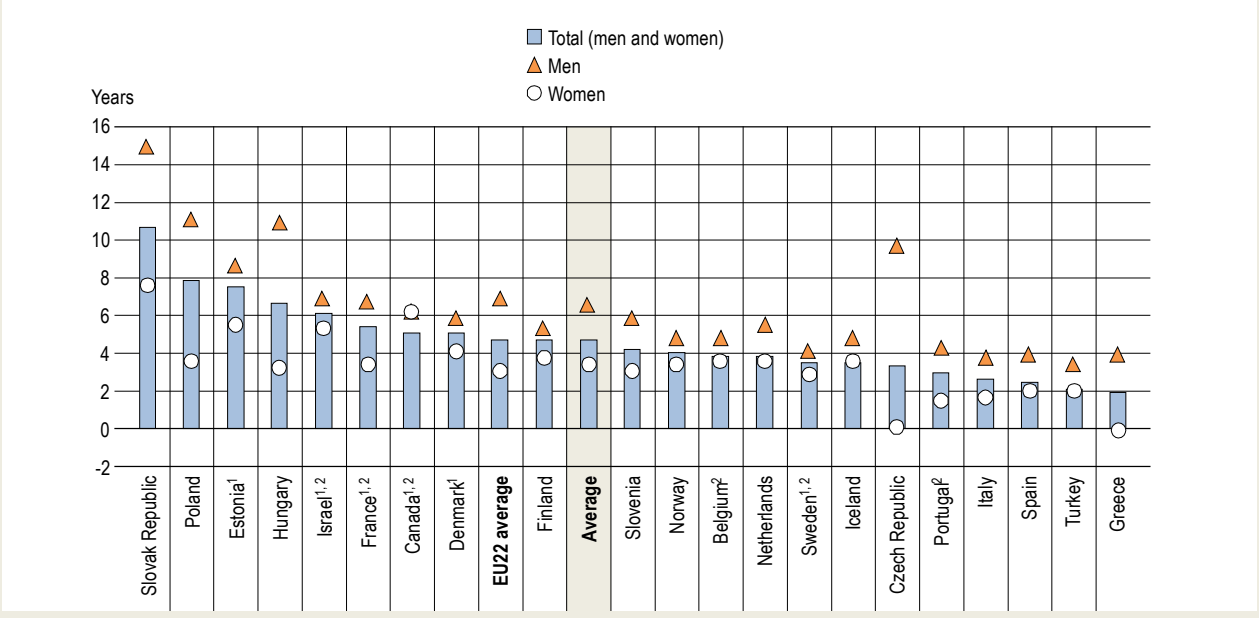
Indicator A6. How are social outcomes related to education?

Highlights

- On average across the 21 OECD countries with available data, at age 30, people with tertiary attainment can expect to live around 5 years longer than those with below upper secondary attainment (54 years versus 49 years).
- The association between education and life expectancy at age 30 is larger for men than for women: the average gap in life expectancy by level of education is 6 years for men, compared to 3 years for women.
- Adults with tertiary attainment not only expect to live longer, they also report being in better health than adults with below upper secondary attainment. Across all OECD countries with available data, the higher the educational attainment, the higher the percentage of adults reporting being in good or very good health.
- Adults with below upper secondary attainment have higher obesity prevalence than those with a tertiary attainment. On average across the 26 OECD countries with available data, the incidence of obesity is particularly high among 25-64 year-olds with below upper secondary attainment (25%) and relatively low among those with tertiary attainment (14%).

Figure A6.1. Difference in life expectancy at age 30 between those with tertiary attainment and those with below upper secondary attainment, by gender (2017)

Eurostat's annual data collection on demographic statistics or national surveys



1. Year of reference differs from 2017. Refer to the source table for more details.
2. National data sources.

Countries are ranked in descending order of the difference in life expectancy among total (men and women) at age 30 for those with tertiary attainment and those with below upper secondary attainment.

Source: OECD (2021), Table A6.1. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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Context

Health is an important policy area in OECD countries, also in light of the rapid increases in life expectancy over the last decades and in the context of the current COVID-19 pandemic.

Moreover, there is a growing interest in looking beyond the traditional outcomes of education – such as income, employment and GDP – towards non-economic aspects of well-being and societal progress – such as health, civic engagement, political interests, crime and happiness (OECD, 2010[1]).

Given this policy climate, policy makers, researchers and practitioners interested in education are starting to consider what role education can play in fostering well-being and reducing health inequalities.A large number of empirical studies indicate that education is strongly linked to health and to determinants of health such as healthy behaviours, risky contexts and preventive service use (Feinstein et al., 2006[2]; Cutler and Lleras-Muney, 2006[3]).

Education at a Glance 2021 looks at the association between educational attainment and healthy behaviours as possible mediating factors in the relationship between educational attainment, obesity, life expectancy or subjective well-being. The analyses presented in the following sections are based on the results of simple bivariate correlations. However, it is important to keep in mind that education does not act on health in isolation from other factors. In fact, many confounding factors influence both education and behaviours, on the one hand, and health outcomes, on the other (Brunello et al., 2011[4]). In addition, the association between education and health is not unidirectional. Poor health may not only result from lower educational attainment, but it can also hinder access to higher levels of education (OECD, 2019[5]). On this, Box A6.1 presents some empirical results on the role of neurodevelopmental conditions as barriers to post-secondary education in Canada, Israel and the United States.

Other findings

- The difference in the percentage of adults with tertary attainment reporting being in good or very good health versus those with below upper secondary attainment is larger for women than for men in all countries with available data. On average across OECD countries participating in the EU-SILC, the gap in self-reported health (i.e. being in good or very good health) between 25-64 year-olds with tertiary attainment and those with below upper secondary attainment is 31 percentage points for women, compared to 24 percentage points for men.
- The difference in the prevalence of obesity among adults by educational attainment is slightly greater among women than among men. On average across OECD countries with available data, the education gradient is 13 percentage points for women, compared to 8 percentage points for men.
- Individuals with below upper secondary attainment report consuming less fruits and vegetables than those with higher levels of education. On average across the 32 OECD countries with available data, the share of 25-64 year-olds consuming at least five portions of fruits and vegetables per day ranges from 12% among those with below upper secondary attainment to 19% among those with tertiary attainment.
- Individuals with below upper secondary education report doing less non-work related physical activity than those with higher levels of education. On average across the 30 OECD countries with available data, the share of 25-64 year-olds doing at least 180 minutes of non-work related physical activity per week goes from 40% among those with below upper secondary education to 56% among those with tertiary education (i.e. an average gradient of 16 percentage points).

Note

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

Analysis

Evidence on the relationship between education and life expectancy

Life expectancy reflects a long trajectory of individuals' socio-economic circumstances that affect their health conditions and other mortality risks. In OECD countries, life expectancy at birth, on average, reached almost 81 years in 2018 and is about 5 years higher for women than for men (83 years for women, compared to 78 years for men) (OECD, Health Statistics database).

Life expectancy in OECD countries varies by socio-economic status as measured, for instance, by education level. A higher level of education not only provides the means to improve the socio-economic conditions in which people live and work, but may also promote the adoption of healthier lifestyles and facilitate access to appropriate health care (OECD, 2019[6]). On average across the 21 OECD countries with available data, at age 30, people with tertiary attainment can expect to live around 5 years longer than those with below upper secondary attainment (54 years versus 49 years) (Figure A6.1).

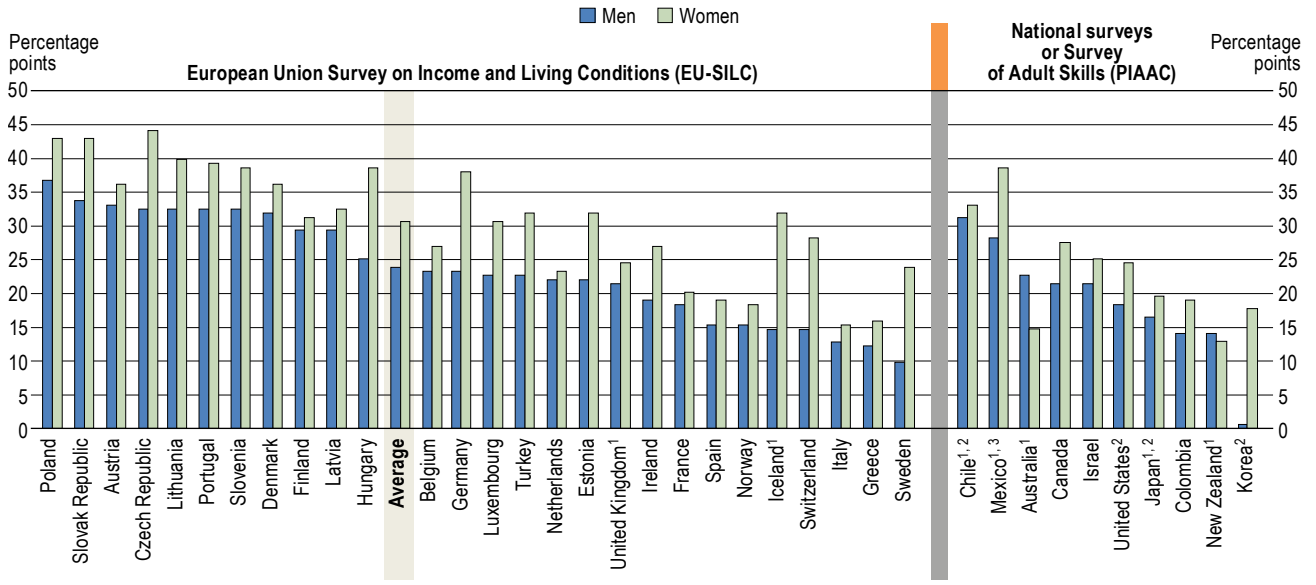
Data show that the association between education and life expectancy at age 30 is larger for men than for women. The average gap in life expectancy by level of education is six years for men, compared to three years for women. Differences are particularly wide in Hungary, Poland and the Slovak Republic, where a 30-year-old tertiary-graduated man can expect to live at least 11 years longer than a 30-year-old man who has not completed upper secondary education (Figure A6.1).

Evidence on the relationship between education and subjective well-being

Adults with higher levels of education not only expect to live longer, but also report being in better health than adults with lower levels of education. Across OECD countries with available data, the higher the educational attainment, the higher the percentage of adults reporting being in good or very good health. In 2019, the share of those reporting being in good or very good health ranged from 37% (Lithuania) to 80% (Greece) among 25-64 year-old adults with below upper secondary attainment, from 45% (Lithuania) to 90% (Greece) among those with upper secondary or post-secondary non-tertiary education, and from 68% (Latvia) to 94% (Greece) among those with tertiary attainment (Table A6.2).

Figure A6.2. Difference in self-perceived health between those with tertiary attainment and those with below upper secondary attainment, by gender (2019)

Based on the percentage of 25-64 year-olds reporting being in good or very good health



1. Year of reference differs from 2019. Refer to the source table for more details.
2. Population of reference differs from 25-64 year-olds.
3. Data for Mexico are from the OECD Survey of Adult Skills (PIAAC); data for all other non-European OECD countries are from national surveys.

Countries are ranked in descending order of the difference in self-perceived health among men with tertiary attainment and those with below upper secondary attainment.

Source: OECD (2021), Table A6.2. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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The difference in the percentage of adults with tertiary attainment reporting being in good or very good health versus those with below upper secondary attainment is larger for women than for men in all countries with available data. On average across the OECD countries participating in the EU-SILC, the gap in self-reported health (i.e. being in good or very good health) between 25-64 year-olds with tertiary attainment and those with below upper secondary attainment is 31 percentage points for women, compared to 24 percentage points for men. The gap in self-reported health ranges from 15 to 44 percentage points for women (Italy and the Czech Republic, respectively) and from 10 to 37 percentage points for men (Sweden and Poland, respectively). Overall, with the exception of Australia, this pattern is confirmed also across OECD countries with available data from national data sources or from the Survey of Adult Skills (PIAAC) (Figure A6.2).

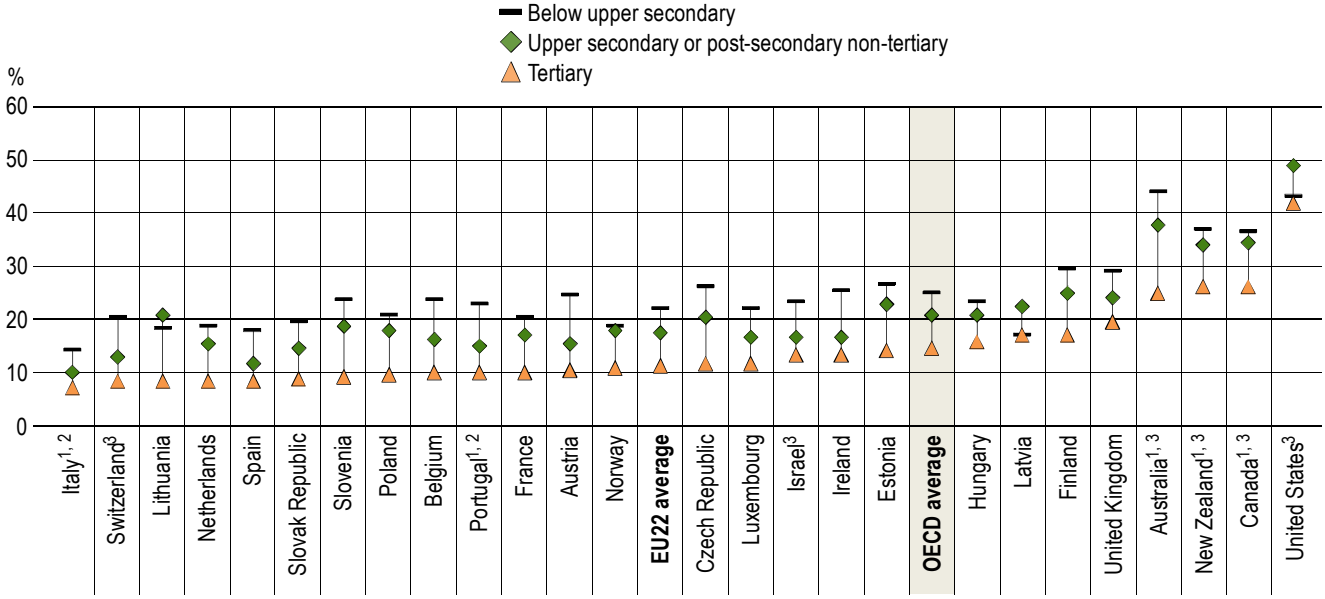
Evidence on the relationship between education and obesity

An epidemic of obesity has been developing in virtually all OECD countries over the last 30 years. In 2015, nearly one in five adults (19.5%) were obese across the OECD (OECD, 2017[7]). Being overweight, including pre-obesity and obesity, is a major risk factor for chronic diseases such as diabetes, cardiovascular diseases and certain cancers (OECD, 2019[6]). The World Health Organization estimates that obesity causes at least 2.8 million deaths worldwide each year (WHO, 2021[8]). And there is some evidence that obesity increases the risk of becoming severely ill from COVID-19. For example, a study conducted in France concludes that the odds of developing a severe case of COVID-19 are seven times higher in patients with obesity (Simonnet et al., 2020[9]).

Many OECD countries are concerned not only about the pace of the increase in obesity, but also about inequalities in its distribution across social groups, particularly by level of education, socio-economic status and ethnic background (Devaux et al., 2011[10]).

Figure A6.3. Proportion of adults with obesity, by educational attainment (2017)

European Union Survey on Income and Living Conditions (EU-SILC) ad hoc module "Health and children's health" or national surveys, 25-64 year-olds



1. Year of reference differs from 2017. Refer to the source table for more details.
2. European Health Interview Survey 2019 (EHIS).
3. National data sources.

Countries are ranked in ascending order of the percentage of tertiary-educated 25-64 year-olds having a Body Mass Index above 30 kg/m².

Source: OECD (2021), Table A6.3. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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Data confirm that adults with below upper secondary attainment have higher obesity prevalence than those with tertiary attainment. On average across the 26 OECD countries with available data, the incidence of obesity is particularly high among

25-64 year-olds with below upper secondary attainment (25%) and relatively low among those with tertiary attainment (14%) (Table A6.3).

The incremental difference in health outcomes associated with more education is commonly called the *education gradient*. The steeper the gradient, the stronger the association between educational attainment and health outcome. The gradient is greater than 10 percentage points in the majority of OECD countries with available data and is at least 14 percentage points in the Czech Republic and Slovenia and about 19 percentage points in Australia. In Latvia and the United States, 25-64 year-old the prevalence of obesity among adults with upper secondary or post-secondary non-tertiary attainment is higher than among those adults with below upper secondary or with tertiary attainment. In addition, these two countries are characterised by a relatively small (less than 5 percentage points) gradient (Figure A6.3).

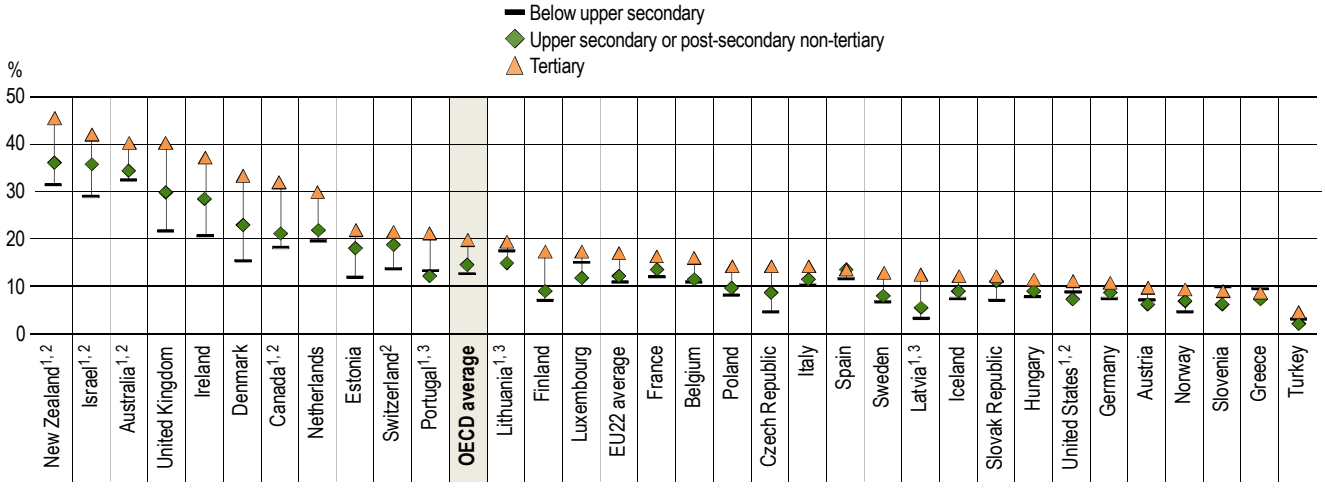
The difference in the proportion of adults with obesity by educational attainment is slightly higher among women than among men. On average across OECD countries with available data, the education gradient is 13 percentage points for women, compared to 8 percentage points for men. This gradient is 15 percentage points or higher in 10 of the 26 OECD countries with available data for women, while for men this is true only in the case of Australia (Table A6.3).

Evidence on the relationship between education and health behaviours

While multiple factors contribute to weight gain, including genetic predisposition and environmental influences, overweight primarily occurs due to the imbalance between energy intake from diet and energy output through physical activity. Individuals living in OECD countries have increasingly unhealthy lifestyles, including a poor diet and an insufficient consumption of fruits and vegetables, a greater consumption of which has been associated with a reduced risk of obesity and other chronic diseases. In addition, people have self-reported insufficient levels of physical activity and spend a significant part of their time in sedentary behaviour involving very low energy expenditure (OECD, 2019[5]).

Figure A6.4. Proportion of adults consuming at least five portions of fruits and vegetables per day, by educational attainment (2014)

European Health Interview Survey (EHIS) or national surveys, 25-64 year-olds



1. Year of reference differs from 2014. Refer to the source table for more details.
2. National data sources.
3. European Health Interview Survey 2019 (EHIS).

Countries are ranked in descending order of the percentage of tertiary-educated 25-64 year-olds who report consuming at least five portions of fruits and vegetables per day.

Source: OECD (2021), Table A6.4. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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Eating fruits and vegetables

Individuals with a lower level of education or a lower socio-economic status are more likely to consume an unhealthy diet. On this, the WHO suggests consuming more than 400 greams of fruits and vegetables per day (i.e. five portions) to improve overall health and reduce the risck of becoming oveweight/obese or developing cardiovascular deseases, diabetes, cacers and respiratory deseases, among the others (WHO, 2020[11]).

On average across the 32 OECD countries with available data, the share of 25-64 year-olds consuming at least five portions of fruits and vegetables per day spans from 12% among those with below upper secondary attainment to 19% among those with tertiary attainment (i.e. an average gradient of 7 percentage points). This education gradient is 15 percentage points or higher in Denmark, Ireland and the United Kingdom; it is 5 percentage points or less in about half of the OECD countries with available data (Figure A6.4).

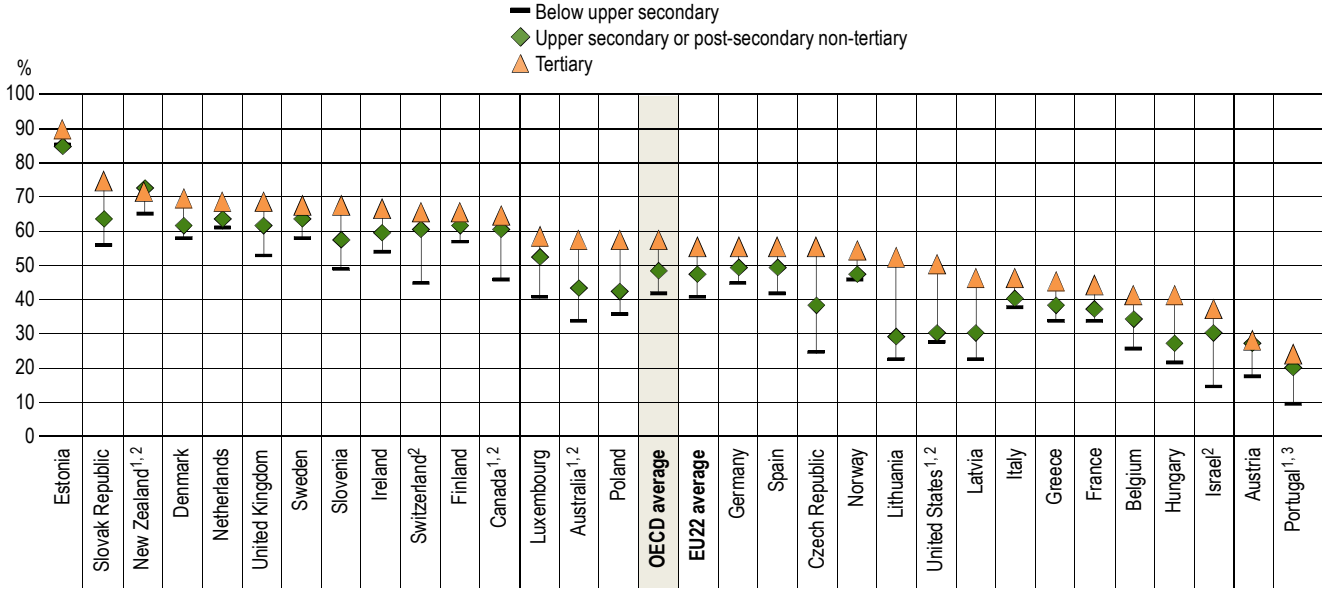
Men in general report consuming less fruits and vegetables than women do. In the large majority of OECD countries with available data, the share of men reporting eating at least five portions of fruits and vegetables per day is consistently lower than the share of women, regardless of level of education. In addition, the difference in the proportion of adults eating at least five portions of fruits and vegetables per day by educational attainment is relatively larger among women than among men. On average across OECD countries, this education gradient is 9 percentage points for women, compared to 4 percentage points for men (Table A6.4).

Being physically active

Individuals with a lower level of education or a lower socio-economic status are less likely to do sufficient physical activity outside their work. In particular, the WHO recommends that 16-64 year-olds spend between 150 and 300 minutes per week doing aerobic pysical activity (WHO, 2020[12]).

Figure A6.5. Proportion of adults doing at least 180 minutes of physical activity per week, by educational attainment (2017)

European Union Survey on Income and Living Conditions (EU-SILC) ad hoc module "Health and children's health" or national surveys, 25-64 year-olds



1. Year of reference differs from 2017. Refer to source the table for more details.
2. National data sources.
3. European Health Interview Survey 2019 (EHIS).

Countries are ranked in descending order of the percentage of tertiary-educated 25-64 year-olds who report doing at least 180 minutes of physical activity per week.

Source: OECD (2021), Table A6.5. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

StatLink https://stat.link/krd2qp

On average across the 30 OECD countries with available data, the share of 25-64 year-olds doing at least 180 minutes of non-work related physical activity per week ranges from 40% among those with below upper secondary attainment to 56% among those with tertiary attainment (i.e. an average gradient of 16 percentage points). This gradient is 30 percentage points or more in the Czech Republic and Lithuania; it is less than 10 percentage points in Estonia, Finland, Italy, the Netherlands, New Zealand and Norway (Figure A6.5).

On average across countries with available data, the difference in the percentage of adults with tertiary attainment reporting performing at least 180 minutes of non-work related physical activity per week versus those with below upper secondary attainment is larger for men than for women. The average gradient is 18 percentage points for men and 14 percentage points for women. It ranges between 8 (New Zealand) and 39 percentage points (the Czech Republic) for men and between 1 (the Netherlands), and 30 percentage points (Canada) for women (Table A6.5).

Box A6.1. Neurodevelopmental conditions as barriers to post-secondary education

Education is associated with positive health outcomes, such as greater life expectancy, lower morbidity, lower obesity and lower prevalence of smoking (OECD, 2013[13]). However, the relationship between education and health is bidirectional, meaning that education is a determinant of health, and good health can also be a determinant of higher educational attainment. Some of the usual predictors for pursuing a post-secondary education are parental education, household income, students' academic success and gender (Cutler and Lleras-Muney, 2006[3]). There is very little evidence on the role of mental health and neurodevelopmental disorders on post-secondary enrolment internationally. Students that suffer from mental health and neurodevelopmental disorders, such as attention-deficit/hyperactivity disorder (ADHD) and learning disabilities, likely face unique challenges in pursuing post-secondary education (Mezzanotte, 2020[14]). Learning disabilities include various conditions (such as dyslexia or dysgrpahia) that interfere with an individual's ability to learn. In Canada, Arim and Frenette (2019[15]) provide some evidence which will be summarised here and compared to data from Israel and the United States.

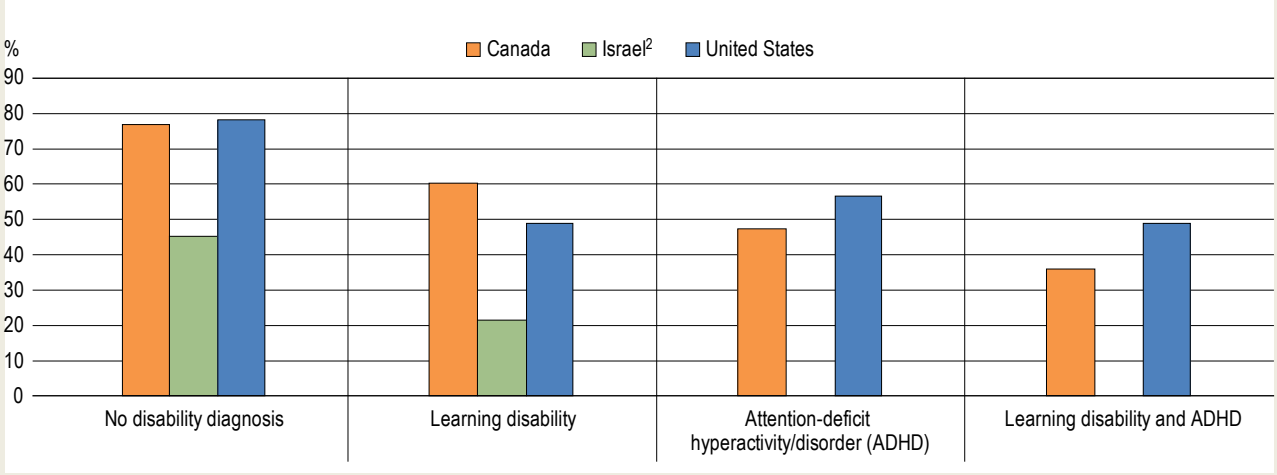
This box addresses this information gap by comparing the post-secondary enrolment rates of students who were diagnosed with a learning disability and/or ADHD in secondary education to students that were not diagnosed with a disability. Longitudinally linked survey and/or administrative data for students, combining secondary education health information with post-secondary enrolment information, is presented for Canada, Israel and the United States. These data can provide insights into whether secondary education students with learning disabilities face barriers to accessing post-secondary education.

Students who had a learning disability in secondary education were significantly less likely to enrol in post-secondary education. In Canada, 77% of students that did not have a disability enrolled in post-secondary education by their early to mid-20s, the percentage was 79% in the United States and 46% in Israel. In contrast, 60% of students from Canada, 49% of students from the United States and 21% of students from Israel who were diagnosed with a learning disability enrolled in post-secondary education over the same period (Figure A6.6).

For students diagnosed with ADHD, only 48% of students from Canada and 57% of students from the United States enrolled in post-secondary education. Students diagnosed with both conditions (learning disability and ADHD) were even less likely to enrol, with only 36% of students from Canada and 49% of students from the United States enrolling in post-secondary education. In Canada, this difference is 41 percentage points less than when compared to students with no disabilities and 30 percentage points less in the United States (Figure A6.6).

In all three countries, among the students who did not have a disability, women were more likely to attend post-secondary education than men. On the opposite, there was a higher proportion of male students with a learning disability or ADHD who were enrolled in post-secondary education. In Canada, 54% of students that did not have a disability and attended post-secondary education were female. In Israel, this share was 64% and in the United States it was 55%. For men in Canada the share was 46%, Israel 36% and the United States 45%. In contrast, 57% of students in both Canada and the United States that were diagnosed with a learning disability and attended post-secondary education were male. Among students with disability in Israel, women are more likely than men to attend post-secondary education (53% and 47% respectively). Students who had ADHD were 70% male in Canada and 68% in the United States (Figure A6.7). In addition, ADHD in young girls is often overlooked and many females are not diagnosed until they are adults (Mezzanotte, 2020[14]).

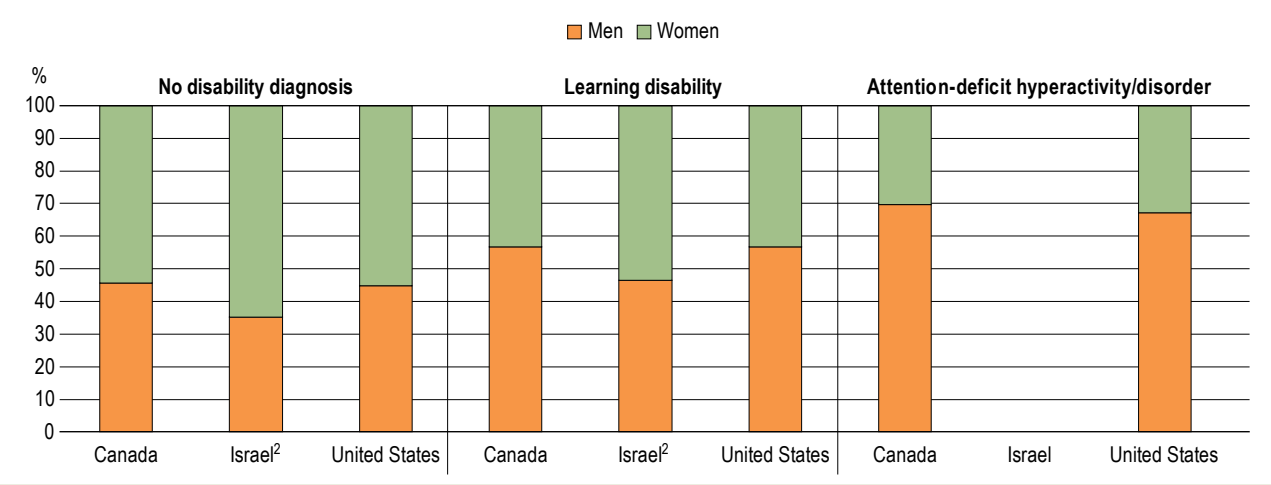
Figure A6.6. Percentage of students that enrolled in post-secondary education by age 21-22, by type of disability diagnosis in secondary education[1]



Note: All values are significantly different from no disability diagnosis category at p<0.05 for Canada and the United States. Administrative data were used for Israel, so every difference is significant as well.
1. Due to the various periods covered, the information on the year of reference of the data presented in this figure was included in Annex 3.
2. Data for Israel refer to students that enrolled in tertiary education by age 24. In Israel, the category of learning disability includes students diagnosed with Learning disability only, Attention-deficit hyperactivity/disorder only and students diagnosed with Attention-deficit hyperactivity/disorder and Learning disability together. The other two categories in the chart are not available due to inability to distinguish between the three categories.
Source: Arim and Frenette (2019) . US Department of Education, National Center for Education Statistics, High School Longitudinal Study of 2009, 2016 follow-up. Israeli Ministry of Education, administrative data files, 1993 cohort, 2018.

StatLink https://stat.link/ucfmh7

Figure A6.7. Gender composition of students that enrolled in post-secondary education by age 21-22, by type of disability diagnosis in secondary education[1]



Note: All values are significantly different from no disability diagnosis category at p<0.05 for Canada and the United States. Administrative data were used for Israel, so every difference is significant as well.
1. Due to the various periods covered, the information on the year of reference of the data presented in this figure was included in Annex 3.
2. Data for Israel refer to students that enrolled in tertiary education by age 24. In Israel, the category of learning disability includes also students diagnosed with Learning disability and Attention-deficit hyperactivity/disorder together.
Source: Arim and Frenette (2019). US Department of Education, National Center for Education Statistics, High School Longitudinal Study of 2009, 2016 follow-up. Israeli Ministry of Education, administrative data files, 1993 cohort, 2018.

StatLink https://stat.link/wsqrg7

For the three countries analysed in this box, students with a learning disability and/or ADHD were significantly less likely to enrol in post-secondary education compared to students not diagnosed with a disability. In the case of comorbidity (i.e. students diagnosed with both learning disability and ADHD), students were even less likely to enrol in post-secondary education. The vast majority of students with learning disabilities and/or ADHD were male.

Definitions

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

Educational attainment refers to the highest level of education successfully completed by an individual.

Education gradient refers to the difference in health outcomes between adults with tertiary attainment and those with a below upper secondary attainment.

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

Life expectancy at birth and at age 30 is the average number of years that a person at that age can expect to live, assuming that age-specific mortality levels remain constant over time.

Pre-obesity is defined as a body mass index from 25 to 29kg/m^2, with weight in kilogrammes and height in metres.

Obesity is defined as a body mass index of 30kg/m^2 or more, with weight in kilogrammes and height in metres.

Methodology

The analyses presented in this indicator are based on the results of simple bivariate correlations. However, it is important to keep in mind that education does not act on health in isolation from other factors. In fact, there are many confounding factors influencing both education and behaviours, on the one hand, and health outcomes, on the other. In addition, the association between education and health is not unidirectional. Poor health may not only result from lower educational attainment, but it can also hinder access to higher levels of education. As such, the results discussed in this indicator should be interpreted with caution.

In addition, as most of the tables developed for this indicator combine data from different sources, in certain cases, cross-country comparability could be compromised. Thus, the main focus should be on *within-county* differences in health outcomes and behaviours across levels of educational attainment, rather than on *cross-country* comparisons.

For the European sources, the metadata information can be found in the following links: for the demographic statistics: https://ec.europa.eu/eurostat/cache/metadata/en/demo_mor_esms.htm; for the EU Survey on Income and Living Conditions (EU-SILC) and its ad hoc module "Health and Children's health": https://ec.europa.eu/eurostat/statistics-explained/index.php?title=EU_statistics_on_income_and_living_conditions_(EU-SILC)_methodology; and for the European Health Interview Survey (EHIS): https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-02-18-240.

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.

Data for the Box A6.1 used the following methodology by country:

- Canada: The category "learning disability" also includes epilepsy, cerebral palsy, intellectual disability and learning disability. These other disabilities make up 14% of the total of the learning disability category. The comparison group consisted of students that had no long-term diagnosed health condition. Students were between 6 and 15 years of age when their long-term disability was diagnosed. Data are for 21-22 year-olds.
- Israel: Learning disability category includes students in grade 11 or 12 that were identified and diagnosed with a learning disability and/or with ADHD. They were enrolled in the following three types of special settings: 1) students receiving inclusion services in regular classes; 2) special classes in regular schools; and 3) special schools (segregation). The comparison group consisted of the rest of the cohort, who have not been identified as special

education needs students and were enrolled in a regular setting. Data are for 24 year-olds, to take into account the time required to complete compulsory service.

- United States: Disability diagnosis is based on "parent told 9th grader has learning disability". Comparison group includes students with parents that weren't told that their 9th grader has a disability. Data are for 21-22 year-olds.

Post-secondary education for Israel refers to enrolment at the tertiary level only and excludes post-secondary non-tertiary, while post-secondary education for Canada and the United States includes all post-secondary enrolments.

Source

- For Table A6.1 (Life expectancy at age 30, by educational attainment and gender): Demographic statistics by Eurostat for European OECD member countries, except for Belgium, France, Iceland, the Netherlands and Spain; and national data sources (Belgium: Census 2011 and Population Register 2017; Canada: Canadian Census Health and Environment Cohorts; France: Échantillon démographique permanent; Iceland: Population Statistics; Israel: Israeli Social Survey; the Netherlands: National Health Statistics; and Spain: Indicadores Demográficos Básicos).
- For Table A6.2 (Percentage of the population reporting being in good or very good health, by educational attainment and gender): EU Survey on Income and Living Conditions (EU-SILC) for European OECD member countries; the *OECD Health Database* for Chile, Japan and Korea; the OECD Survey of Adult Skills (PIAAC) for Mexico; and national data sources (Australia: National Health Survey; Canada: Canadian Community Health Survey; Israel: Israeli Social Survey; New Zealand: New Zealand Health Survey; and the United States: National Health Interview Survey).
- For Table A6.3 (Proportion of obese adults, by educational attainment and gender): EU-SILC ad hoc module "Health and children's health" for European OECD member countries except for Italy and Portugal; and national data sources (Australia: National Health Survey; Canada: Canadian Community Health Survey; Israel: Israeli Social Survey; Italy: data submitted to Eurostat [but not published yet] according to the 2019 European Health Interview Survey (EHIS); New Zealand: New Zealand Health Survey; Portugal: National Health Survey [follows the EHIS regulations]; Switzerland: Survey on Income and Living Conditions [SILC]; and the United States: National Health and Nutrition Examination Survey).
- For Table A6.4 (Percentage of adults who report consuming at least five portions of fruits and vegetables per day, by educational attainment and gender): EHIS for European OECD member countries, except Portugal; and national data sources (Australia: National Health Survey; Canada: Canadian Community Health Survey; Israel: Israeli Social Survey; New Zealand: New Zealand Health Survey; Portugal: National Health Survey [follows the EHIS regulations]; Switzerland: Swiss Health Survey; and the United States: National Health and Nutrition Examination Survey).
- For Table A6.5 (Percentage of adults who report performing at least 180 minutes of physical activity per week, by educational attainment and gender): EU-SILC ad hoc module "Health and children's health" for European OECD member countries except Portugal; Australia: National Health Survey; Canada: Canadian Community Health Survey; Israel: Israeli Social Survey; New Zealand: New Zealand Health Survey; Portugal: National Health Survey [follows the EHIS regulations]; Switzerland: Survey on Income and Living Conditions [SILC]; and the United States: National Health and Nutrition Examination Survey).
- Data for Box A6.1 used national sources (Canada: National Longitudinal Survey of Children and Youth [2000-01 cohort aged 0-11] and T1 Family File [T1FF 2004 to 2015] linked data); Israel: Israel Ministry of Education Administrative Data Files, 1993 birth cohort; and the United States: High School Longitudinal Study of 2009 (HSLS:09) Second Follow-Up (2016)).

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Indicator A6 tables

Tables Indicator A6. How are social outcomes related to education?

Table A6.1	Life expectancy at age 30, by educational attainment and gender (2017)
Table A6.2	Percentage of the population reporting being in good or very good health, by educational attainment and gender (2010, 2015 and 2019)
Table A6.3	Proportion of obese adults, by educational attainment and gender (2017)
Table A6.4	Percentage of adults who report consuming at least five portions of fruits and vegetables per day, by educational attainment and gender (2014)
Table A6.5	Percentage of adults who report performing at least 180 minutes of physical activity per week, by educational attainment and gender (2017)

StatLink https://stat.link/7z04le

Cut-off date for the data: 17 June 2021. 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*.

Table A6.1. Life expectancy at age 30, by educational attainment and gender (2017)

Eurostat's annual data collection on demographic statistics or national surveys

		Total			Men			Women		
		Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD	Countries									
	Australia	m	m	m	m	m	m	m	m	m
	Austria	m	m	m	m	m	m	m	m	m
	Belgium[1, 2]	50	52	54	48	50	53	53	55	56
	Canada[1, 2]	52	54	57	49	52	55	54	57	60
	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	46	50	49	39	47	49	50	53	50
	Denmark[2]	49	52	54	47	50	52	51	54	55
	Estonia[2]	44	48	52	39	44	48	49	53	54
	Finland	50	52	54	47	50	52	53	55	56
	France[1, 2]	50	53	55	47	50	53	54	56	57
	Germany	m	m	m	m	m	m	m	m	m
	Greece	51	52	53	49	48	52	54	55	54
	Hungary	43	47	50	38	42	49	47	51	50
	Iceland[1, 2]	51	53	55	49	52	54	53	55	56
	Ireland	m	m	m	m	m	m	m	m	m
	Israel[1, 2]	51	54	57	49	52	56	53	56	58
	Italy	53	55	55	50	52	54	55	57	56
	Japan	m	m	m	m	m	m	m	m	m
	Korea	m	m	m	m	m	m	m	m	m
	Latvia	m	m	m	m	m	m	m	m	m
	Lithuania	m	m	m	m	m	m	m	m	m
	Luxembourg	m	m	m	m	m	m	m	m	m
	Mexico	m	m	m	m	m	m	m	m	m
	Netherlands[1]	51	53	55	49	52	54	53	55	56
	New Zealand	m	m	m	m	m	m	m	m	m
	Norway	51	53	55	49	52	54	53	55	56
	Poland	45	48	52	40	43	51	50	52	54
	Portugal	52	52	55	49	48	53	55	55	56
	Slovak Republic	41	49	51	34	45	49	46	52	53
	Slovenia	50	52	54	46	49	52	53	55	56
	Spain[1]	53	54	55	50	52	54	56	57	58
	Sweden	51	53	55	50	52	54	53	54	56
	Switzerland	m	m	m	m	m	m	m	m	m
	Turkey	50	50	52	47	48	50	52	54	54
	United Kingdom	m	m	m	m	m	m	m	m	m
	United States	m	m	m	m	m	m	m	m	m
	OECD average	49	52	54	46	49	52	52	55	55
	EU22 average	49	51	53	45	48	52	52	54	55
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: Life expectancy at birth and at age 30 is the average number of years that a person at that age can be expected to live, assuming that age-specific mortality levels remain constant.

1. National data sources.

2. Reference year differs from 2017: 2019 for Iceland; 2018 for Israel; 2016 for Denmark and Estonia; 2011 for Belgium and Canada; 2009-13 for France.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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

StatLink https://stat.link/31cman

Table A6.2. Percentage of the population reporting being in good or very good health, by educational attainment and gender (2010, 2015 and 2019)

European Union Survey on Income and Living Conditions (EU-SILC), Survey of Adult Skills (PIAAC) or national surveys, 25-64 year-olds

		European Union Survey on Income and Living Conditions (EU-SILC)								
		Total								
		Below upper secondary			Upper secondary or post-secondary non-tertiary			Tertiary		
		2010	2015	2019	2010	2015	2019	2010	2015	2019
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD	Countries									
	Austria	52	50	52	77	75	74	86	84	87
	Belgium	61	57	62	80	78	74	86	88	87
	Czech Republic	44	49r	47	70	71r	72	85r	87r	88
	Denmark	58	56	48	74	70	67	83	82	81
	Estonia	42r	48r	49	55r	56r	60	72	73r	75
	Finland	58	55	53	73	72	71	85	86	83
	France	60	59	60	74	71	68	83	81	79
	Germany	54	49	50	70	68	67	81	82	82
	Greece	76	72	80	90	87	90	93	92	94
	Hungary	38	40	45	60	61	63	77	78	78
	Iceland[1]	67	70	66	84	78	80	90	88	87
	Ireland	74	70	69	86	84	84	93	91	91
	Italy	69	67	77	82	81	85	87	86	90
	Latvia	40	44	39	48	47	47	67	68	68
	Lithuania	43	42r	37	50	39r	45	76	71r	72
	Luxembourg	69	62	58	82	74	74	88	83	85
	Netherlands	68	65	62	81	78	75	90	88	85
	Norway	63	69	68	77	79	73	88	88	84
	Poland	38	43	44	61	61	64	82	84	84
	Portugal	47	40	44	77	67	68	80	76	78
	Slovak Republic	43	48	45	66	69	71	82	87	84
	Slovenia	40	49	51	65	68	69	82	85	86
	Spain	71	71	73	83	82	84	90	89	90
	Sweden	70	73	68	82	82	78	90	88	84
	Switzerland	68r	68r	67	84	82	80	90	88	89
	Turkey	m	m	59	m	m	78	m	m	86
	United Kingdom[1]	67	57r	60	82	73r	74	89	83r	82
	Average	57	57	57	74	71	71	84	84	84

		National surveys or Survey of Adult Skills (PIAAC)								
		Total								
		Below upper secondary			Upper secondary or post-secondary non-tertiary			Tertiary		
		2010	2015	2019	2010	2015	2019	2010	2015	2019
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD	Countries									
	Australia[1, 3]	m	m	73	m	m	85	m	m	92
	Canada[3]	43	44	44	56	59	56	70	69	68
	Chile[1, 2, 3]	48	40	40	61	59	61	71	71	73
	Colombia[3]	65	69	73	83	83	84	90	90	89
	Israel[3]	72	71	71	86	89	89	91	93	93
	Japan[1, 2, 3]	m	23	22	m	32	31	m	41	41
	Korea[2, 3]	34	25	26	39	33	32	41	38	36
	Mexico[1, 3]	m	m	53	m	m	76	m	m	87
	New Zealand[1, 3]	82	80	77	88	87	87	93	91	90
	United States[2, 3]	74	73	69	84	84	83	92	92	90
Partner	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

Note: Additional columns showing data by gender 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.
1. 2010 refers to 2011 for Chile; 2015 refers to 2014 for New Zealand and to 2013 for Japan; 2019 refers to 2018 for Iceland, New Zealand and the United Kingdom, to 2017-18 for Australia, to 2017 for Chile and Mexico, and to 2016 for Japan.
2. Population of reference differs from 25-64 year-olds.
3. Data for Mexico are from the OECD Survey of Adult Skills (PIAAC); data for all other non-European OECD countries are from national surveys.
Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://stat.link/oqnumg

Table A6.3. Proportion of obese adults, by educational attainment and gender (2017)

European Union Survey on Income and Living Conditions (EU-SILC) ad hoc module "Health and children's health" or national surveys, 25-64 year-olds

		Total			Men			Women		
		Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD	Countries									
	Australia[1, 2]	44	38	25	46	39	26	42	37	25
	Austria	24	16	11	25	18	14	24	14	7
	Belgium	24	16	10	22	15	12	25	17	9
	Canada[1, 2]	37	34	26	37	35	27	37	34	26
	Chile	m	m	m	m	m	m	m	m	m
	Colombia	m	m	18	m	m	m	m	m	m
	Costa Rica	m	m	m	m	m	m	m	m	m
	Czech Republic	26[r]	20[r]	12[r]	25[r]	22[r]	14[r]	27[r]	19[r]	10[r]
	Denmark	m	m	m	m	m	m	m	m	m
	Estonia	27[r]	23[r]	14[r]	22[r]	22[r]	16[r]	32[r]	23[r]	14[r]
	Finland	30	25	17	29	27	20	30	22	15
	France	20	17	10	19	17	10	21	16	10
	Germany	m	m	m	m	m	m	m	m	m
	Greece	m	m	m	m	m	m	m	m	m
	Hungary	24	21	16	22	22	21	25	20	11
	Iceland	m	m	m	m	m	m	m	m	m
	Ireland	26[r]	17[r]	14[r]	25[r]	16[r]	15[r]	26[r]	17[r]	12[r]
	Israel[2]	23	17	13	22	16	15	26	17	12
	Italy[1, 3]	14	10	7	15	12	10	14	9	5
	Japan	m	m	m	m	m	m	m	m	m
	Korea	m	m	m	m	m	m	m	m	m
	Latvia	17	22	17	15	20	18	20	25	16
	Lithuania	18	21	8	14	19	9	24	23	8
	Luxembourg	22	17	12	25	19	12	20	14	11
	Mexico	m	m	m	m	m	m	m	m	m
	Netherlands	19	16	8	18	14	8	20	17	9
	New Zealand[1, 2]	37	34	26	35	33	25	39	35	27
	Norway	19	18	11	19	21	13	19	14	9
	Poland	21	18	10	21	20	13	20	16	8
	Portugal[1, 3]	23	15	10	21	17	10	25	13	9
	Slovak Republic	20	15	9	16	16	12	23	13	6
	Slovenia	24	19	9	24	22	13	24	14	6
	Spain	18	12	8	19	13	11	17	10	6
	Sweden	m	m	m	m	m	m	m	m	m
	Switzerland[2]	20	13	8	20	15	9	21	11	7
	Turkey	m	m	m	m	m	m	m	m	m
	United Kingdom	29[r]	24[r]	19[r]	27[r]	21[r]	20[r]	32[r]	27[r]	19[r]
	United States[2]	43	49	42	40	47	45	48	51	40
	OECD average	25	21	14	24	21	16	26	20	13
	EU22 average	22	18	11	21	18	13	23	17	10
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: Obese individuals are defined as those whose body mass index is greater or equal to 30 kg/m2.

1. Year of reference differs from 2017: 2019 for Canada, Italy and Portugal; July 2018 - June 2019 for New Zealand; 2017-18 for Australia.
2. National data sources.
3. European Health Interview Survey 2019 (EHIS).

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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

StatLink https://stat.link/rcvqgz

Table A6.4. Percentage of adults who report consuming at least five portions of fruits and vegetables per day, by educational attainment and gender (2014)

European Health Interview Survey (EHIS) or national surveys, 25-64 year-olds

		Total			Men			Women		
		Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD	Countries									
	Australia[1, 2]	32	34	40	27	31	34	36	38	45
	Austria	7	6	9	3	3	5	9	9	15
	Belgium	11	11	16	10	9	13	11	14	18
	Canada[1, 2]	18	21	32	12	17	24	25	26	37
	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	4	9	14	1	6	10	6	11	17
	Denmark	15	23	33	11	17	21	21	29	43
	Estonia	12	18	22	12	13	15	11	24	26
	Finland	7	9	17	4	5	8	12	15	24
	France	12	13	16	9	10	11	14	17	20
	Germany	7	9	10	5	5	5	10	12	18
	Greece	9	7	9	8	5	8	10	9	9
	Hungary	8	9	11	5	6	10	9	12	12
	Iceland	7	9	12	7	4	6	8	14	17
	Ireland	20	28	37	18	22	28	24	35	44
	Israel[1, 2]	29	35	42	27	32	38	31	39	45
	Italy	10	11	14	8	9	11	12	13	17
	Japan	m	m	m	m	m	m	m	m	m
	Korea	m	m	m	m	m	m	m	m	m
	Latvia[1, 3]	3	6	12	3	5	9	4	6	14
	Lithuania[1, 3]	17	15	19	15	11	14	21	19	23
	Luxembourg	15	12	17	14	8	12	16	16	22
	Mexico	m	m	m	m	m	m	m	m	m
	Netherlands	19	22	30	16	18	25	22	26	34
	New Zealand[1, 2]	31	36	45	26	34	36	35	39	52
	Norway	5	7	9	4	5	6	5	9	12
	Poland	8	9	14	6	7	11	10	12	16
	Portugal[1, 3]	13	12	21	11	10	14	15	14	26
	Slovak Republic	7	11	12	4	9	8	8	14	15
	Slovenia	9	6	9	12	4	5	8	9	12
	Spain	11	13	13	10	11	10	13	16	16
	Sweden	6	8	13	5	4	8	8	13	16
	Switzerland[2]	14	19	21	10	12	13	16	25	33
	Turkey	3	2	4	3	3	3	4	2	5
	United Kingdom	21	30	40	17	23	32	25	36	47
	United States[1, 2]	9	7	11	8	8	10	9	6	11
	OECD average	12	15	19	10	11	14	15	18	24
	EU22 average	10	12	17	9	9	12	12	16	21
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

1. Reference year differs from 2014: 2019 for Canada, Latvia, Lithuania and Portugal; July 2018 - June 2019 for New Zealand; 2017-18 for Australia and the United States; 2017 for Israel.

2. National data sources.

3. European Health Interview Survey 2019 (EHIS).

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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

StatLink https://stat.link/d6vz0n

Table A6.5. Percentage of adults who report performing at least 180 minutes of physical activity per week, by educational attainment and gender (2017)

European Union Survey on Income and Living Conditions (EU-SILC) ad hoc module "Health and children's health" or national surveys, 25-64 year-olds

		Total			Men			Women		
		Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD	Countries									
	Australia[1, 2]	33	43	57	30	44	60	35	43	55
	Austria	17	26	28	18	25	31	16	27	24
	Belgium	24	33	41	29	39	47	20	27	36
	Canada[1, 2]	45	60	63	57	66	68	30	51	60
	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	24	38	54	20	39	58	26	37	51
	Denmark	57	61	69	59	61	69	55	61	68
	Estonia	84[r]	84[r]	89[r]	84[r]	83[r]	87[r]	85[r]	86[r]	90[r]
	Finland	56	61	65	56	61	65	56	61	65
	France	32	37	44	33	40	47	31	34	41
	Germany	43	48	55	47	48	56	41	49	53
	Greece	32	38	45	33	40	46	32	36	44
	Hungary	21	27	41	21	28	43	20	26	39
	Iceland	m	m	m	m	m	m	m	m	m
	Ireland	52	59	66	50	57	68	56	61	65
	Israel[2]	13	29	37	15	34	43	10	24	31
	Italy	36	40	46	36	41	48	37	39	44
	Japan	m	m	m	m	m	m	m	m	m
	Korea	m	m	m	m	m	m	m	m	m
	Latvia	22	30	46	22	30	52	22	30	43
	Lithuania	21[r]	29[r]	52[r]	22[r]	30[r]	59[r]	20[r]	27[r]	47[r]
	Luxembourg	40	52	58	40	54	59	40	51	58
	Mexico	m	m	m	m	m	m	m	m	m
	Netherlands	60	62	68	52	62	67	67	63	68
	New Zealand[1, 2]	64	72	71	67	78	75	61	64	67
	Norway	45	47	54	48	46	58	41	47	51
	Poland	35	42	56	33	41	61	36	42	54
	Portugal[1, 3]	8	19	23	9	24	29	6	15	18
	Slovak Republic	55[r]	63[r]	74[r]	54[r]	66[r]	78[r]	56[r]	60[r]	70[r]
	Slovenia	47	57	67	46	55	67	49	58	67
	Spain	40	49	54	40	51	59	40	47	50
	Sweden	57	63	67	56	63	69	58	62	66
	Switzerland[2]	43	60	65	43	59	66	44	61	65
	Turkey	m	m	m	m	m	m	m	m	m
	United Kingdom	52[r]	61[r]	67[r]	52[r]	61[r]	68[r]	53[r]	61[r]	67[r]
	United States[1, 2]	26	30	50	29	33	57	23	26	44
	OECD average	40	48	56	41	49	59	40	47	54
	EU22 average	39	46	55	39	47	57	40	45	53
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: Time spent performing physical activity during work time is excluded.

1. Year of reference differs from 2017: 2019 for Canada and Portugal; July 2018 - June 2019 for New Zealand and 2017-18 for Australia and the United States.
2. National data sources.
3. European Health Interview Survey 2019 (EHIS).

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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

StatLink https://stat.link/buskhc

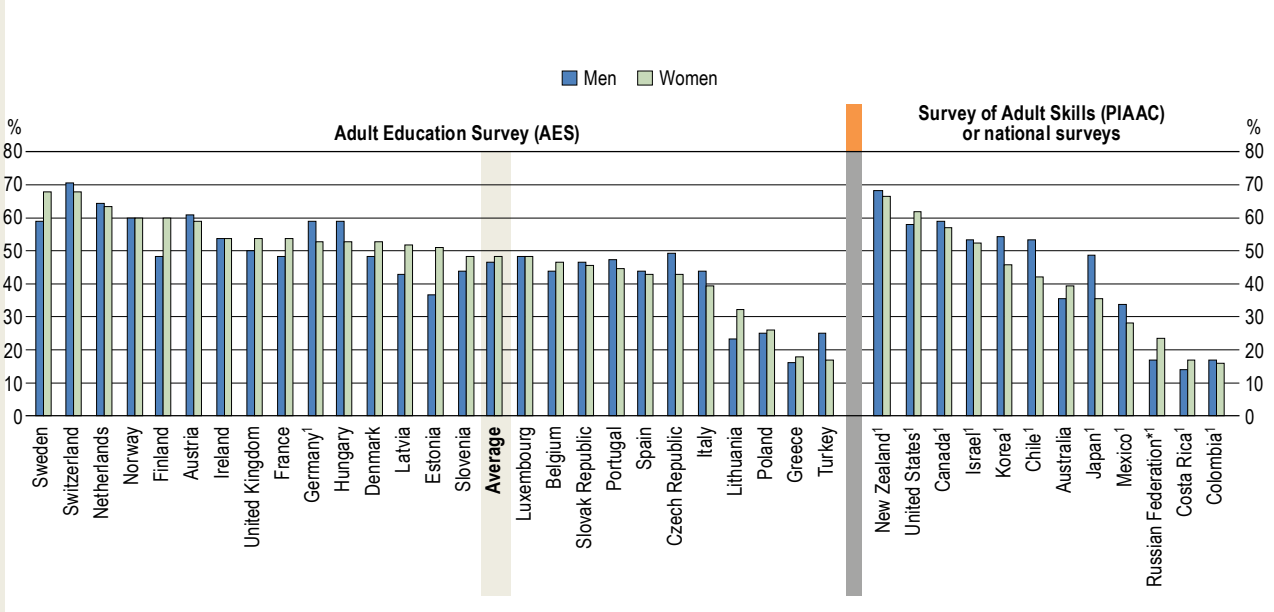
Indicator A7. To what extent do adults participate equally in education and learning?

Highlights

- Participation rates in adult learning (formal and/or non-formal education and training) for women increased in almost all OECD countries with data from the Adult Education Survey (AES) in 2007 and 2016, and on average from 38% in 2007 to 48% in 2016. For men, the average increased from 37% in 2007 to 47% in 2016.
- On average across OECD countries taking part in the AES, 55% of 25-64 year-olds that are employed participated in formal and/or non-formal education and training, compared to only 27% of those that are unemployed. In addition, data show that employed women were more likely to participate in training compared with employed men.
- On average across OECD countries taking part in the AES, 40% of women cited family responsibilities as a barrier to enrolment, compared to 25% of men.

Figure A7.1. Participation in formal and/or non-formal education and training, by gender (2016)

Adult Education Survey (AES), Survey of Adult Skills (PIAAC) or national surveys, 25-64 year-olds



1. 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-old women participating in formal and non-formal education and training in 2016.
Source: OECD (2021), Table A7.1. See Source section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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Context

Policy makers have long recognised that adult learning is crucial for workers, firms and entire economies seeking to prevent human capital depreciation and to remain competitive in a globalised and ever-changing work environment.

There is ample evidence that the provision of adult learning allows adults, whether employed or looking for a job, to maintain and upgrade their skills, acquire the competencies needed to be successful in the labour market and strengthen their overall resistance to exogenous shocks such as the current COVID-19 pandemic (OECD, 2021[1]).

The benefits of adult learning extend beyond employment and other labour market outcomes. In fact, adult learning can also contribute to non-economic goals, such as personal fulfilment, improved health, civic participation and social inclusion (Ruhose, Thomsen and Weilage, 2019[2]).

However, across OECD countries, it is common that those who need training the most, train the least. These groups include lower skilled, older adults, displaced workers, those whose jobs are most at risk of automation, and non-standard workers as, for example, part-time and on-call workers. To give a few examples, participation by low-skilled adults is a staggering 40 percentage points below that of high-skilled adults, across the OECD on average. Older adults are 25 percentage points less likely to train than 25-34 year-olds. Workers whose jobs are at high risk of automation are 30 percentage points less likely to engage in adult learning than their peers in less-exposed jobs (OECD, 2021[1]).

This year's *Education at a Glance* looks at the association between participation in adult learning and gender as well as the role played by some mediating factors like, for example, the presence of young children in the household.

Still, it is worth noting that the analyses presented in the following sections are based on results of simple bivariate correlations and do not take into account many of the factors influencing the likelihood to participate in adult learning, such as age, firm size and sector of employment – to mention just a few important ones.

Other findings

- Participation in non-formal education and training by adults aged 25-64 years-old surpasses participation in formal education and in all countries with available data from the AES. On average across OECD countries taking part in the AES, in 2016, 7% of 25-64 year-olds took part in formal education and training, while 44% took part in non-formal education and training.
- Participation rates in non-formal education do not differ much by gender (45% for women and 44% for men); however, data show that men and women tend to pursue different fields of training.
- Relative to the same quarter, in 2019, the number of adults reporting they participated in formal and/or non-formal education and training in the past month dropped significantly in the second quarter of 2020 in all countries with available data.

Analysis

Trends in participation in formal and/or non-formal education and training, by gender

On average across countries with data from the Adult Education Survey (AES), about half of the surveyed adults (aged 25-64) had participated in adult learning (formal and/or non-formal education and training) in 2016. Participation rates varied widely, from 30% or less in Greece, Lithuania, Poland and Turkey to more than 60% in the Netherlands, Sweden and Switzerland (Table A7.1).

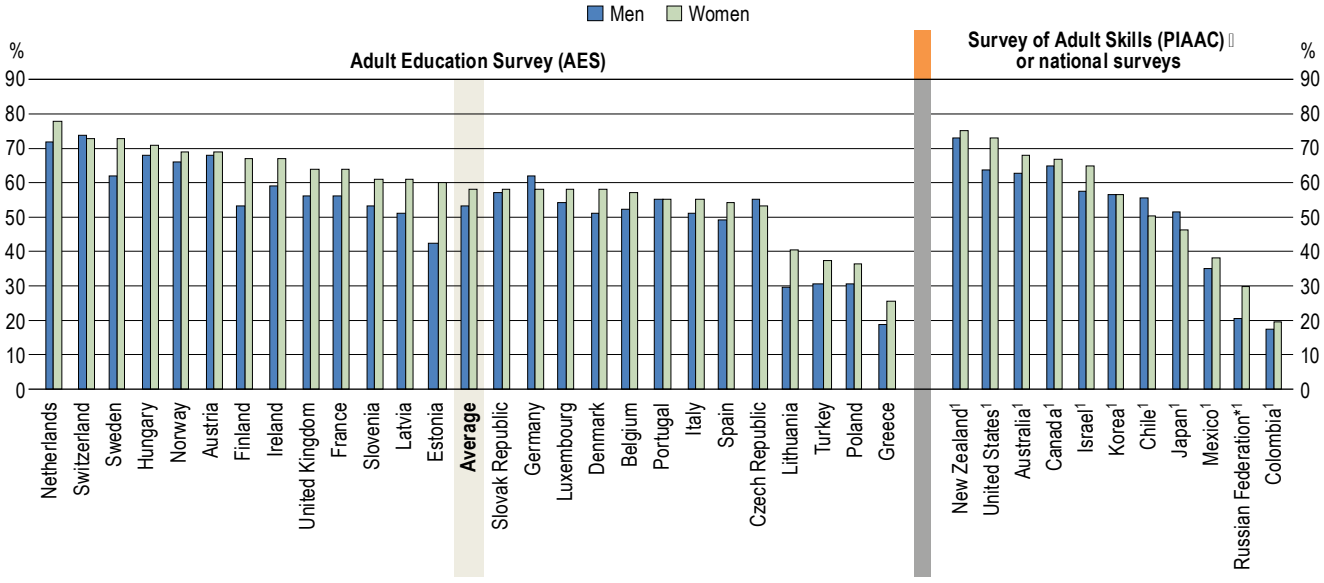
Participation in non-formal education training by adults aged 25-64 years-old and training surpasses participation in formal education and training in all countries with available data from the AES. On average across OECD countries taking part in the AES, in 2016, 7% of 25-64 year-olds took part in formal education and training while the rate was 44% for non-formal education and training. Participation rates in formal education and training were 10% or more in Denmark, Finland, Norway, Spain, Sweden and the United Kingdom; on the contrary, at least 50% of 25-64 year-olds took part in non-formal education and training in Austria, Germany, Hungary, the Netherlands, Norway, Sweden and Switzerland (Table A7.1).

Between 2007 and 2016, participation rates in adult learning (formal and/or non-formal education and training) increased in almost all countries with available data. On average across OECD countries taking part in the AES, participation rates in adult learning increased from 38% in 2007 to 48% in 2016. Over this period, they increased by 20 percentage points or more in Hungary, the Netherlands, Portugal and Switzerland while they decreased by at least 5 percentage points in Lithuania (Table A7.1).

Participation rates in adult learning (formal and/or non-formal education and training) for women increased in almost all countries with available data for 2007 and 2016, and on average from 38% in 2007 to 48% in 2016. For men, the average increased from 37% in 2007 to 47% in 2016. In most countries, there are no big differences in participation rates between women and men, and this holds true for 2007 and 2016. The change over time has been similar for men and women, meaning that the situation observed in 2007 has mostly been carried over time (Table A7.1).

Figure A7.2. Participation in formal and/or non-formal education and training for employed persons, by gender (2016)

Adult Education Survey (AES), Survey of Adult Skills (PIAAC) or national surveys, 25-64 year-olds



1. 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-old employed women participating in formal and/or non-formal education and training.

Source: OECD (2021), Table A7.2. See Source section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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In 2016, in Estonia, Finland, Latvia and Sweden, men participated less than women in formal and/or non-formal education and training. In these countries, the gender gap in participation rates was at least 9 percentage points in favour of women (Figure A7.1).

Differences in participation rates by gender are also small when only looking at participation in formal or non-formal education and training. Differences by gender are not substantial for participation in formal education. In countries with rather high overall participation rates, women participate more in formal education than men. For the majority of other countries, women participate more, but the differences are rather small. The differences between men and women are also small for participation in non-formal education and training and there is no pattern observed in the participation rate by gender (Table A7.1).

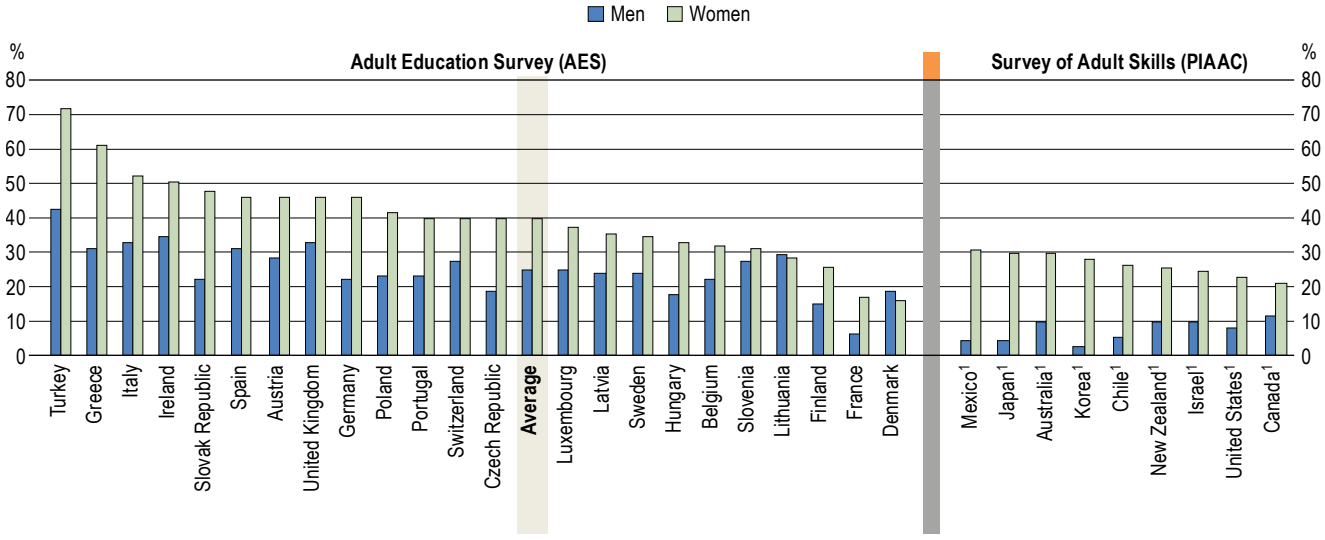
Participation and labour market status, by gender

On average across OECD countries taking part in the AES, 55% of 25-64 year-olds that are employed participated in formal and/or non-formal education and training, compared to only 27% of those that are unemployed (Table A7.2).

In addition, data show that employed women were more likely to participate in training compared with employed men. In addition, across OECD countries with available data from the AES, 25-64 year-old women tend to participate slightly more in adult learning than men of the same age (formal and/or non-formal education and training), regardless of their labour market status. In particular, among the employed, the average gender gap in participation rate is 6 percentage points in favour of women; it is 9 percentage points or more in Estonia, Finland, Latvia, Lithuania and Sweden (Table A7.2).

Figure A7.3. Percentage of adults reporting wanting to participate in education and training but could not because of family responsibilities, by gender (2016)

Adult Education Survey (AES) or Survey of Adult Skills (PIAAC), 25-64 year-olds



1. Year of reference differs from 2016. Refer to the source table for more details.

Countries are ranked in descending order of the percentage of 25-64 year-old men reporting to want to participate in formal and/or non-formal education and training but could not because of family responsibilities.

Source: OECD (2021), Table A7.6, available on line. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

StatLink https://stat.link/keihj4

Barriers to participation, by gender

Cost, schedule and family responsibilities are the most common reasons for not participating in formal and/or non-formal education and training (Table A7.6, available on line).

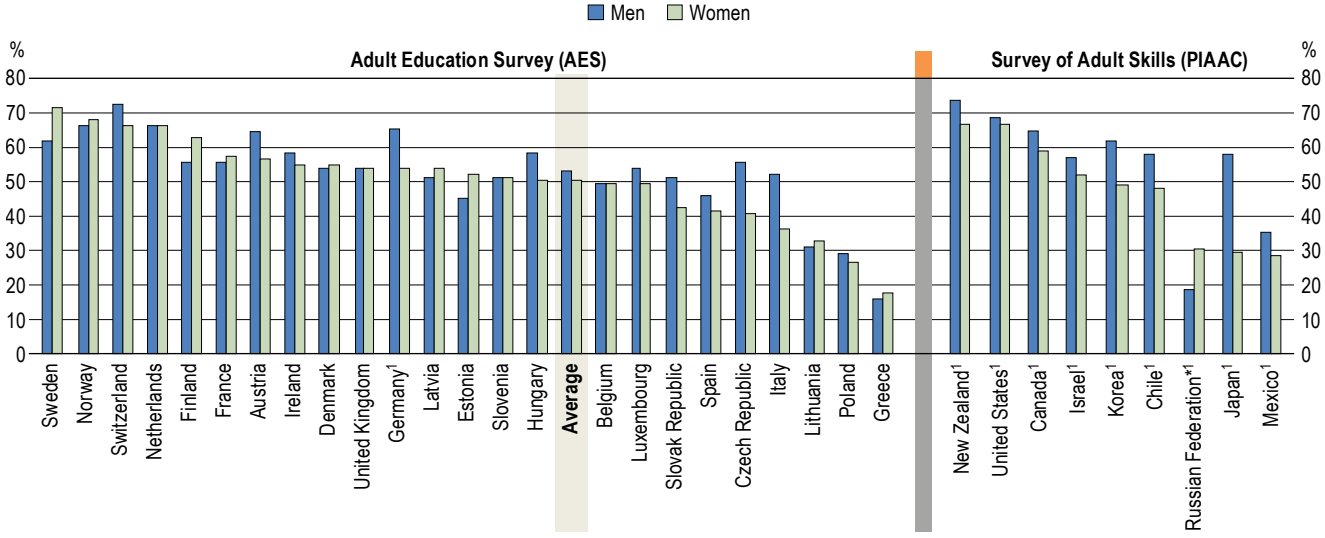
In particular, data suggest that family responsibilities, such as caring for children or elderly in the household, are a strong barrier to participation in adult learning (in formal and/or non-formal education and training) for women than for men. On average across OECD countries taking part in the AES, 40% of women cited family responsibilities as a barrier to enrolment, compared to 25% of men. Gender differences are particularly evident in Australia, Chile, the Czech Republic, Germany, Greece, Japan, Korea, Mexico, the Slovak Republic and Turkey. In these countries, the share of 25-64 year-old women stating that they wanted to participate in education and training but could not because of family responsibilities is at least 20 percentage points higher than the share of men (Figure A7.3).

Having young children in the household represents important responsibilities and it is therefore interesting to see whether this status is associated with greater or less participation in adult education – because of a lack of time. Looking at participation rates by gender can also shed some light on how responsibilities are shared between men and women.

When there are no children under 13 (i.e. young children) in the household, 25-64 year-old women tend to participate slightly more than men in formal and/or non-formal education in most of the countries with available data. This is particularly evident in Estonia, Finland, Latvia and Lithuania, where the participation rates of women are more than 10 percentage points higher than those of men (Table A7.3).

Figure A7.4. Participation in formal and/or non-formal education when there are young children in the household, by gender (2016)

Adult Education Survey (AES) or Survey of Adult Skills (PIAAC), 25-64 year-olds



1. 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-old women with young children in the household participating in formal and/or non-formal education and training.

Source: OECD (2021), Table A7.3. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

StatLink https://stat.link/ikxnrv

On the contrary, when there are young children in the household, data suggest that men participate somewhat more than women in formal and/or non-formal education. In this case, participation rates of men are more than 10 percentage points higher than those of women in the Czech Republic, Germany, Italy, Japan and Korea. Even when there are young children in the household, participation rates are relatively higher for women than for men (i.e. 5 percentage points or more) in Estonia, Finland, the Russian Federation and Sweden (Figure A7.4).

It is important to highlight that the results presented in Figure A7.4 do not account for several confounding factors that could influence the relationship between having young children in the household and participating in adult learning as, for example, age, family socio-economic background and grandparents' support.

Participation before and during the first wave of the COVID-19 pandemic

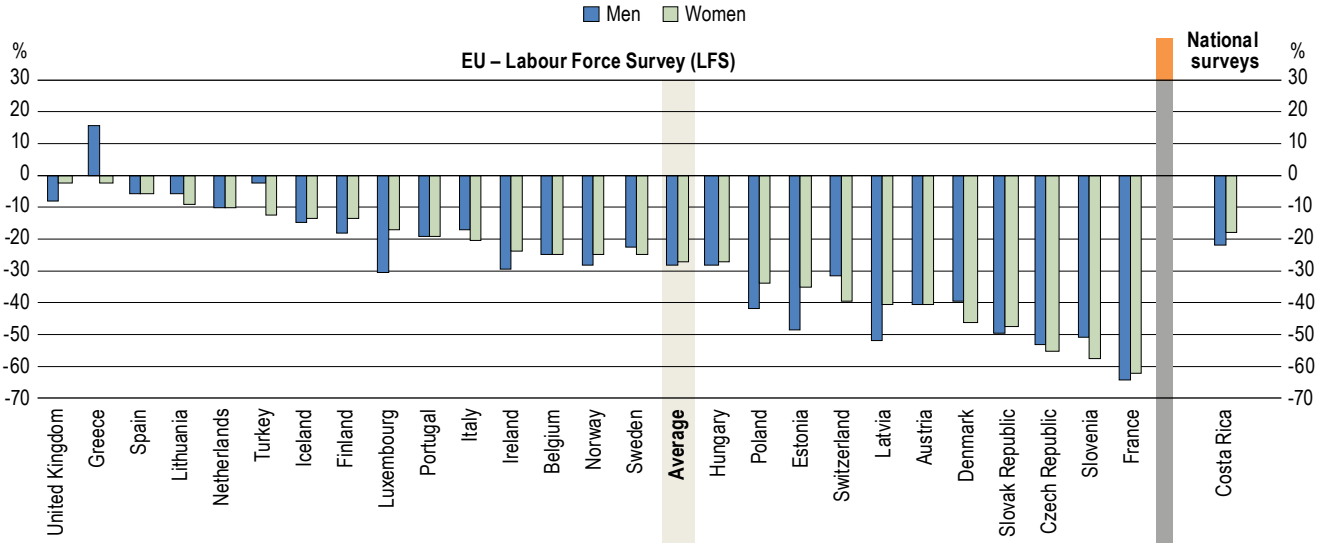
A recent OECD brief shows that, under a certain number of assumption, COVID-19 induced shutdowns of economic activities decreased workers' participation in non-formal learning by an average of 18%, and in informal learning by 25% (OECD, 2021[1]).

This section uses data from the EU Labour Force Survey for European countries and from the Continuous Employment Survey for Costa Rica, to examine how the first wave of the Covid-19 pandemic has affected participation in adult learning (formal and/or non-formal education and training).

Figure A7.5 shows that relative to the same quarter, in 2019, the number of adults reporting they participated in formal and/or non-formal education and training in the month prior to the survey decreased significantly in the second quarter of 2020. This is particularly evident in Austria, the Czech Republic, Denmark, Estonia, France, Latvia, Poland, the Slovak Republic, Slovenia and Switzerland, where the number of adults participating in formal and/or non-formal education and training decreased by 30% or more between the second quarter of 2019 and the second quarter of 2020, for both women and men (i.e. during the peak of the first wave of COVID-19 in Europe). Greece seems to be an outlier, at least when considering male adults. However, it is worth highlighting that participation rates in formal and/or non-formal education and training are rather low in Greece. In this case, small variations of the participation rates over time may have large impact on the relative change over the same period (Figure A7.5).

Figure A7.5. Relative change in the participation in the previous 4 weeks in formal and/or non-formal education and training, by gender (second quarter of 2020 compared to second quarter of 2019)

EU Labour Force Survey (LFS) or national survey, 25-64 year-olds



Countries are ranked in ascending order of the relative change of participation in formal and/or non-formal education and training for women during the second quarter of 2020 relative to the second quarter of 2019.

Source: OECD (2021), Table A7.4. See Source section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

StatLink https://stat.link/ouqg5n

The results presented in Figure A7.5 have at least two important limitations. First, as observed in the European Union's *Education and Training Monitor 2018*, the way participation in adult learning is measured in the EU Labour Force Survey is rather restrictive, as it measures the "share of population who report having participated in formal and/or non-formal learning activities during the 4 weeks prior to being interviewed". This is problematic in the context of adult learning, which is a sporadic activity, often taken up once or at most twice a year for a short duration (European Commission, 2018[3]).

Second, this section reports only some preliminary analyses on the impact of COVID-19 on participation in adult learning during the first wave of the pandemic and they must be interpreted with care. Further analyses, covering a wider range of quarters, are needed. In fact, third and fourth quarter data suggest that participation rates increased again considerably in

countries as, for example, Latvia and Switzerland. Most likely, the steep drop in participation observed between the second quarter of 2019 and the second quarter of 2020 is a consequence of the widespread lockdown restrictions implemented during the first wave of the pandemic. During this period, non-formal education providers needed some time to adapt to the provision of online-only courses.

Participation by field of education and training and gender

The majority of adult education and training that takes place is non-formal education and training and is usually organised outside of formal institutions of schools, colleges and universities. On average across OECD countries with data from the AES, 44% of adults aged 25-64 took part in non-formal education and training activities in 2016 (Table A7.1). About half of them (51%) attended non-formal education programmes in the field of business, administration and law (18%); health and welfare (14%); or services (19%) (Table A7.5, available on line).

Although participation rates in non-formal education do not differ much by gender (45% for women and 44% for men), men and women tend to pursue different fields of training. Data show that, compared to women, men are more likely to follow training initiatives in the field of information and communication technologies (7% for women and 10% men); engineering, manufacturing and construction (3% and 13%, respectively); and services (15% and 23%, respectively) (Table A7.5, available on line).

On the other hand, compared to men, women are more likely to take part in non-formal and training initiatives in the field of education (4% for men and 10% for women), arts and humanities (7% and 11%, respectively), and health and welfare (9% and 19%, respectively) (Table A7.5, available on line).

Finally, men and women are equally likely to participate in non-formal education and training programmes in the field of social sciences, journalism and information (3% and 4%, respectively) and business, administration and law (18% for both men and women) (Table A7.5, available on line).

Definitions

Adults refer to 25-64 year-olds.

Adult education and learning: the learning that occurs in formal settings such as vocational training and general education as well as resulting from participation in formal, non-formal and informal training.

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. 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.

Methodology

The Adult Education Survey (AES) methodology can be found at: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Adult_Education_Survey_(AES)_methodology.

For data from the Survey of Adult Skills (PIAAC), 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.

The Labour Force Survey (LFS) measures participation in formal and/or non-formal training during a four-week period excluding guided on-the-job training. The reference period and the definition differ from the definitions in the AES. In particular, differences in participation rates in formal and/or non-formal training between the LFS and the AES are due to the short reference period in the LFS compared to participation rates in the AES.

Table A7.6, available on line (Percentage of the population wanting to participate in education and training but did not, by reason for not participating), provides a mapping of the reasons for not participating in adult education, provided by

respondents to the AES and PIAAC. The range of possible answers to this question are different in the two surveys. In order to allow for comparison, these answers have been recategorised in Table A7.6 as follows:

1. "Distance" in the AES corresponds to "The course or programme was offered at an inconvenient time or place" in PIAAC
2. "Costs" in the AES corresponds to "Education or training was too expensive/I could not afford it" in PIAAC
3. "Family reasons" in the AES corresponds to "I did not have time because of childcare or family responsibilities" in PIAAC
4. "Other personal reasons" is missing in PIAAC
5. "Health or age reasons" is missing in PIAAC
6. "No suitable offer for education or training" is missing in PIAAC
7. "Lack of support from employer or public services" corresponds to "Lack of employer's support" in PIAAC
8. "Schedule" corresponds to "I was too busy at work" in PIAAC
9. "Other" corresponds to "Other", "Something unexpected came up that prevented me from taking education or training" and "I did not have the prerequisites" in PIAAC.

Source

- For Table A7.1 (Trends in participation in formal and/or non-formal education and training, by gender): The AES for European OECD countries; PIAAC for Canada, Chile, Israel, Japan, Korea, Mexico, New Zealand, the Russian Federation and the United States; and national data sources for Australia (Work-Related Training and Adult Learning Survey), Colombia (Gran Encuesta Integrada de Hogares), Costa Rica (Continuous Employment Survey).
- For Table A7.2 (Participation in formal and/or non-formal education and training, by labour market status and gender): The AES for European OECD countries; PIAAC for Australia, Canada, Chile, Israel, Japan, Korea, Mexico, New Zealand, the Russian Federation and the United States; and national data sources for Colombia (Gran Encuesta Integrada de Hogares).
- For Table A7.3 (Participation in formal and/or non-formal education, by gender and whether there are young children in the household): The AES for European OECD countries and PIAAC for Australia, Canada, Chile, Israel, Japan, Korea, Mexico, New Zealand, the Russian Federation and the United States.
- For Table A7.4 (Participants in formal and/or non-formal education and training, by gender): the EU Labour Force Survey (EU-LFS) for European OECD countries and national data sources for Costa Rica (Continuous Employment Survey).
- For Table A7.5, available on line (Distribution of fields of study selected among non-formal education participants, by gender): The AES for European OECD countries.
- For Table A7.6, available on line (Percentage of the population wanting to participate in education and training but did not, by reason for not participating): The AES for European OECD countries and PIAAC for Australia, Canada, Chile, Israel, Japan, Korea, Mexico, New Zealand, the Russian Federation and the United States.

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[4]).

References

European Commission (2018), *Education and Training Monitor 2018*, Publications Office of the European Union, Luxembourg, http://dx.doi.org/10.2766/444804 NC-AJ-18-001-EN-E. [3]

OECD (2021), "Adult learning and COVID-19: How much informal and non-formal learning are workers missing?", *Tackling Coronavirus (COVID-19): Contributing to a Global Effort*, OECD, Paris, https://read.oecd-ilibrary.org/view/?ref=1069_1069729-q3oh9e4dsm&title=Adult-Learning-and-COVID-19-How-much-informal-and-non-formal-learning-are-workers-missing&_ga=2.236822465.1330067427.1621939082-554327329.1614244310 (accessed on 26 May 2021). [1]

OECD (2016), *Technical Report of the Survey of Adult Skills (PIAAC), 2nd Edition*, OECD, Paris, http://www.oecd.org/skills/piaac/PIAAC_Technical_Report_2nd_Edition_Full_Report.pdf. [4]

Ruhose, J., S. Thomsen and I. Weilage (2019), "The benefits of adult learning: Work-related training, social capital, and earnings", *Economics of Education Review*, Vol. 72, pp. 166-186, http://dx.doi.org/10.1016/j.econedurev.2019.05.010. [2]

Indicator A7 tables

Tables Indicator A7. To what extent do adults participate equally in education and learning?

Table A7.1	Trends in participation in formal and/or non-formal education and training, by gender (2007, 2011 and 2016)
Table A7.2	Participation in formal and/or non-formal education and training, by labour market status and gender (2016)
Table A7.3	Participation in formal and/or non-formal education, by gender and whether there are young children in the household (2016)
Table A7.4	Participants in formal and/or non-formal education and training, by gender (second quarter of 2020 compared to second quarter of 2019)
WEB Table A7.5	*Distribution of fields of study selected among non-formal education participants, by gender (2016)*
WEB Table A7.6	*Percentage of the population wanting to participate in education and training but did not, by reason for not participating (2016)*

StatLink https://stat.link/n72r1o

Cut-off date for the data: 17 June 2021. 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*.

A corrigendum has been issued for this page.
See: https://www.oecd.org/about/publishing/Corrigendum_Education-at-a-Glance-2021.pdf

Table A7.1. Trends in participation in formal and/or non-formal education and training, by gender (2007, 2011 and 2016)

Adult Education Survey (AES), Survey of Adult Skills (PIAAC) or national surveys, 25-64 year-olds

		Adult Education Survey (AES)								
		Participation in formal and/or non-formal education and training								
		2007			2011			2016		
		Total	Men	Women	Total	Men	Women	Total	Men	Women
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
		(1)	(3)	(5)	(7)	(9)	(11)	(13)	(15)	(17)
OECD	Countries									
	Austria	42	44	40	48	49	48	60	61	59
	Belgium	41	41	40	38	39	37	45	44	46
	Czech Republic	38	42	34	37	37	37	46	50	43
	Denmark	45	44	45	59	55	62	50	48	53
	Estonia	42	37	47	50	46	53	44	37	51
	Finland	55	49	61	56	49	63	54	48	60
	France	35	36	34	51[b]	50[b]	51[b]	51	49	54
	Germany[1]	45	48	42	50	53	48	56	59	53
	Greece	15	14	15	12	10	13	17	16	18
	Hungary	9	8	10	41[b]	43[b]	39[b]	56	59	53
	Ireland	m	m	m	24	25	24	54[b]	54[b]	54[b]
	Italy	22	22	22	36	37	34	42	44	39
	Latvia	33	26	39	32	27	37	48	43	52
	Lithuania	34	29	39	29	23	33	28	24	32
	Luxembourg	m	m	m	70	72	69	48[b]	48[b]	48[b]
	Netherlands	45	48	42	59	63	56	64	65	64
	Norway	55	53	56	60	59	61	60	60	60
	Poland	22	21	22	24	23	25	26	25	26
	Portugal	26	27	26	44	44	45	46	48	45
	Slovak Republic	44	45	43	42	41	42	46	47	45
	Slovenia	41	38	43	36	35	38	46	44	48
	Spain	31	31	31	38	39	37	43	44	43
	Sweden	73	71	76	72	69	74	64[b]	60[b]	68[b]
	Switzerland	49	51	47	66	65	66	69	70	68
	Turkey	14	18	11	18	21	15	21	25	17
	United Kingdom	49	47	51	36	34	38	52[b]	50[b]	54[b]
	Average	38	37	38	43	43	44	48	47	48

		Survey of Adult Skills (PIAAC) or national surveys								
		Participation in formal and/or non-formal education and training (%)								
		2007			2011			2016		
		Total	Men	Women	Total	Men	Women	Total	Men	Women
		(1)	(3)	(5)	(7)	(9)	(11)	(13)	(15)	(17)
OECD	Countries									
	Australia	m	m	m	m	m	m	37	36	39
	Canada[1]	m	m	m	m	m	m	58	59	58
	Chile[1]	m	m	m	m	m	m	47	53	42
	Colombia[1]	17	17	16	17	17	16	16	17	15
	Costa Rica[1]	m	m	m	m	m	m	15	14	17
	Israel[1]	m	m	m	m	m	m	53	53	53
	Japan[1]	m	m	m	m	m	m	42	48	35
	Korea[1]	m	m	m	m	m	m	50	54	46
	Mexico[1]	m	m	m	m	m	m	31	33	28
	New Zealand[1]	m	m	m	m	m	m	68	68	67
	United States[1]	m	m	m	60	60	60	60	58	62
Partner	Russian Federation*[1]	m	m	m	m	m	m	20	16	23

Note: Participation in formal and/or non-formal education and training during previous 12 months. See *Definitions* and *Methodology* sections for more information. Note that the average differs from the one published by Eurostat as this is an unweighted average and the country coverage is different.
Additional columns showing standard errors (S.E.) as well as data by type of education and training are available for consultation on line (see StatLink below).
1. 2007 refers to 2013 for Colombia; 2011 refers to 2015 for Colombia and 2012/2014 for the United States; 2016 refers to 2020 for Costa Rica, 2019 for Colombia, 2017 for Mexico and the United States, 2015 for Chile, Israel and New Zealand, 2012 for Canada, Japan, Korea and the Russian Federation.
* See note on data for the Russian Federation in the Source section.
Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://stat.link/1kozd2

Table A7.2. Participation in formal and/or non-formal education and training, by labour market status and gender (2016)

Adult Education Survey (AES), Survey of Adult Skills (PIAAC) or national surveys, 25-64 year-olds

		Adult Education Survey (AES)								
		Percentage of employed adults			Percentage participating in formal and/or non-formal education and training					
					Employed			Unemployed or inactive		
		Total	Men	Women	Total	Men	Women	Total	Men	Women
		(1)	(3)	(5)	(7)	(9)	(11)	(13)	(15)	(17)
OECD	Countries									
	Austria	72	78	67	68	68	69	38	37	39
	Belgium	72	76	67	54	52	57	24	22	25
	Czech Republic	78	87	69	54	54	53	19	17	19
	Denmark	74	76	71	54	51	58	39	38	40
	Estonia	77	81	73	51	42	60	22	15	27
	Finland	71	72	69	59	53	67	41	36	45
	France	73	77	70	59	56	63	29	25	32
	Germany[1]	78	85	71	60	62	58	42	46	40
	Greece	59	68	50	21	19	25	10	10	10
	Hungary	73	81	65	68	67	70	21	23	20
	Ireland	74	80	67	63	59	67	30	31	29
	Italy	65	75	56	52	51	54	21	24	20
	Latvia	75	76	74	56	51	60	23	17	28
	Lithuania	76	78	75	35	29	40	6	c	8 r
	Luxembourg	77	82	72	56	54	58	27	26	27
	Netherlands	73	80	66	74	71	77	41	42	40
	Norway	78	83	73	67	66	69	38	34	41
	Poland	69	76	62	33	31	36	8	8	9
	Portugal	73	77	69	55	55	55	22	23	21
	Slovak Republic	76	80	72	57	57	58	11	9 r	12
	Slovenia	70	75	66	57	53	61	22	19	24
	Spain	66	73	59	51	49	54	29	30	27
	Sweden	82	86	79	67	62	73	50	47	52
	Switzerland	84	89	80	73	74	73	46	43	47
	Turkey	49	72	25	32	30	37	11	11	11
	United Kingdom	78	84	73	60	56	64	26	23	27
	Average	73	79	67	55	53	58	27	26	28

		Survey of Adult Skills (PIAAC) or national surveys								
		Percentage of employed adults			Percentage participating in formal and/or non-formal education and training					
					Employed			Unemployed or inactive		
		Total	Men	Women	Total	Men	Women	Total	Men	Women
		(1)	(3)	(5)	(7)	(9)	(11)	(13)	(15)	(17)
OECD	Countries									
	Australia[1]	76	85	68	65	62	68	26	24	26
	Canada[1]	80	85	75	65	64	67	30	31	30
	Chile[1]	79	90	69	53	55	50	27	38	24
	Colombia[1]	74	88	61	18	17	19	11	15	10
	Israel[1]	76	82	71	60	57	64	30	39	24
	Japan[1]	77	89	64	49	51	46	19	24	17
	Korea[1]	75	89	61	56	56	56	32	42	30
	Mexico[1]	69	88	53	36	34	38	19	26	17
	New Zealand[1]	81	87	76	73	72	74	43	40	44
	United States[1]	80	85	74	68	64	72	28	23	31
Partner	Russian Federation*[1]	65	72	59	24	20	30	11	7	13

Note: Participation in formal and/or non-formal education and training during the previous 12 months. See *Definitions* and *Methodology* sections for more information. Note that the average differs from the one published by Eurostat as this is an unweighted average and the country coverage is different.

Additional columns showing standard errors (S.E.) are available for consultation on line (see StatLink below).

1. Reference year differs from 2016: 2018 for Germany; 2017 for Colombia, Mexico and the United States; 2015 for Canada, Chile, Israel, Korea and New Zealand; 2012 for Australia, Japan and the Russian Federation.

* See note on data for the Russian Federation in the Source section.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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

StatLink https://stat.link/37r12q

Table A7.3. Participation in formal and/or non-formal education, by gender and whether there are young children in the household (2016)

Adult Education Survey (AES), Survey of Adult Skills (PIAAC) or national surveys, 25-64 year-olds

		Adult Education Survey (AES)					
		Total		Men		Women	
		No children under 13 in the household	Children under 13 in the household	No children under 13 in the household	Children under 13 in the household	No children under 13 in the household	Children under 13 in the household
		(%)	(%)	(%)	(%)	(%)	(%)
		(1)	(3)	(5)	(7)	(9)	(11)
OECD	Countries						
	Austria	60	60	60	65	60	57
	Belgium	46[r]	50[r]	44[r]	50[r]	48[r]	50[r]
	Czech Republic	45	48	47	56	44	41
	Denmark	48	55	46	55	51	55
	Estonia	41	49	32	46	49	53
	Finland	52	60	46	56	59	63
	France	48	57	45	56	51	58
	Germany[1]	55	60	57	66	53	54
	Greece	17	17	16	16	18	17
	Hungary	56	54	59	59	53	51
	Ireland	52	57	51	58	53	55
	Italy	41	44	42	53	40	36
	Latvia	45	53	39	51	51	54
	Lithuania	26	32	21	31	32	33
	Luxembourg	47	52	46	54	48	49
	Netherlands	63	67	64	66	62	67
	Norway	57	67	57	66	57	69
	Poland	24	28	23	29	25	26
	Portugal	c	c	c	c	c	c
	Slovak Republic	46	46	46	51	47	42
	Slovenia	43	51	40	52	46	51
	Spain	43	44	43	46	44	41
	Sweden	62	67	58	62	66	72
	Switzerland	69	70	69	73	68	67
	Turkey	m	m	m	m	m	m
	United Kingdom	51	54	48	55	54	54
	Average	47	52	46	53	49	51

		Survey of Adult Skills (PIAAC)					
		Total		Men		Women	
		No children under 13 in the household	Children under 13 in the household	No children under 13 in the household	Children under 13 in the household	No children under 13 in the household	Children under 13 in the household
		(%)	(%)	(%)	(%)	(%)	(%)
		(1)	(3)	(5)	(7)	(9)	(11)
OECD	Countries						
	Australia[1]	62	m	58	m	68	m
	Canada[1]	57	62	57	65	57	59
	Chile[1]	44	53	50	58	38	48
	Israel[1]	52	55	51	57	53	52
	Japan[1]	42	43	45	59	38	30
	Korea[1]	48	56	51	62	44	49
	Mexico[1]	29	32	31	36	27	29
	New Zealand[1]	66	70	65	74	67	67
	United States[1]	56	67	53	69	59	67
Partner	Russian Federation*[1]	17	25	15	19	20	30

Note: Participation in formal and/or non-formal education and training during the previous 12 months. See *Definitions* and *Methodology* sections for more information. Note that the average differs from the one published by Eurostat as this is an unweighted average and the country coverage is different.

Additional columns showing standard errors (S.E.) are available for consultation on line (see StatLink below).

1. Reference year differs from 2016: 2018 for Germany; 2017 for Mexico and the United States; 2015 for Canada, Chile, Israel, Korea and New Zealand; 2012 for Australia, Japan and the Russian Federation

* See note on data for the Russian Federation in the Source section.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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

StatLink https://stat.link/frqv3s

Table A7.4. Participants in formal and/or non-formal education and training, by gender (second quarter of 2020 compared to second quarter of 2019)

EU Labour Force Survey (EU-LFS) or national surveys, 25-64 year-olds

		EU – Labour Force Survey (LFS)								
		Total			Men			Women		
		Participants in thousands		Relative change (%)	Participants in thousands		Relative change (%)	Participants in thousands		Relative change (%)
		2019 (Q2)	2020 (Q2)		2019 (Q2)	2020(Q2)		2019(Q2)	2020 (Q2)	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)		(8)
OECD	Countries									
	Austria	783	467	-40	354	211	-40	429	256	-40
	Belgium	525	397	-24	245	184	-25	280	213	-24
	Czech Republic	548	254	-54	273	129	-53	276	126	-54
	Denmark	769	437	-43	315	192	-39	454	245	-46
	Estonia	156	93	-40	69	35	-49	88	58	-34
	Finland	823	698	-15	363	297	-18	460	401	-13
	France	6 852	2 564	-63	2 840	1 038	-63	4 013	1 526	-62
	Germany	3 846	m	m	1 929	m	m	1 917	m	m
	Greece	226	240	6	103	120	16	124	121	-2
	Hungary	264	192	-27	131	95	-27	133	97	-27
	Iceland	38	33	-14	16	14	-14	21	19	-13
	Ireland	328	243	-26	138	99	-28	190	145	-24
	Italy	2 878	2 344	-19	1 346	1 117	-17	1 532	1 227	-20
	Latvia	75	42	-44	25	12	-51	49	30	-40
	Lithuania	109	100	-8	44	41	-6	65	59	-9
	Luxembourg	69	53	-24	36	25	-30	33	27	-17
	Netherlands	1 799	1 632	-9	853	774	-9	946	858	-9
	Norway	575	425	-26	271	195	-28	304	231	-24
	Poland	1 016	641	-37	437	258	-41	579	383	-34
	Portugal	641	522	-19	295	240	-19	346	282	-18
	Slovak Republic	110	57	-48	51	26	-49	58	31	-47
	Slovenia	143	65	-55	62	31	-51	81	35	-57
	Spain	3 041	2 885	-5	1 363	1 293	-5	1 678	1 592	-5
	Sweden	1 834	1 402	-24	722	562	-22	1 112	839	-25
	Switzerland	1 661	1 076	-35	856	585	-32	806	491	-39
	Turkey	2 430	2 256	-7	1 216	1 192	-2	1 214	1 064	-12
	United Kingdom	4 974	4 773	-4	2 220	2 056	-7	2 754	2 717	-1
	Average	1 352	919	-27	614	416	-27	739	503	-27

		National surveys								
		Total			Men			Women		
		Participants in thousands		Relative change (%)	Participants in thousands		Relative change (%)	Participants in thousands		Relative change (%)
		2019 (Q2)	2020 (Q2)		2019 (Q2)	2020(Q2)		2019(Q2)	2020 (Q2)	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)		(8)
OECD	Countries									
	Costa Rica	482	388	-20	220	173	-22	262	215	-18

Note: Participation in formal and/or non-formal education and training in the last 4 weeks. See *Definitions* and *Methodology* sections for more information. Note that the average differs from the one published by Eurostat as this is an unweighted average and the country coverage is different.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterA.pdf).

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

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Chapter B. Access to education, participation and progress

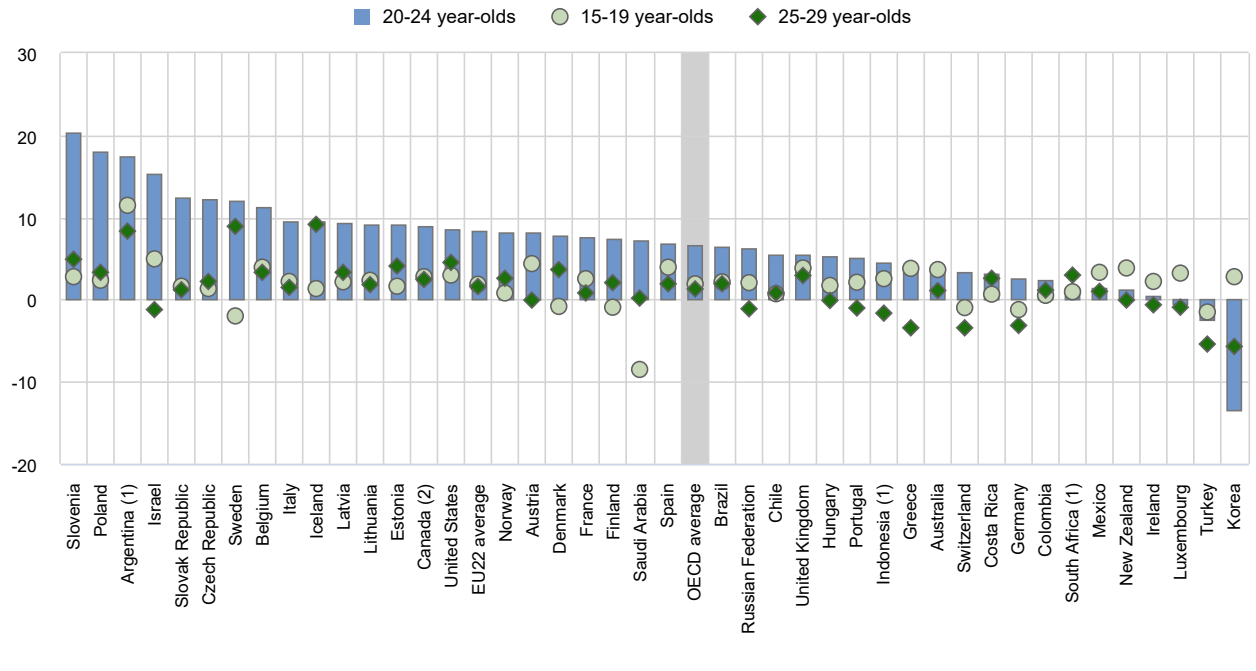
Indicator B1. Who participates in education?

Highlights

- Across OECD countries, there is nearly universal coverage of basic education for 6-14 year-olds, as enrolment rates for this age group reached or exceeded 95% in all OECD countries. In addition, 84% of the population is enrolled in education between the age of 15 and 19 on average across OECD countries. The highest share is in Belgium, Ireland and Slovenia, where the overall enrolment rate reaches 94% (Table B1.1).
- Over all education levels combined, enrolment rates are 7 percentage points higher on average for 20-24 year-old women than for men. The largest gap in this age group is found in Slovenia (20 percentage points) and the gap is at least 15 percentage points in Argentina, Israel and Poland (Figure B1.1).
- On average across OECD countries with available data, boys are more likely to repeat a grade than girls and represent 61% of the number of repeaters in lower secondary education and 57% in upper secondary education (Figure B1.2).

Figure B1.1. Enrolment rates for 15-19, 20-24 and 25-29 year-olds, by gender (2019)

Percentage-point difference between women and men



1. Year of reference 2018.
2. Excludes post-secondary non-tertiary programmes.

Countries are ranked in descending order of the difference between 20-24 year-old women and men.

Source: OECD/UIS/Eurostat (2021), *Education at a Glance Database*. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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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 attend 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.

Other findings

- In more than half of the countries with data available, the variation of the enrolment rate of 15-19 year-olds between subnational regions is larger than the variation of national values across different OECD countries. In Chile, Finland, Ireland, the Netherlands, Norway and Sweden, the difference between maximum and minimum enrolment rates within each country is relatively small (7 percentage points or less) (Figure B1.3).
- 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 (Table B1.1)..
- The share of repeaters varies to a large extent by country and by educational level. It reaches 2% in lower secondary general programmes and 3% in upper secondary general education. Grade repetition is more common in upper rather than lower secondary education, especially in Austria, the Czech Republic, Portugal and Spain, where repeaters represent at least 7% of the enrolled students (Figure B1.2).
- The range of enrolment rates is widest in the Czech Republic, Hungary and Korea with a difference of at least 33 percentage points between the highest and lowest enrolment rate of 15-19 year-olds across subnational regions (Figure B1.3).

Analysis

Compulsory education

In OECD countries, compulsory education typically begins with primary education, starting at the age of 6 (see Table X1.5 in Annex 1). However, in about one-third of OECD and partner countries, compulsory education begins earlier, while in Estonia, Finland, Indonesia, Lithuania, the Russian Federation and South Africa, compulsory education does not begin until the age of 7. Compulsory education usually ends with the completion or partial completion of upper secondary education at the age of 16 on average across OECD countries, ranging from 13 (Indonesia) or 14 (Korea) to 18 (Belgium, Chile, Germany and Portugal). In Slovenia, compulsory education ends at age 14 with the completion of the primary and lower secondary education integrated programme. 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 until they have completed 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 is enrolled in education) lasts 14 years, from the age of 4 to the age of 17. The period of full enrolment lasts between 11 and 16 years in most countries and reaches 17 years in Norway. It is shorter in Colombia, Mexico, the Slovak Republic and Turkey, and in partner countries such as Indonesia, Saudi Arabia and South Africa (Table B1.1).

In almost all OECD countries, the enrolment rate among 4-5 year-olds in education exceeded 90% in 2019. Enrolment at an early age is relatively common in OECD countries, with about one-third achieving full enrolment for 3-year-olds. Iceland, Korea, Norway and Sweden 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, the Slovak Republic and Turkey. 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 reached or exceeded 95% in all OECD countries (Table B1.1).

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 is enrolled in education between the age of 15 and 19 on average across OECD countries. The share is the highest in Belgium, Ireland and Slovenia, where the overall enrolment rate reaches 94%. The enrolment rate of 15-19 year-olds was 1 percentage point higher in 2019 than in 2013, with the largest increases observed in Italy and Mexico (8 percentage points or more). Enrolment levels did not, however, improve in all OECD countries: for example, they fell by more than 3 percentage points among 15-19 year-olds in Germany, Hungary and Iceland (Table B1.1).

In 2019, enrolment rates among 15-16 year-olds (i.e. those typically in upper secondary programmes) reached at least 94% on average across the OECD. At age 17, 90% of individuals were enrolled in education on average across the OECD, reaching 100% in Ireland and Portugal. By contrast, fewer than 70% of 17-year-olds were enrolled in education in Colombia, Costa Rica and Mexico. Enrolment patterns start dropping significantly at age 18: 75% of 18-year-olds are enrolled in secondary, post-secondary non-tertiary, or tertiary education, on average across OECD countries. Declines in enrolment for this age group coincide with the end of upper secondary education. The drop in enrolment between age 17 and age 18 is at least 25 percentage points in Chile, Israel, Korea and Turkey. By the time students reach age 19, enrolment rates decrease to 60% on average across OECD countries (Table B1.3).

The share of students enrolled in each education level and at each age is illustrative of the different educational systems and pathways in different countries. As students get older, they move on to higher educational levels or types of programmes, and the enrolment rate in upper secondary education (combined general and vocational) decreases. Depending on the structure of the educational system, students across the OECD may start enrolling in post-secondary non-tertiary or tertiary education from the age of 17. However, this is still the exception for this age group, with 88% of 17-year-olds still enrolled in secondary education, on average across OECD countries. Students start diversifying their pathways significantly from age 18, although the age of transition between upper secondary and tertiary education varies substantially among countries. While at least 90% of 18-year-olds are still enrolled in upper secondary in Finland, Norway, Poland, Slovenia and Sweden, at least 50% of 18 year-olds in Greece and Korea are already starting their tertiary education. On average across OECD countries,

24% of 19-year-olds are still enrolled in secondary education. However, in Denmark and Iceland, at least 50% of 19-year-olds are still enrolled in secondary education. These high shares may partly be explained by the structure of the education system and the strength of the labour opportunities offered by vocational upper secondary programmes in these countries, making them more attractive than tertiary education. Enrolment of 19-year-olds in tertiary education averages 34% across OECD countries, ranging from 5% in Luxembourg (the low share is due in large part to the high number of students studying abroad) to 73% in Korea (Table B1.3).

Participation in formal education varies by gender, as female students outnumber male students in almost all age groups and at all education levels. However, the difference in enrolment rates between 15-19 year-old women and men reaches only 2 percentage points on average across the OECD. It is 5% in Israel and slightly negative (higher enrolment rate for men) in Denmark, Finland, Germany, Sweden, Switzerland and Turkey (Figure B1.1). The largest differences between men and women in this age group are found in tertiary education in Australia, Austria, Belgium and the United States and in upper secondary and post-secondary non-tertiary education in Luxembourg, where the enrolment rate is at least 6 percentage points higher for women than for men (Table B1.2).

Lower enrolment rates are often related to school drop-out and, indirectly, to lower school performance and grade repetition. Women have higher enrolment rates and better performance, while repetition rates are higher among men. Repetition rates are relatively low among OECD countries, but they also highlight a gender gap dimension that could help explain enrolment and performance gaps (see Box B1.1).

Box B1.1. Cross-country differences in grade repetition

Completing educational programmes at different ISCED levels over their lifetime allows individuals to progress to higher levels of education and empowers them throughout life to access and have better opportunities in the labour market. At the same time, dropping out or repeating a grade can lead to premature withdrawal from school and lower employability of school leavers, causing a loss for educational systems in terms of social and financial resources, such as students' learning, school buildings' usage and teachers' work time (UNESCO International Bureau of Education, 1970[2]).

Equity in education can be related to the policies that schools employ to sort and select students. Grade repetition, the practice of retaining students in the same grade, is used to give struggling students more time to master grade-appropriate content before moving on to the next grade (and prevent them from dropping out). Even if research finds that grade repetition can be ineffective in enhancing the achievement of low performers in the short run (OECD, 2019[3]), early retention may lead to better outcomes than late retention and retained students may catch up after several years (Fruehwirth, Navarro and Takahashi, 2016[4]).

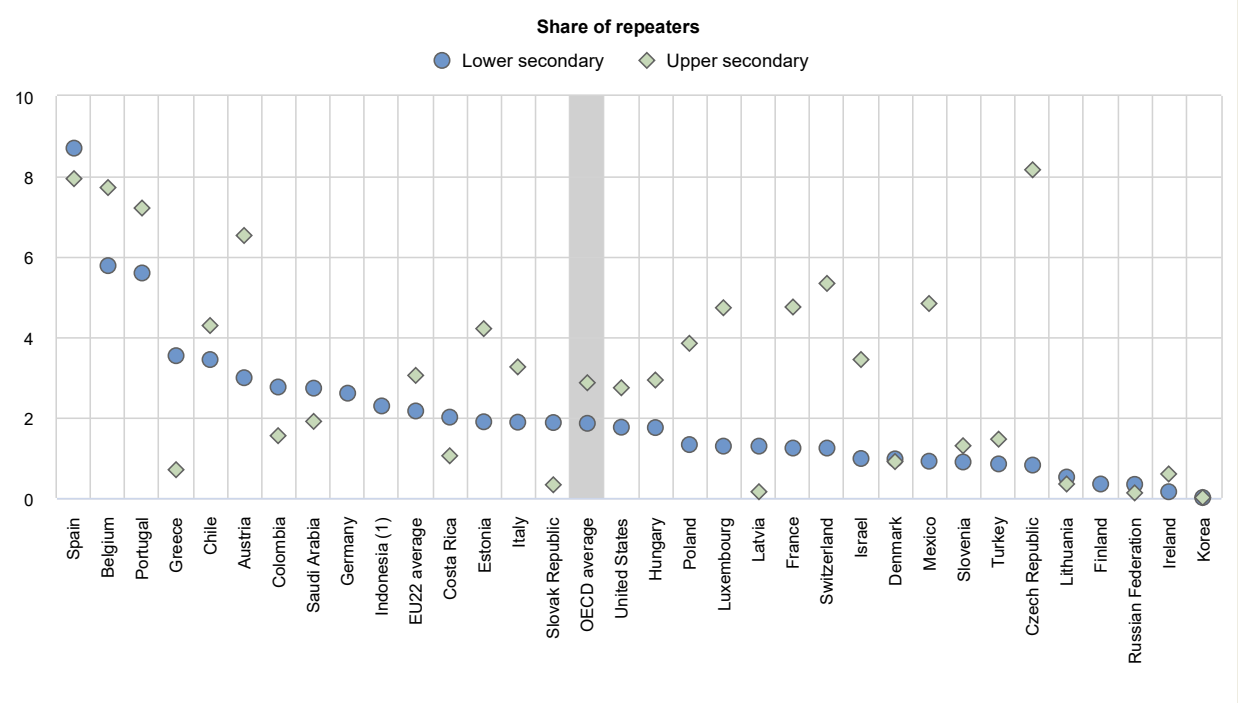
Socio-economically disadvantaged students with an immigrant background and boys are more likely to repeat grades than advantaged students (OECD, 2019[3]), and this could also lead to persisting socio-economic inequalities. Completion rates are usually lower for students from a disadvantaged background (e.g. lower educational status of parents, first-generation immigrants).

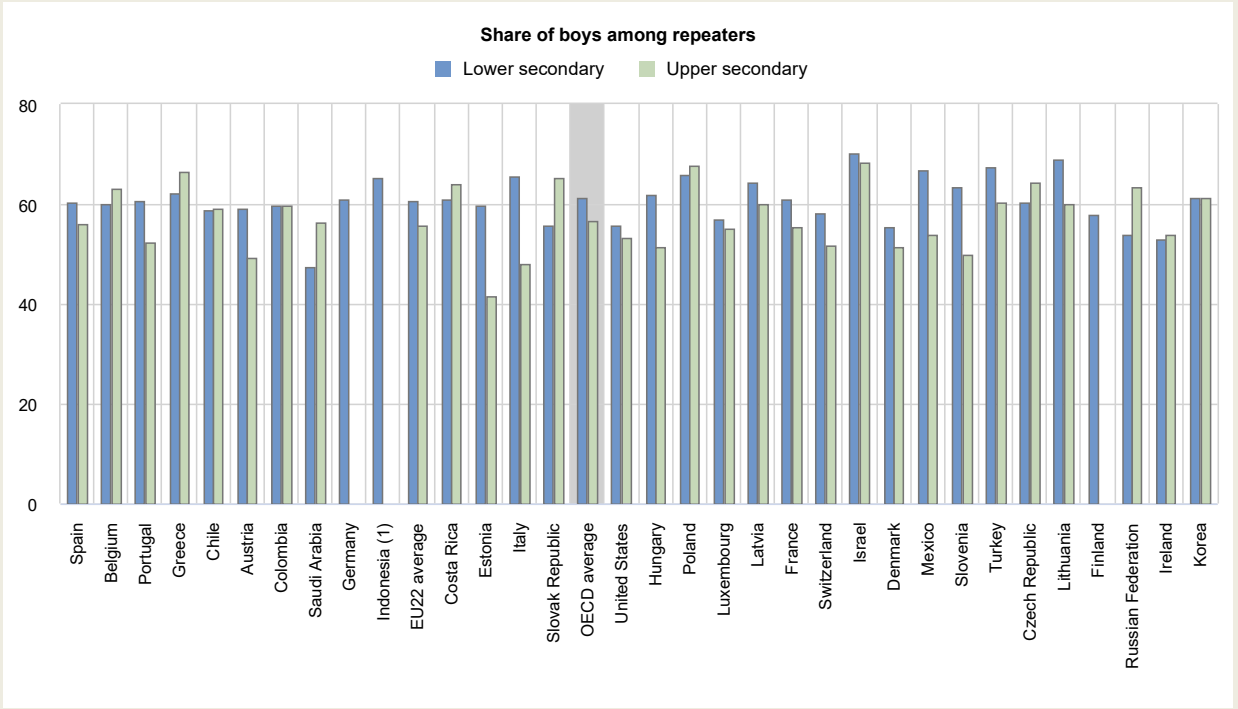
The way educational systems cope with students who repeat grades may differ to a large extent between countries and within the same countries, depending on educational levels, programmes, rural or urban areas, socio-economic conditions, or other factors. In most countries, repeaters tend to be concentrated in the last two years before graduation, while in others, the distribution over different grades is more even. In a smaller number of countries, repeating grades is restricted by law and school regulations, and the concept of repeating does not even exist, especially at lower educational levels. This is the case for lower secondary education programmes in Norway, for upper secondary programmes in Finland and for both types of programmes in the United Kingdom. In Canada, lower and upper secondary school students generally repeat only courses that they have failed, not whole grades, while primary students are typically not made to repeat grades.

The share of repeaters varies to a large extent by country and by educational level. It reaches 2% in lower secondary general programmes and increases with higher levels of education. Grade repetition is relatively uncommon in lower secondary general programmes and is below 5% in most countries. However, the share of repeaters exceeds 5% in Belgium, Portugal and Spain (Figure B1.2). Grade repetition is more common in upper secondary education, especially in Austria, Belgium, the Czech Republic, Portugal and Spain, where repeaters represent at least 7% of the enrolled students. The share of repeaters in upper secondary education is 3% on average across OECD countries, 1 percentage point higher than for lower secondary education.

Figure B1.2. Share of repeaters and share of boys among repeaters in lower and upper secondary education (2019)

General programmes in initial education only, in per cent





1. Year of reference 2018.

Countries are ranked in descending order of the share of repeaters in lower secondary education.

Source: OECD/UIS/Eurostat (2021), *Education at a Glance Database*. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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On average across OECD countries with available data, boys are more likely to repeat a grade in general programmes than girls and represent 61% of the number of repeaters in lower secondary education and 57% in upper secondary education (Figure B1.2). This is true for all OECD countries in lower secondary education and for all countries but Austria, Estonia and Italy in upper secondary education. In lower secondary programmes in Israel, Lithuania, Mexico and Turkey and in upper secondary programmes in Greece, Israel and Poland, two out of three repeaters are boys.

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 15-19) 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 20-24 is enrolled in education. Enrolment rates among 20-24 year-olds are the highest in Australia 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 increased by 4 percentage points between 2005 and 2019 on average across the OECD. Enrolment levels increased significantly in a number of countries, especially in Australia, Ireland, Spain and Switzerland, where the enrolment rate was at least 11 percentage points higher in 2019 than in 2005. At the other end of the spectrum, the largest drop in enrolment in the same period was observed in Finland and Iceland, where rates fell by 7 percentage points (Table B1.1).

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, 29% of the male population in this age group and 37% of their female peers are enrolled in tertiary education (Table B1.2). The gender gap in enrolment widens with this age group. Over all education levels combined, enrolment rates are 7 percentage points higher on average for 20-24 year-old women than for men of the same age group. The largest gap in this age group is found for Slovenia (20 percentage points) and the gap is at least 15 percentage points for Argentina, Israel and Poland (Figure B1.1). In contrast, in Luxembourg, Korea and Turkey, enrolment rates of 20-24 year-olds are higher for men than for women and this gap is the highest in Korea, at 13 percentage points.

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 rate in all levels of education reaches 16% among 25-29 year-olds. The highest enrolment rates among 25-29 year-olds are in Australia, Denmark, Finland, Sweden and Turkey, where more than 25% of the population in this age group is still in education. The largest drops in enrolment rates for 25-29 year-olds compared to 20-24 year-olds occur in Korea and Slovenia, where the enrolment rate is more than 40 percentage points lower (Table B1.1).

As enrolment rates are lower above age 24, the gender gap also decreases and enrolment rates are only 1 percentage point higher for 25-29 year-old women on average. This gap reaches 9 percentage points in Iceland and Sweden and is negative (more men than women are enrolled) for a few countries, including Korea and Turkey, with at least 5 percentage points (Figure B1.1).

Enrolment levels are lower among 30-39-year-olds (OECD average: 6%) and reach at least 15% only in Australia, Finland, Sweden and Turkey. The OECD average enrolment rate for the population aged 40-64 is 2%, with the highest enrolment rate observed in Australia (7%) (Table B1.1).

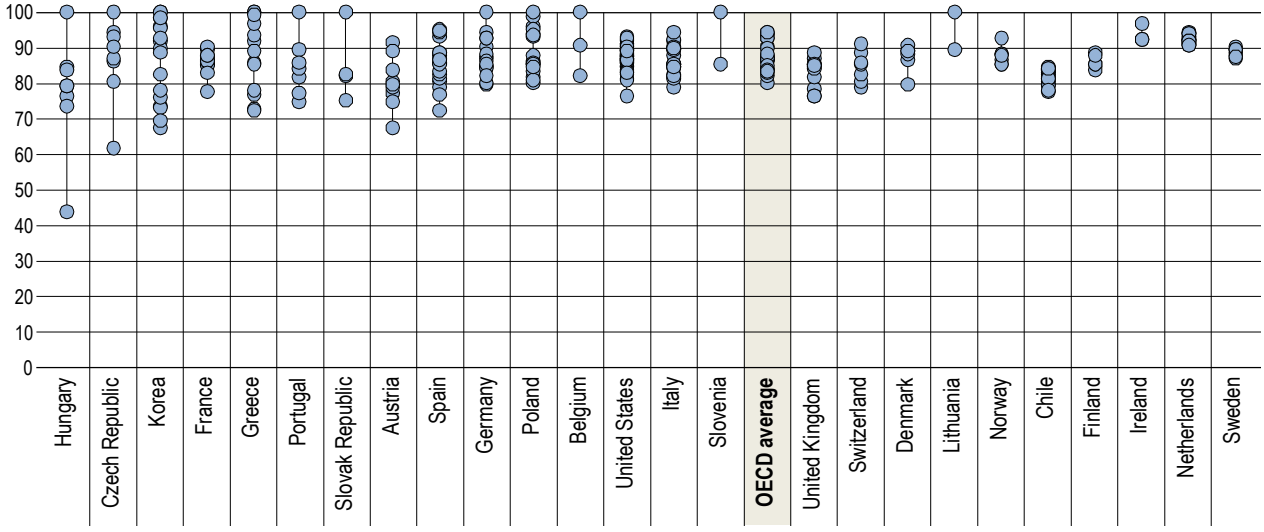
Subnational variations in enrolment

Subnational variation in enrolment patterns reveals the equality of access to education across a country, as well as labour-market opportunities and perceptions on lifelong learning for levels beyond compulsory education or tertiary education. While enrolment between the ages 6 and 14 is rather homogenous across regions, enrolment rates for 15-19 year-olds vary to some extent within countries. In more than half of the countries with data available, the variation of the enrolment rate between subnational regions is larger than the variation of national values across different OECD countries. The range of enrolment

rates is widest in the Czech Republic, Hungary and Korea with a difference of at least 33 percentage points between the highest and lowest enrolment rate of 15-19 year-olds across subnational regions. In Chile, Finland, Ireland, the Netherlands, Norway and Sweden, the range of enrolment rates for this age group is relatively small with a difference of 7 percentage points or less within countries (Figure B1.3).

Figure B1.3. Regional variation of the enrolment rate of 15-19 year-olds (2019)

Enrolment rates in all levels of education combined, in per cent



Note: National averages are presented under the OECD label.
Countries are ranked in descending order of the range between the maximum and minimum enrolment rate.
Source: OECD (2021), *Regional Statistics Database*. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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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.

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 someone 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* (OECD, 2018[5]) and Annex 3 for country-specific notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

Source

Data refer to the 2018/19 academic year and are based on the UNESCO-UIS/OECD/Eurostat data collection on education statistics administered by the OECD in 2020 (for details, see Annex 3 at: https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

Data on subnational regions for selected indicators are available in the OECD *Regional Statistics (database)* (OECD, 2021[6]).

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Indicator B1 tables

Tables Indicator B1. Who participates in education?

Table B1.1	Enrolment rates by age group (2005, 2013 and 2019)
Table B1.2	Enrolment rates of 15-19, 20-24 and 25-29 year-olds by gender and level of education (2019)
Table B1.3	Enrolment rates from age 15 to 20 by level of education (2013 and 2019)

StatLink https://stat.link/dqu38g

Cut-off date for the data: 17 June 2021. 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*.

Table B1.1. Enrolment rates by age group (2005, 2013 and 2019)

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
		2019								2013			2005		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
OECD	Countries														
	Australia	13	5-17	100	88	55	26	15	7	86	48	21	82	44	21
	Austria	13	4-16	99	80	36	18	6	1	79	35	18	m	m	m
	Belgium	16	3-18	99	94	50	14	7	3	92	51	18	94	42	15
	Canada [1]	11	5-15	100	72	36	11	5	1	73	33	11	m	m	m
	Chile	13	5-17	98	82	44	15	6	1	78	41	16	m	m	m
	Colombia	10	5-14	97	61	25	11	6	1	m	m	m	m	m	m
	Costa Rica	12	4-15	97	64	23	11	2	3	m	m	4	m	m	a
	Czech Republic	13	5-17	98	90	41	10	3	1	90	43	11	91	34	10
	Denmark	15	3-17	100	86	53	28	9	2	88	57	32	84	48	27
	Estonia	14	4-17	97	88	37	14	7	2	89	44	17	91	40	12
	Finland	13	6-18	98	87	47	29	16	5	86	51	31	87	55	30
	France	15	3-17	100	87	38	8	2	0	85	35	7	84	32	7
	Germany	15	3-17	99	87	51	22	5	1	90	48	21	88	41	18
	Greece	13	5-17	97	88	54	25	10	3	86	41	34	m	m	m
	Hungary	13	4-16	95	83	34	10	4	1	87	42	12	87	38	13
	Iceland	16	2-17	99	85	42	21	10	4	88	52	28	85	49	25
	Ireland	15	3-17	100	94	43	12	6	3	94	37	9	89	32	10
	Israel	15	3-17	96	66	21	19	6	2	65	22	22	m	m	m
	Italy	15	3-17	99	86	38	13	3	1	78	37	14	82	33	10
	Japan [2]	14	4-17	100	m	m	m	m	m	m	m	m	m	m	m
	Korea	15	2-17	99	84	50	8	2	1	87	53	10	87	46	9
	Latvia	15	4-18	99	92	46	16	6	1	94	46	12	m	m	m
	Lithuania	14	5-18	100	93	44	11	5	1	94	52	15	98	49	15
	Luxembourg	13	4-16	98	77	20	6	2	0	78	20	6	m	m	m
	Mexico	9	5-13	100	63	26	10	4	2	54	21	6	48	17	5
	Netherlands	14	4-17	100	92	m	m	m	m	91	49	13	m	m	m
	New Zealand	12	5-16	99	82	43	19	12	5	84	38	16	74	41	21
	Norway	17	2-18	99	87	47	19	8	3	87	43	18	89	46	20
	Poland	14	5-18	97	92	48	11	3	1	90	56	13	92	50	10
	Portugal	14	4-17	100	90	38	10	4	2	88	37	10	74	35	12
	Slovak Republic	11	6-16	95	84	32	6	2	1	85	35	8	m	m	m
	Slovenia	15	4-18	99	94	56	12	2	1	93	57	15	93	50	17
	Spain	15	3-17	98	87	47	16	6	2	87	46	15	78	34	11
	Sweden	17	2-18	99	88	44	26	16	5	86	42	28	m	m	m
	Switzerland	13	5-17	100	85	41	18	5	1	86	38	16	83	31	13
	Turkey	10	6-15	100	69	51	32	16	3	69	42	20	m	m	m
	United Kingdom	15	3-17	97	83	33	10	6	2	81	31	11	m	m	m
	United States	13	5-17	100	83	36	13	6	2	81	36	16	77	32	13
	OECD average	14	4-17	99	84	41	16	6	2	84	42	16	84	40	14
	Average for countries with available data for all reference years				87	44	15			86	44	16	84	40	15
	EU22 average	14	4-17	98	88	43	15	6	2	88	44	16	88	41	15
Partners	Argentina [3]	12	4-15	100	75	41	21	m	m	72	37	20	65	30	16
	Brazil	13	4-16	99	69	29	14	8	3	69	27	14	m	m	m
	China	18	2-19	m	m	m	m	m	m	m	m	m	m	m	a
	India	18	2-19	m	m	m	a	m	m	m	m	m	m	m	a
	Indonesia [3]	10	5-14	93	78	26	5	2	1	70	24	2	m	m	0
	Russian Federation	11	7-17	98	88	38	7	2	0	84	32	10	m	m	m
	Saudi Arabia	10	8-17	96	88	39	13	1	1	93	37	8	m	m	a
	South Africa [3]	5	2-6	87	76	29	7	2	2	m	m	m	m	m	m
	G20 average	13	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. Year of reference 2018.

Source: OECD/UIS/Eurostat (2021). See Source section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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

StatLink https://stat.link/7uxi3e

Table B1.2. Enrolment rates of 15-19, 20-24 and 25-29 year-olds by gender and level of education (2019)

Students enrolled in full-time and part-time programmes in both public and private institutions

		Men							Women						
		Age 15-19			Age 20-24		Age 25-29		Age 15-19			Age 20-24		Age 25-29	
		Lower secondary	Upper secondary and post-secondary non-tertiary	Tertiary	Upper secondary and post-secondary non-tertiary	Tertiary	Upper secondary and post-secondary non-tertiary	Tertiary	Lower secondary	Upper secondary and post-secondary non-tertiary	Tertiary	Upper secondary and post-secondary non-tertiary	Tertiary	Upper secondary and post-secondary non-tertiary	Tertiary
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
OECD	Countries														
	Australia	28	42	16	15	36	9	15	25	43	22	12	45	8	18
	Austria	3	64	11	6	26	1	17	2	61	19	6	34	1	16
	Belgium	6	71	16	8	34	3	7	m	69	23	8	45	5	8
	Canada [1]	0	55	16	3	29	2	9	0	53	21	3	38	2	11
	Chile	3	63	15	3	38	1	13	2	62	18	2	44	1	14
	Colombia	21	27	12	2	21	1	10	16	30	15	2	24	1	10
	Costa Rica	22	36	4	6	11	2	4	18	40	5	7	13	3	6
	Czech Republic	13	72	4	6	30	1	8	10	74	6	5	43	1	10
	Denmark	35	51	1	17	32	6	20	32	53	1	12	44	6	24
	Estonia	27	55	5	7	25	3	9	25	57	6	8	34	4	13
	Finland	23	61	3	11	32	7	21	22	62	3	13	38	9	21
	France	4	61	19	3	32	0	7	3	62	23	3	39	1	7
	Germany	31	51	6	19	29	4	19	27	51	8	17	34	3	17
	Greece	4	63	19	8	44	2	24	2	64	23	7	49	2	21
	Hungary	4	73	5	8	23	2	8	3	74	7	7	29	2	8
	Iceland	19	63	2	17	20	6	11	19	63	3	14	33	6	21
	Ireland	16	62	14	8	35	3	9	14	63	17	4	39	3	9
	Israel	4	57	3	2	12	1	18	3	59	7	1	27	0	18
	Italy	1	76	7	3	29	1	11	1	76	10	2	41	0	13
	Japan	0	58	m	m	m	m	m	0	59	m	m	m	m	m
	Korea	1	53	29	0	56	0	11	1	52	32	0	43	0	5
	Latvia	25	58	7	6	35	2	12	22	61	9	6	45	2	15
	Lithuania	40	43	9	5	34	2	8	38	43	14	4	45	1	11
	Luxembourg	15	59	1	12	7	2	4	12	65	2	9	10	1	4
	Mexico	7	43	11	2	21	2	6	7	45	12	2	22	3	5
	Netherlands	26	52	14	14	m	3	m	21	55	17	12	m	4	m
	New Zealand	4	64	13	17	25	10	8	4	63	18	9	35	7	11
	Norway	19	65	3	11	32	3	15	20	63	5	7	44	3	18
	Poland	21	64	6	7	32	1	8	19	65	10	10	47	2	11
	Portugal	13	61	13	5	29	1	9	9	63	18	4	36	1	8
	Slovak Republic	14	65	4	3	22	1	5	11	67	6	3	35	1	6
	Slovenia	3	80	10	11	35	2	8	1	80	13	12	55	2	12
	Spain	11	58	15	6	36	2	12	8	60	21	6	44	2	14
	Sweden	21	65	2	12	22	5	12	21	62	3	13	33	7	17
	Switzerland	16	66	3	14	26	2	17	15	65	4	11	32	2	14
	Turkey	1	60	9	8	45	4	31	1	55	12	4	46	2	27
	United Kingdom	8	58	15	6	23	2	5	6	60	20	5	30	3	8
	United States	8	56	56	a	1	7	11	0	0	0	a	2	11	23
	OECD average	14	59	10	8	29	3	12	12	60	13	7	37	3	13
	EU22 average	16	62	9	8	30	2	11	14	63	12	8	39	3	13
Partners	Argentina [2]	16	46	7	2	26	1	15	15	51	14	2	43	1	23
	Brazil	16	44	6	6	18	2	10	11	49	9	6	24	3	11
	China	m	m	13	m	18	m	1	m	m	17	m	22	m	1
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia [2]	30	44	3	3	20	0	6	28	46	5	3	25	0	4
	Russian Federation	22	27	38	1	33	0	7	20	26	42	1	40	0	6
	Saudi Arabia	8	67	17	6	29	1	12	7	59	17	5	37	0	12
	South Africa [2]	27	39	3	19	8	2	3	21	48	5	18	11	3	4
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m

1. Excludes post-secondary non-tertiary education.
2. Year of reference 2018.

Source: OECD/UIS/Eurostat (2021). See Source section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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

StatLink https://stat.link/n9fmq3

Table B1.3. Enrolment rates from age 15 to 20 by level of education (2013 and 2019)

Students enrolled in full-time and part-time programmes in both public and private institutions

		2019													2013			
		Secondary	Secondary	Secondary	Post-secondary non-tertiary	Tertiary	Secondary	Post-secondary non-tertiary	Tertiary	Secondary	Post-secondary non-tertiary	Tertiary	Secondary	Post-secondary non-tertiary	Tertiary	All levels of education			
		Age 15	Age 16	Age 17			Age 18			Age 19			Age 20			Age 17	Age 18	Age 19	Age 20
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
OECD	Countries																		
	Australia	100	99	88	1	5	36	3	36	20	4	49	17	3	50	90	74	70	66
	Austria	95	90	74	0	13	44	1	29	21	1	32	10	1	32	89	74	51	41
	Belgium	99	98	97	0	1	50	2	39	27	4	53	13	4	56	99	84	80	77
	Canada	90	89	74	m	3	20	m	37	8	m	45	5	m	45	81	57	49	46
	Chile	95	95	92	a	0	35	a	32	11	a	49	4	a	53	88	62	55	51
	Colombia	86	75	42	0	13	21	0	23	10	0	28	5	0	27	m	m	m	m
	Costa Rica	94	84	62	a	0	35	a	8	22	a	14	15	a	14	m	m	m	m
	Czech Republic	99	97	94	m	0	87	m	1	47	m	24	13	m	43	96	90	72	57
	Denmark	99	96	92	a	0	86	a	1	55	a	6	25	a	18	91	87	66	55
	Estonia	98	96	93	0	0	88	0	2	32	1	27	12	2	35	95	88	69	57
	Finland	98	96	97	0	0	96	0	1	33	0	13	16	0	25	95	94	51	48
	France	97	95	90	0	3	30	1	48	11	0	56	5	0	51	91	77	64	53
	Germany	98	94	88	4	1	65	7	9	38	11	21	22	13	30	94	86	74	64
	Greece	99	97	94	0	1	13	13	50	7	12	52	7	10	55	97	74	68	66
	Hungary	97	93	87	0	0	65	5	5	23	16	23	7	11	32	93	84	70	60
	Iceland	99	95	90	0	0	81	0	1	50	0	10	26	0	21	90	83	74	54
	Ireland	100	100	100	2	3	55	5	25	8	7	53	4	5	57	98	100	66	60
	Israel	97	96	91	0	1	16	0	9	2	1	14	1	1	15	90	26	15	15
	Italy	99	97	92[d]	x(3)	0	79[d]	x(6)	4	20[d]	x(9)	37	7d	x(12)	41	93	78	24	39
	Japan	100	98	96	0	0	2	1	m	1	0	m	m	m	m	96	m	m	m
	Korea	99	81	98	a	1	12	a	61	0	a	73	0	a	70	95	70	74	70
	Latvia	98	97	95	0	1	88	0	4	35	3	39	11	3	48	98	93	83	59
	Lithuania	100	100	98	0	1	89	1	6	21	6	45	5	6	52	98	95	79	68
	Luxembourg	96	90	85	0	0	68	0	2	40	0	5	24	0	8	82	72	51	35
	Mexico	81	75	62	a	4	25	a	24	11	a	31	6	a	31	57	41	34	30
	Netherlands	100	99	89	a	8	62	a	26	40	a	40	25	a	47	96	86	78	68
	New Zealand	99	96	83	4	2	26	9	30	10	11	41	7	10	44	92	67	59	54
	Norway	100	95	94	0	0	91	0	0	39	0	18	20	0	35	93	90	57	53
	Poland	95	95	94	0	1	92	0	3	44	3	34	10	6	46	96	93	72	66
	Portugal	99	100	99	0	0	50	0	31	23	0	43	10	0	46	95	80	65	56
	Slovak Republic	97	91	87	0	1	78	2	1	36	4	20	7	3	34	90	84	63	46
	Slovenia	98	97	96	a	0	90	a	1	29	a	55	15	a	58	96	92	80	68
	Spain	96	96	90	0	0	39	0	41	22	0	50	13	0	51	92	80	72	64
	Sweden	99	99	98	0	0	96	0	1	32	1	14	17	1	23	98	96	43	40
	Switzerland	97	93	91	0	0	78	1	4	48	1	12	24	1	22	91	85	63	46
	Turkey	93	88	81	a	0	26	a	13	11	a	35	8	a	48	74	55	47	51
	United Kingdom	99	97	90	a	3	33	a	36	16	a	47	10	a	47	90	67	59	53
	United States	100	97	90	0	1	31	1	37	4	2	53	0	2	48	88	69	60	49
	OECD average	97	94	88	0	2	55	2	18	24	3	34	12	2	39	91	78	62	54
	EU22 average	98	96	92	0	2	69	2	15	29	3	34	13	3	40	94	86	65	57
Partners	Argentina[1]	94	87	82	a	0	37	a	19	18	a	34	8	a	38	78	54	47	41
	Brazil	90	89	72	1	0	32	2	15	17	2	21	10	2	23	70	50	40	34
	China	m	m	m	m	5	m	m	28	m	m	39	m	m	40	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]	100	94	81	a	0	54	a	3	41	a	17	11	a	25	82	55	45	30
	Russian Federation	93	66	53	0	41	13	1	66	4	0	65	2	0	54	92	77	66	53
	Saudi Arabia	100	100	100	0	1	28	0	34	12	0	51	12	0	45	92	98	81	42
	South Africa[1]	70	75	76	0	2	67	1	8	45	3	10	30	4	12	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

1. Year of reference 2018.

Source: OECD/UIS/Eurostat (2021). See Source section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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

StatLink https://stat.link/b8gycd

Indicator B2. How do early childhood education systems differ around the world?

Highlights

- More children under the age of 3 are enrolling in early childhood education and care. The share has risen from 22% in 2015 to 25% on average across OECD countries.
- There were fewer pre-primary children per teaching staff across most OECD and partner countries in 2019 than in 2015. This is mostly due to a higher increase in the number of teachers compared to the number of children enrolled over this period.
- Despite the high share of private funding in ECEC in some countries, public-to-private transfers remain very low. In 2018, they represented less than 1% of total expenditure on pre-primary institutions on average across OECD countries.

Context

There is an increasing awareness of the key role that early childhood education and care (ECEC) plays in children's cognitive and emotional development, learning and well-being. Children who start strong are more likely to have better education 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]).

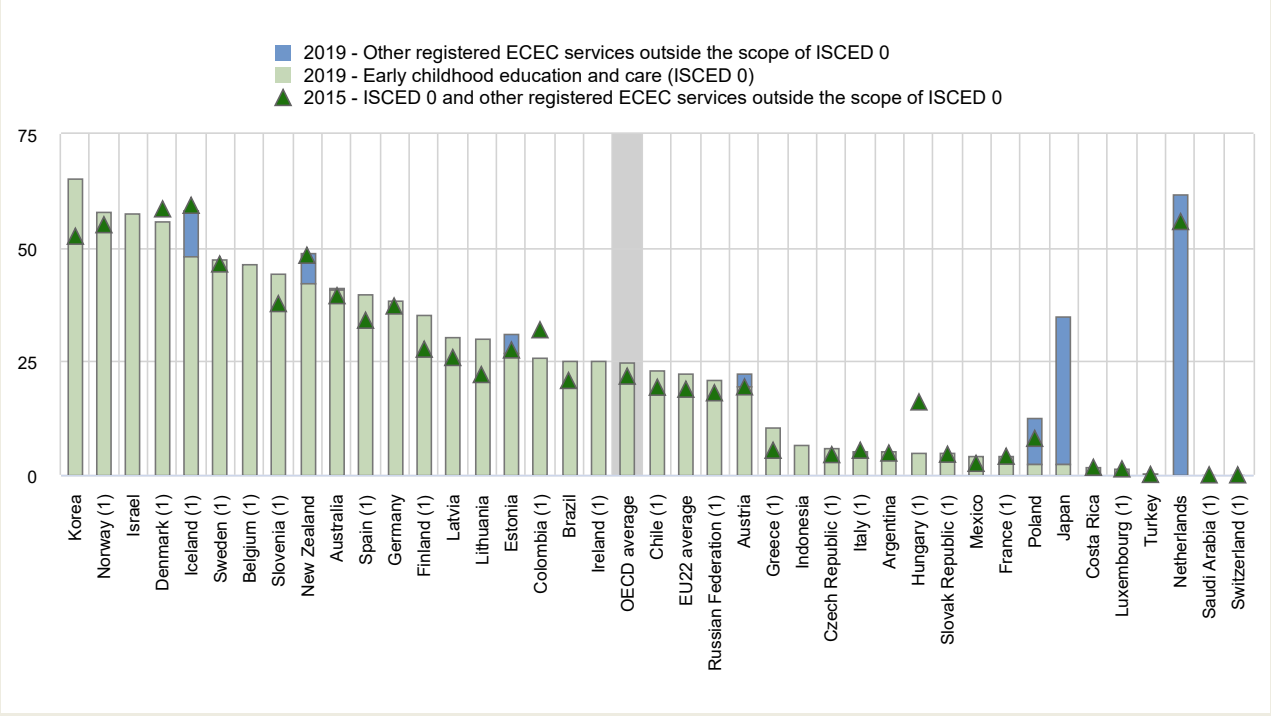
Affordable and accessible ECEC makes it easier for parents to take on employment and contribute to economic prosperity and growth. The increasing number of women entering the labour market has increased governments' interest in expanding ECEC services. High-quality ECEC services and other provisions to improve parents' work-life balance provide greater opportunities to enter employment and combine work and family responsibilities (OECD, 2018[2]; 2011[3]; 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 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.

The global COVID-19 pandemic has severely impacted the delivery of ECEC services as settings around the world closed down to contain the spread of the virus. Relying strongly on private funding in some countries, enrolment disruptions due to health and safety concerns and declining household budgets following job loss and insecurity, have jeopardised the future of a number of ECEC settings and the participation rates of young children (OECD, 2021[6]).

Figure B2.1. Enrolment rates of children under age 3 in early childhood education and care, by type of service (2015 and 2019)

ISCED 0 and other registered ECEC services outside the scope of ISCED, in per cent



Note: 2015 refers to both early childhood education and care (ISCED 0) and other registered ECEC services outside the scope of ISCED 0 (except for OECD and EU averages which only cover services within ISCED 0).
1. Data for 2015 excludes other registered ECEC services..
Countries are ranked in descending order of the enrolment rates in ISCED 0 of children under age 3 in 2019.
Source: OECD (2021), Table B2.1. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

StatLink https://stat.link/cjoe0x

Other findings

- Countries with lower levels of participation in ECEC tend to have starker regional variation, while participation in countries with higher levels of enrolment is more equitably distributed across the territory.
- Annual expenditure per child enrolled in early childhood development services (ISCED 01) is significantly higher than for pre-primary education (ISCED 02), averaging about USD 14 400 across OECD countries. The higher cost is mostly driven by the fewer number of children per teacher: on average, there are five children less per teacher in early childhood development services than in pre-primary education.
- About a third of children in pre-primary education are enrolled in private institutions on average across OECD countries. The source of funding in ECEC does not necessarily reflect the entity providing the service: the public sector provides for at least 50% of total costs, even in countries where almost all pre-primary children attend private institutions.

Analysis

There is a growing consensus among OECD countries of 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, the governance of centres, the funding of services, the 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. About half of the OECD countries with available data have integrated ECEC 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[7])).

Generally, formal ECEC services can be further classified into two categories:

- ECEC services that comply with the ISCED 2011 classification must: 1) have adequate intentional educational properties; 2) be institutionalised; 3) have an intensity of at least 2 hours per day of educational activities and a duration of at least 100 days per year; 4) have a regulatory framework recognised by the relevant national authorities; and 5) have trained and accredited staff (OECD/Eurostat/UNESCO Institute for Statistics, 2015[8]).
- Other registered ECEC services that are an integral part of countries' ECEC provision but that do not comply with one or more of the criteria to be considered an educational programme under the ISCED 2011 classification (e.g. *crèches* in France or *amas* in Portugal). While such programmes exist in many countries, particularly for children under age 3, not all are able to report the number of children enrolled in them. For this reason, data relating to participation in ECEC services that comply with the ISCED 2011 classification and those that do not are explicitly presented and analysed separately in this chapter.

Informal care services (generally unregulated care arranged by the child's parents 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 age 3

Participation in high-quality ECEC in the first years of children's lives can have a positive effect on their well-being, learning and development in the short and the long term (OECD, 2018[9]; 2018[2]). The availability and length of parental leave, as well as the typical starting age for ECEC influence the age at which children are likely to begin attending such services. Other factors such as cultural perspectives on the role of women in the workplace and as primary caregivers are also likely to be important. In 2019, about one in four children under age 3 was enrolled in a formal ECEC setting on average across OECD countries, though enrolment in formal ECEC services shows only one part of the picture for young children under age 3, ranging from 2% or less in Costa Rica, Japan, Luxembourg, the Netherlands, Saudi Arabia, Switzerland and Turkey to more than 50% in Denmark, Israel, Korea and Norway (Figure B2.1).

Although early childhood development services caters to children under the age of three, the typical starting age may differ across countries. In most of them, children may enrol within the first year of birth, while in a few countries and for specific programmes within countries, children may enter at age 1 or 2. However, in many countries, a large share of children under age 3 attend other ECEC services that do not comply with one or more of the criteria of the ISCED classification. For example, in Japan, 32% of children under age 3 are enrolled in such settings, compared to 2% in formal ECEC. In the Netherlands, formal ECEC settings in adherence with the ISCED criteria for children under age 3 do not even exist, while about two-thirds of children in this age group attend other ECEC services (Figure B2.1).

On average across OECD countries, the enrolment of young children under age 3 has risen steadily in most OECD countries since 2005. Some countries have particularly accelerated the expansion of ECEC for children under age 3 in recent years. For example, 35% of children under age 3 were enrolled in ECEC (ISCED 0) in Finland in 2019 compared to 28% in 2015 and 25% in 2005. Korea witnessed the largest expansion between 2015 and 2019, with the enrolment of children under age 3 increasing by 13 percentage points. In some countries, the enrolment of young children under the age of 3 has declined between 2015 and 2019. This is the case in Colombia and Denmark (Table B2.1).

In many European countries, the expansion of ECEC has been 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 age 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 age 3. Countries with higher enrolment rates of children under age 3 in 2019 tend to be those in which the employment rates of mothers are the highest (see Table B2.1 in OECD (2018[2])).

Despite efforts to increase the affordability and access to ECEC for very young children, the likelihood of participation is still very contingent on family income, particularly in early childhood development services that rely strongly on private sources of funding. Data from the European Union Statistics on Income and Living Conditions (EU-SILC) Survey reveal that on average across European OECD countries, 0-2 year-olds in low-income households were one-third less likely to participate in ECEC (centre-based care, organised family day care, care services provided by (paid) professional childminders, and, in some countries, children in primary education) than 0-2 year-olds in high-income households in 2017. In some countries, such as France and Ireland, the difference in participation rates between children from high- and low-income families exceeds 40 percentage points. In contrast, in Denmark, there is a high participation rate of young children in ECEC regardless of parents' income level (OECD, 2020[10]).

Enrolment of children from age 3 to 5

Bringing forward the starting age of compulsory schooling has been the focus of policy reform in recent years as research suggests that an early start to a quality education can be beneficial for children's development and can help prepare them for school. A decade ago, most OECD countries saw the start of compulsory education coincide with the start of primary school. But today, in many OECD countries, ECEC begins for most children long before they turn 5 years old. Some countries have lowered the age at which formal schooling starts. In Colombia, Greece, the Netherlands, Poland and Sweden, compulsory education starts one year before entry into primary school. In a few cases, compulsory education starts even earlier, at age 3 in France, Hungary, Israel and Mexico, at age 4 in Costa Rica and Luxembourg and at age 4-5 in Switzerland. Even in countries where compulsory education does not start until age 5 or 6, from the first year of primary school, many OECD countries offer universal legal entitlements to a place in ECEC services for at least one or two years before the start of compulsory schooling.

Although participation in ECEC is not compulsory in all countries, enrolment of 3-5 year-olds is still very common across OECD countries, with 87% of 3-5 year-olds enrolled in ECEC and primary on average. In more than half of the 42 OECD and partner countries with available data, the enrolment of children between the ages of 3 and 5 is nearly universal, i.e. at least 90%. The highest enrolment rates of 3-5 year-olds in ECEC and primary education are found in Belgium, Denmark, France, Iceland, Ireland, Israel, Norway, Spain and the United Kingdom, where they equal or exceed 97%. In contrast, less than 50% of 3-5 year-olds are enrolled in education in Saudi Arabia, Switzerland and Turkey (Table B2.1). Lower enrolment in ECEC may be due to insufficient places available, lack of awareness by parents of the importance of ECEC or limited public coverage of early learning settings (OECD, 2017[11])

In the past decades, enrolment of 3-5 year-olds in education has been expanding as a result of the extension of compulsory education to younger children, the increased provision of free ECEC for some ages and targeted population groups, and universal provision for older children. Between 2015 and 2019, the average enrolment of 3-5 year-olds in pre-primary and primary education in OECD countries rose by 2 percentage points. A few countries have seen spectacular increases, of more than 5 percentage points, in the enrolment of 3-5 year-olds over this period, including Brazil, Colombia, Costa Rica, Finland, Greece, Poland and the Slovak Republic. In contrast, other countries have not shown much change, mostly as enrolment levels were already high in 2015. Switzerland is the only country where enrolment was low in 2015 (less than one in two 3-5 year-olds were enrolled in education) and there has not been any significant progress since. This is due to the lack of compulsory education programmes for 3-year-olds in Switzerland, where pre-primary education is intended for children aged 4 and over (Table B2.1).

The vast majority of 3-5 year-old children enrolled in education attend pre-primary education across most OECD countries. However, in some countries such as Australia, Ireland, New Zealand and the United Kingdom, primary education begins at age 5 (Annex 1). The age at which children transition to primary education has long been debated across OECD countries: while ECEC programmes aim to develop the cognitive, physical and socio-emotional skills needed to participate in school and society, primary education is designed to give pupils a sound basic education in reading, writing and mathematics, along with a preliminary understanding of other subjects (OECD/Eurostat/UNESCO Institute for Statistics, 2015[8]). While good quality ECEC can have a beneficial impact for young children, a large body of evidence indicates the

crucial importance of child-led free play in young children's development, before engaging in a more academically oriented programme (OECD, 2017[11]).

Regional variation in the enrolment of 3-5 year-olds

Equitable access to quality ECEC can strengthen the foundations of lifelong learning for all children and support the broad educational and social needs of families. Among the various equity dimensions, geographical location may hinder access to a quality education, particularly in rural regions where the provision of ECEC settings may be unequal and families may have to travel long distances to access the nearest setting.

Higher levels of participation in ECEC among 3-5 year-olds at national level tend to be associated with lower disparities among regions. Most countries where the enrolment of 3-5 year-olds in ECEC was above 90% also had low regional variation, with a standard deviation below 7%. Similarly, the countries with the lowest levels of participation in ECEC also had the highest disparities across regions. In Switzerland and the United States, more than 40 percentage points separate the regions with the highest and lowest enrolment of 3-5 year-olds. Both countries are highly federal with a great degree of autonomy in the organisation of ECEC. Low levels of enrolment may be due to lower provision of ECEC and the inability of some families to travel to the nearest ECEC setting in certain regions, particularly the more rural ones.

Children in capital cities are less likely to participate in ECEC in a number of countries. For example, in Chile, enrolment of 3-5 year-olds in the Santiago metropolitan is among the lowest in the country. Even in countries such as the Czech Republic, Italy, Korea, Norway, Portugal, Sweden or Spain, where the enrolment of 3-5 year-olds exceeds 90% nationally, capital cities tend to have among the lowest share of young children participating to ECEC. Lower provision of public ECEC compared to demand and the higher prevalence of privately managed settings in capital cities may explain a lower participation rate in urban areas. In contrast, publicly managed centres are significantly more likely to be located in more rural areas, underlining the role of the public sector in ensuring equal access to ECEC settings across the national territory (OECD, 2019[12]).

Staffing of early childhood education and care

Child-staff ratios

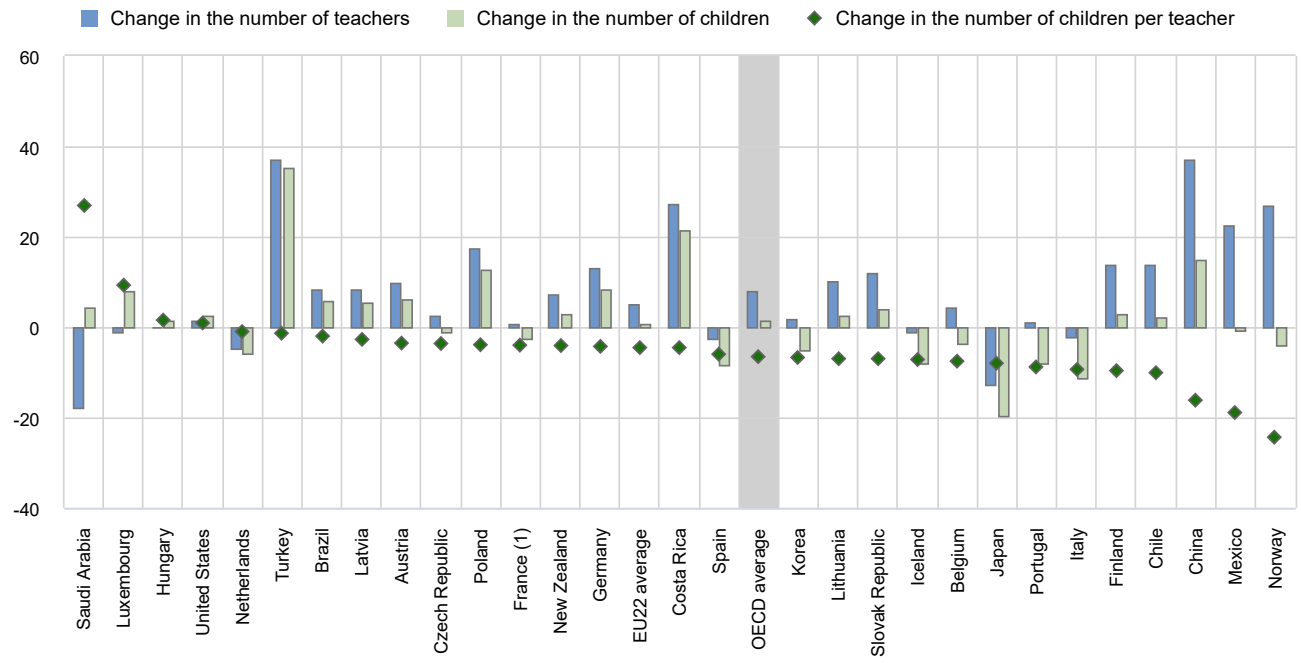
Research demonstrates that enriched, stimulating environments and high-quality pedagogy are fostered by better-qualified practitioners, and that better-quality child-staff interactions facilitate better learning outcomes. In that context, lower child-staff ratios are found to be consistently supportive of child-staff 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 spent addressing class disruptions (OECD, 2020[13]).

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 the quality of ECEC. On average across OECD countries, there are 15 children for every teacher working in pre-primary education, but wide variations exist 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 and New Zealand to 20 or more in Brazil, Chile, Colombia, France, India, Mexico, Slovenia and the United Kingdom (Table B2.2).

Between 2015 and 2019, the number of children per teaching staff at pre-primary level dropped across most OECD and partner countries. In most of these countries, the drop in the ratio of children to teaching staff is due to stronger growth in the number of teachers compared to the number of children enrolled in pre-primary education. In Belgium, the Czech Republic, France, Korea, Mexico, Norway and Portugal, the number of teachers increased despite a drop in the number of children enrolled since 2015. Finally, in Iceland, Italy, Japan, the Netherlands and Spain, the number of children enrolled in pre-primary education declined at a faster rate than the number of teachers. Between 2015 and 2019, the child-to-teacher ratio increased by 9% or more in Luxembourg and Saudi Arabia. This was the combined effect of both an increase in the number of enrolled pre-primary children and a decrease in the number of teachers (Figure B2.2).

Figure B2.2. Changes in the number of children, the number of teachers and the number of children per teacher in pre-primary education between 2015 and 2019

In per cent



1. Data on ratios of children to staff are presented for public institutions and government-dependent private institutions.
Countries are ranked in descending order of the change over the period 2015-19 in the ratio of children to teaching staff in pre-primary education.
Source: OECD (2021), Table B2.2 and *Education at a Glance database*, http://stats.oecd.org. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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Lower child-to-staff ratios are particularly important for quality interactions with children under age 3 (OECD, 2018[9]). With the exception of Hungary,Indonesia and Lithuania, the child-to-teacher ratio in early childhood development services (ISCED 01) is consistently lower than for pre-primary education (ISCED 02) across all OECD member and partner countries. On average across OECD countries, there are 10 children for every teacher working in early childhood educational development services, ranging from 31 in the United Kingdom to 3 in Denmark, Iceland and New Zealand (Table B2.2).

Some countries – Austria, Chile, France, Lithuania, Norway, Slovenia, Sweden and the United Kingdom – 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, support children with special needs and are expected to perform certain educational tasks autonomously. In most countries, they have a lower qualification level than teachers, often an upper secondary vocational qualification. In some countries, additional selection is required to qualify as a pre-primary school assistant. For example, in Slovenia, it is required to pass a state professional examination in education to qualify as an assistant at pre-primary level.

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 participation in ECEC of children from disadvantaged socio-economic backgrounds (OECD, 2017[1]).

Expenditure per child

In pre-primary education, annual expenditure for both public and private settings averaged about USD 9 300 per child in OECD countries in 2018, ranging from less than USD 1 400 in Colombia to more than USD 15 000 inIceland, Luxembourg, Norway and Sweden. Child-to-staff ratios and teacher compensation are a main driver of spending at pre-primary level, as countries with lower child-to-staff ratios tend to spend more per child. Other factors, such as the number of hours per year an ECEC setting is required to be open, also influence expenditure levels. For example, pre-primary settings in Norway are open 48 weeks a year on average, compared to about 35 weeks in Belgium, Greece, Israel and Spain (see Box B2.2 in (OECD, 2018[14])).

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 14 400 across OECD countries. However, this masks wide variation across countries: in Australia, Chile and Lithuania, spending in early childhood educational development services is at most USD 1 000 more per child than at pre-primary level, compared to at least USD 10 000 more in Denmark, Finland and Norway. Hungary and Israel are the only OECD countries with data where spending per child in early childhood development services is lower than at pre-primary level.

The smaller child-to-staff ratio in early childhood development services is one of the main drivers of this difference (Table B2.2). However, it does not explain all of it. For example, although the child-to-teacher ratio in early childhood development services is about half its value in pre-primary education in Chile, spending increases by less than USD 1 000 per child . This may be partly due the lower qualifications required of teaching staff at this level, resulting in a lower salary cost in some countries. For example, in the Flemish Community of Belgium and in Greece, only an upper secondary qualification is required to teach in an early childhood development setting, compared to a bachelor's degree at pre-primary level.

Expenditure as a percentage of gross domestic product

Spending on ECEC can also be analysed relative to a country's wealth. Expenditure on all ECEC settings accounted in 2018 for an average of 0.9% of gross domestic product (GDP) across OECD countries, of which two-thirds was allocated to pre-primary education. While 0.3% or less of GDP was spent on pre-primary education (ISCED 02) in Australia, Colombia, Greece, Japan and the United Kingdom, countries such as Chile, Iceland, Israel, Norway and Sweden spent at least 1% of GDP (Table B2.3).

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 those countries spend more as a percentage of GDP than the OECD average (see the information on starting ages for primary education in Table B2.1).

To avoid this distortion, an estimation of spending by age group has been included in the ECEC spending indicators 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 age, giving a more accurate picture of countries' investment in young children. As this indicator presents an estimation of the actual cost, 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 and Ireland to 1.0% or more in Chile, Iceland and Norway (Table B2.3).

Public and private provision and funding of early childhood education and care

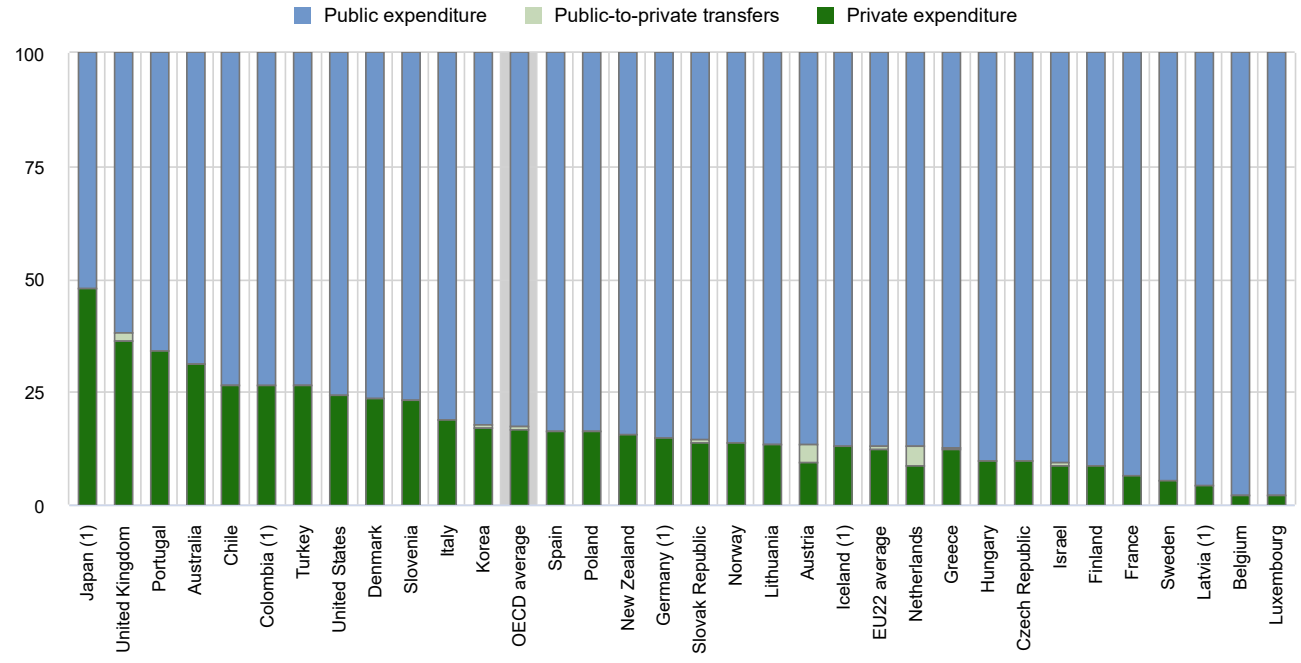
Parents' needs and expectations regarding accessibility, cost, programme, staff quality and accountability are all important in assessing the expansion of ECEC programmes and the type of providers. When parents' needs for quality, accessibility or

affordability are not met by public institutions, some parents may be more inclined to send their children to private ones (Shin, Jung and Park, 2009[15]).

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[16]). In most countries, the share of children enrolled in private institutions is considerably higher in early childhood education than at primary and secondary levels. On average across OECD countries, about half of the children in early childhood educational development services and a third of those in pre-primary education are enrolled in private institutions. This average, however, hides huge discrepancies across countries. In the Czech Republic, Lithuania, Slovenia, Switzerland and the Russian Federation, 5% or less of the children in pre-primary education attend private institutions. 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 enrolled in private institutions (Table B2.2).

Figure B2.3. Distribution of public and private expenditure on educational institutions in pre-primary education (2018)

In per cent



1. Information on public-to-private transfers is missing.

Countries are ranked in descending order of the share of private expenditure after public-to-private transfers.

Source: OECD (2021), Table B2.3. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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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 across OECD countries, private funding represented 29% of total expenditure on early childhood educational development and 17% on pre-primary education in 2018.

While the share of private funding varies significantly across countries, the source of funding does not necessarily reflect the entity providing the service. In all OECD member and partner countries, the public sector provides for at least 50% of total costs in pre-primary education, even in countries where almost all pre-primary children attend private institutions. In New Zealand, for example, although 99% of pre-primary children attend private institutions, the private sector provides for less than 20% of total costs, a lower share than in countries with significantly higher public provision of pre-primary education, such as Denmark or Slovenia (Figure B2.3). Different private entities may contribute to the funding of pre-primary education. In the United Kingdom, most of the private funding comes from households. In Japan, a high share of private cost is shared between households, foundations and the business sector, although private ECEC centres are publicly subsidised and household contributions to ECEC are capped.

Public-to-private transfers in the form of subsidies and financial support may help alleviate the financial burden on households to enrol their children in early childhood education. However, in 2018, public-to-private transfers on pre-primary institutions represented less than 1% of total expenditure on average across OECD countries. Among OECD countries, Austria and the Netherlands had the highest share of public-to-private transfers, representing about 4% of total expenditure on pre-primary institutions. In contrast, transfers from the public to the private sector were non-existent or represented less than 2% in countries with a strong reliance on private expenditure at pre-primary level, such as Australia or the United Kingdom (Figure B2.3).

As a result, early childhood education remains expensive for many parents, particularly for children under age 3, where households' financial contributions tend to be higher than at pre-primary level. Calculations using comparable data on childcare prices charged to parents, and accounting for all relevant support provisions, show that net costs average 17% of women's median full-time earnings for a middle-income two-earner couple. This varies from more than half of female median earnings or more in Japan and the United Kingdom to almost zero in Chile, Germany and Italy, where families with children in public childcare centres can benefit from heavily subsidised childcare fees or may be exempt from fee payments altogether (OECD, 2020[10]). Acknowledging the important role of ECEC in children's cognitive and emotional development and in facilitating parental employment, a number of countries have introduced measures to expand participation in ECEC. For example, since October 2019, free ECEC is a universal legal entitlement for children aged 3-5 in Japan (OECD, 2020[17]).

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]) (Table B2.4):

- **Regular centre-based ECEC:** More formalised ECEC centres typically belong to one of these three subcategories:
  - *Centre-based ECEC for children under age 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 age 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 3-5. 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.

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 the child-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 children 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, see the *OECD Handbook for Internationally Comparative Education Statistics* (OECD, 2018[16]) and Annex 3 for country-specific notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

Estimated expenditure for all children aged 3-5 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 3-5 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 3-5. For instance, in Australia, children aged 3-5 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 3-5 enrolled in ECEC and primary education. Total expenditure for all children aged 3-5 is 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 2019 (school year 2018/19) and financial year 2018.

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 2020 (for details, see Annex 3 at https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf)).

Data on subnational regions for selected indicators are available in the *OECD Regional Statistics* (database) (OECD, 2021[18]).

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Indicator B2 tables

Tables Indicator B2. How do early childhood education systems differ around the world?

Table B2.1	Trends in enrolment rates in early childhood education and care and primary education, by age group (2005, 2015 and 2019)
Table B2.2	Percentage of children enrolled in private institutions, ratio of children to teaching staff, by ISCED 0 levels (2019) and index of change in the ratio of children to teaching staff (2015 = 100)
Table B2.3	Financing of early childhood education and care (ISCED 0) and change in expenditure (2018)
WEB Table B2.4	*Coverage of early childhood education and care in OECD and partner countries*

StatLink https://stat.link/v2lap8

Cut-off date for the data: 17 June 2021. 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*.

Table B2.1. Trends in enrolment rates in early childhood education and care and primary education, by age group (2005, 2015 and 2019)

Public and private institutions

		Age when ECEC services (ISCED 0) start offering intentional education objectives	Typical starting age of primary education	Starting age of compulsory education	Under age 3						Age 3 to 5					
					ECEC (ISCED 0)	Other registered ECEC services	ECEC (ISCED 0)	Other registered ECEC services	ECEC (ISCED 0)	Other registered ECEC services	ECEC (ISCED 0)	Primary education	ECEC (ISCED 0)	Primary education	ECEC (ISCED 0)	Primary education
			2019		2005	2005	2015	2015	2019	2019	2005	2005	2015	2015	2019	2019
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
OECD	**Countries**															
	Australia	0 years	5	6	m	m	39	1	41	0	m	25	58	28	57	26
	Austria	0 years	6	6	6	m	17	2	20	3	76	0	88	0	90	0
	Belgium [1]	Fl.: 3-6 months; Fr.: 2 years	6	6	m	m	m	m	46	m	m	0	m	0	98	0
	Canada	3-4 years	6	6	m	m	m	m	m	m	m	m	m	m	m	m
	Chile	3 months	6	6	m	m	19	0	23	m	m	6	78	0	80	0
	Colombia	0 years	6	5	m	m	32	m	26	m	m	m	72	7	78	6
	Costa Rica	0 years	6	4	m	m	2	m	2	m	m	m	53	0	62	0
	Czech Republic	2-3 years	6	6	m	m	4	m	6	m	85	0	85	0	86	0
	Denmark	26 weeks	6	6	m	m	58	m	56	m	m	m	97	1	97	0
	Estonia	0 years	7	7	m	m	24	3	27	4	84	0	90	0	91	0
	Finland	9 months	7	7	25	m	28	m	35	m	68	0	74	0	85	0
	France	2-3 years	6	3	9	m	4	m	4	m	100	0	100	0	100	0
	Germany	0 years	6	6	17	a	37	a	39	a	87	0	96	0	94	0
	Greece	2 months	6	5	m	m	5	m	10	m	44	0	63	0	69	0
	Hungary	20 weeks	7	3	m	7	5	11	5	m	m	0	91	0	93	0
	Iceland	0 years	6	6	39	13	47	13	48	10	95	0	97	0	97	0
	Ireland	3 years	5	6	m	m	m	m	25	m	m	47	m	45	59	40
	Israel	0 years	6	3	m	a	m	a	57	a	m	0	99	0	99	0
	Italy	2-3 years	6	6	4	m	5	m	5	m	98	2	92	3	92	2
	Japan	3 years	6	6	m	16	m	22	2	32	88	0	91	0	94	0
	Korea	0 years	6	6	m	a	52	a	65	a	m	0	92	0	93	0
	Latvia	1.5 years	7	5	17	a	26	a	31	a	77	0	92	0	93	0
	Lithuania	0 years	7	7	13	a	22	a	30	a	59	0	84	0	87	0
	Luxembourg	0 years	6	4	m	m	1	m	1	m	83	1	85	2	87	2
	Mexico	1.5 months	6	3	2	a	2	a	4	a	60	3	73	9	71	9
	Netherlands	3 years	6	5	0	m	0	56	0	62	m	0	93	0	91	0
	New Zealand	0 years	5	5	34	m	42	6	42	7	62	33	62	32	59	31
	Norway	0 years	6	6	33	m	55	m	58	m	88	0	97	0	97	0
	Poland	3 years	7	6	1	2	3	5	3	10	38	0	80	0	87	0
	Portugal [1]	0 years	6	6	19	m	m	1	m	m	77	1	89	0	92	0
	Slovak Republic	2-3 years	6	6	7	m	5	m	5	m	73	0	72	0	78	0
	Slovenia	11 months	6	6	25	m	38	m	44	m	75	0	88	0	92	0
	Spain	0 years	6	6	15	m	34	m	40	m	98	0	97	0	97	0
	Sweden	1 year	7	6	m	m	45	1	47	m	m	0	93	0	94	0
	Switzerland	m	6	4-5	2	m	0	m	0	m	47	0	49	0	49	0
	Turkey	m	6	5-6	m	a	0	a	0	a	10	3	31	7	39	4
	United Kingdom	0 years	5	4-5	m	m	m	m	m	m	m	46	67	33	68	32
	United States [1]	m	6	4-6	m	m	m	m	m	m	64	2	65	2	64	2
	OECD average				m	m	22	m	25	m	72	5	81	5	83	4
	EU22 average				m	m	19	m	22	m	76	3	87	2	89	2
Partners	Argentina [2]	m	m	4	2	m	5	m	5	m	63	0	75	0	77	0
	Brazil	0 years	6	4	m	a	21	a	25	a	m	m	76	3	84	2
	China	m	6	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	6	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia [2]	m	m	7	m	m	m	m	7	m	m	m	m	m	68	1
	Russian Federation	0 years	7	7	m	m	18	m	21	m	m	m	83	0	83	0
	Saudi Arabia	m	m	6	m	m	0	m	0	m	m	m	18	0	20	1
	South Africa [2]	m	m	7	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: 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. Excludes ISCED 01 programmes. For Belgium, excludes ISCED 01 programmes for the French Community of Belgium.
2. Year of reference 2018 instead of 2019.

Source: INES ad hoc survey and OECD/UIS/Eurostat (2021). See Source section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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

StatLink https://stat.link/83olpk

Table B2.2. Percentage of children enrolled in private institutions, ratio of children to teaching staff, by ISCED 0 levels (2019) and index of change in the ratio of children to teaching staff (2015=100)

		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)									Index of change between 2015 and 2019 (2015=100) in the ratio of children to teaching staff in pre-primary education		
					ISCED 01			ISCED 02			Total (ISCED 0)			Total (ISCED 02)		
		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	Change in the number of children	Change in the number of teachers	Change in the ratio of children per teaching staff
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD	Countries															
	Australia	m	86	m	m	m	m	m	m	m	m	m	m	m	m	m
	Austria	63	29	36	31	6	9	35	8	13	34	8	12	6	10	-4
	Belgium	m	53	m	m	m	m	a	14	14	m	m	m	-4	4	-8
	Canada	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Chile	9	64	52	37	6	10	60	9	23	60	9	23	2	14	-10
	Colombia	m	20	m	m	m	m	m	m	38	m	m	m	m	m	m
	Costa Rica	74	11	15	a	5	5	a	12	12	a	11	11	21	27	-5
	Czech Republic	a	4	4	a	a	a	10	12	13	10	12	13	-1	2	-4
	Denmark	15	22	20	m	m	3	m	m	7	m	m	5	m	m	m
	Estonia	x(3)	x(3)	4	m	m	x(12)	m	m	x(12)	m	m	8	m	m	m
	Finland	24	14	16	m	m	m	m	m	9	m	m	m	3	14	-10
	France [1]	a	14	14	a	a	a	35	15	23	35	15	23	-3	1	-4
	Germany	73	65	67	9	4	5	9	8	9	9	7	7	8	13	-4
	Greece	m	11	m	m	m	m	a	10	10	m	m	m	m	m	m
	Hungary	18	11	12	a	15	15	a	13	13	a	13	13	2	0	2
	Iceland	21	15	17	a	3	3	a	5	5	a	4	4	-8	-1	-7
	Ireland	100	99	99	x(10)	x(11)	x(12)	x(10)	x(11)	x(12)	7	4	4	m	m	m
	Israel	100	35	59	m	m	m	m	m	m	m	m	m	m	m	m
	Italy	a	28	28	a	a	a	a	12	12	a	12	12	-11	-2	-9
	Japan	a	77	77	a	a	a	8	13	14	8	13	14	-20	-13	-8
	Korea	87	75	79	a	5	5	a	12	12	a	8	8	-5	2	-7
	Latvia	19	8	10	m	m	7	m	m	10	m	m	9	5	8	-3
	Lithuania	11	5	6	36	6	10	35	6	10	35	6	10	3	10	-7
	Luxembourg	a	11	11	a	a	a	a	12	12	a	12	12	8	-1	9
	Mexico	70	16	18	71	6	19	a	20	20	10	18	20	-1	22	-19
	Netherlands	a	28	28	a	a	a	13	14	16	13	14	16	-6	-5	-1
	New Zealand	99	99	99	m	m	3	m	m	6	m	m	5	3	7	-4
	Norway	52	49	50	55	3	7	55	5	12	55	4	10	-4	27	-24
	Poland	a	26	26	a	a	a	m	m	15	m	m	15	13	17	-4
	Portugal	m	47	m	m	m	m	m	m	16	m	m	m	-8	1	-9
	Slovak Republic	a	7	7	a	a	a	2	11	12	2	11	12	4	12	-7
	Slovenia	7	5	6	53	5	12	53	10	21	53	8	17	m	m	m
	Spain	49	33	37	m	m	9	m	m	14	m	m	12	-8	-3	-6
	Sweden	20	18	18	60	5	13	56	6	14	57	6	14	m	m	m
	Switzerland	a	5	5	a	a	a	m	m	18	m	m	18	m	m	m
	Turkey	100	17	17	m	m	m	m	m	17	m	m	m	35	37	-1
	United Kingdom	m	55	m	92	3	31	89	5	40	90	4	37	m	m	m
	United States	m	40	m	m	m	m	16	10	12	m	m	m	2	1	1
	OECD average	51	33	31	m	m	10	34	11	15	m	m	13	1	8	-7
	EU22 average	36	26	24	m	m	9	28	11	13	m	m	12	1	5	-5
Partners	Argentina [2]	56	31	33	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	35	23	28	37	9	14	14	18	21	28	12	17	6	8	-2
	China	a	57	57	a	a	a	m	m	17	m	m	17	15	37	-16
	India	a	22	22	a	a	a	m	m	31	m	m	31	m	m	m
	Indonesia [2]	100	95	98	m	m	21	m	m	13	m	m	17	m	m	m
	Russian Federation	2	2	2	m	m	x(12)	m	m	x(12)	m	m	11	m	m	m
	Saudi Arabia	a	47	47	a	a	a	m	m	17	m	m	17	4	-18	27
	South Africa [2]	m	6	m	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	59	34	34	m	m	m	m	m	18	m	m	19	3	7	-3

Note: Early childhood educational development programmes = ISCED 01, pre-primary education = ISCED 02. 1. Exclude data from independent private institutions. For teachers' aides, exclude also government-dependent institutions which implies an overestimation of the ratio of children to contact staff.
2. Year of reference 2018 instead of 2019.
Source: INES ad hoc survey and OECD/UIS/Eurostat (2021). See Source section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://stat.link/kf4qdt

Table B2.3. Financing of early childhood education and care (ISCED 0) and change in expenditure (2018)

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 public to private transfers)			
											Pre-primary (ISCED 02)		
		As a % of GDP	Per child (in USD PPP)	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)	Total	of which public to private transfers	Total (ISCED 0)
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD	**Countries**												
	Australia	0.5	8 488	0.3	0.3	0.6	8 088	7 399	7 700	39	31	0.0	35
	Austria	0.5	11 020	0.1	0.5	0.7	12 864	10 915	11 281	23	13	4.0	15
	Belgium[1]	0.6	9 406	m	0.7	m	m	9 401	m	m	2	0.2	m
	Canada	m	m	m	m	m	m	m	m	m	m	m	m
	Chile	1.0	7 549	0.3	1.0	1.3	8 450	7 516	7 722	17	27	0.0	24
	Colombia	0.4	1 484	0.1	0.3	0.4	m	1 325	m	87	27	m	45
	Costa Rica	m	m	m	m	m	m	m	m	m	m	a	m
	Czech Republic	0.4	6 818	a	0.6	0.6	a	6 818	6 818	a	10	0.0	10
	Denmark	0.6	m	0.7	0.6	1.3	23 140	11 247	15 679	24	24	0.0	24
	Estonia	0.7	8 929	x(5)	x(5)	1.2	x(8)	x(8)	8 929	x(12)	x(12)	x(12)	14
	Finland	0.6	12 051	0.4	0.8	1.2	23 353	12 051	14 154	7	9	0.0	8
	France	0.7	9 163	a	0.7	0.7	a	9 164	9 164	a	7	0.0	7
	Germany	0.5	11 568	0.4	0.6	1.0	18 656	11 569	13 509	15	15	m	15
	Greece[1]	0.3	6 144	m	0.3	m	m	6 144	m	m	13	0.3	m
	Hungary	0.6	m	0.0	0.7	0.8	7 222	7 432	7 421	10	10	0.0	10
	Iceland	1.1	17 070	0.7	1.1	1.8	24 427	17 073	19 420	9	13	m	12
	Ireland	0.3	m	x(5)	x(5)	0.2	x(8)	x(8)	4 439	x(12)	x(12)	a	14
	Israel	0.9	6 321	0.3	1.0	1.3	3 327	6 317	5 226	82	9	0.5	26
	Italy	0.6	10 100	a	0.6	0.6	a	10 110	10 110	a	19	0.0	19
	Japan[2]	m	m	a	0.2	0.2	a	7 841	7 841	a	48	m	48
	Korea[1]	0.5	8 081	m	0.5	m	m	8 075	m	m	18	0.6	m
	Latvia	0.6	6 035	a	0.8	0.8	a	6 035	6 035	a	4	m	4
	Lithuania	0.6	7 810	0.2	0.8	1.0	8 184	7 810	7 884	18	13	0.0	14
	Luxembourg	0.5	20 921	a	0.5	0.5	a	20 916	20 916	a	2	0.0	2
	Mexico	0.6	2 717	x(5)	x(5)	0.5	m	m	2 686	x(12)	x(12)	x(12)	17
	Netherlands	0.4	8 081	a	0.4	0.4	a	8 081	8 081	a	13	4.3	13
	New Zealand	0.7	8 550	0.4	0.5	0.8	10 349	8 389	9 177	31	16	0.1	23
	Norway	1.0	16 514	1.0	1.0	2.0	29 726	16 514	21 286	14	14	0.0	14
	Poland	0.6	7 574	a	0.9	0.9	a	7 574	7 574	a	16	0.1	16
	Portugal[1]	0.5	8 113	m	0.5	m	m	8 113	m	m	34	m	m
	Slovak Republic	0.5	6 623	a	0.6	0.6	a	6 623	6 623	a	15	0.8	15
	Slovenia	0.6	8 893	0.4	0.7	1.0	11 664	8 893	9 731	23	23	a	23
	Spain	0.5	7 578	0.2	0.5	0.7	9 084	7 577	7 981	34	16	0.0	22
	Sweden	0.9	15 004	0.5	1.3	1.8	18 010	15 004	15 794	6	5	a	6
	Switzerland	m	m	a	m	m	a	m	m	a	m	m	m
	Turkey[1]	0.4	5 173	m	0.4	m	m	5 314	m	m	26	0.0	m
	United Kingdom	m	m	0.1	0.3	0.4	m	m	m	55	38	1.9	41
	United States[1]	0.4	9 906	m	0.4	m	m	9 832	m	m	24	a	m
	OECD average	0.6	9 123	0.4	0.6	0.9	14 436	9 260	10 118	29	17	0.6	18
	EU22 average	0.6	9 570	0.3	0.7	0.8	14 686	9 574	10 112	18	13	0.6	13
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	a	m	m	a	m	m	a	m	m	m
	G20 average	m	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.

Source: INES ad hoc survey and OECD/UIS/Eurostat (2021). See Source section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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

StatLink https://stat.link/3eyvxp

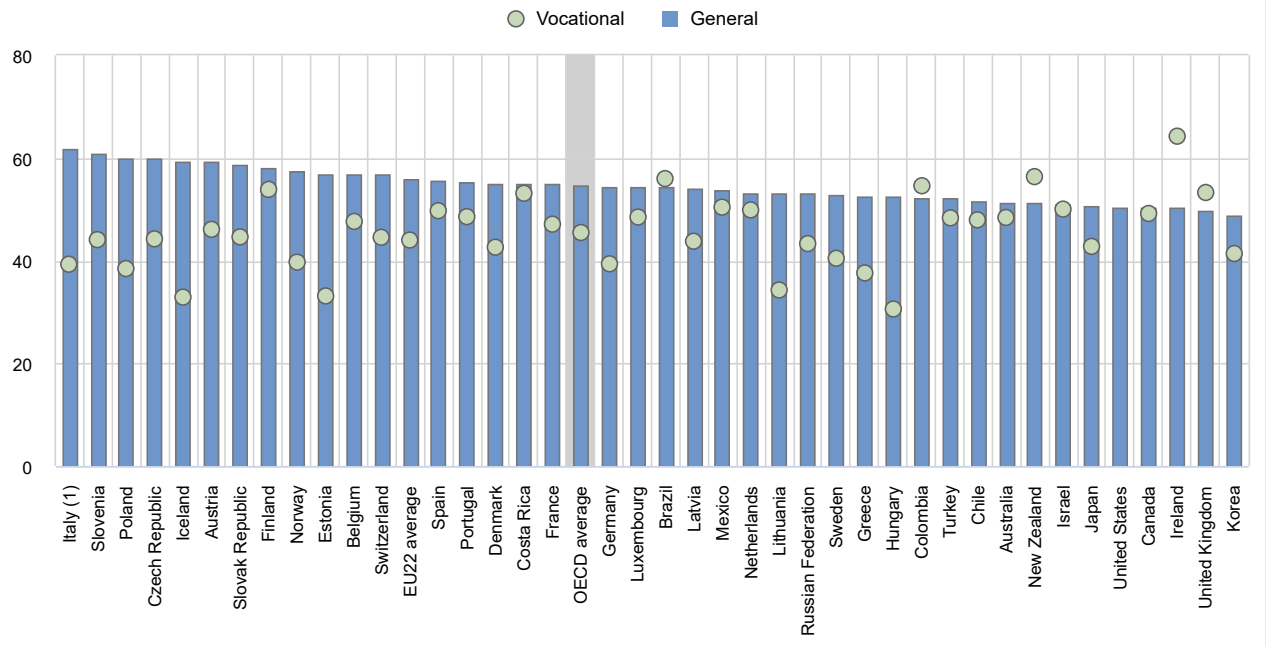
Indicator B3. Who is expected to graduate from upper secondary education?

Highlights

- On average across OECD countries, 51% of male graduates from upper secondary vocational programmes earn a qualification in the field of engineering, manufacturing and construction against 11% of female graduates.
- In all countries with available data, the share of students with at least one tertiary-educated parent is considerably higher in upper secondary general programmes than in vocational ones.
- If current graduation patterns continue, 80% of adults are expected to graduate from upper secondary education for the first time before they turn 25 in more than two-thirds of the countries with available data.

Figure B3.1. Share of women among upper secondary graduates, by programme orientation (2019)

In per cent



1. Includes post-secondary non-tertiary level.

Countries are ranked in descending order of the share of women in general programmes.

Source: OECD/UIS/Eurostat (2021), Table B3.1. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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Context

Upper secondary education, which develops students' basic skills and knowledge through either academic or vocational pathways, aims to prepare students to enter further levels of education or the labour market and to become engaged citizens. In many countries, this level of education is not compulsory and can last from two to five years. Providing an upper secondary education of quality, that is beneficial for both the society and the economy, is something that should be taken into account when interpreting this indicator.

Post-secondary non-tertiary education provides learning experiences that prepare for entry into the labour market or tertiary education. It aims at the individual acquisition of knowledge, skills and competencies at a lower level of complexity that is characteristic of tertiary education.

In most OECD countries, almost all students in lower secondary school enrol in upper secondary education and on average about seven out of ten students directly enter tertiary education (Education at a Glance Database). In general, demand for upper secondary education is increasing worldwide, with the development of a variety of educational pathways. In fact, graduating from upper secondary education has become increasingly important in all countries, as the skills needed in the labour market are becoming more knowledge-based, and workers are progressively required to adapt to the uncertainties of a rapidly changing global economy.

In the COVID-19 context, critical disruptions to education systems have occurred across OECD and partner countries. In particular, graduation criteria and examinations have significantly been redesigned to adjust to the unprecedented situation. At upper secondary level, where examinations are most prevalent to certify the completion of this level, some flexibility in the mode of examinations and assessments has been necessary. Some countries have retained only school marks as the graduation criteria, others have postponed or rescheduled the examinations, whereas still others have automatically promoted students to the next level at the end of the academic year. Whatever the option chosen by countries to assess the completion of upper secondary education, the graduation ratios (i.e. the ratio of upper secondary graduates to students enrolled in the last year of upper secondary education) have been significantly impacted (OECD, 2021[1]).

Other findings

- The share of women tends to be significantly higher in upper secondary general programmes than in vocational programmes. On average across OECD countries, women make up 55% of upper secondary graduates from general programmes, compared to 45% for vocational programmes.
- Being a first or second-generation immigrant affects students' likelihood of completing upper secondary education. In almost all countries with available data, the completion rate of first- or second-generation immigrants was lower than students without an immigrant background.
- Between 2013 and 2019, first-time graduation rates increased by 1 percentage point at the upper secondary level and remained constant at the post-secondary non-tertiary level, on average across OECD countries.

Note

Graduation rates 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 2019 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 or 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 edition of *Education at a Glance*, the focus is predominately on first-time graduates below the typical age (25 for upper secondary education and 30 for post-secondary non-tertiary education). The concept of graduates (i.e. all graduates, not only first-time graduates) is used when measuring average age, share of female graduates and graduates by field of study (see *Definitions* section).

Analysis

Gender profile of upper secondary graduates

An upper secondary qualification is often considered to be the minimum credential for successful entry into the labour market and necessary for continuing to further education. Young people who leave school before completing upper secondary education tend to face challenges in the labour market, including worse employment prospects (see Indicator A4). At upper secondary level, students face decisions on their programme orientation and field of study. However, men and women make very different choices, which influences their options for higher education and their expected labour-market outcomes. The socio-economic background of students may also influence their choice of upper secondary programme as well as the completion of this level (Box B3.1). Understanding these choices and their implications is central to ensuring inclusive educational opportunities and defining policies that address inequalities.

Upper secondary graduation, by programme orientation

Vocational pathways are an important part of upper secondary education in many OECD countries, and allow students to gain practical experience in their chosen career path. In 2019, on average across OECD countries, 38% of upper secondary graduates obtained a vocational qualification, ranging from 6% in Canada to 76% in Austria.

Traditionally, men have had higher incentives to graduate from upper secondary vocational programmes than women (Education at a glance Database). On average across OECD countries, in 2019, women made up 55% of upper secondary graduates in general programmes, compared to 45% in vocational programmes (Figure B3.1). This has strong implications on men's opportunities to pursue higher education. Indeed, two-thirds of students enrolled in upper secondary vocational education are receiving an education that theoretically provides them with the opportunity to directly enter tertiary education, against more than 90% of students in general upper secondary education (Indicator B7; OECD (2020[2]).

In almost all countries with available data, women make up at least half of upper secondary graduates from general programmes, ranging from 49% in Korea to 61% in Slovenia and 62% in Italy. In contrast, women are under-represented in vocational programmes in more than three-quarters of the countries with available data. There is, however, significant cross-country variation in upper secondary vocational programmes, where the share of women ranges from less than 34% in Estonia, Hungary and Iceland to more than 60% in Ireland. In fact, Ireland is one of just five countries where women make up a higher share of graduates in vocational programmes than in general programmes. In the other four countries, Brazil, Colombia, New Zealand and the United Kingdom, the difference between the share of women in vocational and general programmes is much smaller (less than 5 percentage points).

Upper secondary vocational graduation, by field of study

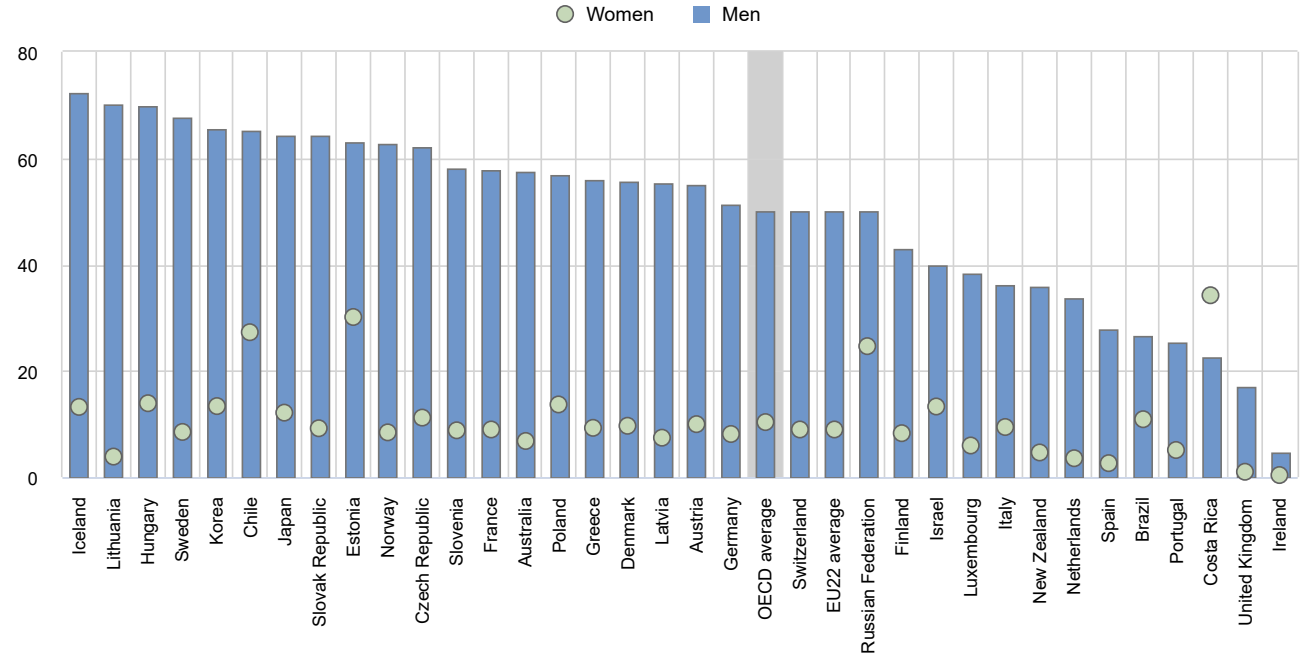
Young people's choice of field of study when pursuing vocational education is still highly influential on career choices and employment outcomes. However, differences are commonly observed between the fields chosen by men and women. This may be due to natural inclination and preferences as well as social perceptions of what women and men excel at and the careers they can pursue.

The largest share, about a third of students in upper secondary vocational education, graduated from engineering, manufacturing and construction programmes in 2019, followed by business, administration and law (17%); services (17%); and health and welfare (12%). However, this pattern does not hold for every country. In Brazil, Luxembourg and Switzerland, most upper secondary vocational graduates obtained a qualification in business, administration and law. In Ireland, the Netherlands and Spain, the most popular field was health and welfare, and in Italy and Portugal, it was services (Table B3.1).

There are stark gender differences in the fields of study that upper secondary vocational students choose. Women are far more likely than men to study subjects relating to business, administration and law as well as health and welfare. Men, for their part, are more likely to choose engineering as well as information, communication and technology, which are in great demand in the labour market in OECD countries. These differences can be attributed to traditional perceptions of gender roles and identities as well as the cultural values sometimes associated with particular fields of education. Some studies have shown that these gender differences in the choice of field of study are mirrored in the career expectations of 15-year-olds: on average across OECD countries, only 14% of the girls who were top performers in science or mathematics reported that they expect to work in science or engineering, compared with 26% of the top-performing boys. However, in Estonia, Finland, Poland and Slovenia, top-performing boys and girls were equally likely to report that they expect to work in those fields (OECD, 2018[3]).

Figure B3.2. Distribution of upper secondary vocational graduates in the field of engineering, manufacturing and construction, by gender (2019)

In per cent



Countries are ranked in descending order of the share of male upper secondary vocational graduates in the field of engineering, manufacturing and construction.
Source: OECD/UIS/Eurostat (2021), *Education at a Glance Database* (http://stats.oecd.org). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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Few women in upper secondary vocational education pursue a programme in engineering, manufacturing and construction: only 10% of graduates did so in 2019. Costa Rica is the only country where the gender gap is in favour of women: 34% of women graduate from upper secondary vocational programmes in engineering, manufacturing and construction, against 23% of men (Figure B3.2). In contrast, female graduates are over-represented in health and welfare (83%); business, administration and law (63%); and services (58%) (Table B3.1).

In the COVID-19 context, most of the health-care workforce in the frontline were women (Gabster et al., 2020[4]). The resource issue in the health sector and the shortages of nurses across most OECD economies has imposed an extra burden for women. Ensuring that more men enter into the health and welfare sector could probably help resolve this and tackle a silent gender gap.

Gender profile of post-secondary non-tertiary graduates

Various kinds of post-secondary non-tertiary programmes (ISCED level 4) are offered in OECD countries. These programmes straddle upper secondary and post-secondary education and may be considered either upper secondary or post-secondary programmes, depending on the country. Although the content of these programmes may not be significantly more advanced than upper secondary programmes, they broaden the knowledge of individuals who have already attained an upper secondary qualification. Mainly vocationally oriented, post-secondary non-tertiary programmes are relatively less prominent in the educational landscape compared to other levels of education. About 1% of 15-19 year-olds enrolled in post-secondary non-tertiary education in 2019 (Education at a Glance Database); eight OECD countries do not offer this level of education: Chile, Costa Rica, Korea, Mexico, the Netherlands, Slovenia, Turkey and the United Kingdom (Table B3.3).

Post-secondary non-tertiary graduation, by programme orientation

On average across OECD countries, around 95% of post-secondary non-tertiary first-time graduates have graduated from vocational programmes (Table B3.2). Professionalisation is particularly high at this level of education, as post-secondary non-tertiary programmes are most often designed for direct entry into the labour market. There are some national initiatives to provide general programmes at post-secondary non-tertiary level to target students who have completed a vocational upper secondary level and want to increase their chances of entering tertiary education. For instance, in Switzerland, a one-year general programme, the University aptitude test, prepares graduates from vocational upper secondary education to enter general programmes at the tertiary level (OECD/Eurostat/UNESCO, 2015[5]).

Post-secondary non-tertiary graduation, by field of study

On average across OECD countries, 23% of post-secondary non-tertiary graduates in vocational programmes specialised in health and welfare; 21% in engineering, manufacturing and construction; and 18% in both business, administration and law and services. However, this pattern is not always repeated across countries. In Luxembourg, for instance, 62% of post-secondary non-tertiary graduates obtained a qualification in engineering, manufacturing and construction whereas in Austria the share is only 1% (Table B3.2).

On average across OECD countries, women make up 54% of post-secondary non-tertiary vocational graduates, but there are significant variations across countries, ranging from 23% in Luxembourg to 76% in Poland. This counterbalances with the under-representation of women in upper secondary vocational education. There are two main reasons women are over-represented in post-secondary non-tertiary education but not in upper secondary education. First, women have a higher completion rate for upper secondary vocational education than men and are therefore more likely to continue their studies in post-secondary education. 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, 2020[2]).

In almost all countries with available data, women make up more than half of post-secondary non-tertiary graduates from vocational programmes, except in Belgium, the Czech Republic, Denmark, Iceland, Ireland, Luxembourg, New Zealand, Portugal and the Russian Federation. The percentage of women pursuing a programme in engineering, manufacturing and construction is low at the post-secondary non-tertiary level: they make up only 17% of graduates in this field. In contrast, women are over-represented in health and welfare, where the share of female graduates is 70% or more in all countries with available data, except Denmark (25%) and Estonia (68%). There is more gender balance in the field of services, where on average 60% of graduates are women, and business, administration and law, where the figure is 64% (Table B3.2).

First-time graduation rates

Upper secondary education is often considered to be the minimum credential for successful entry into the labour market and necessary for continuing to further education. The costs of not completing this level of education on time can be considerable to both individuals and society, as those that do not attain it are more likely to be neither employed nor in education or training (NEET – see indicator A2). Graduation rates offer an indication of whether government initiatives have been successful in increasing the share of people who graduate from upper secondary education. The large differences in graduation rates among countries reflect the variety of systems and programmes available, as well as other country-specific factors, such as current social norms and economic performance.

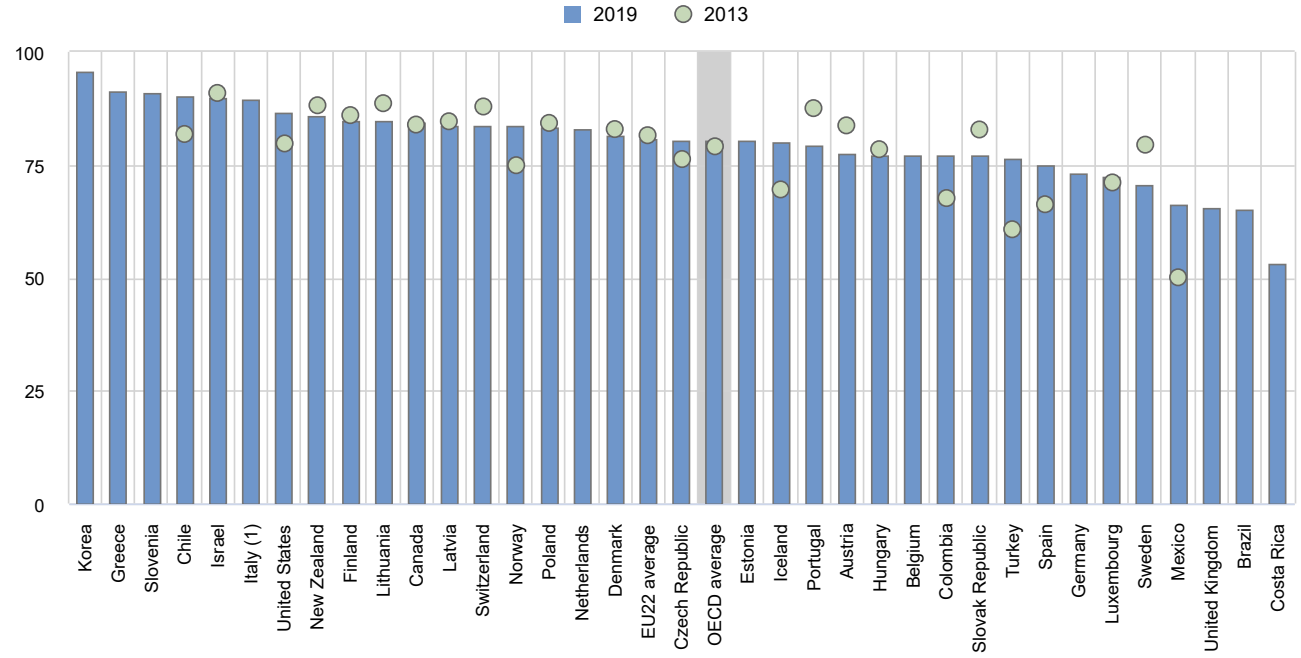
It is estimated that 80% of adults will graduate from upper secondary for the first time before age 25 if current graduation patterns continue on average across OECD countries. There are, however, large variations across countries. In Greece, Korea and Slovenia, more than 90% of adults are expected to graduate from upper secondary education for the first time before 25 compared to less than 60% in Costa Rica (Table B3.3).

Generally, graduation from upper secondary education remained stable on average across OECD countries between 2013 and 2019, increasing by 1 percentage point over the period. However, some countries witnessed an exceptional expansion of upper secondary graduation over this period. In Mexico and Turkey, the share of adults expected to graduate from upper secondary education for the first time before age 25 rose by at least 15 percentage points between 2013 and 2019. In contrast, the share of adults expected to graduate for the first time from upper secondary education before the age of 25 fell by at least 8 percentage points in Portugal and Sweden over the same period. In some countries, the expansion in upper secondary graduation remained marginal between 2013 and 2019, following earlier policies to expand access to upper secondary

education. More than 90% of adults were already expected to graduate from upper secondary education before they turned 25 in Greece and Israel by 2005 and graduation levels have remained similar since (Table B3.3).

Figure B3.3. First-time upper secondary graduation rates for students below the age of 25 (2013 and 2019)

In per cent



1. Post-secondary non-tertiary included in upper secondary education level.

Countries are ranked in descending order of the first-time upper secondary graduation rates for students below the age of 25 in 2019.

Source: OECD/UIS/Eurostat (2021), Table B3.3. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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Post-secondary non-tertiary graduation rates

First-time graduation rates from post-secondary non-tertiary education are low compared to those from upper secondary programmes. On average, it is estimated that 6% of today's young adults in OECD countries will complete post-secondary non-tertiary programmes before they turn 30 if current graduation patterns continue. The only countries where first-time graduation rates from post-secondary non-tertiary programmes exceeded 20% are Germany and New Zealand. For OECD countries with available data for 2005, 2013 and 2019, the first-time graduation rate of adults below the age of 30 has remained constant over the past decade (around 7% on average).

Box B3.1. Equity in students' choice of upper secondary programme and completion of this level of education

Studies have shown that students' educational attainment and performance are strongly associated with their socio-economic status (OECD, 2021[6]). Several factors may explain the negative impact of a disadvantaged background on students: a lack of a stimulating home environment and low financial and psychological support or few learning opportunities at home (Thomson, 2018[7]).

This box examines the extent to which students' choice of upper secondary programme and completion of this level of education differ for individuals from potentially disadvantaged backgrounds, identified through two measures: parents' highest level of educational attainment and immigrant background.

Equity in students' choice of upper secondary programme orientation

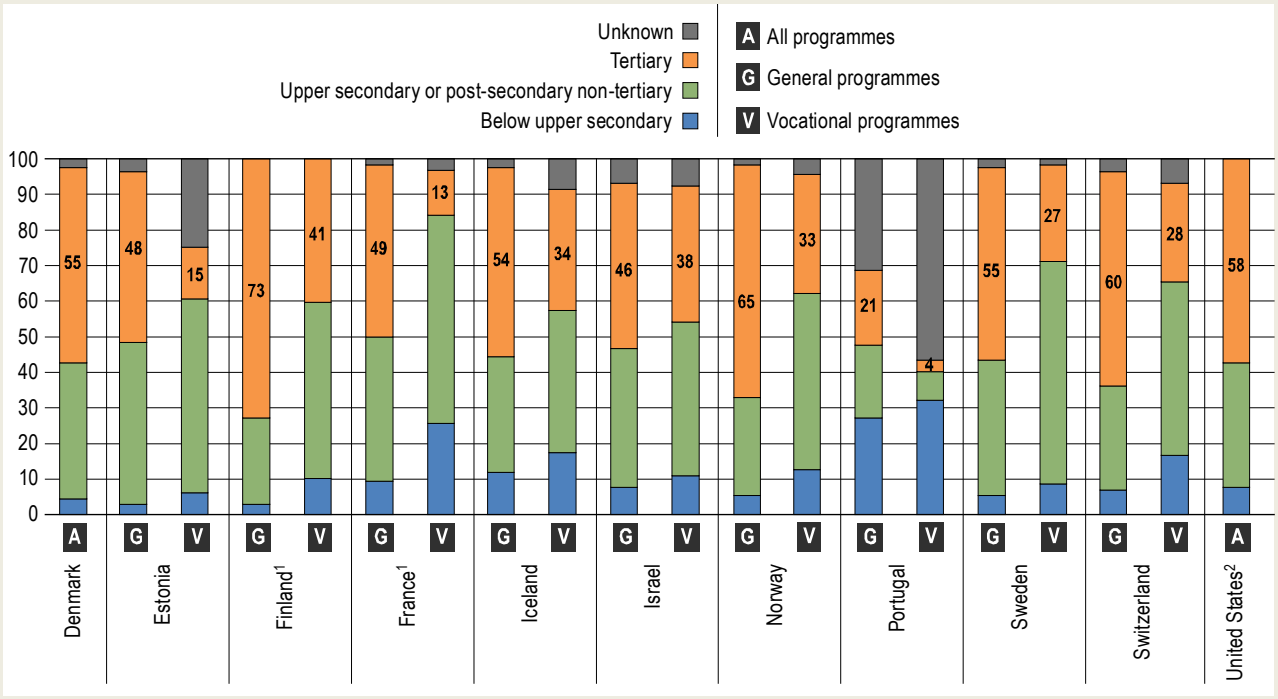
Across OECD countries, there is increasing interest in the development of vocational upper secondary programmes as an alternative for young people seeking to acquire labour-market skills. It has also been found that graduating from a vocational programme has a positive effect on graduates' employability, because of their early entry into the labour market. The transition to work is faster for upper secondary graduates from vocational programmes than for those enrolled in general programmes: they are more likely to get a permanent first job and are less likely to find themselves in a first job with a qualification mismatch (OECD, 2019[8]). These programmes are not meant to be seen as a second-best option for low achievers, but as centres of excellence for developing important skills.

Nevertheless, vocational education also raises equity concerns, especially if the decision to enrol in vocational programmes is mainly determined by students' socio-economic background. Figure B3.4 shows the composition of general and vocational programmes by parents' educational attainment. In all countries with available data, students whose parents have lower educational attainment are substantially over-represented in vocational programmes.

In nearly every country with available data, the share of students whose parents have not attained upper secondary education is at least twice as high among entrants to vocational programmes as among entrants to general programmes. This gap can be even more striking at the other end of the spectrum, for students with at least one tertiary-educated parent. In France, for example, students with at least one tertiary-educated parent represent 49% of general programmes, but only 13% of vocational programmes.

Figure B3.4. Share of entrants to upper secondary education, by programme orientation and parents' educational attainment (2018)

In per cent



1. Year of reference 2017.
2. Year of reference 2011.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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The magnitude and attractiveness of vocational programmes can, however, vary widely across countries. Among the countries presented in Figure B3.4, the share of upper secondary graduates who obtain a vocational degree ranges from about one-fifth in Denmark and Estonia to more than two-thirds in Switzerland (Table B3.1). The share is even higher in other OECD countries without data available for Figure B3.4, such as Austria, the Czech Republic, the Slovak Republic, where over two-thirds of upper secondary graduates obtain a vocational degree.

Equity in completion of upper secondary education

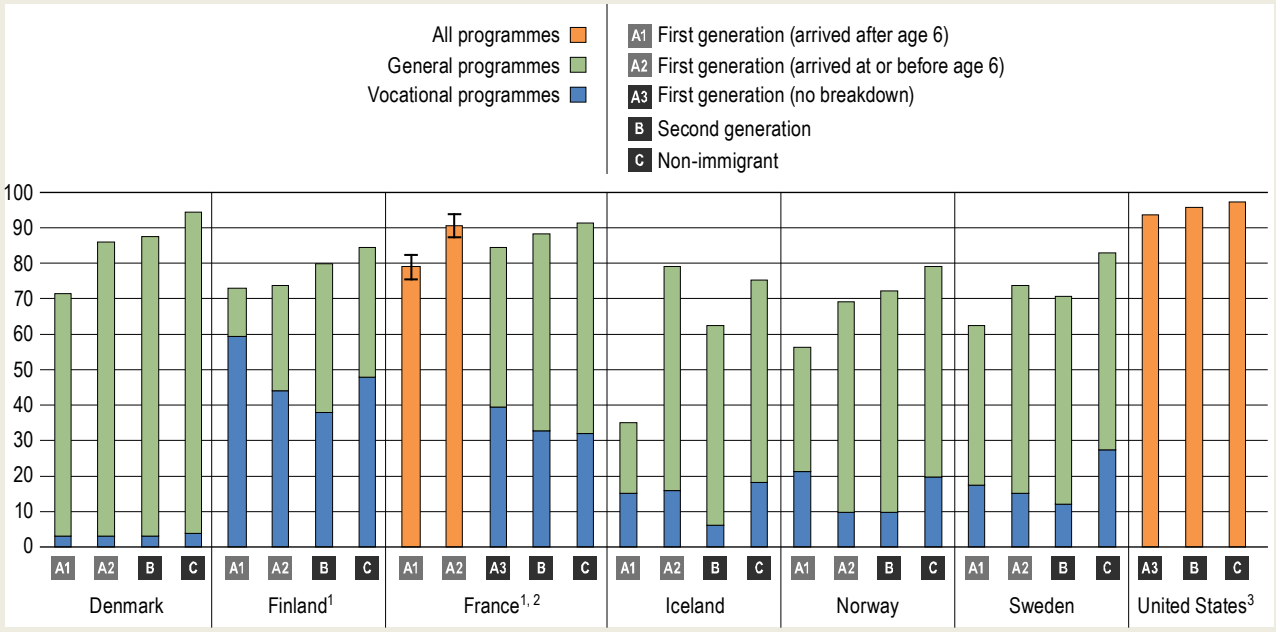
In addition to influencing the choice of upper secondary programme orientation, the socio-economic background of students can have an important impact on their educational outcomes. Figure B3.5 explores the completion rate of upper secondary programmes by the theoretical duration of programmes plus two years, disaggregated by students' immigrant background.

Being a first- or second-generation immigrant affects students' likelihood of completing upper secondary education. In almost all countries with available data, the completion rate of first-generation immigrants (those born outside the country and whose parents were both also born in another country, excluding international students) or second-generation immigrants (those born in the country, but whose parents were both born in another country) was lower than students without an immigrant background. The difference in completion rates among those with an immigrant background, however, differs across countries. While first-generation students have lower completion rates than second-generation students in most countries, in some countries this depends on their age at arrival in the host country. Thus, in Iceland, 75% of non-immigrants complete upper secondary education on time, compared to 79% of first-generation immigrants (who arrived at or before age 6) and only 35% of first-generation immigrants (who arrived after age 6).

A plausible explanation for the lower outcomes of first-generation immigrants is the language barrier, particularly for students who arrive in the host country at an older age. In other countries, such as Finland, the gap in completion between first-generation and second-generation students is quite small.

Figure B3.5. Completion rate of upper secondary education within the theoretical duration plus two years, by student's immigrant background and programme orientation at graduation (2018)

In per cent



1. Year of reference 2017.
2. The standard errors are included when data are provided through a survey.
3. Year of reference 2015

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

StatLink https://stat.link/fe3il5

The difference in completion rates between non-immigrant students and first-generation immigrants is more than 10 percentage points in Finland, the Netherlands, Norway and Sweden. In most countries with available data, second-generation immigrants have higher completion rates than first-generation immigrants, though this difference tends to be smaller in magnitude than the difference between non-immigrant students and either immigrant group.

Children from disadvantaged social groups not only face more barriers to accessing education, but their performance and outcomes once in education are also lower than those of their more advantaged counterparts. Education outcomes among students with an immigrant background or from families with low levels of educational attainment should be an area of focus among education policy makers, particularly in countries where these students show significantly lower completion rates than their peers from more advantaged social groups.

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 graduation rate represents the expected probability of graduating for the first time at a given level of education before the age threshold (25 for upper secondary education and 30 for post-secondary non-tertiary education) if current patterns are maintained.

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 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 upper secondary education before the age threshold if current patterns are maintained. The age threshold refers to the upper limit for completing either an upper secondary or post-secondary non-tertiary degree. Age 25 is used as the upper limit for completing upper secondary education. At the post-secondary non-tertiary level, 30 is considered to be the upper age limit for graduation. The graduation rate below typical age is calculated only if the share of graduates reported with unknown age is below the quality threshold of 10%. Graduates of unknown age are excluded from the calculation of these indicators which may lead to slight underestimation of the rate, particularly when their share is close to the threshold.

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 six 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. 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.

For more information, please see the *OECD Handbook for Internationally Comparative Education Statistics* (OECD, 2017[9]).

Source

Data refer to the academic year 2018/19 and are based on the OECD/UIS/Eurostat data collection on education statistics administered by the OECD in 2020 (for details, see Annex 3 at: https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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Indicator B3 tables

Tables Indicator B3. Who is expected to graduate from upper secondary education?

Table B3.1	Profile of upper secondary graduates from vocational programmes (2019)
Table B3.2	Profile of post-secondary non-tertiary graduates from vocational programmes (2019)
Table B3.3	Trends in upper secondary and post-secondary non-tertiary first-time graduation rates (2005, 2013 and 2019)

StatLink https://stat.link/od6r03

Cut-off date for the data: 17 June 2021. 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*.

Table B3.1. Profile of upper secondary graduates from vocational programmes (2019)

		Percentage of first-time graduates who obtained a vocational qualification	Share of female graduates	Average age	Distribution of graduates by field of study				Share of female graduates by field of study			
					Business, administration and law	Engineering, manufacturing and construction	Health and welfare	Services	Business, administration and law	Engineering, manufacturing and construction	Health and welfare	Services
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
OECD	Countries											
	Australia	m	48	32	17	33	23	14	62	10	84	60
	Austria	76	46	21	27	34	4	19	65	13	80	72
	Belgium	52	48	19	m	m	m	m	52	22	80	69
	Canada	6	49	32	m	m	m	m	m	m	m	m
	Chile	29	48	18	28	47	6	4	62	28	82	61
	Colombia	24	55	16	m	m	m	m	61	44	a	a
	Costa Rica	21	53	19	14	29	0	22	63	63	a	56
	Czech Republic	68	44	21	16	39	7	18	64	13	89	65
	Denmark	23	43	28	25	36	14	16	64	11	86	45
	Estonia	24	33	19	2	52	0	23	97	19	a	66
	Finland	53	54	30	20	24	21	20	65	18	84	57
	France	m	47	20	22	35	18	19	61	12	90	61
	Germany	45	39	23	32	34	12	13	56	9	82	44
	Greece	22	38	21	8	38	26	10	60	9	79	47
	Hungary	20	31	23	9	53	4	30	72	8	89	46
	Iceland	17	33	28	1	53	9	24	55	8	95	48
	Ireland	m	64	30	16	2	38	10	70	12	84	54
	Israel	41	50	17	19	27	2	4	70	25	73	56
	Italy[1]	55	39	20	22	26	7	29	50	14	79	51
	Japan	22	43	m	30	43	6	7	62	12	84	81
	Korea	17	41	18	28	44	3	5	73	13	78	70
	Latvia	24	44	21	12	34	0	28	77	9	a	72
	Lithuania	16	34	21	14	47	0	28	53	3	100	75
	Luxembourg	58	49	22	29	23	12	6	60	13	78	51
	Mexico	34	50	18	m	m	m	m	m	m	m	m
	Netherlands	53	50	22	18	19	24	23	51	9	89	46
	New Zealand	17	56	34	15	18	8	15	65	14	85	58
	Norway	35	40	28	7	41	27	18	72	8	83	36
	Poland	46	38	20	11	40	0	25	62	13	74	72
	Portugal	33	49	21	15	16	15	27	67	16	88	54
	Slovak Republic	67	45	19	14	40	8	22	70	10	84	63
	Slovenia	66	44	19	13	36	12	15	64	11	78	64
	Spain	36	50	26	12	15	18	14	59	9	79	42
	Sweden	32	40	18	9	44	19	18	57	8	72	62
	Switzerland	67	45	22	32	32	16	9	56	13	88	52
	Turkey	43	48	18	m	m	m	m	49	11	81	58
	United Kingdom	65	53	22	11	8	16	13	54	6	80	51
	United States	a	a	a	a	a	a	a	a	a	a	a
	OECD average	38	45	22	17	33	12	17	63	15	83	58
	EU22 average	43	44	22	17	33	12	20	63	12	83	58
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m
	Brazil	9	56	20	24	18	12	4	63	35	84	66
	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	46	43	m	16	39	7	19	69	27	87	31
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m

Note: This table does not include data for all fields of study. The data for other fields are available at: http://stats.oecd.org, *Education at a Glance Database*.
1. Includes post-secondary non-tertiary level.
Source: OECD/UIS/Eurostat (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table B3.2. Profile of post-secondary non-tertiary graduates from vocational programmes (2019)

		Percentage of first-time graduates who obtained a vocational qualification	Share of female graduates	Average age	Distribution of graduates by field of study				Share of female graduates by field of study			
					Business, administration and law	Engineering, manufacturing and construction	Health and welfare	Services	Business, administration and law	Engineering, manufacturing and construction	Health and welfare	Services
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
OECD	Countries											
	Australia	100	55	35	33	14	20	12	57	10	72	56
	Austria	100	75	33	9	1	60	1	52	20	79	68
	Belgium	100	50	22	12	20	32	23	51	5	89	41
	Canada	m	m	m	m	m	m	m	m	m	m	m
	Chile	a	a	a	a	a	a	a	a	a	a	a
	Colombia	a	a	a	a	a	a	a	a	a	a	a
	Costa Rica	a	a	a	a	a	a	a	a	a	a	a
	Czech Republic	50	43	m	m	m	m	m	m	m	m	m
	Denmark	100	32	39	m	m	m	m	44	0	25	36
	Estonia	100	69	32	50	17	2	22	87	23	68	66
	Finland	100	58	43	50	27	9	10	56	58	83	56
	France	m	m	m	6	0	7	0	49	a	72	100
	Germany	93	60	24	22	19	46	7	65	14	80	62
	Greece	100	54	25	7	13	24	42	65	11	79	55
	Hungary	100	53	24	15	23	22	18	80	10	84	60
	Iceland	75	34	35	10	49	0	22	41	14	a	61
	Ireland	m	47	30	9	33	29	7	62	1	95	47
	Israel	m	a	a	a	a	a	a	a	a	a	a
	Italy[1]	m	m	m	m	m	m	m	m	m	m	m
	Japan	m	m	m	m	m	m	m	m	m	m	m
	Korea	a	a	a	a	a	a	a	a	a	a	a
	Latvia	100	68	29	13	19	22	27	79	27	94	78
	Lithuania	100	53	30	21	27	14	24	60	17	87	66
	Luxembourg	100	23	28	0	62	0	24	a	6	a	77
	Mexico	a	a	a	a	a	a	a	a	a	a	a
	Netherlands	a	a	a	a	a	a	a	a	a	a	a
	New Zealand	83	43	32	17	30	15	21	61	6	76	64
	Norway	100	71	34	19	4	39	17	81	20	91	39
	Poland	100	76	30	16	0	39	28	75	29	84	68
	Portugal	100	30	29	8	41	a	25	71	16	a	50
	Slovak Republic	100	57	29	17	12	16	34	59	10	87	37
	Slovenia	a	a	a	a	a	a	a	a	a	a	a
	Spain	100	63	38	35	8	25	15	70	38	73	71
	Sweden	93	64	34	14	19	29	10	80	23	94	49
	Switzerland	a	a	a	a	a	a	a	a	a	a	a
	Turkey	a	a	a	a	a	a	a	a	a	a	a
	United Kingdom	a	a	a	a	a	a	a	a	a	a	a
	United States	100	57	m	11	20	31	18	63	8	84	64
	OECD average	95	54	31	18	21	23	18	64	17	80	60
	EU22 average	96	54	31	18	20	24	19	65	18	80	60
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m
	Brazil	100	58	28	25	19	37	7	59	15	83	61
	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	100	38	24	7	42	5	29	76	27	89	39
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m

Note: This table does not include data for all fields of study. The data for other fields are available at: http://stats.oecd.org, *Education at a Glance Database*.
1. Included in upper secondary education level.
Source: OECD/UIS/Eurostat (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table B3.3. Trends in upper secondary and post-secondary non-tertiary first-time graduation rates (2005, 2013 and 2019)

		Upper secondary			Post-secondary non-tertiary		
		Younger than 25 years			Younger than 30 years		
		2005	2013	2019	2005	2013	2019
		(1)	(2)	(3)	(4)	(5)	(6)
OECD	Countries						
	Australia	m	m	m	m	13	9
	Austria	m	84	78	m	5	4
	Belgium	m	m	77	m	5	6
	Canada	75	84	84	m	m	m
	Chile	81	82	90	a	a	a
	Colombia	m	68	77	m	1	1
	Costa Rica	m	m	53	m	m	a
	Czech Republic	m	76	81	m	m	2
	Denmark	74	83	82	1	0	0
	Estonia	m	m	80	m	m	4
	Finland	85	86	85	1	1	1
	France	m	m	m	m	m	m
	Germany	m	m	73	m	m	21
	Greece	96	m	91	m	m	13
	Hungary	80	78	77	18	17	18
	Iceland	m	70	80	m	5	6
	Ireland	90	90	m	14	m	m
	Israel	90	91	90	m	m	m
	Italy[1]	m	m	90	4	m	x
	Japan	m	m	m	m	m	m
	Korea	m	m	96	a	a	a
	Latvia	m	85	84	m	5	6
	Lithuania	78	89	85	8	11	10
	Luxembourg	72	71	72	m	1	1
	Mexico	39	50	66	a	a	a
	Netherlands	m	m	83	m	m	a
	New Zealand	86	88	86	12	17	21
	Norway	74	75	84	3	1	2
	Poland	83	84	83	11	12	7
	Portugal	49	88	79	0	4	1
	Slovak Republic	84	83	77	11	7	5
	Slovenia	m	m	91	a	a	a
	Spain	53	66	75	a	m	1
	Sweden	76	79	70	0	2	2
	Switzerland	m	88	84	m	1	1
	Turkey	48	61	76	a	a	a
	United Kingdom	m	m	66	a	a	a
	United States	74	80	87	m	m	m
	OECD average	m	79	80	m	6	6
	Average for countries with available data for all reference years	m	75	76	m	7	7
	EU22 average	m	82	81	m	6	6
Partners	Argentina	m	m	m	m	m	m
	Brazil	m	m	65	m	m	4
	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. Post-secondary non-tertiary included in upper secondary education level.

Source: OECD/UIS/Eurostat (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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

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Indicator B4. Who is expected to enter tertiary education?

Highlights

- If current entry patterns continue, it is expected that 57% of young women will enter tertiary education for the first time before they turn 25 on average across OECD countries, compared to 45% of men. This gender difference shrinks with higher levels of tertiary education and almost disappears at doctoral level.
- Men still strongly dominate the fields of ICT and engineering, construction and manufacturing in every OECD country, representing at least 70% and 61% of new entrants respectively. The gender imbalance reverses in the fields of education and health and welfare, where men represent at most 38%.
- On average across OECD countries, in 2019, more than three-quarters of first-time tertiary entrants enrolled in a bachelor's or equivalent) programme, 17% in a short-cycle tertiary programme and 6% in a master's or equivalent programme.

Context

Participation in tertiary education plays an essential role in developing young adults' skills so they contribute fully to society. Yet, students' profiles and academic aptitudes can be very diverse, as can be pathways into tertiary education. The traditional route of entering tertiary education following an upper secondary general programme is increasingly being challenged, while the sequencing of higher education within the educational life cycle has also seen profound changes. Students are increasingly 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.

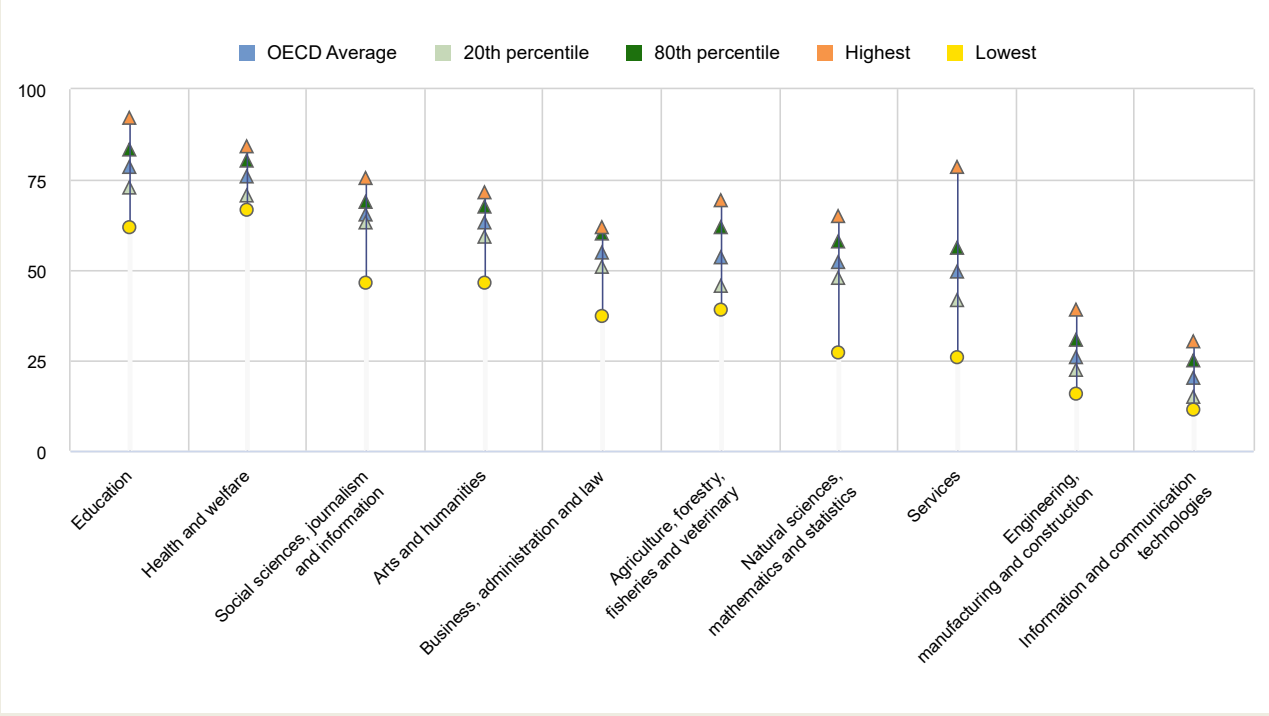
The profile of first-time entrants into tertiary education provides an indication of the learning trajectories across various tertiary levels and programmes. An analysis of the characteristics of first-time entrants also informs on equity in access across programmes and fields of study. Entry rates into tertiary education estimate the proportion of adults who are expected to enter a specific type of tertiary education programme before a given age threshold. 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 rates in tertiary education imply that a highly educated labour force is being developed and maintained.

The COVID-19 pandemic had a wide and immediate impact on higher education, forcing institutions to make an urgent transition to emergency distance learning. This required immediate responses by higher educational institutions and

policy makers to ensure the continuity of learning, which led to a dramatic change in the experience of both educators and learners. The extent to which the pandemic has impacted entry into tertiary education and international student flows over the 2020/21 academic year is still uncertain. While some countries seem to be facing increases in students, others are facing a drop in the number of students admitted (OECD, 2021[1]).

Figure B4.1. Share of female new entrants into tertiary education, by field of education (2019)

OECD average, in per cent



Compare your country: https://www.compareyourcountry.org/education-at-a-glance-2021/en/3//default/all/OAVG
Fields of education are ranked in descending order of the OECD average share of females in 2019.
Source: Source: OECD/UIS/Eurostat (2021), *Education at a Glance Database* (http://stats.oecd.org). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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Other findings

- While the share of women entering a STEM field of study has remained generally stable between 2013 and 2019, there are large differences across countries: it increased by 7 percentage points in Luxembourg and decreased by 4 percentage points in Turkey.
- In about a third of OECD countries with data, most students tend to enter tertiary education within the first two years after graduating from upper secondary education. However, in countries such as Israel, Sweden and Turkey, the average age of first-time tertiary entrants is at least five years higher than the average graduation age of upper secondary students.
- There is more variation across countries in the ageof new entrants at master's or doctoral (or equivalent) levels than at bachelor's (or equivalent) level.

Analysis

First-time entrants into tertiary education

If current entry patterns continue, it is estimated that 51% 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 depending on specific contextual elements relating to entry requirements or student flows, 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, inflated by a high rate of entry into short-cycle tertiary and bachelor programmes. In contrast, 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).

In slightly more than half of OECD and partner countries, first-time entrants into tertiary education can choose from one of 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. 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 (ISCED 7) (OECD/Eurostat/UNESCO Institute for Statistics, 2013[2]).

The level at which students first enter tertiary education depends on the upper secondary programme they graduated from, the length of their upper secondary studies and the employment opportunities available to them. In some countries, tertiary education is only open to students graduating from an upper secondary general programme. On average across OECD countries, three out of ten upper secondary vocational students are enrolled in programmes which do not provide direct access into tertiary education (OECD, 2021[3]). 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. For example, short-cycle degrees do not exist or represent less than 5% of first-time tertiary entrants in about a third of OECD member countries, despite their benefits in providing advanced occupation-specific skills. Similarly, master's long first degrees are an important part of the educational offering in only about half of OECD countries.

On average across OECD countries, in 2019, more than three-quarters of first-time tertiary entrants enrolled in a bachelor's or equivalent programme. However, the predominance of such programmes varies greatly from country to country. In Belgium, Finland, Greece, India and the Netherlands, 95% or more 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, Canada, 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%. Master's long first degrees are the least common entry point into tertiary education, representing 6% of first-time tertiary entrants on average across OECD countries, and this exceeds 15% only in Argentina, 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[4]). 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 (Table B4.1).

From an economic point of view, delayed entry into tertiary education can be costly to the public purse if adults postpone their entry into the labour market and hence the time when they are typically able to start contributing financially to society. However, some students may also decide to postpone entry to tertiary education to gain occupational experience in the workplace before deciding what field of study to pursue or to financially support the cost of their programme. On average across OECD countries, students are about 22 when they enter tertiary education for the first time, and around four out of five first-time entrants are under the age of 25. This average age ranges from younger than 20 years old in Belgium and Japan to 24 years old or over in Denmark, Iceland, Israel, Sweden, Switzerland and Turkey (Table B4.1).

In about a third of OECD countries with data, most students tend to enter tertiary education within the first two years after graduating from upper secondary education. However, in countries such as Israel, Sweden and Turkey, the average age of first-time tertiary entrants is at least five years more than the average graduation age of upper secondary students. 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 (see Indicator D6 in OECD (2019[5])). Delayed entry may also reflect mandatory conscription requirements. This is the case in Israel, where less than 25% of entrants to bachelor's programmes enrol straight after upper secondary (see Box B4.1 in OECD (2019[5])). A wide gap between average age among tertiary entrants and upper secondary graduates may also reflect the existence of second-chance and lifelong learning programmes characteristic of flexible pathways allowing for re-entry into the education system. Financial challenges in meeting the private costs associated with higher education may also prompt adults to defer entry into tertiary education and enter the labour market after upper secondary education.

Bachelor's, master's and doctoral education

On average and excluding international students, the entry rate to bachelor's programmes for students under 25 is 45% across OECD countries, the entry rate to master's programmes for students under 30 is 15% and that to doctoral programmes less than 1%. The age threshold of 25 for entrants to bachelor programmes and 30 for entrants to master's and doctoral programmes refers to the typical age to enter a tertiary degree observed across OECD countries. However the age distribution of new entrants to each tertiary level of education may differ greatly across countries. On average across OECD countries, 84% of new entrants into bachelor's or equivalent programmes are below the age of 25. The share varies from more than 96% in Belgium, Japan and Korea to 70% or less in Israel, Sweden and Switzerland. Differences in the share of new entrants under the age of 25 reflect the possibilities of re-entry into the education system among adults and selective entry requirements for bachelor's programmes.

There is much more variation across countries in the share of new entrants below the typical age at master's or doctoral level than at bachelor's level. While 74% of new entrants at master's level are under 30, this ranges between less than 50% in Chile, Colombia and Israel to 90% or more in Belgium, the Czech Republic, Germany, Italy, Japan and the Netherlands. Similarly, 22% of new entrants to a doctoral programme were under 30 in Colombia, compared to more than 75% in the Czech Republic, France and Luxembourg (Table B4.2). Different attitudes towards the relevance of work experience before engaging in higher level studies and students' capacity to delay entry into the labour market may explain differences in the age of new entrants across countries.

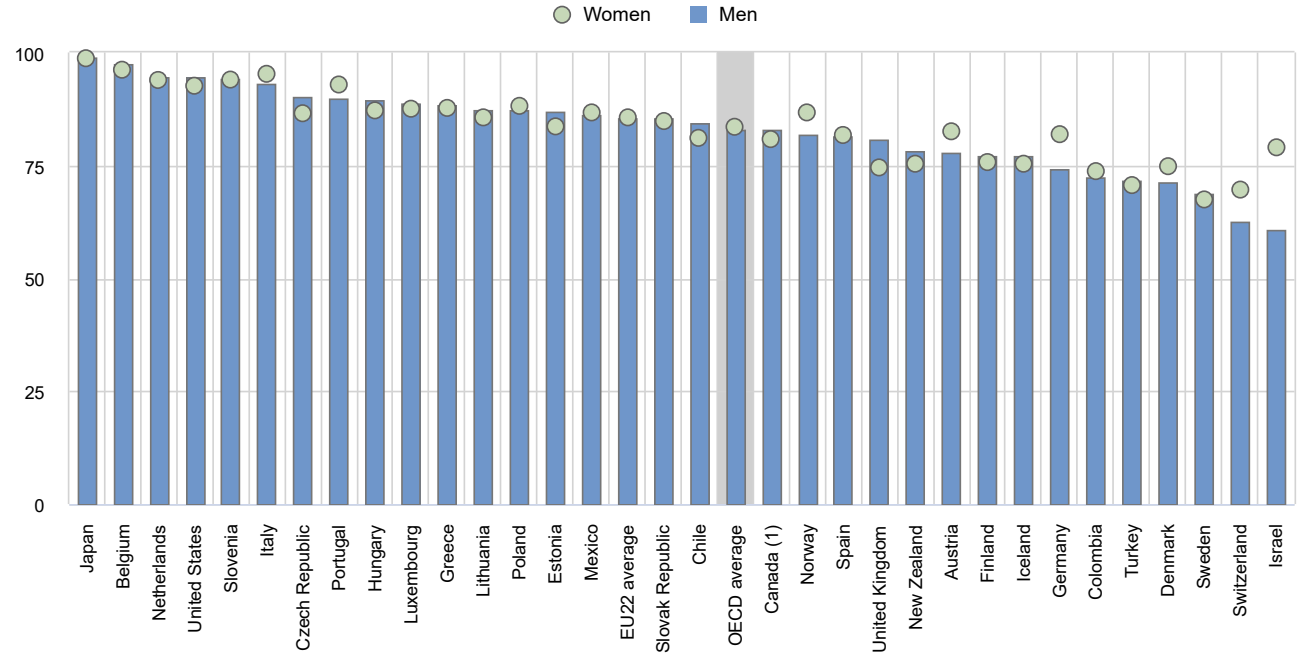
The share of internationally mobile students increases on average with the level of education, but this pattern varies across countries. On average across OECD countries, international students make up 9% of new entrants at bachelor's level, 21% at master's level and 29% at doctoral level. New entrants at master's level are more likely to be mobile than at bachelor's level in all countries except Greece and the Slovak Republic, where the share of international students entering bachelor's programmes is slightly higher than at master's level. In Australia and Luxembourg, the share of international students entering master's level is 40 percentage points higher or more than at bachelor's level. Similarly, new entrants into doctoral programmes tend to be more mobile than at master's level, but this varies across countries. In Chile, Iceland, Norway and Switzerland, the share of international students among new doctoral entrants is more than 20 percentage points higher than in master's programmes. In contrast, the share of international students is lower among entrants to doctoral programmes than those to master's programmes in Australia, Germany, Greece, Latvia, Lithuania and the United Kingdom (Table B4.2).

Gender profile of first-time and new entrants into tertiary education

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[6]). In the past decade, tertiary attainment has expanded significantly, and the growth has benefited women more than men (see Indicator A1). In 2019, men were under-represented among first-time entrants into tertiary education in almost every OECD and partner country. On average across OECD countries, men made up 45% of first-time entrants into tertiary education, with the share varying from less than 40% in Argentina and Iceland to 50% or more only in Germany, India, Saudi Arabia and Switzerland (Table B4.1).

Figure B4.2. Share of first-time entrants below the age of 25 into tertiary education, by gender (2019)

In per cent



1. Reference year 2017.

Countries are ranked in descending order of the share of male first-time entrants below the age of 25 in tertiary education in 2019.

Source: OECD/UIS/Eurostat (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

StatLink https://stat.link/julkt3

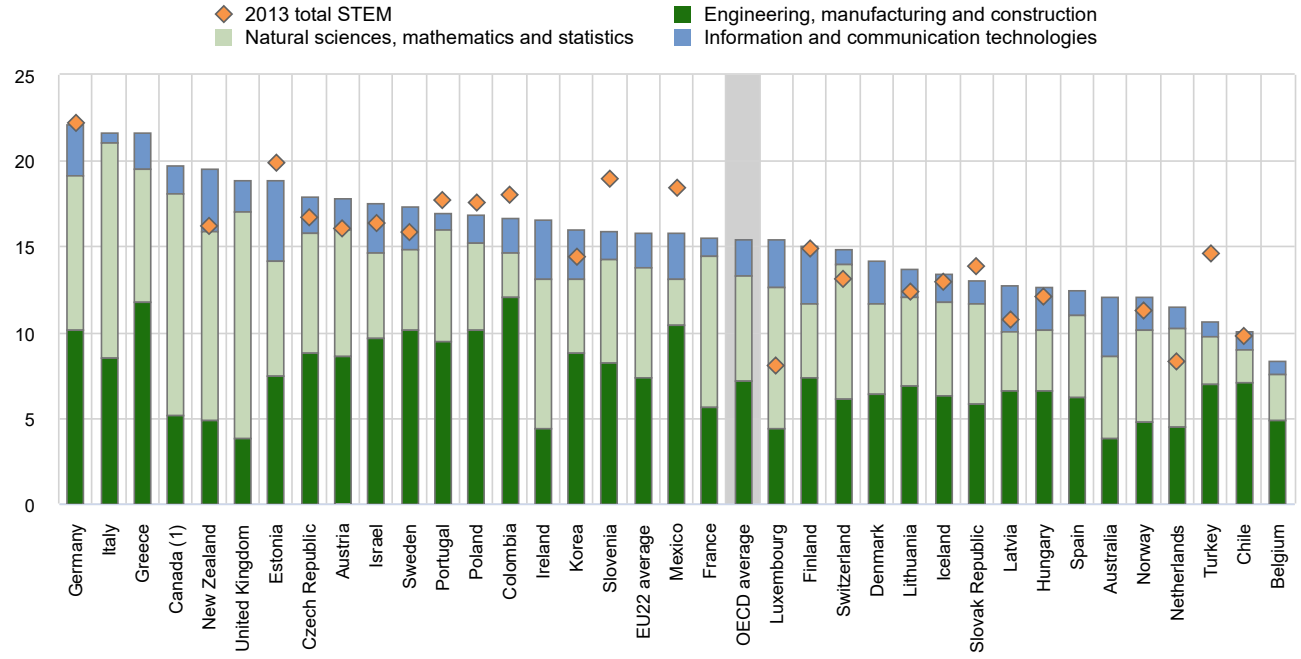
Despite being under-represented, men are almost as likely as women to enter tertiary education before the age of 25 in most countries. The difference between the share of women and the share of men among first-time entrants under the age of 25 varies by ± 3 percentage points in about two-thirds of countries with data. This difference is higher than 3 percentage points in favour of men in Chile, the Czech Republic and Estonia, peaking to 6 percentage points in the United Kingdom. In contrast, the share of first-time female entrants under the age of 25 is at least 3 percentage points more than that of men in Austria, Denmark, Germany, Norway, Portugal, Sweden and Switzerland. Israel displays the largest difference, with 79% of women first-time entrants below age 25 compared to 61% of men (Figure B4.2).

If current entry patterns continue, it is expected that 57% of young women will enter into tertiary education for the first time before they turn 25 on average across OECD countries, compared to 45% for men. While the entry rate for women was higher than that for men in all OECD countries, this gender gap varies in favour of women, from 3 percentage points in Colombia and Luxembourg to 18 percentage points or more in Denmark, Iceland, New Zealand and Norway (Table B4.1).

The difference between the entry rate of women and men shrinks as the level of education increases**.** Excluding international students, 18% of women are expected to enter a master's degree (or equivalent) for the first time before the age of 30, compared to 12% of men on average across OECD countries. The gender gap disappears at doctoral level, where the average entry rates of men and women under the age of 30 are almost equal (0.9% for both men and women) (Table B4.2).

Figure B4.3. Distribution of female new entrants into tertiary education by STEM field of education (2013 and 2019)

In per cent



1. Reference year 2017.

Countries are ranked in descending order of female new entrants into tertiary education in STEM fields of study in 2019.

Source: OECD/UIS/Eurostat (2021), *Education at a Glance Database*. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

StatLink https://stat.link/0uq3hc

Gender differences in programme orientation and educational performance in upper secondary education may reduce the access opportunities for boys at tertiary level. Boys are more likely than girls to enrol in vocational upper secondary programmes, which in some countries do not provide direct access to tertiary education. They are also less likely to complete upper secondary education and they generally perform at a lower level than girls in learning assessments. Finally, young men also have less to gain in the labour market than women from attaining tertiary education, in both employment levels and earnings, mostly due to the stronger work opportunities available to those with an upper secondary qualification (OECD, 2021[3]).

Despite strong enrolment patterns, the fields of study tertiary entrants enrol in tend to be strongly gender biased. Fields in science, technology, engineering and mathematics (STEM) are of particular policy relevance as countries seek to enhance skills for technological innovation. However, enrolment in such fields remains relatively low. In 2019, while 24% of new tertiary entrants enrolled in the field of business, administration and law, 6% enrolled in the field of natural sciences, mathematics and statistics; 6% in the field of information and communication technologies (ICT); and 15% in engineering, manufacturing and construction (Table B4.3).

Natural sciences, mathematics and statistics are the only STEM fields that have achieved gender parity, although there is a much stronger representation of women in some countries. On average across OECD countries, women represented 52% of new entrants to the field, ranging from 27% in Japan to 65% in the Slovak Republic. In contrast, still few women enter engineering and ICT fields of study. Men still strongly dominate both fields in every OECD country, representing at least 70% of new entrants to ICT and 61% in engineering, manufacturing and construction across all countries (Figure B4.1).

While the share of women entering a STEM field of study remained generally stable between 2013 and 2019 across countries with available data, there are important variations across countries. Slightly more than half of OECD countries with data saw the share of women among tertiary entrants to STEM fields increase. This varies between less than 1 percentage point in Chile, Finland, Iceland, Hungary and Norway to 3 percentage points in the Netherlands and New Zealand and 7 percentage points in Luxembourg. In contrast, the share of women declined by more than 3 percentage points over this period in Slovenia and Turkey (Figure B4.3).

A lower inclination or tendency towards a career in science may begin already in school. Among students who score highly in the Programme for International Student Assessment (PISA) tests, it is overwhelmingly boys who more often expect to work in science and engineering (Mann et al., 2020[7]). Labour market opportunities also influence students' choices in field of study upon entry into tertiary education. Demand for skills in the STEM fields remain heterogeneous: while 84% of 25-64 year-old adults with a degree in natural sciences, mathematics and statistics were employed in 2020 on average across OECD countries, demand is strong for those with an engineering or ICT degree, where employment peaks close to 90%. Yet, even across these high-demand fields, labour markets do not reward men and women equally, even when they both have the same degree. Gender gaps in employment rate in both the fields of engineering, manufacturing and construction as well as ICT were the largest across all fields of study on average across OECD countries in 2020. While 93% of men with an ICT degree were employed, only 81% of women were. Among adults with a degree in engineering, manufacturing and construction, 91% of men were employed compared to 81% of women. These gender differences have not significantly changed compared to 2019, before the COVID-19 pandemic hit (OECD, 2021[8]).

In contrast, the gender imbalance reverses when it comes to care professions such as teachers and nurses. In 2019, women were still largely over-represented among new entrants in the fields of education or health and welfare, where they represented more than 75% of new entrants on average across OECD countries. In some countries, more than four out of five new entrants to these fields are women. For example, in Italy and Latvia, women represent 90% or more of new entrants into the field of education and in Estonia, Finland, Iceland, Latvia and Lithuania, women represent at least 83% of new entrants in the fields of health and welfare. Both professions are likely to experience shortages in the future. In numerous countries, there is an increasing number of teachers reaching retirement. Moreover, attrition can be high particularly for teachers under 24 years of age (see Indicator D6). Pre-existing shortages of nurses were also exacerbated during the COVID-19 pandemic, also because many nurses themselves became infected by the virus (OECD/European Union, 2020[9]). Removing gender stereotypes and implementing policies to increase the attractiveness of these professions to men may help overcome current shortages and increase low retention rates in the profession.

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 (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).

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 five- to seven-year master's programme (ISCED 7-LFD) 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 in a tertiary level of education but who 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. The entry rate below typical age is calculated only if the share of entrants reported with unknown age is below the quality threshold of 10%. Entrants of unknown age are excluded from the calculation of these indicators which may lead to slight underestimation of the rate, particularly when their share is close to the threshold.

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 six 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 (tu auhttps://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf)).

Source

Data refer to the 2018/19 academic year and are based on the UNESCO-UIS/OECD/Eurostat data collection on education statistics administered by the OECD in 2020. Data for some countries may have a different reference year. For details, see Annex 3 at https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf.

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Indicator B4 tables

Tables Indicator B4. Who is expected to enter tertiary education?

Table B4.1	Profile of first-time entrants and entry rate into tertiary education (2019)
Table B4.2	Profile of new entrants and entry rate to bachelor's, master's and doctoral levels (2019)
Table B4.3	Distribution of new entrants into tertiary education by field of study (2019)

StatLink https://stat.link/lxoduk

Cut-off date for the data: 17 June 2021. 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*.

Table B4.1. Profile of first-time entrants and entry rate to tertiary education (2019)

		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 (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	m	m	m	m	m	m	m	m	m	m	m
	Austria	54	80	22	22	44	40	16	48	42	56	58
	Belgium[1]	56	97	19	9	1	99	a	61	52	69	66
	Canada[2]	54	82	21	18	36	56	7	53	47	60	64
	Chile	54	83	22	1	42	56	2	71	67	76	72
	Colombia	51	73	23	0	37	63	a	33	31	34	33
	Costa Rica	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	57	88	22	14	1	91	9	49	41	58	58
	Denmark	55	73	25	7	23	69	0	57	49	66	62
	Estonia	55	85	22	11	a	92	8	44	38	49	48
	Finland	55	76	23	9	a	95	5	45	39	51	48
	France	m	m	m	m	m	m	m	m	m	m	m
	Germany	50	78	23	12	1	82	17	49	45	54	56
	Greece	57	88	21	3	a	100	a	47	39	55	48
	Hungary	55	88	21	12	10	73	17	37	33	42	43
	Iceland	61	76	24	13	9	90	1	50	39	62	54
	Ireland	m	m	m	m	m	m	m	m	m	m	m
	Israel	59	72	24	m	27	73	a	m	m	m	46
	Italy	55	94	20	2	2	88	10	48	41	56	49
	Japan	51	99	18	m	34	63	2	m	m	m	72
	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	54	86	21	6	a	93	7	62	54	70	66
	Luxembourg	54	88	22	22	29	71	a	14	13	16	18
	Mexico	52	86	21	1	7	93	a	m	m	m	49
	Netherlands	53	94	20	16	2	98	a	53	49	57	63
	New Zealand	56	77	23	31	22	78	a	48	39	57	66
	Norway	55	84	22	2	8	80	12	55	46	64	55
	Poland	55	88	21	5	m	m	m	68	59	77	71
	Portugal	54	91	20	9	11	75	14	55	48	61	60
	Slovak Republic	56	85	22	11	2	91	7	44	37	51	49
	Slovenia	54	94	20	9	18	77	5	66	58	75	72
	Spain	53	82	22	8	38	50	12	64	57	70	67
	Sweden	57	68	24	14	11	60	29	41	33	50	46
	Switzerland	50	66	25	17	3	86	11	42	37	47	50
	Turkey	51	71	24	3	48	50	2	70	67	72	72
	United Kingdom	56	77	23	12	24	74	2	57	50	64	66
	United States	55	93	20	4	48	52	a	43	39	47	45
	OECD average	55	83	22	10	17	76	6	51	45	57	56
	EU22 average	55	86	22	11	11	80	9	50	44	57	55
Partners	Argentina[3]	64	m	m	m	25	58	17	m	m	m	m
	Brazil	m	m	m	m	m	m	m	m	m	m	m
	China	55	m	m	m	62	38	a	m	m	m	m
	India	49	m	m	m	a	100	0	m	m	m	m
	Indonesia[3]	56	m	m	m	15	85	a	m	m	m	m
	Russian Federation	51	m	m	m	51	39	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	53	m	m	m	28	67	5	m	m	m	m

1. Short-cycle tertiary: data refer to the Flemish Community of Belgium only.
2. Reference year 2017.
3. Reference year 2018.

Source: OECD/UIS/Eurostat (2021). See Source section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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

StatLink https://stat.link/7qnr52

Table B4.2. Profile of new entrants and entry rate to bachelor's, master's and doctoral levels (2019)

		Bachelor's or equivalent						Master's or equivalent						Doctorate or equivalent					
				Bachelor's entry rate for students under 25						Master's entry rate for students under 30						Doctoral entry rate for students under 30			
				Excluding international students						Excluding international students						Excluding international students			
		Share of new entrants below the age of 25	Share of international new entrants	Total	Men	Women	Total	Share of new entrants below the age of 30	Share of international new entrants	Total	Men	Women	Total	Share of new entrants below the age of 30	Share of international new entrants	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	79	23	59	48	70	77	76	63	8	6	10	30	50	42	0.7	0.7	0.8	1.5
	Austria	84	21	30	24	36	37	81	31	14	13	16	21	65	42	1.1	1.2	1.1	1.9
	Belgium[1]	97	9	64	56	72	70	94	14	27	24	30	31	m	m	m	m	m	m
	Canada[2]	90	14	38	31	44	44	79	25	6	5	8	8	63	38	0.6	0.5	0.7	1.1
	Chile	84	1	51	49	53	51	46	4	5	4	6	5	43	27	0.1	0.2	0.1	0.2
	Colombia	77	0	22	20	24	22	44	1	3	3	4	3	22	3	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	87	13	46	39	53	53	90	19	23	18	28	29	76	27	1.9	1.9	1.8	2.5
	Denmark	77	8	48	39	57	52	87	22	23	20	26	30	67	41	1.0	1.1	1.0	1.9
	Estonia	83	11	39	35	44	44	75	26	16	12	21	22	58	41	0.8	0.8	0.8	1.3
	Finland	75	7	44	38	50	46	50	21	5	4	6	7	45	36	0.6	0.5	0.6	1.0
	France	90	m	m	m	m	54	87	m	m	m	m	39	77	m	m	m	m	1.8
	Germany	76	7	42	40	44	45	90	29	20	17	24	28	71	15	m	m	m	2.8
	Greece	90	2	68	62	74	69	53	1	10	7	12	10	44	0	1.3	1.3	1.3	1.3
	Hungary	89	9	29	26	31	31	87	26	11	9	13	15	63	30	0.9	0.8	0.9	1.2
	Iceland	78	9	49	39	60	53	58	13	14	8	21	17	43	45	0.4	0.2	0.5	0.8
	Ireland	90	6	58	54	61	61	57	29	14	12	17	24	57	37	1.2	1.1	1.3	2.0
	Israel	69	4	35	25	46	36	46	6	9	6	12	10	38	9	0.6	0.5	0.7	0.7
	Italy	94	2	42	36	48	43	92	6	24	20	29	25	72	12	1.1	1.1	1.1	1.2
	Japan	99	m	m	m	m	50	90	m	m	m	m	8	56	17	m	m	m	0.7
	Korea	98	2	58	55	60	59	57	13	6	5	7	8	41	20	1.1	1.3	0.9	1.5
	Latvia	74	11	56	51	61	64	73	24	18	11	26	26	42	13	0.7	0.6	0.8	0.8
	Lithuania	85	5	58	52	64	61	80	13	17	12	23	20	57	10	0.8	0.6	0.9	0.9
	Luxembourg	88	26	10	9	11	13	67	72	3	2	3	7	79	90	0.2	0.2	0.1	1.4
	Mexico	86	1	m	m	m	45	58	2	m	m	m	3	25	10	m	m	m	0.2
	Netherlands	95	17	52	48	56	62	91	31	15	14	17	22	m	m	m	m	m	m
	New Zealand	75	31	41	34	49	57	59	44	4	3	5	8	50	55	0.5	0.4	0.7	1.3
	Norway	80	4	46	37	55	47	80	10	28	22	33	30	44	31	0.8	0.7	0.8	1.3
	Poland	88	m	m	m	m	64	87	m	m	m	m	31	69	m	m	m	m	1.1
	Portugal	89	9	42	35	50	46	86	18	27	23	32	32	34	38	1.2	1.1	1.4	1.7
	Slovak Republic	85	10	41	35	46	44	87	8	26	19	33	28	67	12	1.5	1.3	1.7	1.6
	Slovenia	92	8	64	54	75	70	89	9	27	19	36	30	61	21	2.0	2.0	2.0	2.5
	Spain	91	3	43	36	50	44	79	20	15	11	18	17	50	23	1.7	1.5	1.8	1.9
	Sweden	67	6	30	22	38	31	77	22	19	17	22	25	53	40	0.5	0.5	0.5	1.1
	Switzerland	70	11	41	36	46	47	81	31	14	14	14	20	74	59	1.5	1.5	1.6	3.6
	Turkey	73	5	35	34	36	37	75	8	8	8	8	9	45	10	0.7	0.6	0.7	0.7
	United Kingdom	85	17	51	44	58	63	76	44	12	9	15	26	67	42	1.5	1.6	1.5	2.8
	United States	m	m	m	m	m	m	64	19	7	5	9	9	60	24	0.5	0.6	0.4	0.8
	OECD average	84	9	45	39	51	50	74	21	15	12	18	19	55	29	0.9	0.9	0.9	1.4
	EU22 average	86	9	45	40	51	50	80	22	18	14	22	24	60	29	1.1	1.0	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	85	8	m	m	m	46	89	8	m	m	m	25	m	10	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

1. Doctoral level data refer to the French Community of Belgium only.
2. Reference year 2017.

Source: OECD/UIS/Eurostat (2021). See Source section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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

StatLink https://stat.link/zbn153

Table B4.3. Distribution of new entrants into tertiary education by field of study (2019)

		Share of new entrants by field											Share of women in STEM fields		
										Science, technology, engineering and mathematics					
		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	Natural sciences, mathematics and statistics	Information and communication technologies	Engineering, manufacturing and construction	Natural sciences, mathematics and statistics	Information and communication technologies	Engineering, manufacturing and construction
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
OECD	**Countries**														
	Australia	0	8	18	6	33	11	2	1	5	8	9	51	25	25
	Austria	0	11	8	7	25	9	6	2	8	5	20	52	18	23
	Belgium[1]	0	7	23	11	24	10	1	2	4	3	13	40	11	21
	Canada[2]	2	3	16	10	22	9	7	1	13	5	13	56	20	21
	Chile	0	11	20	4	24	4	7	3	2	4	21	49	12	18
	Colombia	0	8	6	11	38	4	4	3	3	5	20	52	20	31
	Costa Rica	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	0	9	13	9	19	9	7	4	7	7	16	60	17	32
	Denmark	0	6	19	9	30	10	3	1	5	5	12	53	24	29
	Estonia	0	6	11	6	23	14	5	2	7	10	15	58	25	28
	Finland	0	5	23	5	20	9	6	2	4	9	19	58	22	22
	France	0	3	12	9	30	14	4	1	11	3	13	45	18	25
	Germany	0	8	6	7	25	10	3	2	9	6	24	49	23	21
	Greece	0	6	9	12	21	12	3	4	8	4	19	50	30	33
	Hungary	0	10	11	10	22	10	7	4	4	8	13	50	16	27
	Iceland	0	12	13	14	21	14	5	1	6	5	10	59	22	39
	Ireland	1	7	15	7	25	14	4	1	9	9	10	53	22	24
	Israel	0	22	7	16	15	8	0	0	7	6	18	43	30	32
	Italy	0	4	8	15	16	20	3	3	12	2	17	58	14	27
	Japan[3]	0[d]	9[d]	16[d]	7[d]	20[d]	16[d]	8[d]	3[d]	3[d]	x	18[d]	27	m	16
	Korea	0	7	16	5	13	16	11	1	5	5	21	48	27	21
	Latvia	0	6	15	8	27	7	8	1	3	8	16	58	20	23
	Lithuania	0	3	16	9	27	11	3	2	5	7	17	60	14	23
	Luxembourg	0	11	9	10	29	10	1	3	9	8	10	50	18	23
	Mexico	0	10	11	8	34	4	3	2	3	6	19	49	24	29
	Netherlands[4]	0	7	15	14	29	8	5	1	7	4	10	47	15	25
	New Zealand	0	7	11	11	23	14	4	2	11	7	9	57	28	30
	Norway	0	13	16	14	17	12	5	1	6	5	12	51	20	23
	Poland	0	7	10	12	22	11	8	2	5	7	16	63	15	36
	Portugal	0	4	13	11	24	12	7	2	6	3	18	57	17	29
	Slovak Republic	0	13	16	11	19	7	7	3	5	6	14	65	13	24
	Slovenia	0	9	11	8	20	9	9	3	6	6	20	54	16	23
	Spain	0	11	15	8	20	11	8	1	5	6	14	48	13	24
	Sweden	0	11	16	11	16	12	2	1	5	5	19	54	29	31
	Switzerland	0	8	15	7	28	8	4	1	9	3	16	46	13	19
	Turkey	0	10	13	7	30	13	8	3	3	2	13	52	25	28
	United Kingdom	1	6	14	11	26	13	0	1	13	5	9	57	21	25
	United States	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	OECD average	0	8	14	10	24	11	5	2	6	6	15	52	20	26
	EU22 average	0	8	13	10	23	11	5	2	7	6	16	54	19	26
Partners	**Argentina**	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
	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[4]	0	9	9	8	21	5	10	2	3	7	26	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
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m

1. Short-cycle tertiary: data refer to the Flemish Community of Belgium only. Doctoral level data missing for all of Belgium.
2. Reference year 2017.
3. All fields of study include the field information and communication technologies.
4. Doctoral level data missing.

Source: OECD/UIS/Eurostat (2021). See Source section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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

- Based on current patterns of graduation, it is estimated that 38% of national students in tertiary education will graduate for the first time in their life before the age of 30 on average across OECD countries. In all countries with available data, graduation rates for national male students under the age of 30 are lower than for women and below 50%.
- The distribution of tertiary graduates by type of institution varies significantly across OECD countries, with a higher share graduating from public institutions. In about half of OECD countries, more than 80% of students graduating from a bachelor's, master's and master's long first degree programme attended a public institution.
- The difference between the first-time tertiary graduation rate among women and men, excluding international students, is 15 percentage points on average across OECD countries, ranging from 6 percentage points in Switzerland to 25 percentage points in Latvia.

Context

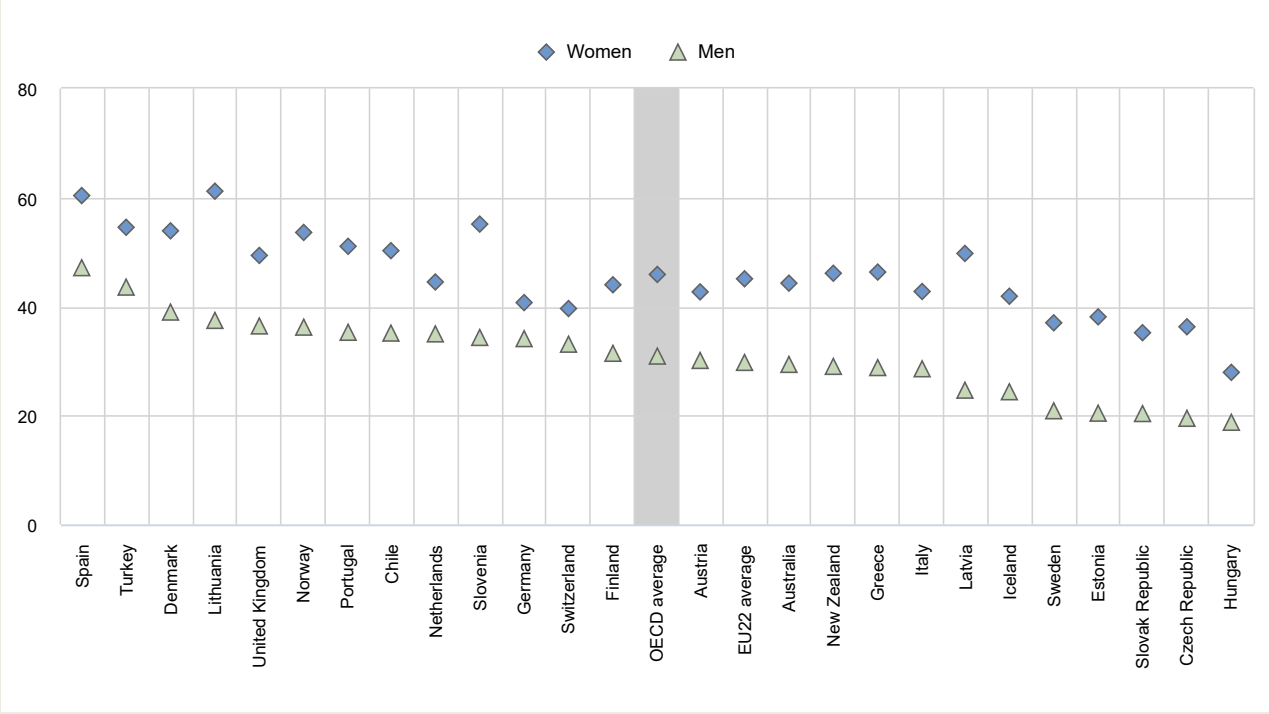
Tertiary graduation rates illustrate a country's capacity to provide future workers with advanced and specialised knowledge and skills. The incentives to earn a tertiary degree, including higher salaries and better employment prospects, remain strong across OECD countries (see Indicators A1, A3, A4 and 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. 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.

From an equity perspective, given the better labour-market and social outcomes associated with tertiary education (see Chapter A), governments should also ensure that graduation from tertiary education is not dependent on gender, socio-economic or demographic background.

The COVID-19 pandemic had a wide and immediate impact on higher education, forcing institutions to make an urgent transition to emergency distance learning. This required immediate responses by higher educational institutions and policy makers to ensure the continuity of learning which led to a dramatic change in the experience of both educators and learners. In many cases, this also included adjustments to assessment and graduation policies. For example, in the Czech Republic, higher educational institutions were allowed to conduct state examinations and thesis defenses remotely. In Denmark, the grading system was simplified and institutions were allowed to use a "pass/no pass" grading system instead of the numerical grading system. Similarly, in Sweden, higher educational institutions could make some changes to curricula, including examinations (OECD, 2021[1]) .

Figure B5.1. First-time tertiary graduation rates for national students below the age of 30, by gender (2019)

Excluding international students, in per cent



Countries are ranked in descending order of male graduation rates in 2019.

Source: OECD/UIS/Eurostat (2021). Table B5.1. See Source section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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Other findings

- While 9% of first-time tertiary graduates were international in 2019 on average across OECD countries, the share of international graduates varies greatly across countries.
- The share of international first-time graduates is less than 5% in 4 out of 10 OECD countries with available data, but exceeds 20% in Australia, Luxembourg and New Zealand. Although the gender gap among international first-time tertiary graduates is small on average across OECD countries (1.2 percentage points), there is significant heterogeneity across countries. In Australia, New Zealand and Sweden, the share of international first-time tertiary graduates is at least 5 percentage points larger for men than for women.

Note

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 graduates by type of institutions or by field of study (see Definitions section).

Analysis

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.

Graduation rates

The first-time graduation rate from tertiary education is an indicator of how many young people are expected to enter the labour force for the first time with a tertiary qualification before the age of 30. Based on current patterns of graduation, it is estimated that 42% 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 73% in Australia. In 2019, the large majority of first-time tertiary graduates were awarded a bachelor's or equivalent degree. On average across OECD countries, 76% of first-time tertiary graduates earned a bachelor's degree, 8% earned a master's or equivalent degree and 16% earned a short-cycle tertiary diploma. The only notable exception is Austria, where 47% of first-time graduates completed short-cycle tertiary programmes (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 49% of all first-time graduates, the difference can be significant. Australia's first-time tertiary graduation rate drops from 73% to 37% when international students are excluded (Table B5.1).

On average across OECD countries, excluding international students, 38% of young adults are expected to obtain a tertiary degree before the age of 30. There is, however, a large difference between men and women. Indeed, while 46% of women are expected to obtain a tertiary degree before the age of 30, only 31% of men are expected to. In all countries with available data, first-time tertiary graduation rates for men are lower than for women, and below 50%. The size of the gender gap varies significantly across countries; more than 20 percentage points in Latvia, Lithuania and Slovenia compared to 10 percentage points or less in Germany, Hungary, the Netherlands and Switzerland (Figure B5.1).

Several reasons of this over-representation of women in the tertiary graduates cohort exist. Changes in the courses on offer in higher education, and the social value of a university education for young women may influence their choices. Young women tend also to gain more from a tertiary degree in the labour market than their male peers, both in terms of employment and earnings, which may make pursuing higher education more attractive (OECD, 2021[2])

Fields studied by tertiary graduates

The distribution of graduates by field of study is influenced by several 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. Marked gender differences also shape distribution patterns of graduates across fields of study.

While the field of science, technology, engineering and mathematics (STEM) is the predominant field of study for male graduates in 34 out of 43 countries with data available, women are more likely to graduate from the field of business, administration and law (27 out of 43 countries). The second most common field of study is health and welfare for female graduates (in 12 countries), and business, administration and law for male graduates (in 9 countries). The pattern differs in some countries. In Argentina and Indonesia, the largest share of women graduate from the field of education. In India, about a third of women earn a degree in the field of social sciences, journalism and information while graduating from the field of arts and humanities is most common in Italy (Table B5.2).

Gender stereotyping of jobs and occupations along with gendered roles in personal and professional life may lead to different career expectations for girls and boys and influence the decisions that perpetuate gender-related differences in the choice of studies and careers. (OECD, 2016[3]).

Mobility status of graduates

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 (See Indicator B6).

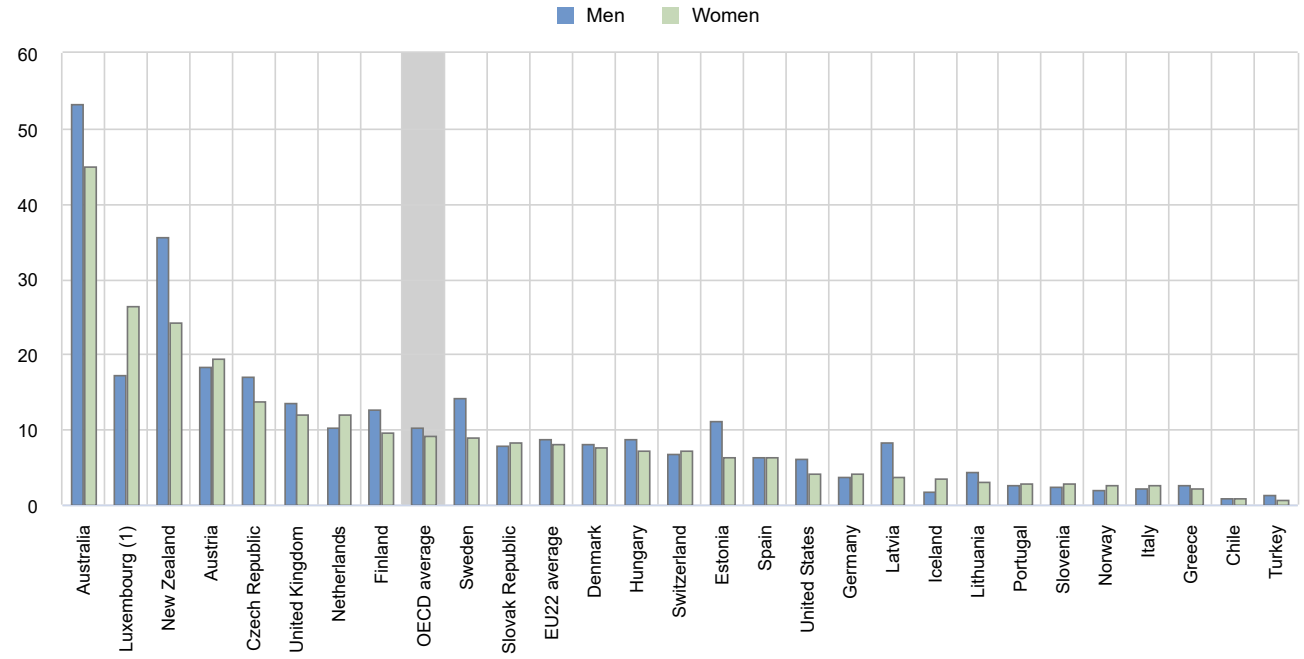
In OECD countries, 9% of first-time graduates at tertiary level were international graduates in 2019. The share of international first-time graduates is equal or below 5% in ten of the OECD countries with available data and below 2% in Chile and Turkey. Conversely, the share of international students exceeds 20% in Australia, Luxembourg and New Zealand.

On average across OECD countries, women are generally as likely as men to travel abroad to earn a tertiary degree. However, there are stark differences across countries. The share of international first-time graduates at tertiary level among women is lower than that of men in 10 of the 29 OECD countries with available data. In Australia, Estonia, Latvia, New Zealand and Sweden present of the share of men international graduates is at least 5 percentage points higher than the share among women. In contrast, Luxembourg is the only country with a significant gender gap (9 percentage points) in favor of women (Figure B5.2).

The choice of fields of study among international students may be one of the factors accounting for these differences. Fields such as education and health where women are generally over-represented, tend to attract fewer international students (15% compared to 25% when considering all students). In contrast, 29% of international graduates earned a degree in STEM, fields where men are generally over-represented, compared to 24% for all students. International student mobility may help compensate for lower graduation rates in targeted fields of study among national students. In Sweden, one out of two international students graduated from a STEM field in 2019 compared to less than one third of all students (OECD, 2021[4]).

Figure B5.2. Share of first-time international graduates at tertiary level, by gender (2019)

In per cent



1. Reference year 2018.

Countries are ranked in descending order of the share of international graduate females in 2019.

Source: OECD/UIS/Eurostat (2021). See Source section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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Varying opportunities for men and women to study abroad across regions may also account for differences among female and male international graduates. In 2019, women were over-represented among tertiary international graduates from North America in 25 OECD countries and in 31 countries for graduates from Europe. Regarding graduates from Asia, that is only the case for 13 OECD countries. In Australia and New Zealand, the share of men and women is relatively similar among international graduates from Asia. Thus, these two countries, where more than 80% of tertiary international graduates come from Asian countries and women are over-represented among national students, tend to have a larger share of male international graduates (Figure B5.2) (OECD, 2021[4]).

The COVID-19 pandemic has had an immediate impact on international student mobility. The extent to which higher education systems were affected varied according to the proportion of international students in the system and the origin of these students. While some countries seem to face increases in the share of foreign students, others face an important drop in the number of international students admitted. Across the 29 countries responding to the OECD/UNESCO-UIS/UNICEF/World Bank Special Survey on COVID, slightly less than half indicated adjustments to national policies related to the admission of international students in school year 2020/2021 (OECD, 2021[1]). This is expected to have an impact on the mobility status of graduates in the future.

Graduates by type of institution

Over the past few decades, the number of private institutions has increased to meet the growing demand for enrolment in tertiary education and students may have the possibility to choose between enrolling in public or private institutions. This choice may be influenced by financial considerations, possibilities for financial support through scholarships or grants, but also the course offering of these institutions and the higher flexibility and autonomy to design curricula and allocate resources.

The distribution of graduates by type of institution varies significantly across OECD countries, with a higher share graduating from public institutions on average. At least 80% of graduates in bachelor's, master's and master's long first degree programmes attended a public institution in 18 OECD countries, mostly EU members. Inversely, less than half of bachelor graduates earned their degree from a public institution in seven countries, with 5 of those outside the EU.

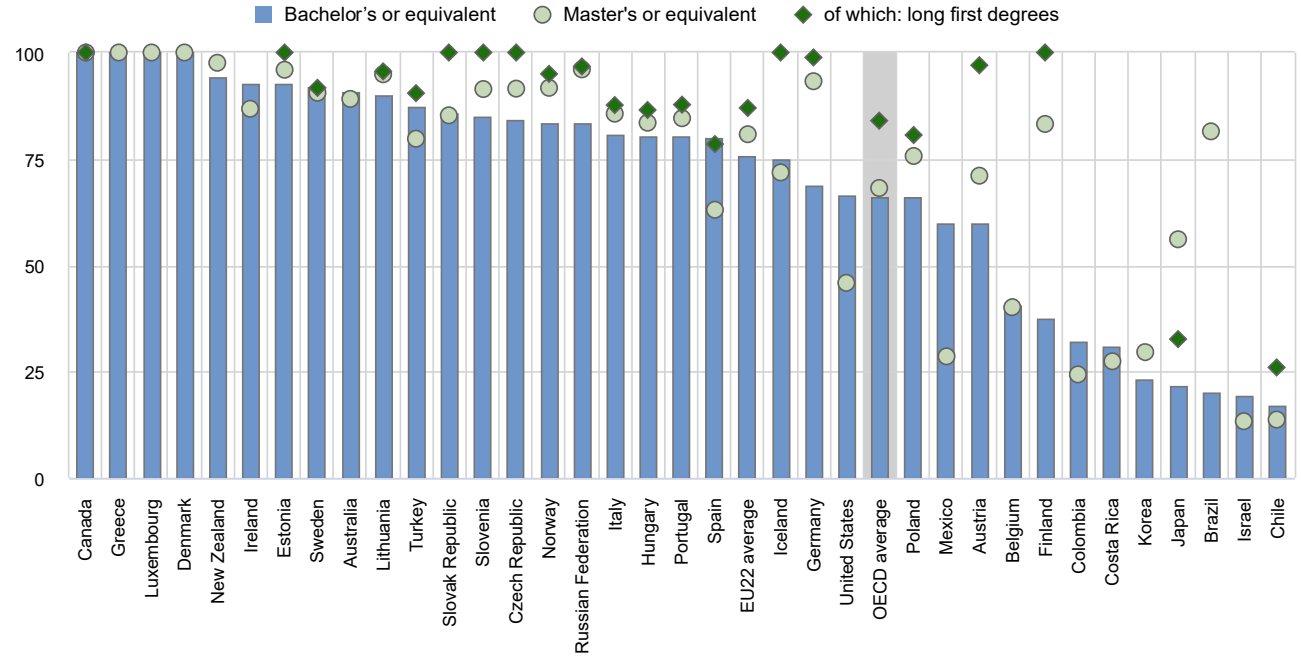
In a few countries, the majority of tertiary students earn their degrees from a private institution, regardless of the level of education. In the United Kingdom, tertiary education is provided only by private institutions, although they are majoritarily government-dependent. In Belgium, Chile, Israel and Korea, at least 50% of students at bachelor's, master's and doctoral level graduated from a private institution in 2019. In Colombia and Costa Rica, that is also the case at bachelor's and master's level, but not at doctoral level.

In other countries, the share of graduates from public institutions varies significantly by level of education. Growing and varied demand for higher levels of tertiary education, the development of private actors in the provision of tertiary education, as well as government priorities to secure sector or industry-specific training may influence the provision of tertiary education. On average across OECD countries, 66% of graduates at bachelor level, 68% at master's and 84% at master's long first degrees earned their degree from a public institution. The average share across EU22 countries is higher than that of the OECD (respectively 76%, 81% and 87%), as public provision of tertiary education is generally stronger (Figure B5.3). In Brazil, Finland and Japan, although most bachelor graduates come from private institutions, public institutions play a stronger role in the provision of master's or doctoral degrees. In Finland, while only over one third of bachelor graduates earned their degree from a public institution, 83% of master's graduates did, of which 100% of long first degrees. In Japan, 78% of bachelor's degrees are provided by private institutions, while 56% of master's degrees and 76% of doctoral degrees are provided by public institutions (Table B5.3).

The COVID-19 crisis has led to unprecedented fiscal efforts in most countries, significant resources will be needed for the health sector, job protection and the economic recovery in the coming years and public education budgets may be under pressure. While public funding for foundational education levels (e.g., early childhood education, school education) is more likely to be safeguarded, public funding for higher education could be at greater risk. In addition, declines in public funding to subsidise attendance will be more difficult to offset with increased fees, owing to sharp reductions in household incomes. Increasing student/teacher ratios and diminished student targeted support might reduce the quality of instruction and learning in higher education, and result in higher dropout rates, particularly among disadvantaged students (OECD, 2021[1]).

Figure B5.3. Share of graduates in public institutions, by level of education (2019)

In per cent



Countries are ranked in descending order of bachelor's or equivalent shares in 2019.
Source: OECD/UIS/Eurostat (2021), Table B5.3. See Source section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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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.

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.The graduation rate below typical age is calculated only if the share of graduates reported with unknown age is below the quality threshold of 10%. Graduates of unknown age are excluded from the calculation of these indicators which may lead to slight underestimation of the rate, particularly when their share is close to the threshold.

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[5]) and Annex 3 for country-specific notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

Source

Data refer to the academic year 2018/19 and are based on the UNESCO-UIS/OECD/Eurostat data collection on education statistics administered by the OECD in 2020 (for details, see Annex 3 at https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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Indicator B5 Tables

Tables Indicator B5. Who is expected to graduate from tertiary education?

Table B5.1.	Graduation rate and profile of first-time tertiary graduates (2019)
Table B5.2.	Distribution of tertiary graduates by field of study and gender (2019)
Table B5.3.	Graduation rate and profile of first-time tertiary graduates at bachelor's, master's and doctoral levels (2019)

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Cut-off date for the data: 17 June 2021. 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.

Table B5.1. Graduation rate and profile of first-time tertiary graduates (2019)

		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	85	25	49	8	66	25	37	29	44	73
	Austria	56	86	24	19	47	34	18	36	30	43	43
	Belgium	m	m	m	m	m	m	m	m	m	m	m
	Canada	m	m	m	m	m	m	m	m	m	m	m
	Chile	58	79	27	1	46	52	2	43	35	50	43
	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	15	1	85	14	28	19	36	33
	Denmark	56	85	26	8	22	78	a	46	39	54	51
	Estonia	63	81	26	8	a	93	7	29	20	38	32
	Finland	56	79	27	11	a	91	9	38	31	44	42
	France	m	m	m	m	m	m	m	m	m	m	m
	Germany	50	83	26	4	1	86	12	37	34	41	39
	Greece	60	91	25	2	a	100	a	37	29	46	38
	Hungary	58	85	25	8	7	80	13	23	19	28	25
	Iceland	61	81	27	3	3	97	0	33	24	42	33
	Ireland	m	m	m	m	m	m	m	m	m	m	m
	Israel	m	m	m	m	m	m	m	m	m	m	m
	Italy	57	91	24	2	1	82	16	35	29	43	36
	Japan	52	99	22	6	33	65	3	m	m	m	64
	Korea	m	m	m	m	m	m	m	m	m	m	m
	Latvia	65	69	29	5	30	62	7	37	25	50	39
	Lithuania	60	91	24	4	a	92	8	49	37	61	51
	Luxembourg[1]	57	93	24	23	29	71	a	m	m	m	10
	Mexico	53	90	24	m	8	92	a	m	m	m	29
	Netherlands	56	95	23	11	2	98	a	40	35	44	45
	New Zealand	58	78	26	29	28	72	a	37	29	46	52
	Norway	58	86	26	2	7	82	11	45	36	54	45
	Poland	m	m	m	m	m	m	m	m	m	m	m
	Portugal	58	92	24	3	8	78	14	43	35	51	44
	Slovak Republic	62	90	24	8	4	88	8	28	20	35	29
	Slovenia	58	88	25	3	19	75	6	44	34	55	45
	Spain	55	85	25	6	39	48	13	54	47	60	56
	Sweden	62	74	28	11	16	53	31	29	21	37	32
	Switzerland	50	76	28	7	1	99	0	36	33	40	40
	Turkey	54	80	27	1	39	59	2	49	44	55	50
	United Kingdom	57	88	24	13	21	77	1	43	36	49	50
	United States	58	m	m	5	41	59	a	m	m	m	m
	OECD average	57	85	25	9	16	76	8	38	31	46	42
	EU22 average	58	86	25	8	13	78	10	37	30	45	38
Partners	Argentina[2]	66	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[2]	59	m	m	m	m	m	m	m	m	m	m
	Russian Federation	57	m	m	m	38	45	17	m	m	m	m
	Saudi Arabia	55	m	m	m	m	m	m	m	m	m	m
	South Africa[2]	62	m	m	m	m	m	m	m	m	m	m
	G20 average	56	m	m	m	m	m	m	m	m	m	m

Note: Partner countries (except Brazil and the Russian Federation): the share of female first-time tertiary graduates refers to the share of female tertiary graduates.

1. Share of international first-time graduates: year of reference 2018.

2. Year of reference 2018.

Source: OECD/UIS/Eurostat (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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

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Table B5.2. Distribution of tertiary graduates by field of study and gender (2019)

		Women							Men						
		Education	Arts and humanities	Social sciences, journalism and information	Business, administration and law	Science, technology, engineering and mathematics	Health and welfare	Others	Education	Arts and humanities	Social sciences, journalism and information	Business, administration and law	Science, technology, engineering and mathematics	Health and welfare	Others
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
OECD	Countries														
	Australia	12	12	7	33	10	24	2	4	9	4	41	30	10	2
	Austria	17	9	10	25	16	11	13	5	6	5	23	50	6	5
	Belgium	11	11	13	20	8	35	3	4	9	8	24	33	18	3
	Canada	7	10	13	24	15	23	8	3	8	8	28	39	6	8
	Chile	22	3	5	26	7	29	8	6	3	3	26	39	11	11
	Colombia	10	3	12	47	15	7	5	6	4	6	36	37	4	7
	Costa Rica	28	3	6	36	9	16	3	18	3	4	35	28	8	4
	Czech Republic	18	10	12	19	16	16	9	5	7	9	18	42	6	13
	Denmark	7	13	11	23	14	28	4	3	9	9	29	34	10	5
	Estonia	12	14	8	26	18	17	6	2	10	7	20	46	4	10
	Finland	9	13	9	19	13	30	7	3	8	5	19	51	8	7
	France	6	11	9	36	15	19	5	2	6	5	32	40	8	6
	Germany	16	14	9	27	19	10	5	4	6	5	22	54	4	5
	Greece	12	14	16	20	19	13	5	3	8	13	20	40	9	8
	Hungary	21	10	12	28	12	10	7	6	7	8	22	41	6	10
	Iceland	17	9	18	19	13	19	4	8	10	12	23	35	7	4
	Ireland	13	13	7	24	15	23	5	5	9	5	28	38	8	7
	Israel	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Italy	10	21	16	16	17	16	4	2	12	12	20	35	11	7
	Japan[1]	13	21	7	16	7	21	15	5	9	7	25	36	11	7
	Korea	11	20	6	14	14	22	11	3	11	4	15	45	10	11
	Latvia	13	8	9	30	9	24	8	2	5	5	26	39	8	14
	Lithuania	8	11	11	26	13	25	5	3	5	6	21	49	8	7
	Luxembourg	15	11	11	42	9	9	2	6	10	8	42	30	3	2
	Mexico	15	4	22	26	15	14	4	6	3	16	22	38	8	6
	Netherlands	12	8	17	24	10	22	6	5	9	10	33	29	8	7
	New Zealand	12	12	10	23	15	21	7	5	12	7	26	36	8	7
	Norway	21	8	12	15	10	28	5	12	8	10	17	36	9	9
	Poland	18	8	10	24	14	20	8	5	5	7	23	35	14	11
	Portugal	6	11	13	21	18	24	8	2	9	8	19	43	9	11
	Slovak Republic	17	9	13	22	12	21	7	7	7	8	20	37	10	12
	Slovenia	16	10	11	20	15	16	11	3	7	6	15	47	7	14
	Spain	22	9	8	19	11	23	7	9	8	6	19	36	10	11
	Sweden	17	6	13	17	16	29	3	7	6	11	15	46	12	3
	Switzerland	13	9	9	26	12	25	6	6	6	4	30	39	8	8
	Turkey	9	14	9	27	12	22	7	5	9	8	33	26	9	11
	United Kingdom	10	16	13	23	18	18	2	4	13	10	26	37	8	1
	United States	9	20	13	16	12	24	6	3	18	10	23	30	8	8
	OECD average	14	11	11	24	13	20	6	5	8	8	25	39	8	8
	EU22 average	13	11	11	24	14	20	6	4	8	8	23	41	8	8
Partners	Argentina[2]	22	13	8	21	12	20	4	10	8	11	28	25	11	8
	Brazil	25	3	6	30	11	20	5	12	4	4	34	30	11	6
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	11	7	31	18	28	5	1	7	5	26	20	37	3	2
	Indonesia[2]	28	5	11	18	12	21	3	18	5	15	19	29	9	5
	Russian Federation	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Saudi Arabia	18	24	7	26	17	7	2	8	13	6	36	29	6	1
	South Africa[2]	25	5	18	29	13	7	2	12	5	13	35	27	4	3
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note:"Others" includes: generic programmes and qualifications; agriculture, forestry, fisheries and veterinary; services.
1. Data on information and communication technologies are included in each field.
2. Year of reference 2018.
Source: OECD/UIS/Eurostat (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).
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 bachelor's, master's and doctoral levels (2019)

		Bachelor's or equivalent					Master's or equivalent						Doctorate or equivalent				
		Share of graduates in public institutions	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 graduates in public institutions		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 graduates in public institutions	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	Master's or equivalent	of which: long first degrees			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	91	83	29	34	51	89	a	87	70	6	24	99	56	41	0.7	1.4
	Austria	60	87	18	19	23	71	97	86	26	13	18	98	73	38	0.8	1.3
	Belgium	41	96	7	40	43	40	a	97	15	20	24	45	81	26	0.9	1.1
	Canada	100	91	m	m	34	100	100	78	m	m	8	100	63	m	m	1.0
	Chile	17	78	1	26	26	14	26	59	6	6	7	45	55	20	0.1	0.2
	Colombia	32	m	m	m	m	24	a	m	m	m	m	59	m	m	m	m
	Costa Rica	31	m	m	m	m	27	m	m	m	m	m	52	m	m	m	m
	Czech Republic	84	86	11	25	29	92	100	91	15	17	20	100	69	17	0.9	1.1
	Denmark	100	85	8	41	44	100	a	93	21	22	29	100	72	38	1.1	2.1
	Estonia	93	80	8	27	29	96	100	80	21	13	17	99	60	20	0.6	0.7
	Finland	37	77	6	36	39	83	100	76	13	17	20	100	44	31	0.6	1.1
	France	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Germany	69	83	4	32	33	93	99	94	15	16	19	99	79	20	1.7	2.1
	Greece	100	91	2	37	38	100	a	62	1	10	10	100	44	2	0.6	0.6
	Hungary	80	84	6	19	20	84	86	81	15	11	14	92	61	11	0.6	0.6
	Iceland	75	81	3	32	33	72	100	66	15	12	15	94	51	38	0.3	0.9
	Ireland	93	m	m	m	m	87	m	m	m	m	m	m	m	m	m	m
	Israel	19	76	m	m	31	13	a	58	m	m	12	a	36	m	m	0.5
	Italy	81	92	3	29	30	86	88	94	0	22	22	96	83	14	0.9	1.0
	Japan	22	99	2	m	44	56	33	m	12	m	m	76	m	23	m	m
	Korea	23	m	m	m	m	30	a	m	m	m	m	36	41	m	m	0.9
	Latvia[1]	a	78	5	26	28	a	a	80	15	12	14	a	53	7	0.2	0.3
	Lithuania	90	90	3	46	47	95	96	87	10	14	16	99	66	3	0.6	0.6
	Luxembourg	100	91	22	6	7	100	a	89	73	2	5	100	92	84	0.2	1.0
	Mexico	60	89	m	m	27	29	a	m	m	m	m	35	m	m	m	m
	Netherlands	m	95	11	39	44	m	a	95	30	14	20	100	m	m	m	m
	New Zealand	94	79	29	31	42	98	a	74	45	4	8	100	54	54	0.4	1.1
	Norway	83	84	3	37	38	92	95	83	9	16	17	99	49	29	0.6	1.0
	Poland	66	m	m	m	m	76	81	m	m	m	m	95	m	m	m	m
	Portugal	80	91	3	34	34	85	88	94	12	18	20	95	42	30	0.6	0.8
	Slovak Republic	86	90	6	25	26	85	100	91	7	24	26	95	70	9	1.2	1.3
	Slovenia	85	90	3	35	36	91	100	93	6	19	21	83	65	7	0.9	1.0
	Spain	80	91	2	32	32	63	78	86	15	16	19	95	62	16	1.0	1.1
	Sweden	92	74	2	18	18	91	92	84	22	12	16	88	56	38	0.6	1.1
	Switzerland	m	76	7	36	40	m	100	88	25	12	17	99	79	58	1.2	2.8
	Turkey	87	83	1	30	30	80	90	80	5	6	7	91	49	9	0.3	0.3
	United Kingdom[2]	a	92	18	38	46	a	a	86	47	11	24	a	71	46	1.2	2.3
	United States	67	m	5	m	m	46	a	m	15	m	m	61	m	28	m	m
	OECD average	66	86	8	31	34	68	84	83	20	14	17	78	61	27	0.7	1.1
	EU22 average	76	87	7	30	32	81	87	87	17	15	18	89	65	23	0.8	1.0
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	20	m	m	m	m	82	a	m	m	m	m	87	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	83	m	m	m	m	96	97	m	m	m	m	100	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: Information on short-cycle tertiary education is available at: https://stats.oecd.org , *Education at a Glance Database*.
1. Public institutions classified as government-dependent private.
2. All universities are independent bodies.
Source: OECD/UIS/Eurostat (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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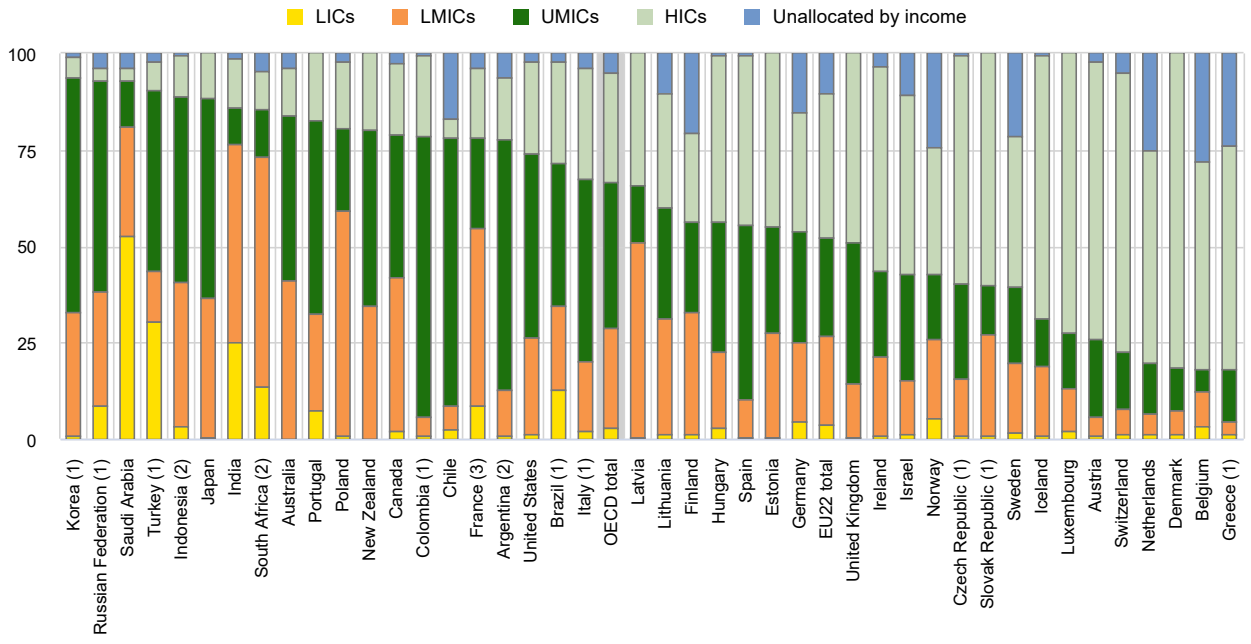
Indicator B6. What is the profile of internationally mobile students?

Highlights

- The largest flow of international students is from developing countries: 67% of all international students in the OECD area come from developing countres. Of this, 3% are from low-income countries (LICs), 26% are from lower middle-income countries (LMICs) and 38% are from upper middle-income countries (UMICs).
- In Austria, Colombia, Greece, Indonesia, Korea, Poland and the Slovak Republic, more than 55% of internationally mobile students in 2019 came from neighbouring countries.
- Women are less likely than men to enrol abroad in the field of engineering, manufacturing and construction (29% of international students are women) and more likely to study abroad in the fields of arts and humanities (the share of women is 62%) and health and welfare (63%).

Figure B6.1. Distribution of incoming international students by origin countries' income level (2019)

In per cent



Note: LICs: low-income countries. LMICs: lower middle-income countries. UMICs: upper middle-income countries. HICs: high-income countries.
1. Share of foreign rather than international students.
2. Year of reference 2018.
3. The distribution of international students by country of origin is based on citizenship criteria, while their total number is based on the country of upper secondary education.
Countries are ranked in descending order of the percentage of international or foreign students from developing countries (LICs, LMICs and UMICs combined).
Source: OECD/UIS/Eurostat (2021), *Education at a Glance Database*. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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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 one's 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 the 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 the number of students overseas is 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 educational 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. The imposed lockdown 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 (OECD, 2021[1]).

Other findings

- Most countries are net "importers" of students; that is, they have more students coming into the country to study than those leaving to study abroad. In total across OECD countries in 2019, there were three international students for each national student studying abroad, but this ratio equals or exceeds ten in Argentina, Australia, New Zealand, the United Kingdom and the United States.
- International student mobility has been expanding quite consistently over the past 20 years. In 2019, 6.1 million tertiary students worldwide had crossed a border to study, more than twice the number in 2007. The number of international and foreign tertiary students grew on average by 5.5% per year between 1998 and 2019.
- At doctoral or equivalent level, international students represent 22% of enrolled students. The countries with the highest shares are Luxembourg, 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 (87% in Luxembourg and 56% in Switzerland).

Analysis

Mobility patterns and international student flows

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 educational 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, 2020[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 (e.g. costs of international flights), technological (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 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[3]). Top destinations for internationally mobile students include a large number of top-ranked higher educational 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[4]). 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[5]).

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 educational 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).

By level of studies

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 (under 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, Canada, Luxembourg, New Zealand, Switzerland and the United Kingdom, 15% or more of students at bachelor's level are international (Figure B6.2).

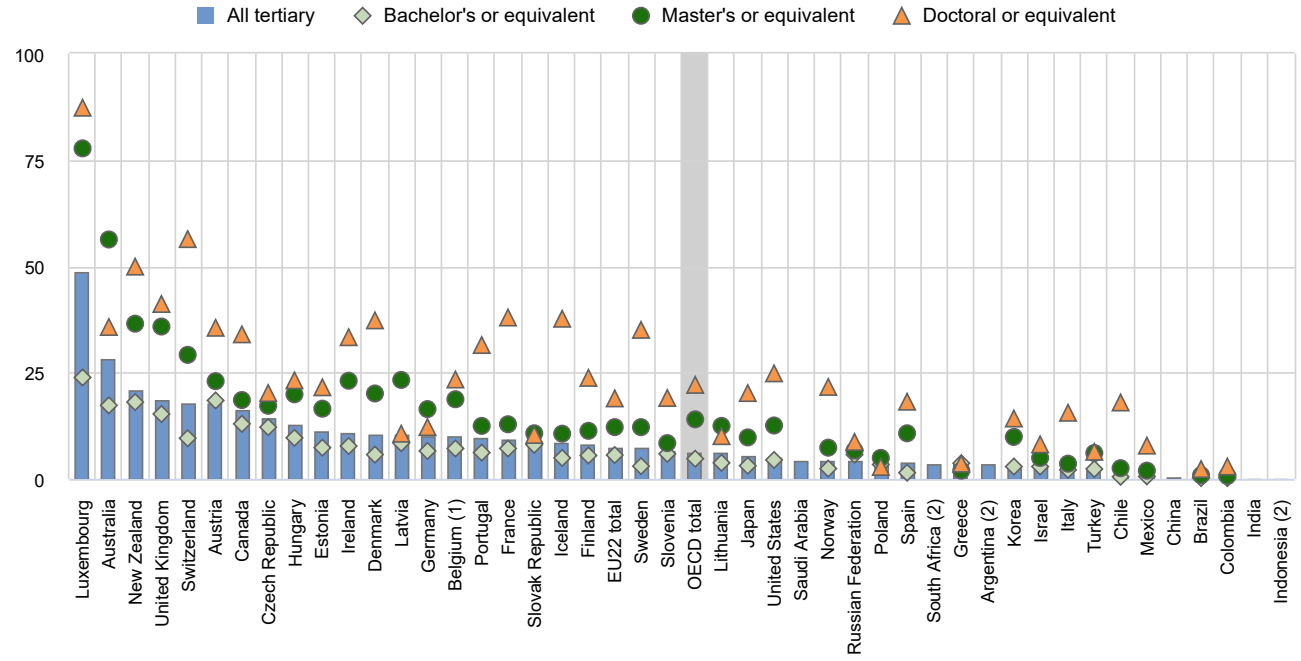
International enrolment increases significantly at master's or equivalent level. In total across the OECD, 14% of students are international or foreign at this level. The proportion of incoming students at least doubles between bachelor's and master's levels in nearly two-thirds of OECD countries and in Brazil, Chile, Spain and Sweden the share is at least four times higher 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 B6.2).

At doctoral or equivalent level, international students represent 22% of enrolled students. The countries with the highest shares are Luxembourg, 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 (87% in Luxembourg and 56% in Switzerland). While most countries have higher shares of international students at doctoral level than at master's level, a number of countries show the opposite pattern: this is particularly striking in Australia, Germany, Latvia, Lithuania and Poland (Figure B6.2).

Figure B6.2. Incoming student mobility in tertiary education, by level of study (2019)

International or foreign student enrolment as a percentage of total enrolment in tertiary education, in per cent



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 2018.
Countries are ranked in descending order of the percentage of international or foreign students in tertiary education.
Source: OECD/UIS/Eurostat (2021), Table B6.1. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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Most countries are net "importers" of students; that is, they have more students coming into the country to study than those leaving to study abroad. In total across OECD countries in 2019, there were three international students for each national student studying abroad, but this ratio equals or exceeds ten in Argentina, 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 those coming in to study. Colombia and Luxembourg are among the OECD countries with the lowest ratios of international or foreign students to national students abroad. Among partner countries, the People's Republic of China (hereafter "China") and India, who together are responsible for more than 30% of the pool of international students, are also net exporters of talent (Table B6.1).

Box B6.1. International mobility trends

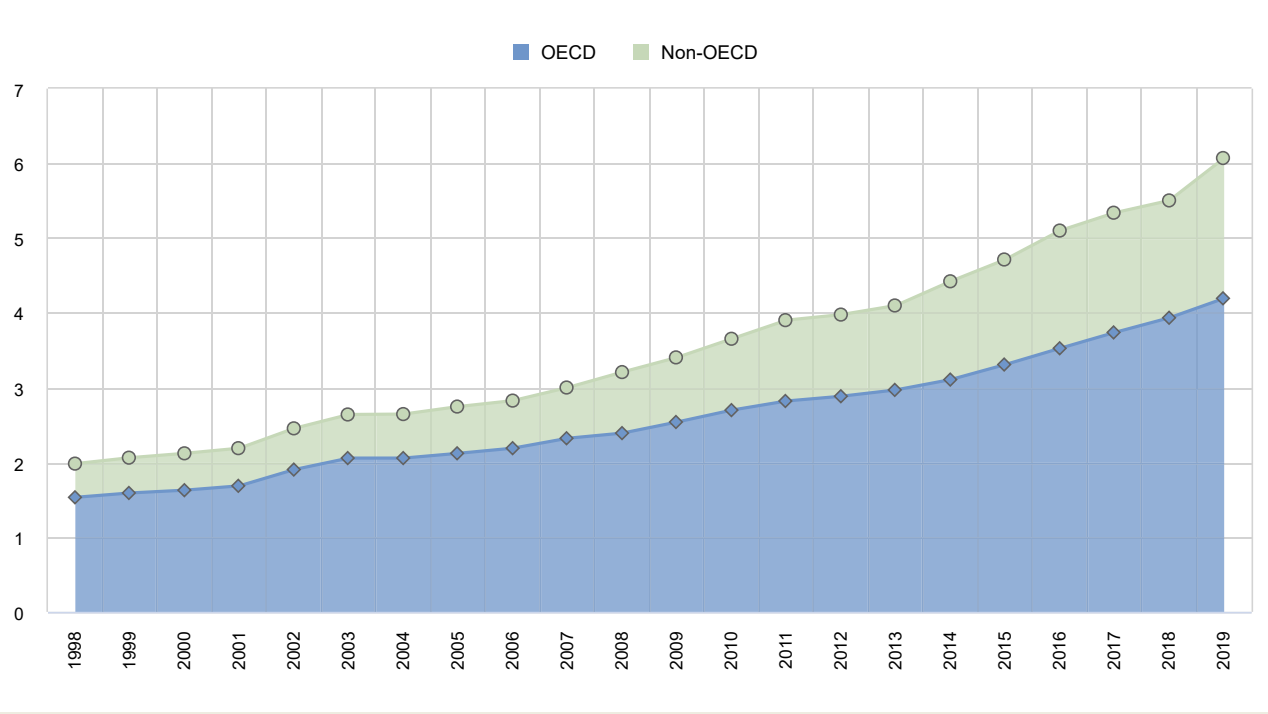
International student mobility has been expanding quite consistently in the past 20 years. In 2019, 6.1 million tertiary students worldwide had crossed a border to study, more than twice the number in 2007. The number of international and foreign tertiary students grew on average by 5.5% per year between 1998 and 2019. 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 7% per year on average, compared to 4.9% for international and foreign students in OECD countries. In 2019, foreign students enrolled in non-OECD countries represented about 31% of the global pool of internationally mobile students, compared to 23% in 1998 (Figure B6.3).

Despite strong increases in the total number of international and foreign students worldwide, their share among all tertiary students increased by 3 percentage points between 2014 and 2019 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, Canada and Estonia between 2014 and 2019, while it declined by 1 percentage point in Belgium, France and Greece (Table B6.1).

Figure B6.3. Growth in international or foreign enrolment in tertiary education worldwide (1998 to 2019)

Number of international or foreign students enrolled in OECD and non-OECD countries, in millions



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 (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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By country of destination and origin

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 the 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 the origin and destination countries (Guha, 1977[6]; UNESCO Office Bangkok and Regional Bureau for Education in Asia and the Pacific, 2013[7]; Weisser, 2016[8]).

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 35% 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 4.1 million internationally mobile students in OECD countries, 977 000 are enrolled in the United States. Among the English-speaking countries, after the United States, Australia accounts for 509 000 international students, the United Kingdom for 489 000 and Canada 279 000. As a destination country, the United States alone accounts for 16% of the global education market share, i.e. 16% of all international students in the world enrolled in the United States, while Australia and the United Kingdom each have 8% of the global market share (Table B6.1).

The largest flow of international students is from developing countries: 67% of all international students in the OECD area come from developing countries, of which 3% from LICs, 26% from LMICs and 38% from UMICs (see *Definitions* section). This share ranges from 20% or less in Belgium, Denmark, Greece and the Netherlands to over 90% in Korea, Turkey and, among partner countries, the Russian Federation and Saudi Arabia. The Russian Federation, Saudi Arabia and Turkey, together with Brazil, India and South Africa, are also among the countries with the highest share of students from LICs (more than 10%). In India, Latvia, Poland and South Africa, at least 50% of international or foreign students come from LMICs and Argentina, Chile, Colombia, Japan, Korea, Portugal and the Russian Federation have at least 50% of international or foreign students from UMICs (Figure B6.1).

International mobility patterns demonstrate the importance of proximity: Asian and Latin American countries have the highest shares of students from LICs and LMICs that are in the same region. In addition, in Austria, Colombia, Greece, Indonesia, Korea, Luxembourg and the Slovak Republic, more than 55% of international or mobile students in 2019 came from neighbouring countries (Table B6.1).

In terms of regions of origin, students from Asia form the largest group of international students enrolled in tertiary education programmes at all levels, totalling 58% of all mobile students across the OECD in 2019. 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 21% of all mobile students enrolled in OECD countries. European students prefer to stay in Europe, accounting for over 40% of mobile students enrolled in the EU22 countries (Table B6.3, available on line).

Profile of internationally mobile students

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 students, as 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 education attracts only 3% of mobile students, compared to 8% of national students and the field of health and welfare attracs 9% of mobile students compared to 13% of national students. In contrast, internationally mobile students are more likely to enrol in the broad field of natural sciences, mathematics and statistics than national students in total across the OECD (8% of mobile students and 5% of national students) (Table B6.2).

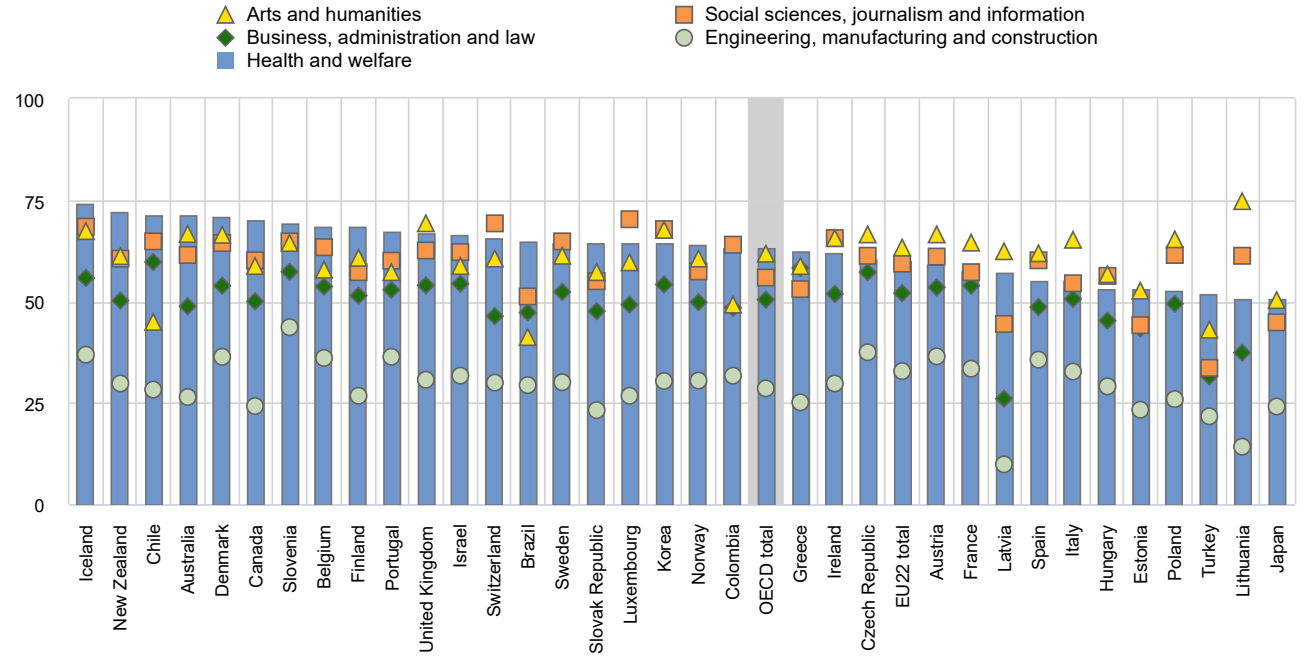
There are also striking differences between countries, highlighting potential specialisations and the attractiveness in some countries for a given field of study. Nearly half of foreign students in the Slovak Republic entered a health and welfare programme, almost three times more than the share of national students. In Denmark and Turkey, the share of international or foreign students entering engineering, manufacturing or construction is at least 10 percentage points higher than the share among national students (Table B6.2).

While women outnumber men among entrants and graduates from tertiary education, they are about as likely as men to enrol abroad in the field of social sciences, journalism and information. However, they are less likely to do so in the field of engineering, manufacturing and construction (29% of international students are women) and more likely in the fields of arts and humanities (share of women 62%) and health and welfare (63%) (Figure B6.4).

Among the fields that are most popular among internationally mobile female students, the share of women among mobile students in the field of health and welfare ranges from 51% in Japan and Lithuania to 74% in Iceland. Similarly, the share of women among internationally mobile students in the fields of arts and humanities ranges from less than 50% in Chile, Colombia, Turkey and, among partner countries, Brazil, to 75% in Lithuania. In contrast, engineering, manufacturing and construction is less popular among internationally mobile female students: their share in this field ranges from 10% in Latvia to 44% in Slovenia (Figure B6.4).

Figure B6.4. Share of women among international or foreign students in selected fields of study (2019)

All tertiary programmes, in per cent



Countries are ranked in descending order of the percentage of women among mobile students enrolled in the broad field of health and welfare.
Source: OECD/UIS/Eurostat (2021), *Education at a Glance Database*. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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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.

Developing countries include **low- and middle-income countries**, as defined by the World Bank. The World Bank assigns the world's economies to four income groups – low-income countries, lower middle-income countries, upper middle-income countries and high-income countries. The classifications are updated each year on 1 July and are based on gross national income per capita in current USD of the previous year.

Country-specific operational definitions of international students are indicated in the tables as well as in Annex 3 (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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[10]).

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, in which case the count of foreign students is used instead. Enrolment numbers are computed using a snapshot method, i.e. counting enrolled students at 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, 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* (OECD, 2018[10]) and Annex 3 for country-specific notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

Source

Data refer to the 2018/19 academic year 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://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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

Tables Indicator B6. What is the profile of internationally mobile students?

Table B6.1	International and foreign student mobility in tertiary education (2010, 2014 and 2019)
Table B6.2	Distribution of tertiary students enrolled by broad field of study, by mobility status (2019)
WEB Table B6.3	*Distribution of international and foreign students by country of origin (2019)*
WEB Table B6.4	*Distribution of international and foreign students by country of destination (2019)*

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Cut-off date for the data: 17 June 2021. 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 B6.1. International and foreign student mobility in tertiary education (2010, 2014 and 2019)

International or foreign student enrolment as a percentage of total tertiary enrolment

Reading the sixth column of the upper section of the table (international): 28% 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)	International or foreign student enrolment as a percentage of total tertiary enrolment							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
			Short-cycle tertiary	Bachelor's or equivalent	Master's or equivalent	Doctoral or equivalent	All tertiary							
		2019					2019	2014	2010	2019				
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
		International students												
OECD	Countries													
	Australia	509	33	17	56	36	28	18	21	1	39	39	3	8
	Austria	75	1	18	23	36	18	15	14	6	3	20	58	1
	Belgium[1]	52	8	7	19	23	10	11	7	3	3	11	45	1
	Canada	279	21	13	19	34	16	10	m	3	6	19	3	5
	Chile	10	1	0	3	18	1	0	m	1	1	1	27	0
	Denmark	32	11	6	20	37	10	10	7	2	6	11	37	1
	Estonia	5	a	7	16	22	11	4	2	8	1	11	38	0
	Finland	24	a	6	11	24	8	7	6	4	2	8	12	0
	France	246	3	7	13	38	9	10	m	4	2	10	13	4
	Germany	333	0	7	16	12	10	7	9	4	3	11	14	5
	Hungary	35	1	10	20	23	13	7	5	5	3	14	21	1
	Iceland	2	36	5	11	38	8	7	5	14	1	8	8	0
	Ireland	25	5	8	23	33	11	7	m	7	2	11	8	0
	Israel	11	m	3	5	8	3	3	1	4	1	3	6	0
	Japan	203	9	3	10	20	5	3	m	1	6	5	53	3
	Latvia	8	1	8	23	11	10	5	2	6	2	11	15	0
	Lithuania	7	a	4	12	10	6	3	1	9	1	6	15	0
	Luxembourg	3	10	24	78	87	49	44	m	77	0	22	51	0
	Mexico	33	0	1	2	8	1	0	m	1	1	1	48	1
	Netherlands	108	2	11	19	m	m	10	4	m	m	m	26	2
	New Zealand	53	18	18	36	50	21	19	14	2	10	26	6	1
	Norway	12	1	2	7	22	4	4	3	6	1	4	12	0
	Poland	55	0	3	5	3	4	2	1	2	2	4	67	1
	Portugal	36	7	6	12	31	10	4	3	6	2	10	3	1
	Slovenia	5	3	6	8	19	7	3	2	13	0	6	47	0
	Spain	77	1	1	11	18	4	2	3	2	2	4	28	1
	Sweden	31	0	3	12	35	7	6	m	3	2	7	19	1
	Switzerland	56	0	10	29	56	18	17	15	6	4	20	54	1
	United Kingdom	489	[4]	15	36	41	19	18	16	2	12	23	10	8
	United States	977	2	4	13	25	5	4	3	1	10	5	5	16
													Foreign students	
	Colombia	5	0	0	1	3	0	0	m	2	0	0	59	0
	Costa Rica	m	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	46	7	12	17	20	14	10	m	4	4	16	50	1
	Greece	28	a	4	2	4	3	4	m	5	1	3	59	0
	Italy	55	0	2	4	16	3	m	m	4	1	3	14	1
	Korea	99	1	3	10	14	3	2	2	3	1	3	58	2
	Slovak Republic	13	1	8	11	10	9	6	4	19	0	8	59	0
	Turkey	155	1	2	6	6	2	1	m	1	3	2	47	3
	OECD total	4 193	3	5	14	22	6	5	5	2	3	7	18	69
	Average for countries with available data for all reference years						8	5	6					
	EU22 total	1 300	2	6	12	19	8	7	5	4	2	8	25	21
													Foreign students	
Partners	Argentina[2]	109	x(6)	x(6)	x(6)	x(6)	3	m	m	0	11	4	45	2
	Brazil	22	0	0	1	2	0	0	0	1	0	0	38	0
	China	201	x(6)	x(6)	x(6)	x(6)	0	0	0	2	0	0	30	3
	India	47	a	x(6)	x(6)	x(6)	0	0	m	1	0	0	49	1
	Indonesia[2]	8	x(6)	x(6)	x(6)	x(6)	0	m	0	1	0	0	73	0
	Russian Federation	283	[1]	6	7	9	4	3	2	1	6	4	49	5
	Saudi Arabia	73	x(6)	x(6)	x(6)	x(6)	4	m	3	4	1	4	45	1
	South Africa[2]	42	x(6)	x(6)	x(6)	x(6)	4	m	m	1	5	4	47	1

1. Data on short-cycle tertiary programmes are based on nationality and refer to the Flemish community only.
2. Year of reference 2018.

Source: OECD/UIS/Eurostat (2021). See Source section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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Table B6.2. Distribution of tertiary students enrolled by broad fields of study, by mobility status (2019)

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	3	11	6	12	3	9	47	23	4	7	12	8	9	24
	Austria	6	14	14	9	16	7	20	25	11	8	16	17	9	9
	Belgium	4	10	14	9	10	10	14	24	4	4	9	11	37	25
	Canada	1	5	8	11	9	12	27	20	13	11	18	10	5	17
	Chile	5	11	6	4	7	5	31	22	6	2	19	21	14	22
	Denmark	2	9	10	10	9	9	28	23	7	5	21	11	8	25
	Estonia	3	7	14	13	10	6	38	21	6	6	11	16	4	14
	Finland	3	6	10	12	4	7	23	17	6	5	19	19	11	19
	France	2	4	16	12	10	7	29	25	13	7	16	16	6	15
	Germany	2	m	15	m	8	m	18	m	9	m	30	m	6	m
	Hungary	m	14	m	8	m	8	m	25	m	3	m	15	m	8
	Iceland	5	14	46	9	9	16	7	20	16	4	8	9	3	16
	Ireland	1	7	11	15	7	6	21	22	9	10	11	11	24	16
	Israel	8	20	16	8	19	18	18	14	11	6	10	19	12	8
	Japan[1]	m	9[d]	m	16[d]	m	29[d]	m	x(6)	m	3[d]	m	17[d]	m	18[d]
	Latvia	1	8	3	7	5	8	33	26	1	3	11	16	29	14
	Lithuania	1	5	10	9	15	8	25	26	2	4	16	18	24	18
	Luxembourg	5	18	7	14	13	10	39	24	10	6	8	10	3	12
	Mexico	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Netherlands	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	New Zealand	4	9	8	14	8	13	35	19	9	9	12	9	7	18
	Norway	5	17	19	10	11	11	16	19	15	5	12	10	11	18
	Poland	1	10	11	10	16	11	27	22	3	4	9	16	17	13
	Portugal	4	3	12	10	13	11	25	22	5	6	21	21	12	16
	Slovenia	5	10	11	9	16	8	18	18	8	6	19	18	8	14
	Spain	5	11	9	11	12	10	25	20	5	6	12	14	22	15
	Sweden	3	14	14	13	13	11	12	14	14	5	26	17	11	19
	Switzerland	5	11	14	8	12	8	19	27	17	7	18	15	8	18
	United Kingdom	2	6	13	15	12	11	33	20	12	15	14	8	7	17
	United States	m	m	m	m	m	m	m	m	m	m	m	m	m	m
		Foreign students													
	Colombia	7	8	9	4	14	12	28	35	3	3	17	22	16	7
	Costa Rica	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	2	13	10	9	10	9	20	19	8	6	14	15	18	13
	Greece	4	5	31	13	11	13	11	21	9	10	13	21	12	8
	Italy	1	6	33	16	12	14	13	18	6	8	22	15	9	15
	Korea	3	6	21	16	13	6	31	14	3	5	12	23	4	14
	Slovak Republic	9	13	7	8	5	11	11	19	2	5	10	13	47	17
	Turkey	6	6	13	13	13	10	19	40	5	2	25	11	13	9
	OECD total	3	8	13	11	11	9	28	26	8	5	17	16	9	13
	EU22 total	3	8	15	12	10	9	21	22	9	7	19	16	12	13
		Foreign students													
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	11	19	8	3	8	5	17	30	8	2	19	13	15	19
	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

1. Data on information and communication technologies (not presented in this table and available at stats.oecd.org) are included in other fields. Data on Business, administration and law are included with Social sciences, journalism and information.

Source: OECD/UIS/Eurostat (2021). See Source section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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. In addition, the search for effective financial policies in education requires evaluating educational expenditure of a country's education system in light of other countries.

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 above – relates to the location where spending occurs (within or outside educational institutions).

- The second dimension – represented by the vertical axis in the diagram above – 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 above – 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 six 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).
- The contribution of various factors to the salary cost of teachers per student in public institutions (Indicator C7).

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]

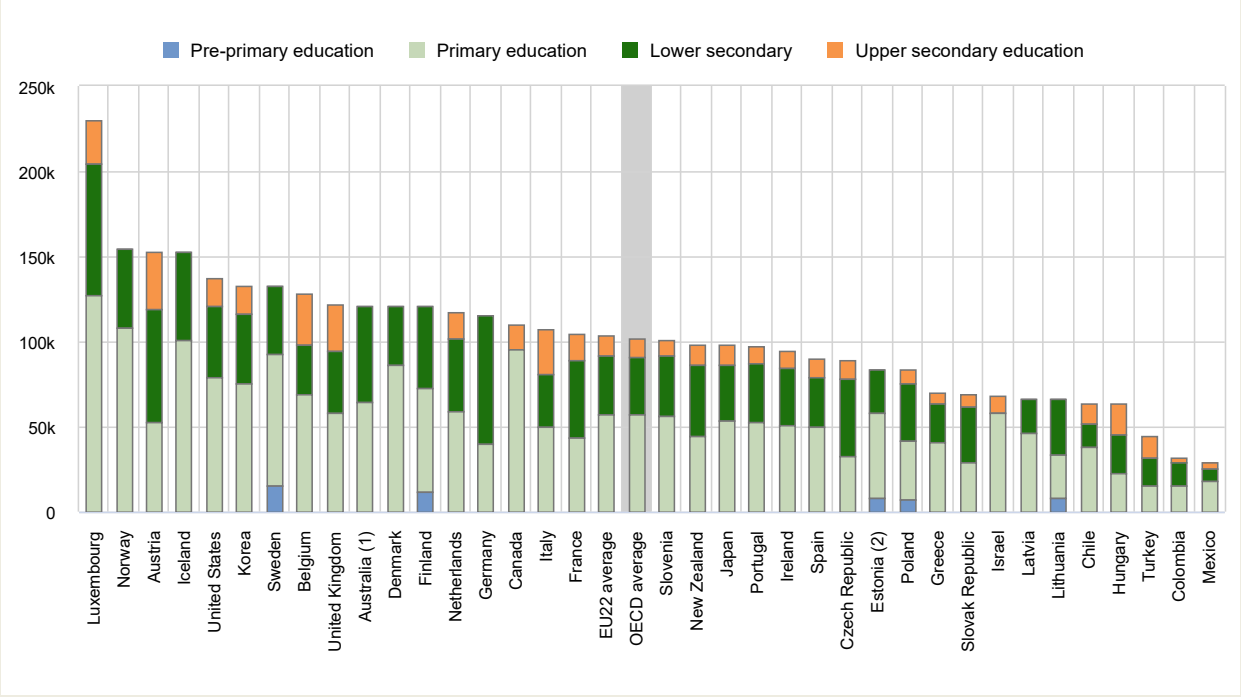
Indicator C1. How much is spent per student on educational institutions?

Highlights

- On average, OECD countries spend USD 11 700 per student on primary to tertiary educational institutions. This represents about USD 10 500 per student at primary, secondary and post-secondary non-tertiary level, and USD 17 100 at tertiary level.
- In non-tertiary education (primary, secondary and post-secondary non-tertiary levels), 96% of institutions' expenditure per student is devoted to core educational services (such as teaching costs); the remainder is devoted to ancillary services (such as student welfare). At the tertiary level, a much lower share of institutional expenditure goes to core services (68%), while roughly 32% of total educational expenditure per student is on ancillary and research and development (R&D).
- Across OECD countries, total cumulative expenditure on students enrolled at primary or secondary school between the age of 6 and 15 add up to around USD 102 200 per student. However, this total cumulative expenditure varies considerably among countries, ranging from USD 28 700 to USD 230 000.

Figure C1.1. Cumulative expenditure on educational institutions per full-time equivalent student between the age of 6 and 15 (2018)

In equivalent USD converted using PPPs for GDP; direct expenditure within educational institutions



1. Lower secondary education includes vocational programmes.
2. Pre-primary education refers to early childhood education.

Countries are ranked in descending order of the cumulative expenditure on educational institutions per full-time equivalent student between the age of 6 and 15.

Source: OECD/UIS/Eurostat (2021), Table C1.7, available on line. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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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 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, private sources in OECD countries spend almost USD 1 800 per student per year from primary to tertiary education. Private sources spend around USD 900 per student in primary, secondary and post-secondary non-tertiary levels, while, this figure increases up to USD 5 100 per student in tertiary levels of education.
- On average, total expenditure per student is similar in private institutions and public ones from primary to tertiary education. Total expenditure is higher in private institutions than in public ones in primary, secondary and post-secondary non-tertiary levels, while the opposite is observed at tertiary levels.
- Public expenditure on public institutions averaged about USD 10 700 per student from primary to tertiary education across OECD countries. 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 2018, expenditure on primary to tertiary educational institutions grew at a rate of 1.7% a year on average across OECD countries, while the number of students remained fairly stable. This resulted in an average annual growth rate of 1.6% 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 2018. The figure is much higher at tertiary level, where countries spent, on average, 37% of GDP per capita per tertiary student. The higher spending is largely driven by the expenditure on R&D activities per tertiary student, which accounts for 11% of GDP per capita.

Analysis

Overall expenditure per student on educational institutions

Annual expenditure per student on educational institutions from primary to tertiary level provides an assessment of the investment made in each student. In 2018, the average annual spending per student from primary to tertiary education in OECD countries as a whole was almost USD 11 700. But this average masks a broad range of spending across OECD and partner countries. Annual spending per student at these levels ranged from around USD 3 100 in Colombia to around USD 18 000 in Norway and the United States, and to more than USD 24 900 in Luxembourg (Table 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. Luxembourg and the United States) are also among those that tend to pay their teachers at primary and secondary level the most (see Indicator D3). In contrast, Colombia has one of the highest ratios of students to teaching staff, which tends to drive costs down (see Indicator D2).

Annual expenditure per student can also vary significantly within countries, particularly in those where a large share of education expenditure is provided by local governments (Box C1.1).

Expenditure per student on educational institutions by level of education

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 organisations, curricula, teaching styles 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 9 600 per student at the primary level and USD 11 200 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 programmes. The size of the work-based component of VET programmes also influences their cost through expenditure on training and wages (Table C1.1).

Private sources in OECD countries spend around USD 1 800 per student in primary to tertiary levels of education. However, the greater reliance on private funding in tertiary education has led to higher expenditure at this level than in lower levels of education, reaching more than USD 5 100 (see Indicator C3, and Table C1.5, available on line). In 2018, while OECD countries spent on average around USD 10 500 per student at the primary, secondary and post-secondary non-tertiary levels, expenditure per student reached USD 17 100 at the tertiary level. However, the average expenditure at tertiary level is driven up by high values in a few countries, ranging from USD 24 500 to USD 47 700, most notably Canada, Luxembourg, Norway, Sweden, the United Kingdom and the United States (Table C1.1).

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 17% 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, Israel, Mexico, Poland and the Slovak Republic 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 22% more on each tertiary student (excluding R&D) than on each primary student. Hungary, Mexico, Turkey, the United Kingdom and the United States spend about twice as much on a tertiary student (excluding R&D) than they do on a primary student (Table C1.1).

Box C1.1. Subnational variation in annual expenditure per student on educational institutions

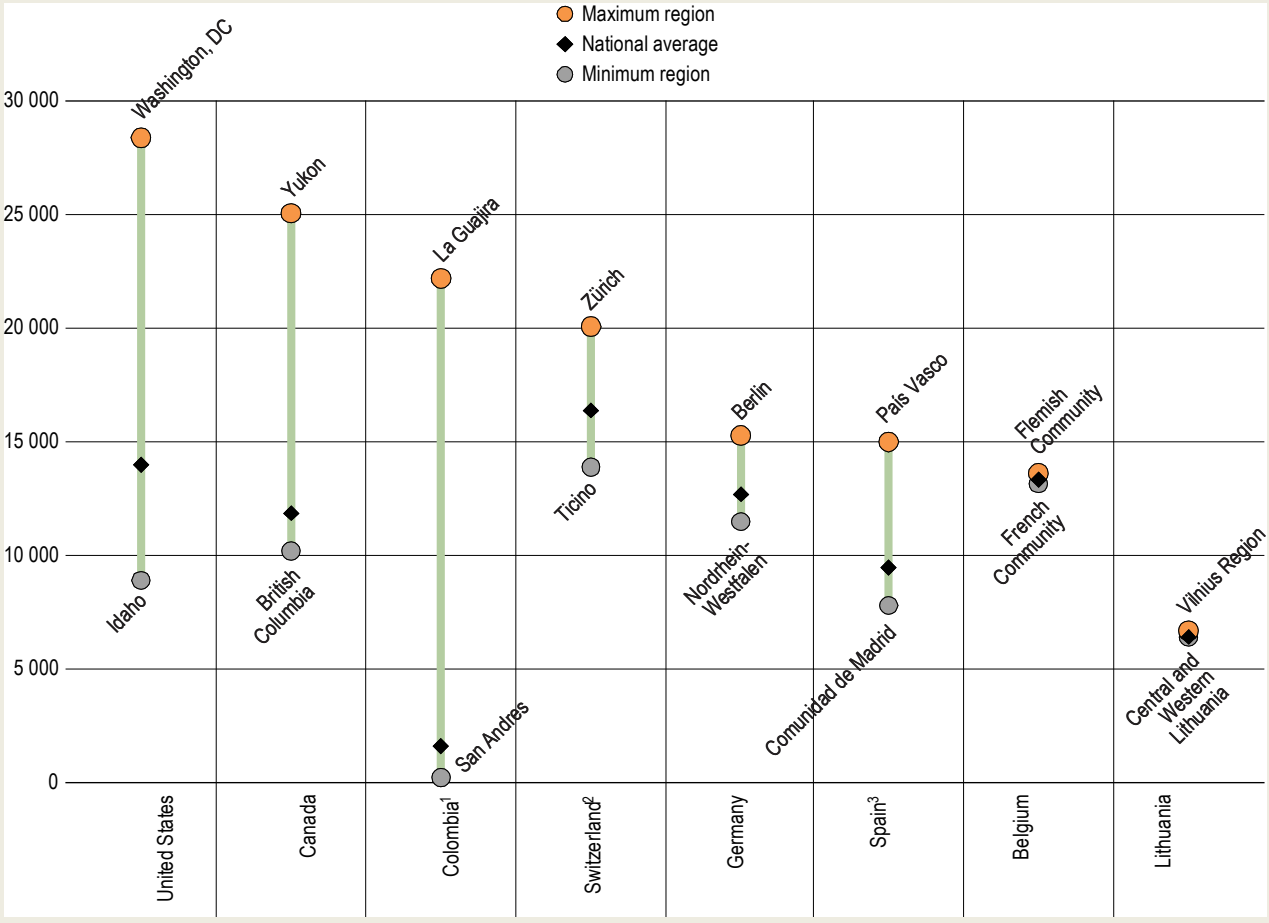
Decentralisation of government services in OECD countries often results in subnational governments being responsible for the delivery of key government services such as education (Dougherty and Phillips, 2019[1]). In this stream of literature, evidence shows that educational performance (Kim and Dougherty, 2018[2]) and human capital levels (Blöchliger, Égert and Bonesmo Fredriksen, 2013[3]) might increase as a result of an increase in the overall budget devoted to education due to fiscal decentralisation.

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 eight countries with available data at subnational

level, Canada, Colombia and the United States have the highest variation in annual expenditure per student on educational institutions at primary and secondary levels combined: in the United States, the region with the highest value (USD 28 000) 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, Spain and Switzerland, while in Belgium and Lithuania, expenditure per student on primary and secondary educational institutions is almost identical across the regions.

Figure C1.2. Subnational expenditure on educational institutions per full-time equivalent student (2018)

Primary and secondary education, in equivalent USD converted using PPPs



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.

1. Government expenditure data transferred to subnational entities.
2. Only expenditure for teaching and non-teaching staff.
3. Public expenditure on education in public institutions.

Countries are ranked in descending order of maximum subnational expenditure on educational institutions per full-time equivalent student.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

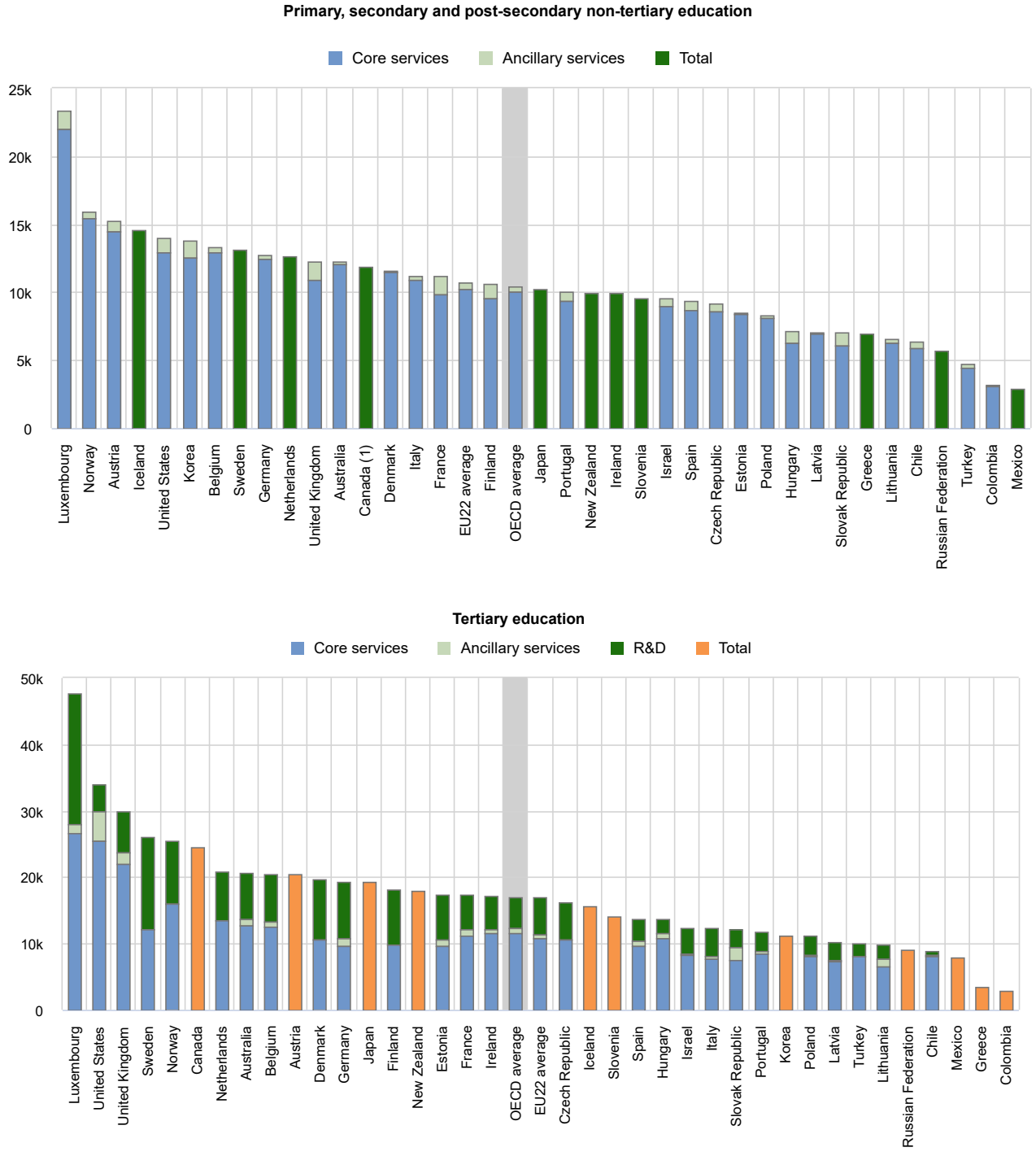
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Expenditure per student on core education services, ancillary services and R&D

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, exceeding 90% in Chile, Latvia, Poland and Turkey. 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 15% or more of the total annual expenditure per student on primary to tertiary institutions. In Finland and the Slovak Republic, this reaches about 20% (Figure C1.3 and Table C1.6 available on line).

Figure C1.3. Total expenditure on educational institutions per full-time equivalent student, by type of service (2018)

In equivalent USD converted using PPPs



Compare your country: https://www.compareyourcountry.org/education-at-a-glance-2021/en/4/3053+3054+3055+3056+3057+3058/default

1. Primary, secondary and post-secondary non-tertiary education includes pre-primary programmes.

Countries are ranked in descending order of total expenditure on educational institutions per full-time equivalent student.

Source: OECD/UIS/Eurostat (2021), Table C1.6, available on line. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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However, this overall picture masks large variations across levels of education (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 10 000) on core educational services at these levels. However, in Finland, France, Hungary, the Slovak Republic and the United Kingdom, ancillary services account for 10% or slightly more of the expenditure per student (Figure C1.3).

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 (Figure C1.3). On average across OECD countries, 68% of total expenditure on educational institutions at tertiary level goes to core services. Excluding R&D activities, expenditure per student across OECD countries averages about USD 11 700, ranging from about USD 2 000 in Colombia and Greece to USD 28 000 or more in Luxembourg and the United States (Figure C1.3 and Table C1.6 available on line).

OECD countries in which R&D is mostly conducted in tertiary educational 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 (Figure C1.3). On average across OECD countries, expenditure on R&D and ancillary services at the tertiary level represents 32% of all tertiary expenditure on educational institutions per student. In six 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 Germany and Sweden recording the highest shares, at 50% or more (Figure C1.3 and Table C1.6 available on line).

The share of expenditure on ancillary services tends to be higher in tertiary education than at lower levels of education (Figure C1.3). 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, Norway and Sweden. The United States spends the most in ancillary services per student at tertiary level among OECD countries, over USD 4 400 per student (Figure C1.3 and Table C1.6 available on line).

Cumulative expenditure over the expected duration of studies

Policy makers are interested in the relationship between the resources devoted to education and the outcomes of education systems (OECD, 2017[4]). In order to compare the cost of education across countries, it is important to consider not only the yearly expenditure per student, but also the cumulative expenditure for students over the total period they are expected to spend at an educational level. High expenditure per student, for example, might be offset by short programmes or weaker access to education at certain levels. On the other hand, a seemingly inexpensive education system per student can prove to be costly overall if enrolment is high and students spend more time in school.

Primary and secondary education are usually compulsory across the OECD, and the theoretical cumulative expenditure per student aged between 6 and 15 at these levels shows how much it costs to teach a student on average based on current compulsory education (Figure C1.1 and Table C1.7, available on line). On average across OECD countries, students aged between 6 and 15 add up to a total cumulative expenditure of around USD 102 200 per student. Theoretical cumulative expenditure on educational institutions per student varies considerably among countries. Austria, Iceland, Luxembourg and Norway spend over USD 150 000 per student across those two levels, while the figure is less than USD 50 000 in Colombia, Mexico and Turkey.

Expenditure per student on educational institutions relative to GDP per capita

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 GDP per capita 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.

In OECD countries, overall expenditure per student on educational institutions from primary to tertiary levels averages 26% of GDP per capita, which can be broken down into 23% at primary, secondary and post-secondary non-tertiary levels and 37% at the tertiary level. Countries with low levels of expenditure per student may still be investing relatively large amounts

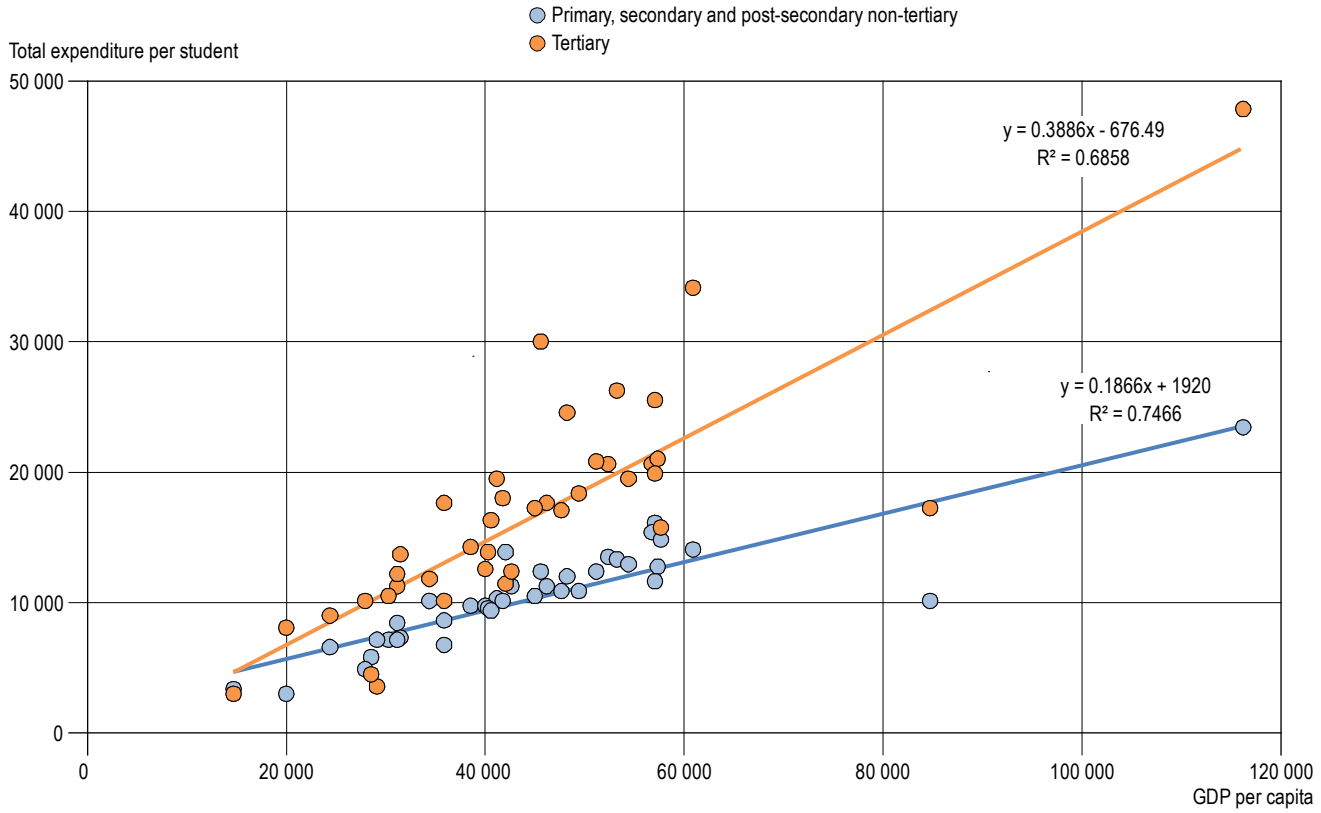
as a share of GDP per capita. For example, Portugal's expenditure per student for most educational levels and its GDP per capita are both below the OECD average and it spends an above-average share of its GDP per capita per student at most educational levels (Table C1.4, available on line).

The relationship between GDP per capita 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 (Figure C1.4). 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 GDP per capita, especially among countries where GDP per capita exceeds USD 30 000. Austria and the Netherlands, for example, have similar levels of GDP per capita (around USD 57 000; 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 27% of GDP per capita 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 50% or more of GDP per capita on each student in tertiary institutions. 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 C1.4, available on line).

Figure C1.4. Total expenditure on educational institutions per student relative to GDP per capita (2018)

Annual expenditure on educational institutions per student versus GDP per capita in equivalent USD converted using PPPs, by level of education



Source: OECD/UIS/Eurostat (2021), Table C1.1. and Annex 2 (Chapter C). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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Total and public expenditure on educational institutions per student, by type of institution

The resources devoted to private educational institutions are similar to the ones devoted to public institutions. On average across OECD countries, total expenditure on primary to tertiary public institutions amounts to over USD 11 600 per student, compared to just under USD 11 600 in private ones. However. the differences are significant in countries such as Greece, Israel, the Netherlands, Turkey, the United Kingdom and the United States, where expenditure per student in private institutions is at least USD 5 000 higher than expenditure in public ones. In contrast, in countries such as Australia, Austria, Canada, the Czech Republic, Denmark, Iceland, Korea and Luxembourg, at least USD 4 000 more are invested per student in public institutions than in private ones (Table C1.2).

The way resources are allocated to public and private institutions varies widely across educational levels and largely reflects the mode of educational provision. Total expenditure in primary, secondary and post-secondary non-tertiary educational institutions is higher in private institutions than in public ones. On average, OECD countries spend USD 11 600 per student in private institutions, USD 1 000 more than in public ones. On the contrary, total expenditure per student on tertiary institutions is at least USD 4 000 higher in public institutions than in private ones.

Government funding on education generally supports public institutions; but in some cases, a significant part of the public budget may be spent on private educational institutions. On average across OECD countries, public expenditure per student on primary to tertiary public educational instructions (USD 10 700) is nearly twice the public expenditure per student on private institutions (USD 5 700). However, the difference varies at different levels of education. At non-tertiary level, average public expenditure per student on public institutions is USD 10 100, about 40% more than the expenditure on private institutions (USD 6 300), whereas at tertiary level it averages USD 13 900 on public institutions, more than three times the expenditure on private institutions (USD 4 700) (Table C1.2).

Change in expenditure per student on educational institutions between 2012 and 2018

Changes in expenditure on educational institutions largely reflect changes in the size of the school-age population and the expenditure allocated to teachers' compensation, one of the main drivers of education expenditure. 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 2018, expenditure per student on primary to tertiary educational institutions grew at an average rate of 1.6% per year in OECD countries while the number of students remained stable (Table C1.3 and Figure C1.5). Over this period, the average annual growth in spending per student was positive in all countries with available data, with the exception of Finland, Greece, the Russian Federation and Slovenia. The decrease in expenditure per student observed in these countries (between 0.1% and 1.4%) 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 the Russian Federation and Slovenia, the result of lower expenditure than student growth over this period. In some countries within the European Union, such as the Czech Republic, Estonia, Hungary, Latvia, Poland and the Slovak Republic, the strong annual growth rates in expenditure per student (around or above 3%) can be explained by a significant increase in expenditure accompanied by a significant decrease in the growth of the number of students over the period under analysis. Outside the European Union, Chile, Iceland and Turkey have also reported increases in spending per student of around or above 2% per year in real terms since 2012 (Table C1.3).

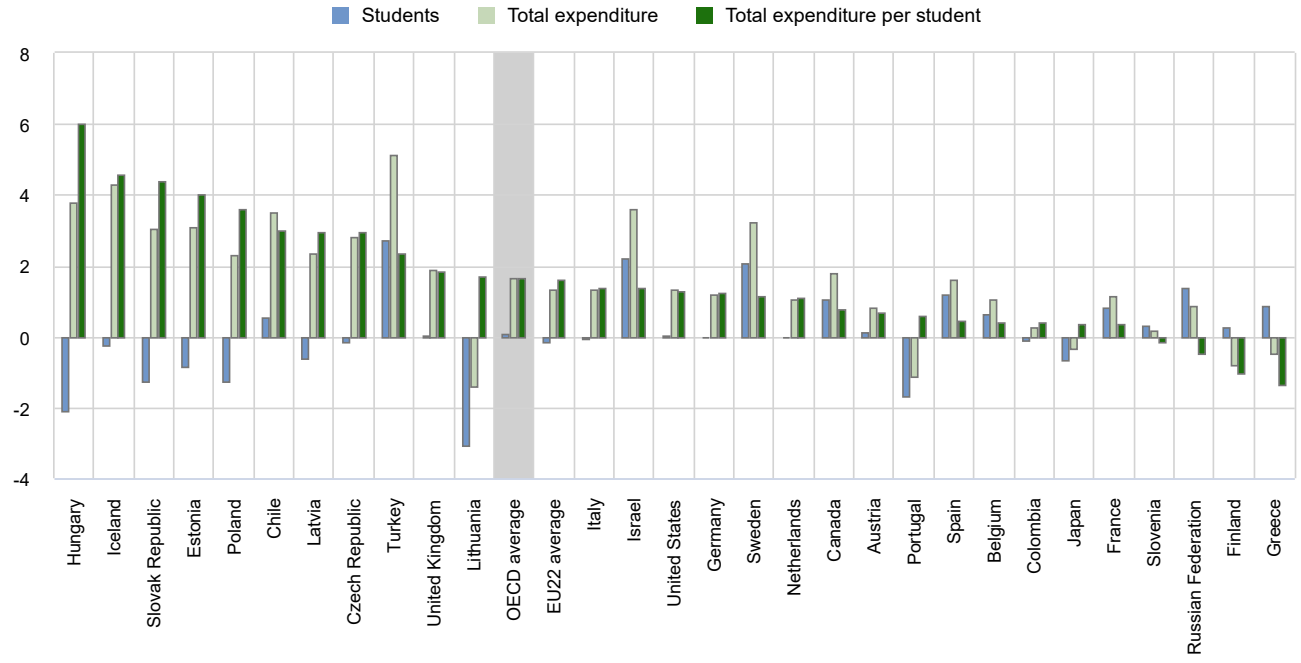
At non-tertiary levels, the number of students remained fairly stable on average across OECD countries between 2012 and 2018. During the same period, expenditure on non-tertiary educational institutions increased by an annual average growth rate of 1.9%. As a result, expenditure per student at these levels increased by 1.8% per year on average between 2012 and 2018. Most OECD countries spent more per student in 2018 than they did in 2012, with the exception of Denmark, Finland, Greece, Luxembourg and Slovenia. Expenditure per student increased by more than 4% per year in Chile, 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 2018. In contrast, the increase in the number of students enrolled was accompanied by a reduction in spending on educational institutions per student in Finland, Luxembourg and Slovenia (Table C1.3).

Expenditure at tertiary level increased at a slightly lower rate than at lower levels of education, rising on average by 0.8% annually between 2012 and 2018. It also increased faster than the number of students enrolled over this period (annual

average growth rate of 0.4%). As a result, OECD countries recorded an average increase in expenditure per student of 0.7% per year over this period. However, there are stark differences across countries. Among OECD and partner countries with available data, Chile, Colombia, Finland, France, Germany, Greece, Israel, Italy, Japan, Lithuania, the Netherlands 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 the Czech Republic, Estonia, Hungary, Poland and the Slovak Republic due to an increase in total expenditure and a reduction in the number of students (Table C1.3).

Figure C1.5. Average annual growth in total expenditure on primary to tertiary educational institutions per full-time equivalent student (2012 to 2018)

In per cent



Countries are ranked in descending order of average annual growth in total expenditure on primary to tertiary educational institutions per full-time equivalent student.
Source: OECD/UIS/Eurostat (2021), Table C1.3. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

StatLink https://stat.link/lb35nq

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 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 GDP per capita is calculated by dividing expenditure per student on educational institutions by GDP per capita. 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://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

Source

Data refer to the financial year 2018 (unless otherwise specified) and are based on the UNESCO, OECD and Eurostat (UOE) data collection on education statistics administered by the OECD in 2020 (for details see Annex 3 at: https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf). Data from Argentina, China, India, Indonesia, Saudi Arabia and South Africa are from the UNESCO Institute of Statistics (UIS).

The data on expenditure for 2012 to 2018 were updated based on a survey in 2020-21, and expenditure figures for 2012 to 2018 were adjusted to the methods and definitions used in the current UOE data collection.

Data on subnational regions are currently available for eight countries: Belgium, Canada, Colombia, Germany, Lithuania, Spain, 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 2021.

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Indicator C1 tables

Tables Indicator C1. How much is spent per student on educational institutions?

Table C1.1	Total expenditure on educational institutions per full-time equivalent student (2018)
Table C1.2	Public and total expenditure on educational institutions per full-time equivalent student, by type of institution (2018)
Table C1.3	Average annual growth in total expenditure on educational institutions per full-time equivalent student (2012 to 2018)
WEB Table C1.4	*Total expenditure on educational institutions per full-time equivalent student relative to GDP per capita (2018)*
WEB Table C1.5	*Total expenditure on educational institutions per full-time equivalent student, by source of funds (2018)*
WEB Table C1.6	*Total expenditure on educational institutions per full-time equivalent student for core educational services, ancillary services and R&D (2018)*
WEB Table C1.7	*Cumulative expenditure on educational institutions per full-time equivalent student between the age of 6 and 15 (2018)*

StatLink https://stat.link/y5mi1l

Cut-off date for the data: 17 June 2021. 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*.

Table C1.1. Total expenditure on educational institutions per full-time equivalent student (2018)

In equivalent USD converted using PPPs for GDP, direct expenditure within educational institutions, by level of education

		Secondary							Tertiary					
			Upper secondary											
	Primary	Lower secondary	General programmes	Vocational programmes	All programmes	All secondary	Post-secondary non-tertiary	Primary, secondary and post-secondary non-tertiary	Short-cycle tertiary	Long-cycle tertiary	All tertiary	All tertiary (excluding R&D)	Primary to tertiary	Primary to tertiary (excluding R&D)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
OECD Countries														
Australia	10 745	14 214	14 505	12 842	14 071	14 162	9 752	12 227	10 304	22 806	20 647	13 627	14 053	12 531
Austria	13 151	16 621	14 508	18 535	16 907	16 747	5 571	15 254	19 066	20 704	20 452	14 980	16 837	15 171
Belgium	11 482	14 760	14 522[d]	14 935[d]	14 758[d]	14 758[d]	x(3, 4, 5, 6)	13 322	13 815	20 696	20 471	13 364	14 702	13 330
Canada[1, 2]	10 629[d]	x(1)	x(5)	x(5)	14 575	14 575	m	11 854[d]	18 669	27 983	24 496	m	14 905[d]	m
Chile	6 425	6 524	5 675	8 765	6 171	6 287	a	6 356	4 938	10 296	8 813	8 397	7 070	6 950
Colombia[2]	3 158	3 250	x(5)	x(5)	3 334	3 274	m	3 219	x(11)	x(11)	2 863	1 879	3 145	2 939
Costa Rica[3]	m	m	m	m	m	m	a	m	m	m	m	m	m	m
Czech Republic	6 614	11 277	9 634	11 675	11 101	11 191	2 427	9 206	23 186	16 126	16 148	10 626	10 523	9 476
Denmark	12 292	11 651	10 464	9 886	10 242	10 892	a	11 551	20 145	19 628	19 684	10 541	13 396	11 322
Estonia	8 362	8 571	8 156	8 856	8 446	8 506	9 833	8 466	a	17 433	17 433	10 663	10 277	8 910
Finland	10 056	16 046	8 861	8 555[d]	8 639[d]	11 061[d]	x(4, 5, 6)	10 661	a	18 170	18 170	9 936	12 160	10 516
France	8 724	11 438	14 367	16 511	15 107	13 006	11 021	11 201	15 706	17 940	17 420	12 090	12 464	11 382
Germany	10 096	12 561	13 735	18 681	16 253	13 926	12 791	12 774	12 112	19 324	19 324	10 793	14 178	12 350
Greece[2]	6 768	7 751	5 711	8 621	6 517	7 109	m	6 943	a	3 503	3 503	2 103	5 656	5 133
Hungary	5 784	5 561	9 112	9 077	9 098	7 319	13 821	7 153	5 058	14 117	13 738	11 621	8 255	7 900
Iceland	14 414	17 133	11 536	17 881	13 003	14 735	16 445	14 593	15 675	15 675	15 675	m	14 803	m
Ireland	8 539	11 097	x(5)	x(5)	10 183	10 634	33 132	9 921	x(11)	x(11)	17 152	12 160	11 178	10 308
Israel	9 696	x(3, 4, 5)	7 271[d]	18 272[d]	9 555[d]	9 555	1 068	9 572	5 735	15 786	12 336	8 416	10 082	9 359
Italy	9 947	10 515	x(5)	x(5)	12 849[d]	11 962[d]	x(5,6)	11 202	5 989	12 353	12 305	8 182	11 428	10 584
Japan	8 977	10 786	x(5)	x(5)	11 838[d]	11 330[d]	x(5, 6, 9, 10, 11)	10 185	14 102[d]	20 657[d]	19 309[d]	m	12 194	m
Korea	12 535	13 775	x(5)	x(5)	16 024	14 978	a	13 794	6 016	12 685	11 290	8 882	12 914	12 069
Latvia	6 611	6 669	7 107	9 851	8 206	7 455	10 199	7 076	8 897	10 551	10 309	7 500	7 795	7 170
Lithuania	6 456	6 495	6 427	6 841	6 539	6 508	7 785	6 550	a	9 905	9 905	7 641	7 336	6 805
Luxembourg	21 143	25 985	24 830	24 998	24 933	25 421	2 045	23 376	3 126	54 325	47 694	27 984	24 973	23 679
Mexico	2 958	2 496	3 360	3 632	3 454	2 878	a	2 918	x(11)	x(11)	7 907	7 010	3 619	3 493
Netherlands	9 891	14 249	12 035	16 883	15 222	14 726	a	12 658	12 072	20 971	20 898	13 517	14 518	12 852
New Zealand	8 868	10 584	12 568	9 740	11 763	11 138	6 819	9 934	11 874	18 966	17 923	14 400	11 335	10 717
Norway	15 410	15 410	16 713	17 816	17 265	16 441	25 734	15 972	22 800	25 506	25 428	16 050	17 949	15 988
Poland	8 562	8 374	7 050	8 866	8 078	8 220	6 317	8 344	26 705	11 189	11 192	8 343	8 963	8 344
Portugal	8 812	11 354	x(5)	x(5)	10 670[d]	11 001[d]	x(5,6)	10 013	6 602	11 987	11 779	8 859	10 371	9 778
Slovak Republic	7 305	6 562	6 988	7 461	7 307	6 873	7 269	7 025	8 844	12 172	12 113	9 524	7 854	7 432
Slovenia	9 385	11 941	9 603	7 746	8 337	9 772	a	9 584	4 487	15 429	14 060	11 010	10 395	9 842
Spain	8 329	9 667	9 787	13 346[d]	10 928[d]	10 290[d]	x(4, 5, 6)	9 336	9 903	14 828	13 800	10 362	10 321	9 563
Sweden	12 911	13 358	12 029	16 393	13 616	13 500	7 857	13 144	7 111	27 886	26 147	12 127	15 290	12 976
Switzerland	m	m	x(5)	x(5)	18 932[d]	m	x(5)	m	m	m	m	m	m	m
Turkey	3 945	4 064	5 588	6 626	6 043	5 058	a	4 707	x(11)	x(11)	10 008	8 176	5 723	5 372
United Kingdom	11 679	12 199	14 124	11 225	13 247	12 765	a	12 245	29 173	29 969	29 911	23 809	15 212	14 187
United States	13 139	14 138	x(5)	x(5)	15 609	14 859	15 834	14 009	x(11)	x(11)	34 036	29 969	18 593	17 662
OECD average	9 550	11 091	10 581	12 304	11 590	11 192	m	10 454	12 671	18 373	17 065	11 653	11 680	10 488
EU22 average	9 601	11 477	10 785	12 511	11 543	11 404	10 005	10 671	11 931	17 583	16 986	11 088	11 767	10 674
Partners Argentina	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
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	x(3, 4, 5, 6)	x(3, 4, 5, 6)	5 937[d]	3 608[d]	5 734[d]	5 734[d]	x(3, 4, 5, 6)	5 734	4 474	10 599	9 024	8 076	6 430	6 229
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 2019.

Source: OECD/UIS/Eurostat (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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

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Table C1.2. Public and total expenditure on educational institutions per full-time equivalent student, by type of institution (2018)

In equivalent USD converted using PPPs for GDP, direct expenditure within educational institutions (final source of funds), by level of education

		Primary, secondary and post-secondary non-tertiary				Tertiary				Primary to tertiary			
		Public sources		Total expenditure (public and private sources)		Public sources		Total expenditure (public and private sources)		Public sources		Total expenditure (public and private sources)	
		Public institutions	Private institutions	Public institutions	Private institutions	Public institutions	Private institutions	Public institutions	Private institutions	Public institutions	Private institutions	Public institutions	Private institutions
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD	**Countries**												
	Australia	11 582	7 506	12 235	12 214	8 948	247	25 021	3 453	10 888	6 577	15 604	11 093
	Austria	15 346	8 079	15 594	12 336	20 853	8 224	22 279	13 257	16 890	8 146	17 469	12 759
	Belgium	14 530	11 630	14 879	12 232	19 523	15 387	22 892	18 746	15 502	12 351	16 440	13 483
	Canada [1]	11,507 [d]	2,422 [d]	12,190 [d]	7,891 [d]	12 821	a	24 496	a	11,844 [d]	2,422 [d]	15,347 [d]	7,891 [d]
	Chile	6 283	3 486	6 283	6 401	8 860	2 645	14 027	7 821	6 664	3 187	7 428	6 907
	Colombia	2 967	454	2 968	4 217	4 542	0	4 544	1 164	3 191	274	3 193	3 010
	Costa Rica [2]	5 640	3 119	m	m	14 677	a	16 408	m	6 624	m	m	m
	Czech Republic	8 825	4 230	9 372	6 990	13 739	595	17 535	4 772	9 725	3 254	10 867	6 395
	Denmark	12 005	6 900	12 016	9 192	16 179	10 778	19 597	30 656	13 084	6 954	13 975	9 489
	Estonia	8 184	6 501	8 356	10 577	13 057	193	18 360	5 829	9 147	4 770	10 335	9 274
	Finland	10 588	10 459	10 658	10 691	24 775	8 574	27 374	9 270	12 279	9 376	12 650	9 874
	France	11 114	6 251	11 730	9 023	15 560	4 347	17 916	15 418	12 013	5 860	12 982	10 339
	Germany	m	m	m	m	m	m	m	m	m	m	m	m
	Greece	6 744	85	6 744	10 561	2 694	a	3 503	a	5 178	85	5 491	10 561
	Hungary	6 586	6 497	6 931	8 027	9 797	5 665	13 447	13 783	7 168	6 408	8 112	8 646
	Iceland	14 514	9 582	14 954	10 510	15 112	9 750	17 221	10 679	14 613	9 651	15 331	10 580
	Ireland	8 941	a	9 942	5 162	12 123	a	17 231	15 241	9 478	a	11 172	11 739
	Israel	8 272	9 739	8 462	14 116	3 173	7 224	3 286	14 030	8 056	8 500	8 243	14 074
	Italy	10 873	1 779	11 547	6 404	8 640	1 380	12 501	11 114	10 445	1 639	11 730	8 058
	Japan	m	m	m	m	m	m	m	m	m	m	m	m
	Korea	12 748	9 575	13 952	13 001	12 511	2 479	19 025	9 354	12 721	4 445	14 536	10 365
	Latvia	6 684	3 812	6 984	9 978	8 899	5 668	10 176	10 322	6 738	5 475	7 061	10 286
	Lithuania	6 287	3 849	6 505	7 738	7 021	1 702	10 261	6 273	6 452	2 923	7 348	7 106
	Luxembourg	24 603	8 784	24 603	16 897	42 978	a	47 694	a	25 937	8 784	26 385	16 897
	Mexico	2 682	9	2 793	3 888	7 035	0	7 586	8 497	3 146	6	3 304	5 440
	Netherlands	11 208	a	11 628	59 074	15 775	a	20 624	23 297	12 172	a	13 526	38 346
	New Zealand	8 911	3 416	10 006	9 339	10 075	4 451	18 742	9 848	9 118	3 576	11 559	9 417
	Norway	15 532	22 055	15 533	23 553	26 685	6 803	27 746	13 366	17 651	15 377	17 854	19 093
	Poland	7 452	5 398	8 192	9 857	11 254	1 203	13 206	4 827	8 168	3 624	9 136	7 730
	Portugal	9 998	1 300	10 330	8 213	8 513	118	11 911	11 183	9 705	1 022	10 641	8 911
	Slovak Republic	6 419	5 931	7 025	7 024	8 994	433	12 539	7 565	6 846	5 177	7 940	7 098
	Slovenia	8 692	5 243	9 624	7 602	12 646	4 701	14 913	6 173	9 361	4 962	10 520	6 861
	Spain	9 780	4 274	10 238	7 335	11 200	865	14 386	11 722	10 124	3 705	11 244	8 068
	Sweden	13 283	12 315	13 289	12 411	22 851	15 257	27 083	19 378	14 931	12 688	15 664	13 294
	Switzerland	16 352	16 773	m	m	30 090	9 728	m	m	18 963	15 288	m	m
	Turkey	3 655	360	3 795	16 801	8 522	2	9 359	13 571	4 518	237	4 782	15 695
	United Kingdom	10 809	9 596	11 470	12 964	a	7 350	a	29 911	10 809	8 967	11 470	17 711
	United States	14 048	1 176	14 278	11 378	14 808	5 576	29 972	43 987	14 191	3 292	17 237	27 061
	OECD average	10 101	6 253	10 444	11 576	13 855	4 712	17 437	13 049	10 678	5 727	11 664	11 575
	EU22 average	10 388	5 964	10 771	11 777	14 622	5 005	17 877	12 570	11 020	5 642	11 938	11 201
Partners	Argentina	4 294	1 716	m	m	x(9)	x(9)	m	m	5 841	1 848	m	m
	Brazil	3 748	a	m	m	14 427	a	m	m	4 448	a	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	1 811	105	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	2 549	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: 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 2019.

Source: OECD/UIS/Eurostat (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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

StatLink https://stat.link/wpthiu

Table C1.3. Average annual growth in total expenditure on educational institutions per full-time equivalent student (2012 to 2018)

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 2018 (%)			Total expenditure per student in constant prices and constant PPPs		Average annual growth between 2012 and 2018 (%)			Total expenditure per student in constant prices and constant PPPs		Average annual growth between 2012 and 2018 (%)		
		2012	2018	Number of students	Total expenditure	Total expenditure per student	2012	2018	Number of students	Total expenditure	Total expenditure per student	2012	2018	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	11 179	m	m	m	m	18 877	m	m	m	m	12 849	m	m	m
	Austria	13 504	13 964	0.0	0.5	0.6	17 826	18 723	0.5	1.3	0.8	14 790	15 413	0.1	0.8	0.7
	Belgium	11 924	12 078	0.5	0.7	0.2	17 779	18 560	1.3	2.0	0.7	13 013	13 330	0.6	1.0	0.4
	Canada[1]	10.470[d]	10.822[d]	0.8[d]	1.4[d]	0.6[d]	21 430	22 364	1.7	2.5	0.7	13.006[d]	13.608[d]	1.0[d]	1.8[d]	0.8[d]
	Chile	4 562	5 972	-0.1	4.5	4.6	8 406	8 280	2.3	2.0	-0.3	5 570	6 643	0.5	3.5	3.0
	Colombia	2 257	2 892	-0.9	3.3	4.2	5 244	2 572	3.5	-8.1	-11.2	2 761	2 825	-0.1	0.3	0.4
	Costa Rica	m	m	-0.5	m	m	m	m	1.1	m	m	m	m	-0.2	m	m
	Czech Republic	6 997	8 377	1.0	4.1	3.0	11 248	14 693	-4.3	0.0	4.6	8 040	9 575	-0.1	2.8	3.0
	Denmark	12 165	10 491	-0.4	-2.8	-2.4	m	17 877	0.8	m	m	m	12 167	-0.1	m	m
	Estonia	6 859	7 742	0.8	2.9	2.0	8 913	15 942	-6.0	3.6	10.2	7 430	9 398	-0.9	3.1	4.0
	Finland	10 015	9 724	0.2	-0.3	-0.5	19 129	16 573	0.5	-1.9	-2.4	11 812	11 091	0.3	-0.8	-1.0
	France	9 967	10 258	0.5	1.0	0.5	16 474	15 953	2.2	1.6	-0.5	11 185	11 414	0.8	1.1	0.3
	Germany	10 531	11 582	-0.7	0.9	1.6	18 351	17 521	2.7	1.9	-0.8	11 958	12 855	0.0	1.2	1.2
	Greece	6 503	6 450	-0.2	-0.3	-0.1	4 106	3 255	2.9	-1.0	-3.8	5 707	5 255	0.9	-0.5	-1.4
	Hungary	4 624	6 805	-1.6	4.9	6.7	9 389	13 069	-4.2	1.2	5.7	5 535	7 853	-2.1	3.8	6.0
	Iceland	10 055	13 410	-0.1	4.8	4.9	11 858	14 404	-0.6	2.7	3.3	10 413	13 602	-0.2	4.3	4.6
	Ireland	m	9 413	1.6	m	m	m	16 273	2.0	m	m	m	10 606	1.7	m	m
	Israel	7 571	8 837	1.9	4.6	2.6	13 465	11 389	3.5	0.6	-2.8	8 581	9 308	2.2	3.6	1.4
	Italy	8 978	10 018	-0.1	1.8	1.8	11 126	11 005	0.0	-0.2	-0.2	9 416	10 220	-0.1	1.3	1.4
	Japan	9 983	10 214	-0.9	-0.5	0.4	19.474[d]	19.364[d]	0.1[d]	0.0[d]	-0.1[d]	11 983	12 229	-0.7	-0.3	0.3
	Korea	m	13 295	-3.0	m	m	m	10 881	-1.4	m	m	m	12 447	-2.5	m	m
	Latvia	5 373	6 470	-0.1	3.1	3.1	7 810	9 427	-2.5	0.6	3.2	5 979	7 127	-0.6	2.3	3.0
	Lithuania	4 983	5 987	-2.7	0.3	3.1	9 300	9 054	-4.2	-4.6	-0.4	6 066	6 705	-3.1	-1.4	1.7
	Luxembourg	21 479	21 378	1.5	1.4	-0.1	m	43 617	m	3.5	m	m	22 839	m	1.6	m
	Mexico	m	2 726	0.6	m	m	m	7 388	6.2	m	m	m	3 381	1.3	m	m
	Netherlands	10 767	11 634	-0.6	0.7	1.3	19 535	19 208	2.2	1.9	-0.3	12 505	13 344	0.0	1.1	1.1
	New Zealand	m	9 000	m	m	m	m	16 238	m	m	m	m	10 269	m	m	m
	Norway	m	14 458	m	m	m	m	23 018	m	m	m	m	16 248	m	m	m
	Poland	6 591	7 987	-0.8	2.5	3.3	8 010	10 712	-2.9	1.9	5.0	6 931	8 579	-1.3	2.3	3.6
	Portugal	8 950	9 300	-1.8	-1.1	0.6	10 653	10 941	-1.5	-1.0	0.4	9 291	9 633	-1.7	-1.1	0.6
	Slovak Republic	5 530	7 243	-0.9	3.7	4.6	9 537	12 489	-3.2	1.3	4.6	6 265	8 098	-1.3	3.0	4.4
	Slovenia	9 287	8 748	1.2	0.2	-1.0	10 523	12 835	-3.3	0.0	3.4	9 565	9 489	0.3	0.2	-0.1
	Spain	8 385	8 631	1.0	1.5	0.5	12 724	12 758	1.9	2.0	0.0	9 301	9 542	1.2	1.6	0.4
	Sweden	11 263	12 388	2.3	4.0	1.6	23 721	24 643	0.8	1.5	0.6	13 475	14 410	2.1	3.2	1.1
	Switzerland	18 142	m	1.2	m	m	26 734	m	2.7	m	m	19 680	m	1.5	m	m
	Turkey	3 762	4 732	1.8	5.8	3.9	12 124	10 060	7.2	3.9	-3.1	5 002	5 752	2.7	5.1	2.4
	United Kingdom	10 524	11 351	-0.5	0.8	1.3	25 461	27 728	2.9	4.3	1.4	12 645	14 102	0.0	1.9	1.8
	United States	12 274	13 289	0.4	1.7	1.3	28 800	32 285	-1.1	0.8	1.9	16 322	17 637	0.0	1.3	1.3
	OECD average	9 170	9 690	0.0	1.9	1.8	14 453	15 833	0.4	0.8	0.7	9 801	10 829	0.1	1.7	1.6
	EU22 average	9 270	9 849	0.0	1.4	1.4	12 956	15 688	-0.7	0.8	1.6	9 382	10 861	-0.2	1.3	1.6
Partners	Argentina	m	m	0.3	m	m	m	m	2.7	m	m	m	m	0.8	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	5.5	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	3.5	m	m	m	m	m	m	m
	Indonesia	m	m	0.7	m	m	m	m	4.3	m	m	m	m	1.1	m	m
	Russian Federation	4 969	4 985	2.9	3.0	0.1	7 775	7 846	-3.3	-3.1	0.2	5 755	5 591	1.4	0.9	-0.5
	Saudi Arabia	m	m	m	m	m	m	m	5.0	m	m	m	m	m	m	m
	South Africa	m	m	1.0	m	m	m	m	2.7	m	m	m	m	1.1	m	m
	G20 average	m	m	m	m	m	m	m	2.4	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 (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).
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 2018, 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 educational levels. On average, the share of national resources devoted to non-tertiary education (primary, secondary and post-secondary non-tertiary levels) was 3.4% of GDP, much larger than the share devoted to tertiary education (1.4% of GDP).
- Public spending remains the main source of educational funding in OECD countries (4.1% of GDP). However, large differences can be observed across countries, ranging from less than 3.0% of GDP in Ireland, Japan, Lithuania and the Russian Federation to more than 6.0% of GDP in Costa Rica and Norway. Private spending on primary to tertiary educational institutions represented 0.8% of GDP on average across OECD countries, after transfers between the government and the private sector.
- Between 2012 and 2018, public and total expenditure on primary to tertiary educational institutions increased on average at a lower rate than GDP across OECD countries. Exceptions to this trend in OECD and partner countries are Chile, Hungary, Iceland, Israel, Italy, the Russian Federation, the Slovak Republic and Sweden.

Context

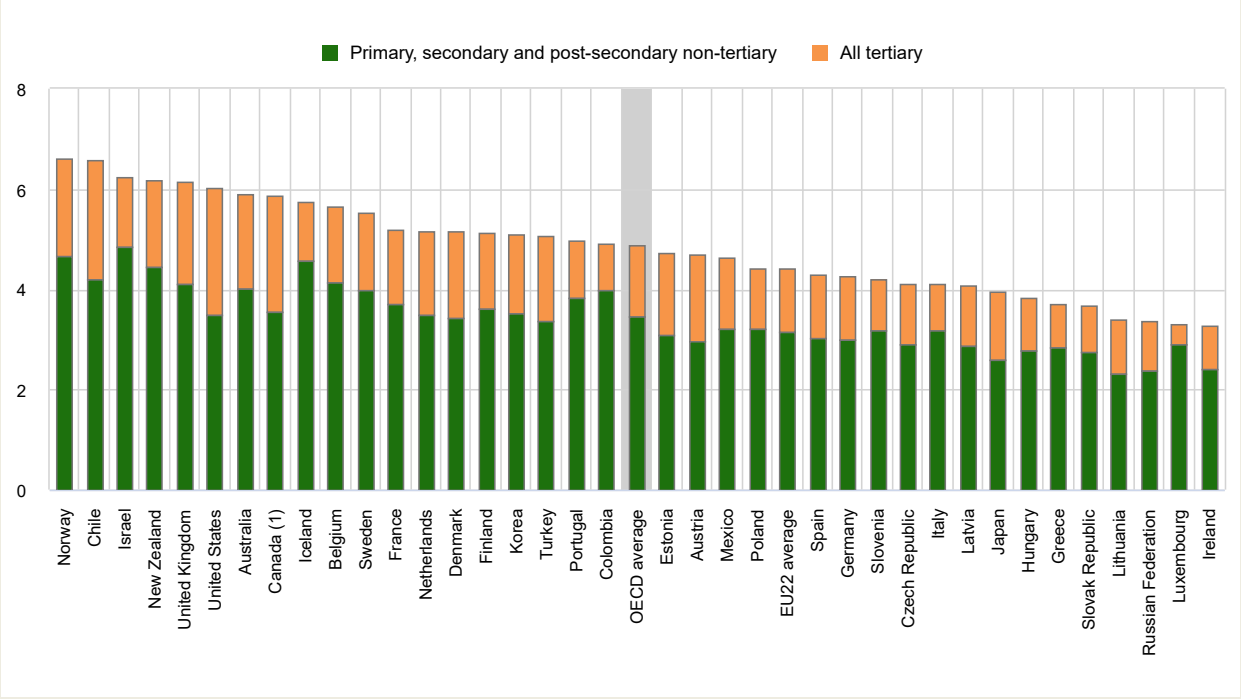
Countries invest in educational institutions to help foster economic growth, enhance productivity, contribute to personal and social development, and reduce social inequality, among other reasons. The level of expenditure on educational institutions is affected by the size of a country's school-age population, 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.

Figure C2.1. Total expenditure on educational institutions as a percentage of GDP (2018)

From public, private and international sources, by level of education, in per cent



Compare your country: https://www.compareyourcountry.org/education-at-a-glance-2021/en/5/3059+3060+3061+3062+3063+3064/default

1. Primary, secondary and post-secondary non-tertiary education includes pre-primary programmes.

Countries are ranked in descending order of total expenditure on educational institutions as a percentage of GDP.

Source: OECD/UIS/Eurostat (2021), Table C2.1. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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Other findings

- Between 2012 and 2018, public expenditure on educational institutions as a share of GDP decreased by around 4% on average across OECD countries. However, at the tertiary level, the reduction has been more significant, at just around 8% on average across OECD countries.
- 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.

Analysis

Overall investment relative to GDP

The share of national wealth devoted to educational institutions is substantial in all OECD and partner countries. In 2018, 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 Chile, Israel, New Zealand, Norway, the United Kingdom and the United States to 3-4% in Greece, Hungary, Ireland, Japan, 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 3.4% 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 least 4.5% of GDP in Iceland, Israel, New Zealand and Norway, while it accounts for 2.4% or less of GDP in Ireland, 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 0.9% at lower secondary level. However, the share of expenditure on educational institutions is strongly influenced by the demographic composition in each country, as well as the duration of each level of education. Countries with relatively low fertility ratesare more likely to spend a smaller share of their wealth on primary and lower secondary education (OECD, 2020[1]). 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, 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 2018, Canada, Chile, 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 (1.1-1.6% of GDP) (Table C2.4 available on line and Figure C2.2).

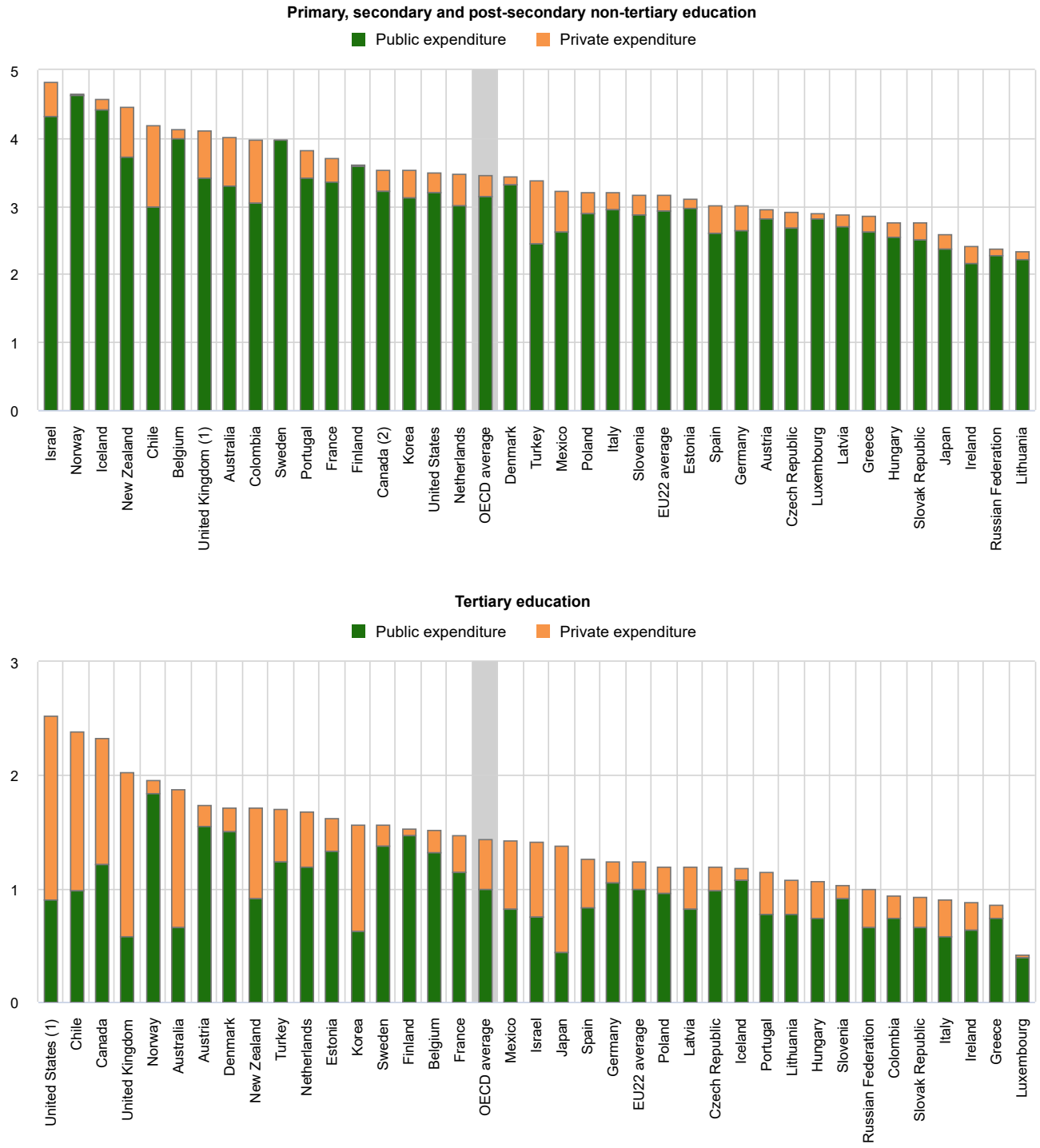
R&D spending in tertiary educational institutions can represent a significant share of total spending at this level and depends on the organisation of publicly funded research as well as the infrastructure and facilities available. Expenditure levels tend to be higher in Australia, Finland, the Netherlands, 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 Ireland, Japan, Lithuania and the Russian Federation, public investment represents less than 3.0% of GDP, while Costa Rica and Norway devote above 6.0% of their GDP to direct public expenditure on educational institutions (Table C2.4 available on line).

Figure C2.2. Total expenditure on educational institutions as a percentage of GDP, by source of funds (2018)

After transfers, in per cent



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.

Countries are ranked in descending order of total expenditure on educational institutions as a percentage of GDP.

Source: OECD/UIS/Eurostat (2021), Table C2.4. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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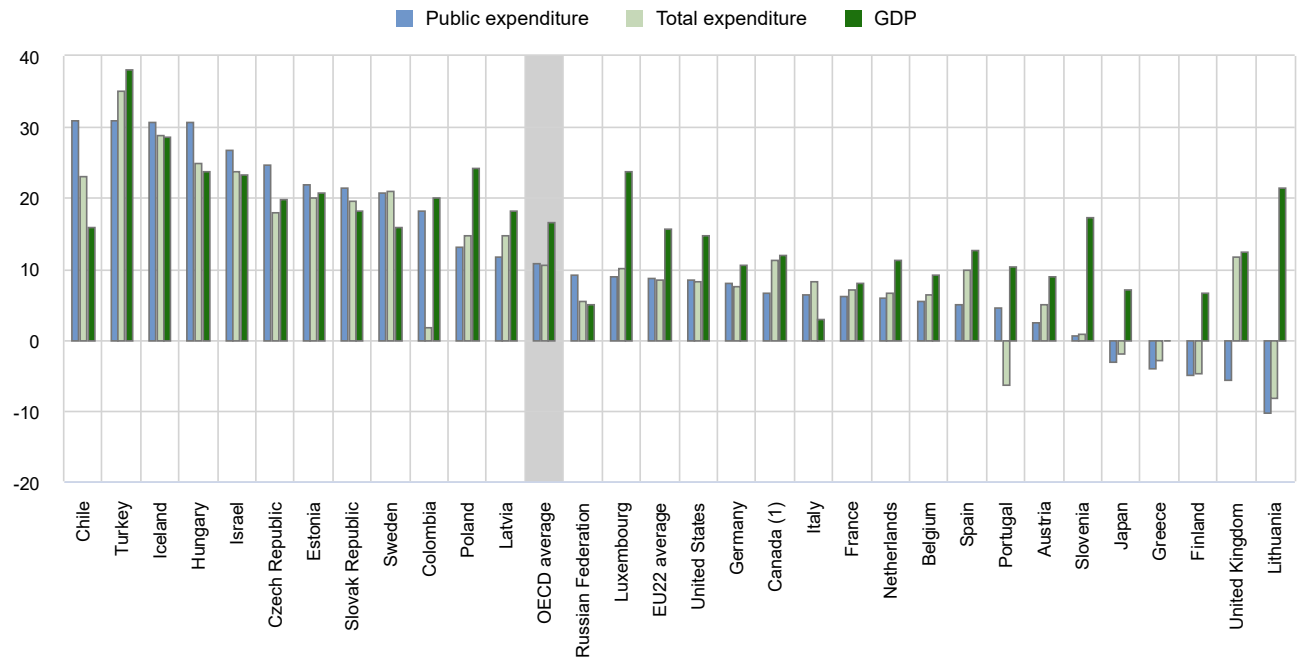
Public transfers to households (such as scholarships and loans to students for tuition and other fees) and subsidies to other private entities for education (e.g. to firms or labour organisations operating apprenticeship programmes) comprise almost 0.1% of GDP on average across OECD countries from primary to tertiary level. They account for 0.3% of GDP or more in Australia, Chile, Korea and New Zealand and reach almost 0.6% in the United Kingdom, mainly driven by public transfers at tertiary level (Table C2.4 available on line).

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 Finland, Luxembourg and Norway to 2% or more in Australia, Chile and the United Kingdom (Table C2.4 available on line).

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, Chile, 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 GDP even before public transfers to households are taken into account. Countries such as Australia, Chile, Korea, Mexico 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 1.4% of GDP or more in Chile, the United Kingdom and the United States, the highest among OECD countries (Table C2.4 available on line and Figure C2.2).

Figure C2.3. Change in GDP, public and total expenditure on educational institutions between 2012 and 2018

After transfers, primary to tertiary education, in per cent



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.
Source: OECD/UIS/Eurostat (2021), Tables C2.2 and C2.3. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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Changes in educational expenditure between 2012 and 2018

Between 2012 and 2018, OECD countries increased public expenditure on educational institutions across all levels of education, but at a slower pace than average GDP growth (Table C2.2 and Figure C2.3). This pattern also holds when including private sources of expenditure. Exceptions to this pattern are Chile, Hungary, Iceland, Israel, Italy, the Slovak Republic and Sweden, where both public and total expenditure on educational institutions grew faster than GDP over this period (Figure C2.3).

On average, total expenditure from all sources on primary to tertiary educational institutions increased by 10.5% between 2012 and 2018, but since GDP grew at a higher pace (16.6%), total expenditure as a percentage of GDP fell by 4.6% (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, although this is in most cases the result of a higher rise in GDP compared to education expenditure. Lithuania and Portugal were among the countries with the largest negative adjustments over that period, due to increases in GDP over 5% combined with reductions in total expenditure on educational institutions. In contrast, in Chile, Hungary, Iceland, Israel, Italy, the Slovak Republic and Sweden the rise in total expenditure on educational institutions was equal to or exceeded the increase in GDP (Table C2.3).

Spending on the various levels of education evolved similarly between 2012 and 2018. Expenditure on educational institutions at the non-tertiary levels decreased by 2.6% relative to GDP. However, this average masks significant changes in some countries. In Chile, Hungary, Italy, Sweden and the Russian Federation, for example, expenditure on non-tertiary education as a share of GDP increased by at least 7% over this period. Over the same period, Lithuania, Luxembourg, Portugal and Slovenia experienced some of the largest decreases in the share of expenditure on these educational levels (over 12%), mainly explained by an increase in GDP superior to the the one in total exenditure on education (Table C2.3).

At the tertiary level, about one-third of countries with available data increased their investment relative to GDP between 2012 and 2018, even though their spending at non-tertiary levels declined or remained fairly stable. Clear example of this trend is 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 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 educational institutions' budgets 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[2]) and Annex 3 for country-specific notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

Source

Data refer to the financial year 2018 (unless otherwise specified) and are based on the UNESCO, OECD and Eurostat (UOE) data collection on education statistics administered by the OECD in 2020 (for details see Annex 3 at: https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC). Data from Argentina, China, India, Indonesia, Saudi Arabia and South Africa are from the UNESCO Institute of Statistics (UIS).

The data on expenditure for 2012 to 2018 were updated based on a survey in 2020-21, and expenditure figures for 2012 to 2018 were adjusted to the methods and definitions used in the current UOE data collection.

References

OECD (2020), *OECD Labour Force Statistics 2020*, OECD Publishing, Paris, https://dx.doi.org/10.1787/5842cc7f-en. [1]

OECD (2018), *OECD Handbook for Internationally Comparative Education Statistics 2018*, OECD Publishing, Paris, https://doi.org/10.1787/9789264304444-en. [2]

Indicator C2 tables

Tables Indicator C2. What proportion of national wealth is pent on educational institutions?

Table C2.1	Total expenditure on educational institutions as a percentage of GDP (2018)
Table C2.2	Index of change in public expenditure on educational institutions as a percentage of GDP (2012 and 2018)
Table C2.3	Index of change in total expenditure on educational institutions as a percentage of GDP (2012 and 2018)
WEB Table C2.4	*Total expenditure on educational institutions as a percentage of GDP, by source of funds (2018)*

StatLink https://stat.link/g4fl87

Cut-off date for the data: 17 June 2021. 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*.

Table C2.1. Total expenditure on educational institutions as a percentage of GDP (2018)

Direct expenditure within educational institutions, by level of education

		Secondary							Tertiary					
				Upper secondary										
		Primary	Lower secondary	General programmes	Vocational programmes	All programmes	All secondary	Post-secondary non-tertiary	Primary, secondary and post-secondary non-tertiary	Short-cycle tertiary	Long-cycle tertiary	All tertiary	All tertiary (excluding R&D)	Primary to tertiary	Primary to tertiary (excluding R&D)
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
OECD	**Countries**														
	Australia	1.9	1.3	0.6	0.2	0.7	2.1	0.1	4.0	0.2	1.7	1.9	1.2	5.9	5.3
	Austria	0.9	1.1	0.3	0.6	0.9	2.0	0.0	3.0	0.2	1.5	1.7	1.3	4.7	4.2
	Belgium	1.6	0.9	0.7[d]	1.0[d]	1.7[d]	2.6[d]	x(3, 4, 5, 6)	4.1	0.0	1.5	1.5	1.0	5.6	5.1
	Canada[1, 2]	2.2[d]	x(1)	x(5)	x(5)	1.4	1.4	m	3.5[d]	0.6	1.7	2.3	m	5.9[d]	m
	Chile	2.1	0.7	1.0	0.3	1.4	2.1	a	4.2	0.4	2.0	2.4	2.3	6.6	6.5
	Colombia[2]	1.8	1.5	x(5)	x(5)	0.6	2.1	m	4.0	x(11)	x(11)	0.9	0.6	4.9	4.6
	Costa Rica[3]	m	m	m	m	m	m	a	m	m	m	m	m	m	m
	Czech Republic	0.9	1.0	0.2	0.7	1.0	2.0	0.0	2.9	0.0	1.2	1.2	0.8	4.1	3.7
	Denmark	1.7	0.8	0.5	0.3	0.9	1.7	a	3.4	0.2	1.5	1.7	0.9	5.2	4.4
	Estonia	1.5	0.7	0.4	0.3	0.8	1.5	0.1	3.1	a	1.6	1.6	1.0	4.7	4.1
	Finland	1.4	1.1	0.3	0.8[d]	1.2[d]	2.3[d]	x(4, 5, 6)	3.6	a	1.5	1.5	0.8	5.1	4.4
	France	1.2	1.2	0.8	0.5	1.2	2.5	0.0	3.7	0.3	1.2	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	4.3	3.7
	Greece[2]	1.4	0.8	0.5	0.3	0.7	1.5	m	2.9	a	0.9	0.9	0.5	3.7	3.4
	Hungary	0.7	0.7	0.7	0.5	1.1	1.8	0.3	2.8	0.0	1.0	1.0	0.9	3.8	3.7
	Iceland	2.3	1.1	0.8	0.4	1.1	2.2	0.1	4.6	0.0	1.1	1.2	m	5.8	m
	Ireland	1.2	0.6	x(5)	x(5)	0.5	1.1	0.2	2.4	x(11)	x(11)	0.9	0.6	3.3	3.0
	Israel	2.6	x(3, 4, 5)	1.4[d]	0.9[d]	2.3[d]	2,3	0.0	4.8	0.2	1.2	1.4	1.0	6.2	5.8
	Italy	1.1	0,7	x(5)	x(5)	1.4[d]	2.1[d]	x(5, 6)	3.2	0.0	0.9	0.9	0.6	4.1	3.8
	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	1.6	0.8	x(5)	x(5)	1.1	2.0	a	3.5	0.2	1.4	1.6	1.2	5.1	4.8
	Latvia	1.4	0.6	0.4	0.4	0.8	1.4	0.1	2.9	0.2	1.0	1.2	0.9	4.1	3.7
	Lithuania	0.7	1.0	0.3	0.1	0.4	1.5	0.1	2.3	a	1.1	1.1	0.8	3.4	3.2
	Luxembourg	1.1	0.8	0.4	0.6	0.9	1.7	0.0	2.9	0.0	0.4	0.4	0.2	3.3	3.1
	Mexico	1.6	0.8	0.5	0.3	0.8	1.6	a	3.2	x(11)	x(11)	1.4	1.3	4.6	4.5
	Netherlands	1.2	1.1	0.3	0.9	1.2	2.3	a	3.5	0.0	1.7	1.7	1.1	5.2	4.6
	New Zealand	1.7	1.3	1.0	0.3	1.3	2.6	0.2	4.5	0.2	1.5	1.7	1.4	6.2	5.8
	Norway	2.2	1.0	0.7	0.7	1.4	2.4	0.0	4.7	0.1	1.9	2.0	1.2	6.6	5.9
	Poland	1.6	0.8	0.3	0.5	0.8	1.5	0.1	3.2	0.0	1.2	1.2	0.9	4.4	4.1
	Portugal	1.5	1.1	x(5)	x(5)	1.2[d]	2.3[d]	x(5, 6)	3.8	0.0	1.1	1.1	0.9	5.0	4.7
	Slovak Republic	1.0	1.0	0.2	0.5	0.8	1.7	0.0	2.8	0.0	0.9	0.9	0.7	3.7	3.5
	Slovenia	1.5	0.8	0.3	0.5	0.9	1.7	a	3.2	0.0	1.0	1.0	0.8	4.2	4.0
	Spain	1.3	0.8	0.5	0.4[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	4.0	0.0	1.5	1.6	0.7	5.5	4.7
	Switzerland	m	m	x(5)	x(5)	1.2[d]	m	x(5)	m	m	m	m	m	m	m
	Turkey	0.9	1.0	0.8	0.7	1.5	2.5	a	3.4	x(11)	x(11)	1.7	1.4	5.1	4.8
	United Kingdom	1.9	1.0	0.9	0.3	1.3	2.2	a	4.1	0.1	1.9	2.0	1.6	6.1	5.7
	United States	1.6	0.9	x(5)	x(5)	0.9	1.8	0.0	3.5	x(11)	x(11)	2.5	2.2	6.0	5.7
	OECD average	1.5	0.9	0.6	0.5	1.1	1.9	m	3.4	0.1	1.3	1.4	1.0	4.9	4.5
	EU22 average	1.2	0.9	0.4	0.5	1.0	1.9	0.1	3.2	0.1	1.2	1.2	0.8	4.4	4.0
Partners	**Argentina**	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
	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	x(3, 4, 5, 6)	x(3, 4, 5, 6)	2.2[d]	0.1[d]	2.4[d]	2.4[d]	x(3, 4, 5, 6)	2.4	0.1	0.9	1.0	0.9	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 2019.

Source: OECD/UIS/Eurostat (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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

StatLink https://stat.link/voedgp

Table C2.2. Index of change in public expenditure on educational institutions as a percentage of GDP (2012 and 2018)

Final source of funds, index of change (2015 = 100, constant prices), direct expenditure within educational institutions, by level of education

		Primary, secondary and post-secondary non-tertiary				Tertiary				Primary to tertiary				GDP	
		Change in public expenditure on educational institutions		Change in public expenditure on educational institutions as a share of GDP		Change in public expenditure on educational institutions		Change in public expenditure on educational institutions as a share of GDP		Change in public expenditure on educational institutions		Change in public expenditure on educational institutions as a share of GDP		Change in GDP	
		2012	2018	2012	2018	2012	2018	2012	2018	2012	2018	2012	2018	2012	2018
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
OECD	Countries														
OECD	Australia	m	m	m	m	m	m	m	m	m	m	m	m	92,8	105,9
OECD	Austria	98.8	101.6	100.5	94.9	100.0	101.7	101.7	95.0	99.2	101.7	100.9	94.9	98.3	107.1
OECD	Belgium	99.0	102.7	103.0	98.0	97.4	108.8	101.4	103.8	98.6	104.1	102.7	99.3	96.0	104.8
OECD	Canada[1]	97.1[d]	104.9[d]	105.3[d]	101.7[d]	102.0	104.8	110.6	101.5	98.4[d]	104.9[d]	106.8[d]	101.6[d]	92.2	103.2
OECD	Chile	103.4	122.5	112.0	114.5	76.1	146.3	82.4	136.7	97.5	127.6	105.6	119.3	92.3	107.0
OECD	Colombia	85.5	103.5	96.7	97.6	93.8	100.7	106.2	94.9	87.1	103.0	98.6	97.1	88.4	106.1
OECD	Costa Rica	89.4	89.2	98.1	80.2	77.2	112.7	84.7	101.4	86.5	94.8	94.9	85.3	91.2	111.2
OECD	Czech Republic	95.8	124.1	103.2	111.5	120.0	134.8	129.3	121.1	101.6	126.6	109.4	113.8	92.8	111.3
OECD	Denmark	m	m	m	m	m	m	m	m	m	m	m	m	95.3	108.5
OECD	Estonia	109.3	125.3	116.1	110.3	70.5	103.5	75.0	91.1	97.1	118.4	103.2	104.3	94.1	113.6
OECD	Finland	99.5	97.7	98.8	90.9	107.3	94.2	106.5	87.7	101.7	96.7	101.0	90.0	100.7	107.4
OECD	France	98.9	104.5	101.5	99.3	96.9	104.1	99.5	98.9	98.4	104.4	101.0	99.2	97.4	105.3
OECD	Germany	99.6	106.5	103.7	100.3	97.2	108.0	101.2	101.7	98.9	107.0	103.0	100.7	96.0	106.2
OECD	Greece	103.7	102.0	101.2	99.7	106.6	93.4	104.0	91.2	104.3	100.2	101.8	97.9	102.5	102.4
OECD	Hungary	83.7	108.7	92.2	96.8	111.6	148.8	123.0	132.5	88.5	115.6	97.5	102.9	90.7	112.3
OECD	Iceland	91.0	121.2	101.0	104.7	90.1	109.2	100.0	94.3	90.8	118.7	100.8	102.5	90.1	115.8
OECD	Ireland	m	112.8	m	93.4	m	106.0	m	87.8	m	111.2	m	92.1	72.6	120.8
OECD	Israel	91.4	119.8	101.4	107.7	91.8	98.2	101.8	88.2	91.5	116.0	101.5	104.3	90.2	111.3
OECD	Italy	100.8	109.7	99.7	105.5	107.0	102.1	105.8	98.2	101.9	108.4	100.8	104.2	101.1	104.0
OECD	Japan	102.1	98.6	103.8	93.5	103.6[d]	102.0[d]	105.3[d]	96.8[d]	102.3	99.1	104.0	94.0	98.4	105.5
OECD	Korea	m	112.2	m	102.7	m	109.9	m	100.5	m	111.8	m	102.3	91.4	109.3
OECD	Latvia	79.2	91.3	85.2	83.0	69.8	69.9	75.1	63.5	76.9	85.9	82.7	78.1	93.0	110.0
OECD	Lithuania	106.1	105.7	116.0	95.1	107.3	73.4	117.4	66.0	106.5	95.4	116.5	85.9	91.4	111.1
OECD	Luxembourg	99.8	107.4	112.5	97.9	70.6	84.4	79.6	76.9	95.5	104.0	107.6	94.8	88.7	109.8
OECD	Mexico	m	m	m	m	m	m	m	m	m	m	m	m	92.9	107.1
OECD	Netherlands	98.9	103.2	102.2	95.9	95.9	105.9	99.0	98.3	98.1	103.9	101.3	96.5	96.8	107.6
OECD	New Zealand	m	m	m	m	m	m	m	m	m	m	m	m	92.8	111.9
OECD	Norway	m	m	m	m	m	m	m	m	m	m	m	m	94.3	105.2
OECD	Poland	97.7	108.9	106.5	95.6	83.2	99.1	90.7	87.0	93.8	106.2	102.2	93.2	91.8	113.9
OECD	Portugal	102.7	106.1	104.4	97.7	88.0	98.5	89.5	90.7	100.1	104.7	101.7	96.4	98.4	108.6
OECD	Slovak Republic	84.6	108.2	91.6	99.1	55.5	56.3	60.1	51.5	75.1	91.2	81.3	83.5	92.3	109.2
OECD	Slovenia	108.9	109.2	113.2	96.7	112.3	113.9	116.8	100.9	109.6	110.3	114.0	97.7	96.2	112.9
OECD	Spain	100.3	106.6	104.0	98.1	103.3	104.3	107.2	96.0	101.0	106.0	104.8	97.6	96.4	108.7
OECD	Sweden	93.6	117.9	101.5	110.5	96.8	103.5	105.1	97.0	94.5	114.0	102.5	106.8	92.1	106.7
OECD	Switzerland	98.7	103.9	104.7	97.3	90.8	106.6	96.3	99.8	96.5	104.6	102.3	98.0	94.3	106.8
OECD	Turkey	82.6	112.2	99.7	98.1	87.6	106.7	105.8	93.3	84.3	110.3	101.8	96.5	82.8	114.4
OECD	United Kingdom	89.4	92.9	96.2	89.0	189.9	109.8	204.4	105.1	100.4	94.8	108.1	90.8	92.9	104.4
OECD	United States	96.2	107.2	103.6	100.7	107.3	106.2	115.6	99.8	98.6	107.0	106.2	100.5	92.8	106.5
	OECD average	96.4	107.5	102.6	98.8	97.0	103.9	103.3	95.4	96.0	106.3	102.1	97.6	93.3	108.8
	EU22 average	98.0	107.6	102.9	98.6	94.9	100.7	99.4	92.2	97.1	105.5	101.8	96.7	94.3	109.2
Partners	Argentina	92.8	78.4	95.2	80.0	m	91.6	m	93.4	m	81.3	m	82.9	97.5	98.0
Partners	Brazil	102.7	92.9	102.5	96.0	83.3	106.2	83.2	109.7	99.0	95.4	98.8	98.6	100.1	96.7
Partners	China	m	m	m	m	m	m	m	m	m	m	m	m	80.7	122.0
Partners	India	m	m	m	m	m	m	m	m	m	m	m	m	80.9	123.0
Partners	Indonesia	79.0	m	91.8	m	95.7	46.4	111.2	40.0	81.8	m	95.1	m	86.0	116.1
Partners	Russian Federation	108.7	129.0	109.3	123.3	108.6	92.8	109.2	88.7	108.7	118.7	109.2	113.4	99.5	104.6
Partners	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	90.2	103.4
Partners	South Africa	m	m	m	m	95.0	111.6	100.3	108.7	m	m	m	m	94.7	102.6
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	92.6	107.3

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 (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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

StatLink https://stat.link/nm4elv

Table C2.3. Index of change in total expenditure on educational institutions as a percentage of GDP (2012 and 2018)

Final source of funds, index of change (2015 = 100, constant prices), direct expenditure within educational institutions, by level of education

		Primary, secondary and post-secondary non-tertiary				Tertiary				Primary to tertiary				GDP	
		Change in total expenditure on educational institutions		Change in total expenditure on educational institutions as a percentage of GDP		Change in total expenditure on educational institutions		Change in total expenditure on educational institutions as a percentage of GDP		Change in total expenditure on educational institutions		Change in total expenditure on educational institutions as a percentage of GDP		Change in GDP	
		2012	2018	2012	2018	2012	2018	2012	2018	2012	2018	2012	2018	2012	2018
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
OECD	Countries														
	Australia	m	m	m	m	m	m	m	m	m	m	m	m	92.8	105.9
	Austria	98.3	101.4	100.0	94.6	98.5	106.6	100.2	99.6	98.4	103.3	100.1	96.4	98.3	107.1
	Belgium	99.0	103.3	103.1	98.6	96.6	108.8	100.6	103.8	98.4	104.7	102.4	99.9	96.0	104.8
	Canada[1]	96.4[d]	104.6[d]	104.6[d]	101.4[d]	97.8	113.3	106.2	109.8	96.9[d]	107.9[d]	105.2[d]	104.5[d]	92.2	103.2
	Chile	109.3	141.9	118.4	132.7	112.2	126.3	121.5	118.1	110.4	135.9	119.6	127.0	92.3	107.0
	Colombia	85.8	104.0	97.1	98.1	95.6	57.6	108.1	54.3	88.7	90.2	100.4	85.1	88.4	106.1
	Costa Rica	m	m	m	m	m	m	m	m	m	m	m	m	91.2	111.2
	Czech Republic	96.5	123.0	104.0	110.5	115.4	115.6	124.3	103.9	102.3	120.7	110.2	108.5	92.8	111.3
	Denmark	m	m	m	m	m	m	m	m	m	m	m	m	95.3	108.5
	Estonia	102.7	121.6	109.1	107.1	85.6	105.7	91.0	93.1	96.3	115.7	102.4	101.8	94.1	113.6
	Finland	99.4	97.7	98.7	90.9	108.1	96.3	107.3	89.6	102.0	97.3	101.3	90.5	100.7	107.4
	France	98.7	104.5	101.4	99.3	96.1	105.9	98.7	100.6	98.0	104.9	100.6	99.7	97.4	105.3
	Germany	100.2	105.8	104.4	99.7	95.5	107.2	99.5	100.9	98.8	106.2	103.0	100.0	96.0	106.2
	Greece	105.2	103.2	102.7	100.8	94.6	89.0	92.3	87.0	102.5	99.5	100.0	97.2	102.5	102.4
	Hungary	82.5	109.9	90.9	97.9	129.0	138.4	142.2	123.2	93.4	116.6	102.9	103.8	90.7	112.3
	Iceland	91.2	120.6	101.2	104.2	94.3	110.4	104.7	95.4	91.9	118.4	102.0	102.2	90.1	115.8
	Ireland	m	112.7	m	93.3	m	104.2	m	86.3	m	110.3	m	91.3	72.6	120.8
	Israel	91.7	120.1	101.6	107.9	105.0	109.0	116.4	98.0	94.9	117.4	105.2	105.5	90.2	111.3
	Italy	99.5	110.6	98.4	106.4	102.9	101.8	101.7	97.9	100.3	108.5	99.2	104.4	101.1	104.0
	Japan	101.3	98.4	103.0	93.3	102.0[d]	101.8[d]	103.6[d]	96.5[d]	101.5	99.6	103.2	94.4	98.4	105.5
	Korea	m	108.9	m	99.6	m	99.9	m	91.4	m	105.9	m	96.9	91.4	109.3
	Latvia	79.4	95.2	85.4	86.6	84.7	88.0	91.1	80.1	81.0	93.0	87.1	84.6	93.0	110.0
	Lithuania	104.0	106.0	113.8	95.4	105.6	79.7	115.5	71.7	104.6	96.0	114.4	86.4	91.4	111.1
	Luxembourg	99.4	107.9	112.0	98.3	70.5	86.5	79.5	78.8	95.0	104.6	107.1	95.3	88.7	109.8
	Mexico	m	m	m	m	m	m	m	m	m	m	m	m	92.9	107.1
	Netherlands	99.9	104.2	103.2	96.8	94.4	105.5	97.4	98.0	98.1	104.6	101.3	97.2	96.8	107.6
	New Zealand	m	m	m	m	m	m	m	m	m	m	m	m	92.8	111.9
	Norway	93.5	105.4	99.2	100.2	85.5	118.3	90.6	112.5	91.3	108.9	96.8	103.6	94.3	105.2
	Poland	97.9	113.3	106.7	99.5	88.5	99.3	96.4	87.1	95.1	109.1	103.6	95.8	91.8	113.9
	Portugal	112.5	105.1	114.4	96.8	102.6	96.4	104.3	88.7	110.1	103.0	111.9	94.8	98.4	108.6
	Slovak Republic	85.7	106.5	92.8	97.5	60.3	65.0	65.3	59.5	76.7	91.8	83.0	84.0	92.3	109.2
	Slovenia	108.0	109.4	112.3	96.9	112.4	112.4	116.8	99.6	109.1	110.1	113.4	97.5	96.2	112.9
	Spain	97.7	106.6	101.4	98.1	95.3	107.1	98.9	98.5	97.0	106.7	100.7	98.2	96.4	108.7
	Sweden	93.6	118.1	101.5	110.7	95.8	104.6	104.0	98.0	94.3	114.0	102.3	106.8	92.1	106.7
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	94.3	106.8
	Turkey	83.6	117.2	100.9	102.4	86.3	108.8	104.2	95.1	84.5	114.2	102.1	99.9	82.8	114.4
	United Kingdom	92.5	96.9	99.6	92.8	86.5	111.6	93.1	106.9	90.7	101.3	97.7	97.1	92.9	104.4
	United States	96.3	106.7	103.7	100.2	100.0	104.9	107.7	98.5	97.8	105.9	105.4	99.5	92.8	106.5
	OECD average	96.8	109.2	103.0	100.3	96.9	102.2	103.2	93.9	96.8	107.0	103.0	98.3	93.3	108.8
	EU22 average	98.0	107.9	102.8	98.8	96.6	101.1	101.4	92.7	97.6	105.7	102.3	96.9	94.3	109.2
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m	97.5	98.0
	Brazil	m	m	m	m	m	m	m	m	m	m	m	m	100.1	96.7
	China	m	m	m	m	m	m	m	m	m	m	m	m	80.7	122.0
	India	m	m	m	m	m	m	m	m	m	m	m	m	80.9	123.0
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m	86.0	116.1
	Russian Federation	106.9	127.4	107.4	121.8	109.9	90.8	110.4	86.8	108.0	113.8	108.5	108.8	99.5	104.6
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	90.2	103.4
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	94.7	102.6
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	92.6	107.3

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 (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://stat.link/xbhnco

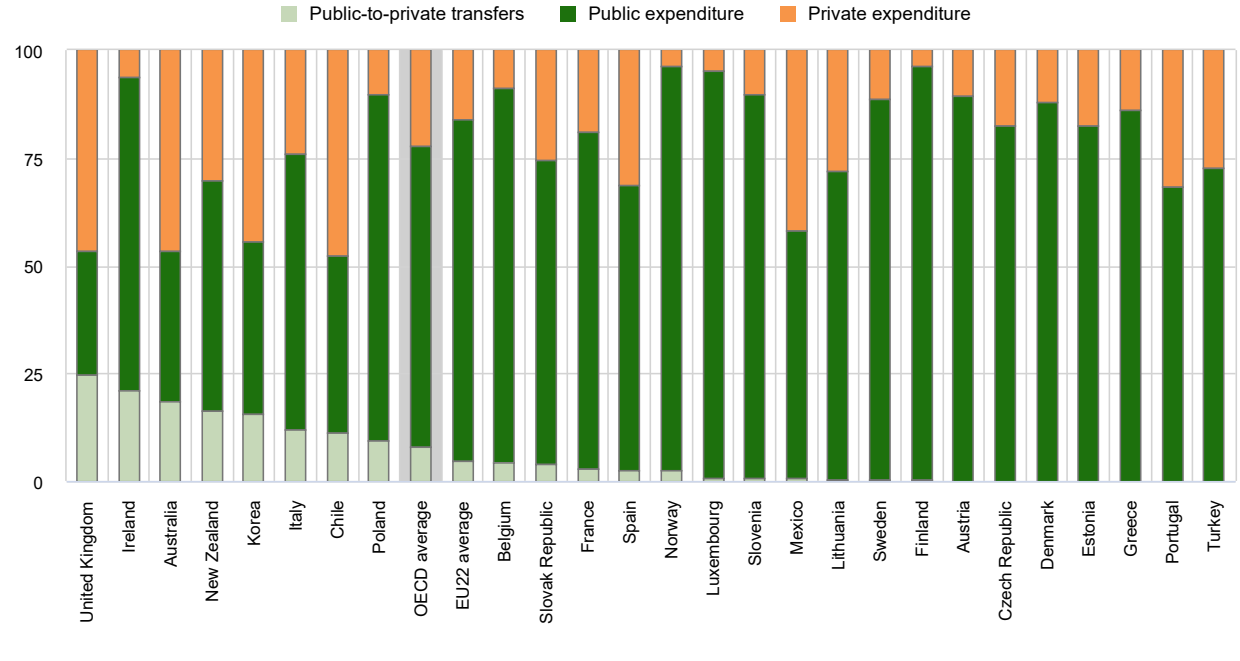
Indicator C3. How much public and private investment in educational institutions is there?

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 (66%).
- Households account for the largest share of private expenditure devoted to tertiary educational institutions (72% on average across OECD countries). Public-to-private transfers for tertiary education provide financial support to the private sector and represent 8% of total spending on tertiary institutions on average across OECD countries. However, they exceed 18% in Australia, Ireland and the United Kingdom, where tuition fees are high.
- Between 2012 and 2018, the share of private spending on educational institutions from primary to tertiary level increased moderately in both non-tertiary (primary, secondary and post-secondary non-tertiary education) and tertiary education levels (approximately 1 percentage point). During this period, the highest increases were observed in Chile, Estonia, Italy and Latvia at non-tertiary levels (3 percentage points or more) and in the United Kingdom at tertiary level (30 percentage points).

Figure C3.1. Distribution of transfers and public and private expenditure on educational institutions (2018)

Tertiary education, in per cent



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 (2021), Table C3.2. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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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 levels of education.

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 the 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 such as student loans or grants to students, while others support efforts to increase the funding provided by private enterprises. By shifting the cost of education to a time when students typically start earning more, student loans help alleviate the burden of private spending and reduce the cost to taxpayers of direct government spending.

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

- The share of private spending on tertiary educational institutions depends largely on the tuition fees charged to students. More than 55% of total expenditure is privately sourced in Australia, Chile, Japan, Korea, the United Kingdom and the United States.
- The share of private expenditure on educational institutions varies across non-tertiary education levels. At the primary and lower secondary levels, around 9% of expenditure on educational institutions comes from private sources. This share reaches 14% 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 across countries.

In 2018, on average across OECD countries, 82% of the funding for primary to tertiary educational institutions came directly from public sources and 16% from private sources (Table C3.1). However, there are disparities across countries. In Finland, Iceland, Luxembourg, Norway and Sweden, private funds constitute 5% or less of expenditure on educational institutions. In contrast, they make up around one-third of educational expenditure in Australia, Chile, 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 4% or more in Estonia, Latvia 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 2018, private funding accounted for 10% of expenditure at these levels of education on average across OECD countries, although it exceeded 20% in Chile, 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).

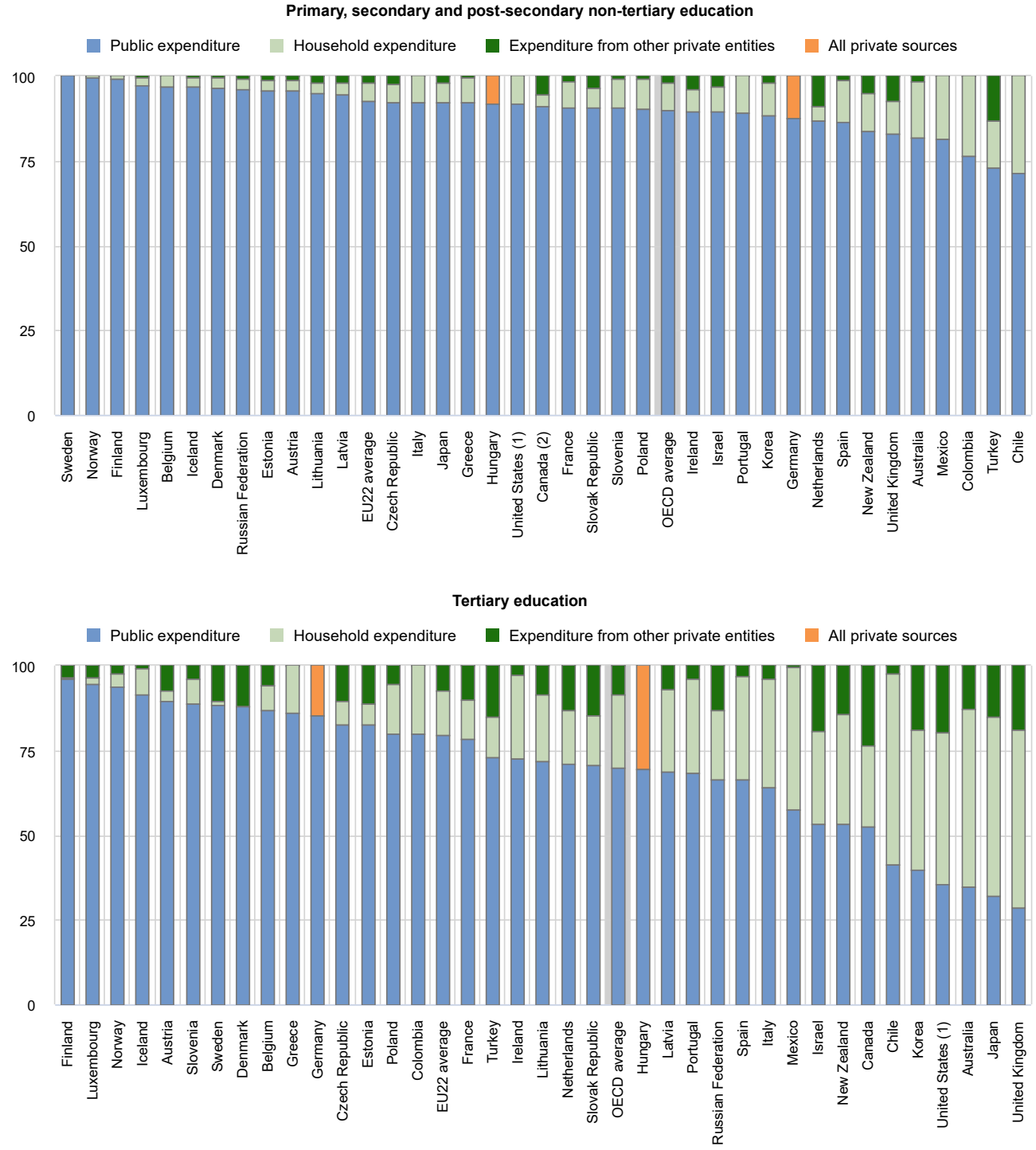
The share of private expenditure on educational institutions varies across countries and according to the level of education. At the primary level, 8% of expenditure on educational institutions comes from private sources on average across OECD countries. However in Norway and Sweden, primary institutionsare entirely publicly funded, while in Chile, Colombia, Mexico, Spain and Turkey, more than 15% of funds come from private sources (OECD, 2021[1]).The share of private funding at 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, Chile, Colombia and Turkey (OECD, 2021[1]).

Upper secondary education relies more on private funding than primary and lower secondary levels, reaching an average of 14% across OECD countries. Private sources contribute a similar share to the spending on vocational and general programmes, at around 12% 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 20 percentage points higher than in general education. In Germany, private companies have a long tradition of being involved 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 and Turkey, the share of private funding of general programmes exceeds that of vocational programmes by at least 30 percentage points (OECD, 2021[1]). In several countries, the share of public funds currently devoted 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, 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 72% on average across OECD countries based on data available. Unlike the three lower levels presented above, post-secondary non-tertiary education in Germany, Ireland, Israel and the United States relies more heavily on private than public sources of funding (OECD, 2021[1]).

Figure C3.2. Distribution of public and private expenditure on educational institutions (2018)

After transfers, in per cent



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.

Countries are ranked in descending order of the proportion of public and international expenditure on educational institutions.

Source: OECD/UIS/Eurostat (2021), Table C3.1. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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Tertiary educational institutions

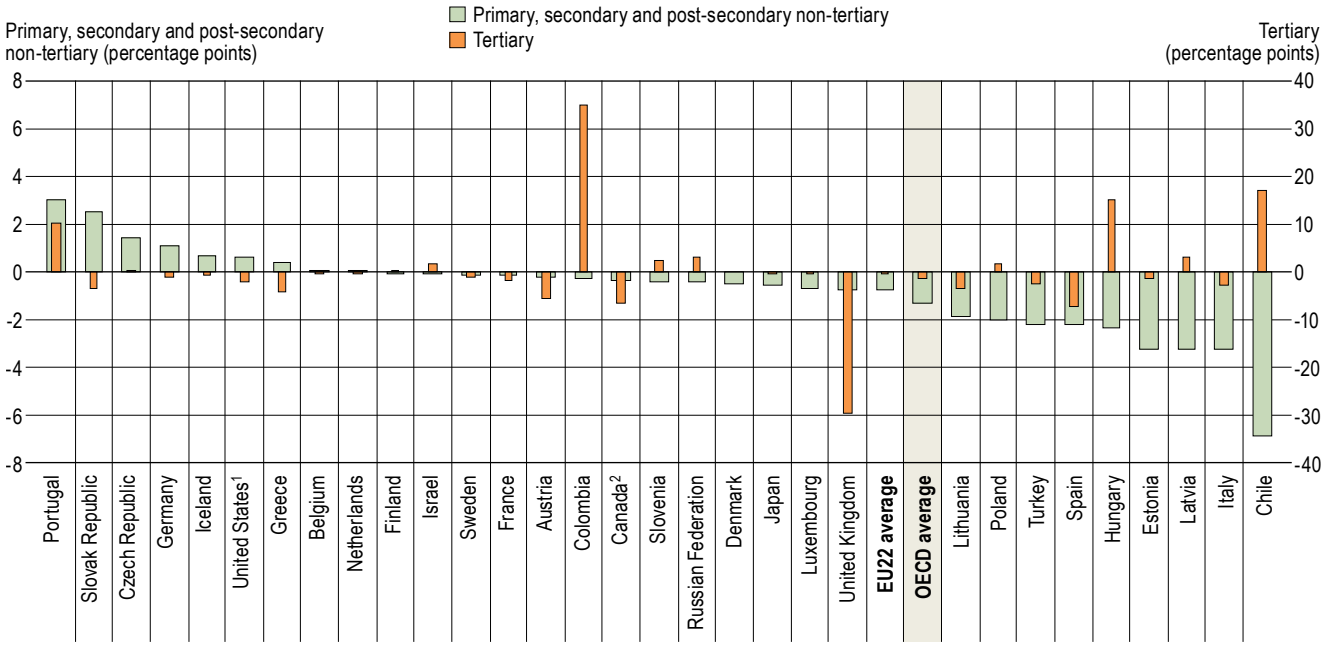
The high private returns to tertiary education (see Indicator A5) have led a number of countries to expect individuals to make a greater financial contribution to their education at tertiary level. Some countries have implemented financial support mechanisms to ease the burden on individuals when private 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 2018, on average across OECD countries, 30% 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 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, around 60% or more 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 higher student fees.

On average across OECD countries, households account for 72% 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 Denmark and Finland (Figure C3.2).

Figure C3.3. Change in the relative share of public and international expenditure on educational institutions between 2012 and 2018

Final source of funds, by education level, in percentage points



1. Figures are for net student loans rather than gross, thereby underestimating public transfers.
2. Primary to tertiary education includes pre-primary programmes.

Countries are ranked in descending order of the percentage-point change in the share of public and international expenditure on educational institutions in primary, secondary and post-secondary non-tertiary education levels.

Source: OECD/UIS/Eurostat (2021), Table C3.3. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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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 moderately growing (Table C3.3). Between 2012 and 2018, the share of private spending after transfers on primary to tertiary educational institutions increased by 1 percentage point on average across OECD countries, while the share of public and international spending fell by the same amount. Increases in the share of private funding were observed in almost half of OECD and partner countries, with the United Kingdom showing the largest increase (12 percentage points). In contrast, Colombia experienced the largest decrease in the share of private spending (11 percentage points), balanced by an equivalent increase from public sources (Table C3.3).

In many OECD countries, the increase in the share of funding from private sources between 2012 and 2018 was moderate at non-tertiary level (1 percentage point). There are, however, some variations across countries: while increases in the share of private funding for non-tertiary education were found for almost half of the countries, Chile, Estonia, Italy and Latvia experienced the highest increases, by approximately 3 percentage points or more between 2012 and 2018. In other countries, a moderate decrease was observed in the share of private funds during the same period, notably in Portugal and the Slovak Republic, where the share of private spending dropped by around 3 percentage points (Table C3.3 and Figure C3.3).

At tertiary level, the share of public funding on educational institutions decreased in more countries than it increased between 2012 and 2018. This is the case, for example, in the United Kingdom, where the share of public spending decreased by 30 percentage points in 2018 compared to 2012 levels. On the other hand, the share of public spending increased by at least 10 percentage points in Chile, Colombia, Hungary and Portugal (Table C3.3 and Figure 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).

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 2018, on average across OECD countries, they represented 0.7% of the total funds devoted to these educational levels, exceeding 2% in France, Norway, the Slovak Republic and the United Kingdom (Table C3.2). Public to private transfers are generally larger at upper secondary education where they represent 2% of total expenditure across OECD countries. The higher share of transfers at this level results from higher public investment to private enterprises in support of vocational programmes (4%). For instance, the Norwegian government pays a fixed amount to firms that take on apprentices (OECD, 2021[1]).

Public transfers to the private sector may play an important role in financing tertiary education (Figure C3.1). In countries where tertiary education is expanding, and particularly in those with high tuition, public-to-private transfers 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]). While private spending is largely covered by public transfers in some countries, government and international support cover a relatively small share of private costs in others. This creates challenges for access and learning, as higher private spending may deter students from participating in tertiary education, particularly in countries with high tuition fees and limited financial support mechanisms.

In 2018, on average across OECD countries, public to private transfers represented 8% of the total funds devoted to tertiary institutions. Countries with the highest transfers are also those that tend to have the highest tuition fees. Transfers exceeded 19% of total expenditure on tertiary institutions in Australia, Ireland and the United Kingdom, where annual tuition fees for a bachelor's programme exceeds USD 5 000. In contrast, the share of public transfers was below 1% in countries with no or low fees, such as Austria, the Czech Republic, Denmark, Estonia, Finland, Greece and Sweden. However, in some countries, such as France, Lithuania, Portugal, the Slovak Republic, Spain and Turkey, public transfers to the private sector are low (below 4%) despite high levels of private spending (above 20%) (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 institutions 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 educational institutions' budgets 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://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

Source

Data refer to the financial year 2018 (unless otherwise specified) and are based on the UNESCO, OECD and Eurostat (UOE) data collection on education statistics administered by the OECD in 2020 (for details see Annex 3 at: https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf). 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 2018 were updated based on a survey in 2020-21, and expenditure figures for 2012 to 2018 were adjusted to the methods and definitions used in the current UOE data collection.

References

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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

Tables Indicator C3. How much public and private investment in educational institutions is there?

Table C3.1	Relative share of public, private and international expenditure on educational institutions, by final source of funds (2018)
Table C3.2	Relative share of public, private and international expenditure on educational institutions, by source of funds and public-to-private transfers (2018)
Table C3.3	Trends in the share of public, private and international expenditure on educational institutions (2012 and 2018)

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Cut-off date for the data: 17 June 2021. 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*.

Table C3.1. Relative share of public, private and international expenditure on educational institutions, by final source of funds (2018)

After transfers between public and private sectors, by level of education

		Primary, secondary and post-secondary non-tertiary					Tertiary					Primary to tertiary				
			Private sources			International sources		Private sources			International sources		Private sources			International sources
		Public sources	Household expenditure	Expenditure by other private entities	All private sources		Public sources	Household expenditure	Expenditure by other private entities	All private sources		Public sources	Household expenditure	Expenditure by other private entities	All private sources	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD	**Countries**															
	Australia	82	16	2	18	0	35	52	13[d]	65[d]	x(8, 9)	67	28	5[d]	33[d]	x(13, 14)
	Austria	96	3	1	4	a	89	3	7	11	a	93	3	3	7	a
	Belgium	96	3	0	3	1	84	8	6	13	3	93	4	2	6	1
	Canada[1]	91[d]	3[d]	5[d]	9[d]	x(3, 4)	52	24	24[d]	48[d]	x(8, 9)	76[d]	12[d]	13[d]	24[d]	x(13, 14)
	Chile	71	29	0	29	a	41	57	2	59	a	61	39	1	39	a
	Colombia	76	23	0	23	0	80	20	0	20	0	77	23	0	23	0
	Costa Rica[2]	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	92	5	2	8	0	76	7	10	17	6	88	6	5	10	2
	Denmark	97	3	0	3	0	82	0	12	12	6	92	2	4	6	2
	Estonia	96	3	1	4	0	69	6	11	18	13	87	4	5	9	5
	Finland	99	1	0	1	0	91	0	4	4	5	97	1	1	2	2
	France	91	8	1	9	0	77	12	10	22	2	87	9	4	13	1
	Germany	88	x(4)	x(4)	12	0	83	x(9)	x(9)	15	2	86	x(14)	x(14)	13	1
	Greece	92	8	0	8	0	77	14	a	14	9	89	9	0	9	2
	Hungary	92	x(4)	x(4)	8	0	68	x(9)	x(9)	31	2	85	x(14)	x(14)	14	1
	Iceland	97	3	0	3	0	88	8	1	8	3	95	4	0	4	1
	Ireland	90	6	4	10	0	68	25	3	28	5	84	11	4	15	1
	Israel	89	8	3	11	0	53	27	19	47	0	81	12	7	19	0
	Italy	92	8	0	8	1	62	32	4	36	2	85	13	1	14	1
	Japan	92	6	2	8	0	32[d]	53[d]	15[d]	68[d]	0[d]	71	22	7	29	0
	Korea	89	9	2[d]	11[d]	x(3, 4)	40	41	19[d]	60[d]	x(8, 9)	74	19	7[d]	26[d]	x(13, 14)
	Latvia	93	4	2	6	1	58	24	7	31	11	83	10	3	13	4
	Lithuania	95	3	2	5	1	66	20	8	28	6	86	8	4	12	2
	Luxembourg	94	3	0	3	3	90	2	3	6	4	94	3	1	3	3
	Mexico	82	18	0	18	0	58	42	0	42	0	74	26	0	26	0
	Netherlands	87	5	9	13	0	68	16	13	29	3	80	8	10	18	1
	New Zealand	84	11	5	16	0	53	32	14	47	0	75	17	8	25	0
	Norway	99	1	0	1	0	92	4	2	6	1	97	1	1	2	0
	Poland	87	9	1	10	3	79	14	6	20	1	85	11	2	13	3
	Portugal	87	11	0	11	2	59	28	4	32	9	81	15	1	16	4
	Slovak Republic	91	6	3	9	0	68	15	15	29	3	85	8	6	14	1
	Slovenia	90	9	1	9	1	84	7	4	11	5	89	8	1	10	2
	Spain	86	13	1	14	0	65	31	3	34	2	80	18	2	20	0
	Sweden	100	0	0	0	0	84	1	10	12	5	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	72	12	15	27	1	72	13	14	27	0
	United Kingdom	83	9	7	17	0	25	52	19	71	4	64	24	11	35	1
	United States[3]	92	8	0	8	a	36	45	20	64	a	68	23	8	32	a
	OECD average	90	8	2	10	0	66	22	9	30	4	82	12	4	16	1
	EU22 average	92	5	2	7	1	75	13	7	20	5	87	8	3	11	2
Partners	**Argentina**	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
	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	96	3	1	4	0	65	20	13	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 2019.
3. Figures are for net student loans rather than gross, thereby underestimating public transfers.

Source: OECD/UIS/Eurostat (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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

StatLink https://stat.link/s96fja

Table C3.2. Relative share of public, private and international expenditure on educational institutions, by source of funds and public-to-private transfers (2018)

By level of education and source of funding

		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)	(8)	(9)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
OECD	**Countries**																		
	Australia	83	17	0	82	18	0	53	47[d]	x(9)	35	65[d]	x(12)	74	26[d]	x(16)	67	33[d]	x(19)
	Austria	97	3	a	96	4	a	90	10	a	89	11	a	94	6	a	93	7	a
	Belgium	97	2	1	96	3	1	88	9	3	84	13	3	94	4	1	93	6	1
	Canada[1]	m	m	m	91[d]	9[d]	x(5)	m	m	m	52	48[d]	x(12)	m	m	m	76[d]	24[d]	x(19)
	Chile	71	29	a	71	29	a	53	47	a	41	59	a	65	35	a	61	39	a
	Colombia	m	m	0	76	23	0	m	m	0	80	20	0	m	m	0	77	23	0
	Costa Rica[2]	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	92	8	0	92	8	0	76	17	6	76	17	6	88	10	2	88	10	2
	Denmark	97	3	0	97	3	0	82	12	6	82	12	6	92	6	2	92	6	2
	Estonia	86	4	10	96	4	0	51	18	32	69	18	13	74	9	17	87	9	5
	Finland	99	1	0	99	1	0	91	4	5	91	4	5	97	2	2	97	2	2
	France	93	7	0	91	9	0	79	19	2	77	22	2	89	10	1	87	13	1
	Germany	m	m	m	88	12	0	m	m	m	83	15	2	m	m	m	86	13	1
	Greece	m	m	2	92	8	0	74	14	12	77	14	9	m	m	4	89	9	2
	Hungary	m	m	0	92	8	0	m	m	2	68	31	2	m	m	1	85	14	1
	Iceland	m	m	0	97	3	0	m	m	3	88	8	3	m	m	1	95	4	1
	Ireland	88	10	1	90	10	0	89	6	5	68	28	5	89	9	2	84	15	1
	Israel	91	9	0	89	11	0	m	m	0	53	47	0	m	m	0	81	19	0
	Italy	92	8	1	92	8	1	74	24	2	62	36	2	88	11	1	85	14	1
	Japan	m	m	0	92	8	0	m	m	0[d]	32[d]	68[d]	0[d]	m	m	0	71	29	0
	Korea	89	11[d]	x(2)	89	11[d]	x(5)	56	44[d]	x(9)	40	60[d]	x(12)	79	21[d]	x(16)	74	26[d]	x(19)
	Latvia	m	m	3	93	6	1	m	m	24	58	31	11	m	m	9	83	13	4
	Lithuania	91	4	5	95	5	1	57	28	15	66	28	6	80	12	8	86	12	2
	Luxembourg	94	3	3	94	3	3	91	5	4	90	6	4	94	3	3	94	3	3
	Mexico	83	17	0	82	18	0	58	42[d]	x(9)	58	42	0	75[d]	25[d]	x(16)	74	26	0
	Netherlands	m	m	0	87	13	0	m	m	3	68	29	3	m	m	1	80	18	1
	New Zealand	85	15	0	84	16	0	70	30	0	53	47	0	81	19	0	75	25	0
	Norway	102	-2	0	99	1	0	95	4	1	92	6	1	100	0	0	97	2	0
	Poland	84	10	6	87	10	3	89	10	1	79	20	1	85	10	5	85	13	3
	Portugal	87	11	2	87	11	2	58	32	10	59	32	9	80	16	4	81	16	4
	Slovak Republic	91	6	3	91	9	0	69	25	5	68	29	3	85	11	4	85	14	1
	Slovenia	89	9	2	90	9	1	82	10	8	84	11	5	87	9	3	89	10	2
	Spain	86	14	0	86	14	0	67	31	2	65	34	2	81	19	0	80	20	0
	Sweden	100	0	0	100	0	0	84	11	5	84	12	5	95	3	1	95	3	1
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Turkey	73	27	0	73	27	0	72	27	1	72	27	1	72	27	0	72	27	0
	United Kingdom	85	15	0	83	17	0	49	47	4	25	71	4	73	25	1	64	35	1
	United States[3]	m	m	a	92	8	a	m	m	a	36	64	a	m	m	a	68	32	a
	OECD average	89	9	1	90	10	0	72	22	6	66	30	4	84	13	3	82	16	1
	EU22 average	92	6	2	92	7	1	76	16	8	75	20	5	88	9	4	87	11	2
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	96	4	0	m	m	m	65	33	1	m	m	m	87	13	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	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. Public to private transfers (i.e. Columns 7, 14 and 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.
2. Year of reference 2019.
3. Figures are for net student loans rather than gross, thereby underestimating public transfers.
Source: OECD/UIS/Eurostat (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://stat.link/8am3oz

Table C3.3. Trends in the share of public, private and international expenditure on educational institutions (2012 and 2018)

Final source of funds

		Primary, secondary and post-secondary non-tertiary						Tertiary						Primary to tertiary					
		Share of public and international expenditure on educational institutions (%)			Share of private expenditure on educational institutions (%)			Share of public and international expenditure on educational institutions (%)			Share of private expenditure on educational institutions (%)			Share of public and international expenditure on educational institutions (%)			Share of private expenditure on educational institutions (%)		
		2012	2018	Percentage point difference between 2012 and 2018	2012	2018	Percentage point difference between 2012 and 2018	2012	2018	Percentage point difference between 2012 and 2018	2012	2018	Percentage point difference between 2012 and 2018	2012	2018	Percentage point difference between 2012 and 2018	2012	2018	Percentage point difference between 2012 and 2018
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
OECD	**Countries**																		
	Australia[1]	m	82	m	m	18	m	m	35	m	m	65[d]	m	m	67	m	m	33[d]	m
	Austria	96	96	0	4	4	0	95	89	-6	5	11	6	96	93	-2	4	7	2
	Belgium	97	97	0	3	3	0	87	87	0	13	13	0	94	94	0	6	6	0
	Canada[1, 2]	91[d]	91[d]	0[d]	9[d]	9[d]	0[d]	59	52	-7	41[d]	48[d]	7[d]	79[d]	76[d]	-3[d]	21[d]	24[d]	3[d]
	Chile	78	71	-7	22	29	7	24	41	17	76	59	-17	57	61	4	43	39	-4
	Colombia	77	77	0	23	23	0	45	80	35	55	20	-35	67	77	11	33	23	-11
	Costa Rica	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	91	92	1	9	8	-1	82	83	0	18	17	0	88	90	2	12	10	-2
	Denmark	97	97	-1	3	3	1	m	88	m	m	12	m	m	94	m	m	6	m
	Estonia	99	96	-3	1	4	3	84	82	-1	16	18	1	94	91	-3	6	9	3
	Finland	99	99	0	1	1	0	96	96	0	4	4	0	98	98	0	2	2	0
	France	91	91	0	9	9	0	80	78	-2	20	22	2	88	87	-1	12	13	1
	Germany	87	88	1	13	12	-1	86	85	-1	14	15	1	86	87	1	14	13	-1
	Greece	92	92	0	8	8	0	90	86	-4	10	14	4	91	91	-1	9	9	1
	Hungary	94	92	-2	6	8	2	54	69	15	46	31	-15	81	86	4	19	14	-4
	Iceland	96	97	1	4	3	-1	92	92	-1	8	8	1	95	96	0	5	4	0
	Ireland	m	90	m	m	10	m	m	72	m	m	28	m	m	85	m	m	15	m
	Israel	89	89	0	11	11	0	52	53	2	48	47	-2	79	81	2	21	19	-2
	Italy	96	92	-3	4	8	3	67	64	-3	33	36	3	89	86	-3	11	14	3
	Japan	93	92	-1	7	8	1	33[d]	32[d]	0[d]	67[d]	68[d]	0[d]	72	71	-1	28	29	1
	Korea[1]	m	89	m	m	11[d]	m	m	40	m	m	60[d]	m	m	74	m	m	26[d]	m
	Latvia	98	94	-3	2	6	3	66	69	3	34	31	-3	87	87	0	13	13	0
	Lithuania	97	95	-2	3	5	2	75	72	-4	25	28	4	89	88	-1	11	12	1
	Luxembourg	98	97	-1	2	3	1	95	94	0	5	6	0	97	97	-1	3	3	1
	Mexico	m	82	m	m	18	m	m	58	m	m	42	m	m	74	m	m	26	m
	Netherlands	87	87	0	13	13	0	71	71	0	29	29	0	82	82	0	18	18	0
	New Zealand	m	84	m	m	16	m	m	53	m	m	47	m	m	75	m	m	25	m
	Norway	m	99	m	m	1	m	m	94	m	m	6	m	m	98	m	m	2	m
	Poland	92	90	-2	8	10	2	78	80	2	22	20	-2	88	87	-1	12	13	1
	Portugal	86	89	3	14	11	-3	58	68	10	42	32	-10	80	84	5	20	16	-5
	Slovak Republic	88	91	3	12	9	-3	74	71	-4	26	29	4	84	86	1	16	14	-1
	Slovenia	91	91	0	9	9	0	87	89	2	13	11	-2	90	90	0	10	10	0
	Spain	89	86	-2	11	14	2	73	66	-7	27	34	7	84	80	-4	16	20	4
	Sweden	100	100	0	m	0	m	90	88	-1	10	12	1	97	97	0	3	3	0
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Turkey	75	73	-2	25	27	2	75	73	-3	25	27	3	75	73	-2	25	27	2
	United Kingdom	84	83	-1	16	17	1	58	29	-30	42	71	30	77	65	-12	23	35	12
	United States[3]	91	92	1	9	8	-1	38	36	-2	62	64	2	68	68	0	32	32	0
	OECD average	91	90	-1	9	10	1	72	71	-1	29	30	1	85	84	-1	15	16	1
	EU22 average	94	93	-1	7	7	0	80	80	0	20	20	0	89	89	0	11	11	0
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	97	96	0	3	4	0	64	67	3	36	33	-3	84	87	3	16	13	-3
	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: 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. Private expenditures include international expenditures.
2. Primary to tertiary education includes pre-primary programmes.
3. Figures are for net student loans rather than gross, thereby underestimating public transfers.

Source: OECD/UIS/Eurostat (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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

StatLink https://stat.link/4neiwh

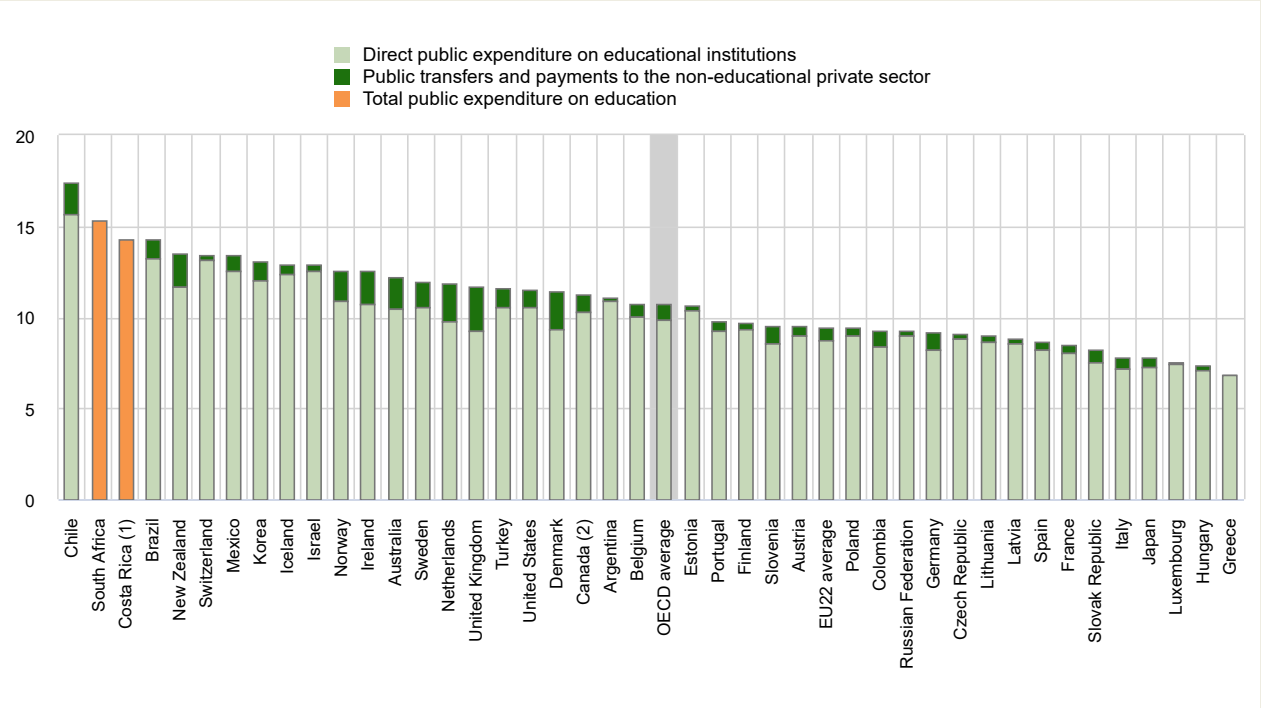
Indicator C4. What is the total public spending on education?

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 17%.
- Between 2012 and 2018, the proportion of government expenditure devoted to primary to tertiary education slightly decreased on average across OECD countries (1%). However, this share increased over the same period in half of OECD and partner countries and most notably in the Czech Republic and Greece, where it rose by more than 12%. Nevertheless, in many countries, increases in educational expenditure did not keep pace with the growth in government expenditure overall.
- 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 levels.

Figure C4.1. Composition of total public expenditure on education as a percentage of total government expenditure (2018)

Primary to tertiary education, in per cent



1. Year of reference 2019.
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 (2021), Table C4.1. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

StatLink https://stat.link/wdogsk

Context

Public expenditure enables governments to serve a wide range of purposes, including providing education and health care and maintaining public order and safety. Decisions concerning budget allocations to different sectors depend on countries' priorities and the options for private provision of these services. 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.

Policy choices or external shocks, such as demographic changes or economic trends, can have an influence on how public funds are spent. Like the financial crisis in 2008, the COVID-19 pandemic is likely to significantly impact societies economically, and education is one of the sectors affected. Past economic crises have put pressure on public budgets, resulting in less public funding being 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

- In 2018, 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. These public-to-private transfers represent 8% of public expenditure on education, with the remaining 92% consisting of direct public expenditure on education.
- Governments in OECD countries spend almost three times 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.
- The transfers of public funds from central to regional and local levels of government is larger at primary, secondary and post-secondary non-tertiary level than 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 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

The share of total public expenditure devoted to education varies across countries. In 2018, 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 C4.1 and Figure C4.1).

Overall, significant government funding was devoted to non-tertiary levels of education in 2018. In most countries, and on average across OECD countries, roughly three-quarters of 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 it does for non-tertiary levels (primary, secondary and post-secondary non-tertiary levels).

In 2018, 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 total public expenditure on primary to tertiary education. Across OECD and partner countries, the share ranges from below 15% in Luxembourg to over 35% in Austria, Denmark and Turkey where expenditure on research and development (R&D) represents a significant share (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 2018, 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 2% or more of total government expenditure in Denmark, the Netherlands and the United Kingdom and less than 0.3% in Argentina, the Czech Republic, Estonia, Greece, Hungary, Luxembourg and the Russian Federation (Figure C4.1).

When public expenditure on education is considered as a proportion of total government expenditure, the relative sizes of public budgets must be taken into account. Indeed, the share of total government expenditure as a proportion of gross domestic product (GDP) varies greatly among countries (Table C4.1 – web columns). In 2018, about one-in-ten 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 (4.1% 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 (31%) (Table C4.1 – web columns).

The economic crisis associated with the COVID-19 pandemic has affected the availability of public funding for education in OECD and partner countries. While the longer term impact on education funding is still uncertain, some countries have implemented immediate financial measures to support students and education systems to cope with the disruptions and economic impact of school and university closures (OECD, 2021[1])

Trends in public expenditure on education as a percentage of total government expenditure, 2012-18

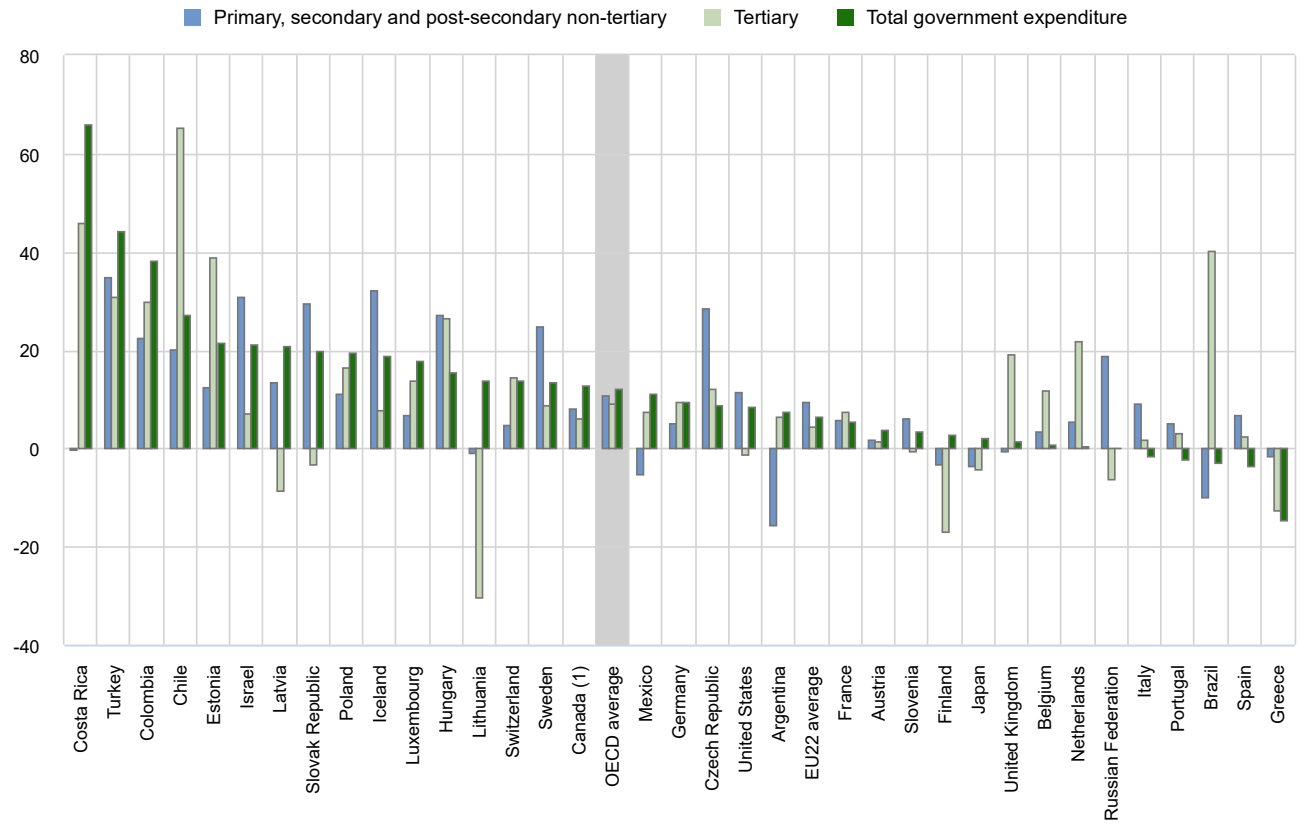
Between 2012 and 2018, the proportion of government expenditure devoted to public expenditure on primary to tertiary education slightly decreased across OECD countries (1%). This was the result of an increase of 10% on the total public spending on primary to tertiary education compared with a higher increase in the total government expenditure over the same period (12%) (Table C4.3).

Despite this decrease at aggregate level, in half of the OECD and partner countries with available data for both years, this share increased between 2012 and 2018, with the Czech Republic and Greece showing the greatest increase (over 12%). In the remaining countries, the increase in public expenditure on education was smaller than the increase in government spending overall. The most notable examples are Costa Rica, Latvia and Turkey, where the relative increase in total government expenditure was at least 10 percentage points higher than the increase in public expenditure on education (Table C4.3).

On average across OECD countries, a similar pattern is observed when looking at dissaggregated education levels. However, significant differences are observed when looking at the evolution of public expenditure across countries. Between 2012 and 2018, the increase in total public expenditure on education was larger than the increase in total government expenditure in around one-fourth of OECD and partner countries with available data. Decisions on public spending varied across education levels and countries. Among countries where public expenditure on education increased more than government expenditure between 2012 and 2018, Hungary displayed the highest growth in both non-tertiary and tertiary levels of education (around or above 26%). In contrast, other countries prioritised public funding growth to specific education levels. For example, public spending on tertiary education increased more than total government spending over this period in Brazil, Chile, Estonia, Switzerland and the United Kingdom whereas public spending at pre-tertiary level grew at a lower rate and even declined in Brazil. In contrast, growth in public spending on pre-tertiary education was higher than total government expenditure in Iceland, Israel, the Russian Federation, the Slovak Rebublic, Slovenia, Sweden and the United States, while public investment at tertiary level increased at a lower rate than government spending or declined slightly over this period.

Figure C4.2. Change in total public expenditure on education between 2012 and 2018

Primary to tertiary education, in per cent



1. Primary education includes pre-primary programmes.

Countries are ranked in descending order of the change in total government expenditure.

Source: OECD/UIS/Eurostat (2020), Table C4.3. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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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 taken at both the initial level of government, where the funds originate, and at the final level of government, where they are ultimately spent. At the initial level, decisions are taken 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). However, independently of the division of the funding responsibilities between levels of government, public expenditure might be allocated differently across education levels (Box C4.1).

Education funding may be centralised or decentralisedwith 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 unequal 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[3]).

Box C4.1. Allocation of public expenditure on education by educational level

National governments make key decisions in the proportion of financial resources devoted to education, which impacts economic and social development. Economic theory predicts that increasing public expenditure on education will lead to an increase in the economic growth rate due to higher levels of schooling and a better quality workforce. In terms of equity, public spending also has an effect on individuals' future income (see Indicator A5) and can reduce poverty rates.

Policy makers have to balance the importance of improving the quality of educational services with the desirability of expanding access to educational opportunities. The public resources devoted to education are generally allocated based on the funding formula approach (see Indicator D6 and OECD (2017[4])), and the number of students is one of the factors that influence the resources devoted to education. Indeed, the funding formula approach relies on a mathematical formula taking into account four main groups of variables: 1) student numbers and grade levels; 2) needs; 3) curriculum or educational programmes; and 4) school characteristics. Therefore, the proportion of students participating in different levels of education is an important element for policy makers. Variations in these proportions might reflect differences in the demand for these education services and therefore the need to adjust public funds across education levels.

Relative measures such as the location quotient (LQ) can help quantify the concentration levels of students across education levels in comparison to the proportion of public financial resources devoted to each. This measure can help policy makers assess whether sufficient resources are allocated to each level of education based on the share of students participating in them. The location quotient is equal to 1 when the percentage of students in a particular education level is equal to the proportion of resources devoted to it. Indexes over 1 indicate that the proportion of resources devoted to that level of education are over-represented; indexes under 1 indicate that the proportion of resources devoted to it are under-represented.

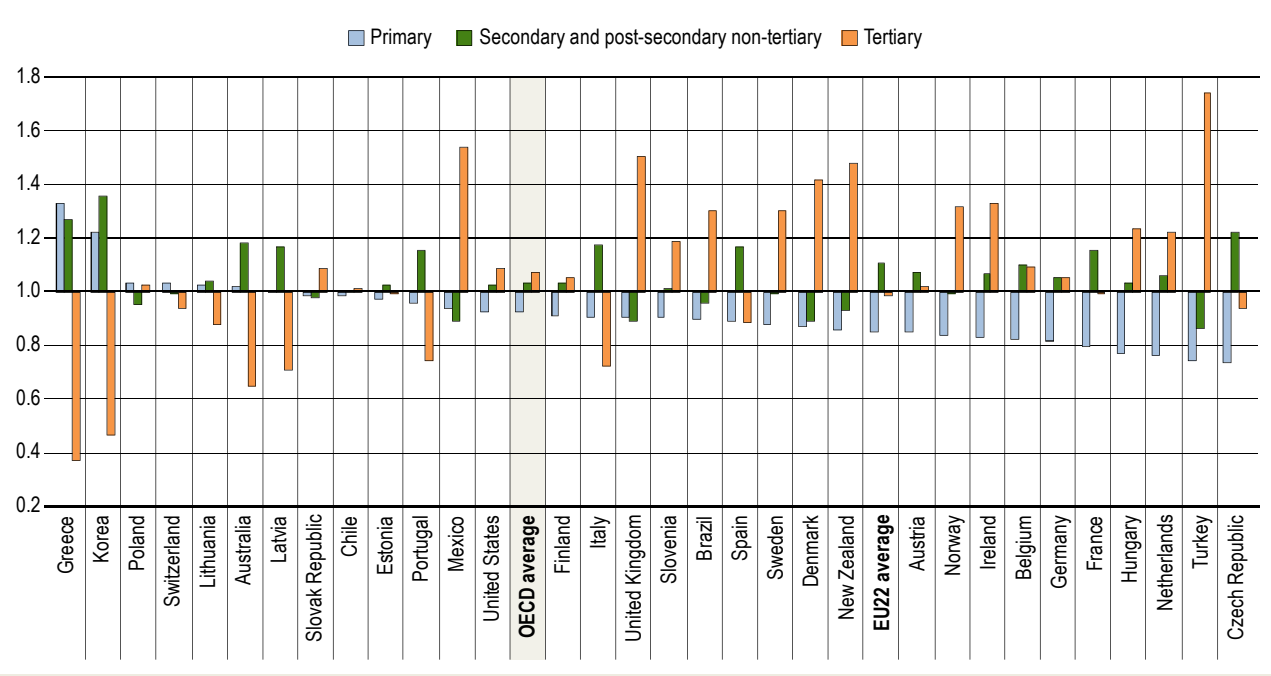
This analysis clearly shows that some OECD countries emphasise broad access to tertiary education, while others invest in near-universal education for children. On average, primary education seems to be slightly underfunded compared to the share of students enrolled at this level. In 2018, the LQ was 0.92 at this level, significantly lower than at higher education levels. Indeed, the LQ reaches 1.07 at tertiary level on average across all OECD countries.

The way resources are allocated across the different levels of education varies widely across countries. While countries such as Australia, Greece, Korea, Latvia and Lithuania devote a larger share of public funds to education compared to the proportion of students in pre-tertiary levels, the opposite is observed in the majority of other countries where a disproportionate share of resources (after excluding research and development expenditure) are devoted to tertiary education levels. This is particularly striking in countries such as Denmark where generous student grants are provided

to tertiary students, but also in Mexico, New Zealand, Turkey and the United Kingdom, where the share of public expenditure at tertiary level is at least 1.4 times higher than the share of national students enrolled. The demand for high-quality education must also be balanced against other demands on public expenditure and the overall burden of taxation.

Figure C4.3. Relative distribution of public expenditure on education and full-time equivalent students, by education level (2018)

Initial sources of funds, by level of education, location quotient (LQ, parity = 1)



Note: Public expenditure on research and development has been excluded from the public expenditure figures presented here. The relative share is computed using the location quotient, which is defined as a ratio of ratios. The location quotient is a simple descriptive statistic measuring the extent to which government expenditure on education in a given ISCED level is distributed in accordance with the distribution of the full-time equivalent students in a country. The formula is LQ= ((Xi/∑Xi)/(Ni/∑Ni)), where LQ is the location quotient, Xi is the public expenditure on education in an ISCED level i, ∑Xi is the total public expenditure on education in all ISCED levels combined, Ni is the total of students in an ISCED level i, and ∑Ni is the total number of students in all ISCED combined. An LQ=1 indicates that there is the same proportion of public expenditure on education as total full-time equivalent students in an ISCED level i. If LQ<1, the ISCED level has a lower distribution of public expenditure on education in comparison to the full-time equivalent students. If LQ>1, the ISCED level has a higher distribution of public expenditure on education than it does in terms of students.

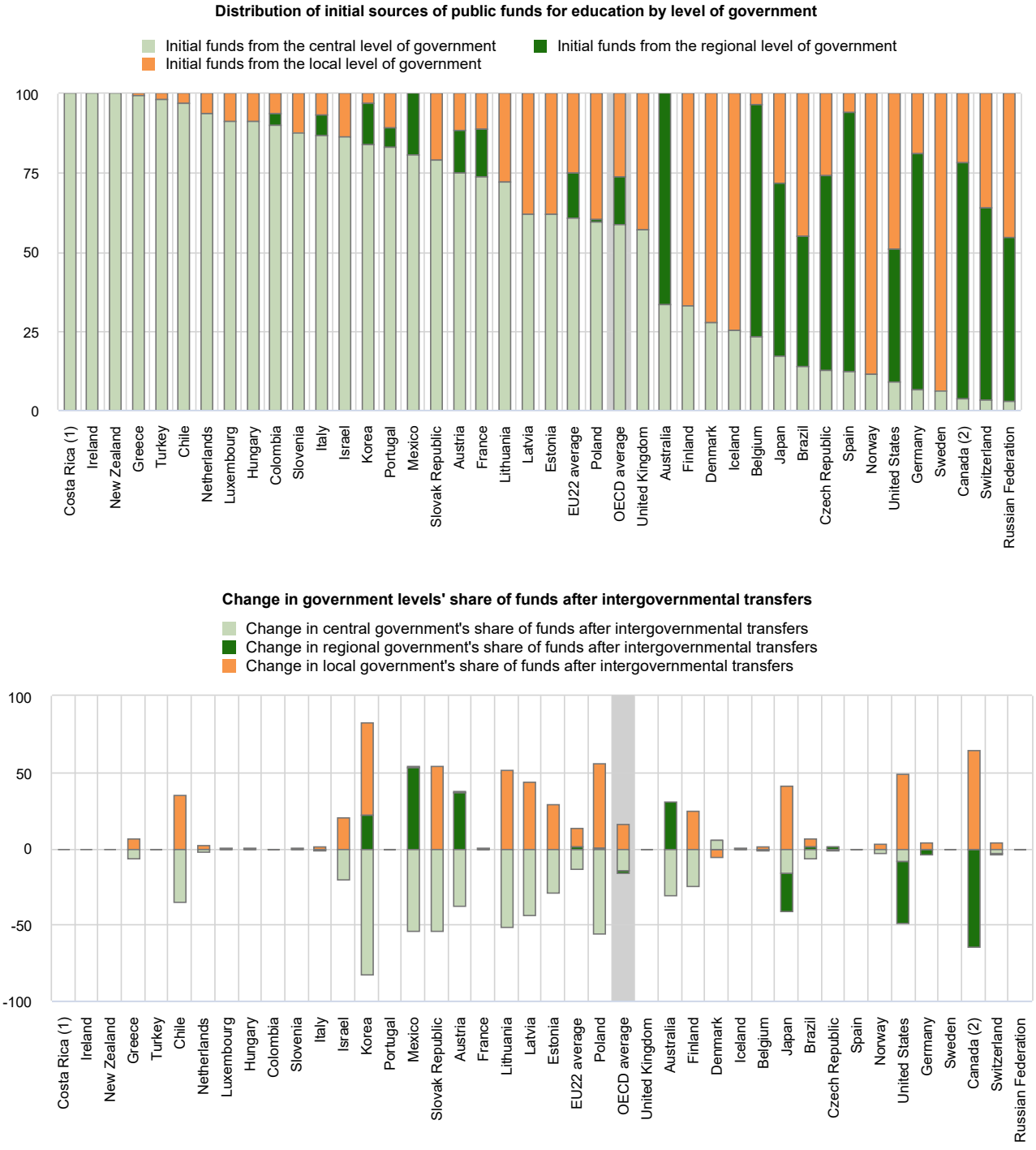
Countries are ranked in descending order of the LQ index in primary education.

Source: OECD/UIS/Eurostat (2021), based on data available on OECD.stat. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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The levels of government responsible for funding education differ depending on the level of education. Typically, public funding is more centralised at the tertiary level than at lower levels of education. In 2018, 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).

Figure C4.4. Distribution of initial sources of public funds for education and change in government levels' share of funds after intergovernmental transfers (2018)



1. Year of reference 2019.
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 (2021), Table C4.2. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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The division of responsibility for public funding in non-tertiary levels of education varies greatly among countries (Table C4.2 and Figure C4.4):

- 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. In Australia, Austria, Chile and Estonia, 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 C4.4).

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 available data, central government directly provides more than 60% of public funds in tertiary education; in about two-thirds of 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, Spain and Switzerland 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 only 1% of public funds on average, with the exception of the United States where local governments provide 12% of total expenditure to the level.

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 goods and services 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 or 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 Statistics 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, 2011[5]).

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[6]) and Annex 3 for country-specific notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

Source

Data refer to the financial year 2018 (unless otherwise specified) and are based on the UNESCO, OECD and Eurostat (UOE) data collection on education statistics administered by the OECD in 2020 (for details see Annex 3 at: https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf). 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 2012-18 were updated based on a survey in 2020-21, and expenditure figures for 2012-18 were adjusted to the methods and definitions used in the current UOE data collection.

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Indicator C4 tables

Tables Indicator C4. What is the total public spending on education?

Table C4.1	Total public expenditure on education as a percentage of total government expenditure (2018)
Table C4.2	Distribution of sources of total public funds devoted to education by level of government (2018)
Table C4.3	Index of change in total public expenditure on education as a percentage of total government expenditure (2012 and 2018)

StatLink https://stat.link/vsq7ai

Cut-off date for the data: 17 June 2021. 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*.

Table C4.1. Total public expenditure on education as a percentage of total government expenditure (2018)

Initial sources of funds, by level of education

		Secondary								Tertiary				Primary to tertiary (including R&D)		
				Upper secondary												
		Primary	Lower secondary	General programmes	Vocational programmes	All programmes	All secondary	Post-secondary non-tertiary	Primary, secondary and post-secondary non-tertiary	Short-cycle tertiary	Long-cycle tertiary	All tertiary	All tertiary (excluding R&D)	Total	Of which: public transfers and payments to the non-educational private sector	Primary to tertiary (excluding R&D)
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD	**Countries**															
	Australia	4.5	2.8	1.2	0.5	1.6	4.4	0.2	9.2	0.4	2.6	3.0	1.5	12.2	1.7	10.7
	Austria	1.8	2.3	0.6	1.2	1.9	4.1	0.0	6.0	0.5	2.9	3.5	2.7	9.5	0.5	8.7
	Belgium	2.9	1.7	1.3[d]	1.9[d]	3.3[d]	5.0[d]	x(3, 4, 5, 6)	7.9	0.1	2.8	2.9	2.1	10.7	0.7	10.0
	Canada[1, 2]	4.6[d]	x(1)	x(5)	x(5)	2.9	2.9	m	7.5[d]	1.2	2.6	3.8	m	11.3[d]	0.9[d]	m
	Chile	6.0	2.1	2.7	1.2	3.9	6.1	a	12.0	0.8	4.6	5.4	5.0	17.4	1.7	17.1
	Colombia[2]	3.2	2.8	x(5)	x(5)	1.0	3.8	m	7.0	x(11)	x(11)	2.3	m	9.3	0.9	m
	Costa Rica[3]	5.6	2.9	1.6	0.8	2.4	5.3	a	10.9	x(11)	x(11)	3.4	m	14.3	a	m
	Czech Republic	2.1	2.5	0.6	1.7	2.2	4.7	0.0	6.8	0.0	2.3	2.3	1.5	9.1	0.2	8.2
	Denmark	3.3	1.7	1.4	0.8	2.1	3.8	a	7.1	0.4	3.9	4.3	3.4	11.4	2.1	10.4
	Estonia	3.7	1.7	1.1	0.9	1.9	3.7	0.2	7.6	a	3.0	3.0	1.9	10.6	0.2	9.6
	Finland	2.5	2.0	0.7	1.7[d]	2.3[d]	4.3[d]	x(4, 5, 6)	6.9	a	2.9	2.9	1.8	9.7	0.4	8.7
	France	2.1	2.1	1.3	0.7	2.0	4.2	0.0	6.3	0.5	1.7	2.2	1.6	8.5	0.4	7.9
	Germany	1.5	2.7	0.9	0.9	1.8	4.5	0.3	6.3	0.0	2.9	2.9	1.8	9.2	0.9	8.2
	Greece	2.6	1.5	0.8	0.5	1.4	2.9	0.0	5.5	a	1.4	1.4	0.9	6.8	0.0	6.4
	Hungary	1.4	1.4	1.4	0.9	2.3	3.7	0.5	5.6	0.0	1.7	1.8	1.5	7.4	0.3	7.1
	Iceland	5.2	2.4	1.6	0.8	2.4	4.8	0.1	10.1	0.1	2.7	2.8	m	12.9	0.5	m
	Ireland	4.5	1.9	x(5)	x(5)	2.3	4.2	0.3	9.0	x(11)	x(11)	3.6	2.7	12.6	1.8	11.7
	Israel	6.0	x(3, 4, 5)	3.1[d]	1.7[d]	4.8[d]	4.8	0.0	10.8	0.4	1.7	2.1	m	12.9	0.4	m
	Italy	2.0	1.4	x(5)	x(5)	2.8[d]	4.2[d]	x(5.6)	6.2	0.0	1.6	1.6	1.1	7.8	0.6	7.3
	Japan	2.8	1.6	x(5)	x(5)	1.7[d]	3.3[d]	x(5, 6, 9, 10, 11)	6.1	0.2[d]	1.5[d]	1.6[d]	m	7.8	0.5	m
	Korea	4.7	2.6	x(5)	x(5)	3.0	5.6	a	10.3	0.3	2.5	2.8	2.0	13.1	1.0	12.3
	Latvia	3.3	1.5	1.1	1.0	2.0	3.6	0.2	7.0	0.3	1.6	1.9	1.3	8.9	0.3	8.3
	Lithuania	2.1	3.0	0.9	0.3	1.2	4.2	0.3	6.6	a	2.3	2.3	1.7	9.0	0.3	8.4
	Luxembourg	2.6	1.9	0.7	1.4	2.1	4.0	0.0	6.6	0.0	0.9	1.0	0.6	7.6	0.1	7.2
	Mexico	5.1	2.6	1.4	0.9	2.3	4.9	a	10.1	x(11)	x(11)	3.4	2.8	13.4	0.9	12.8
	Netherlands	2.7	2.6	0.7	1.8	2.5	5.1	0.0	7.8	0.0	4.0	4.0	3.0	11.8	2.0	10.8
	New Zealand	3.9	2.8	2.0	0.6	2.6	5.4	0.4	9.6	0.4	3.5	3.9	3.4	13.5	1.8	13.0
	Norway	3.8	1.7	1.3	1.5	2.8	4.5	0.1	8.3	0.1	4.1	4.3	3.2	12.6	1.7	11.5
	Poland	3.5	1.6	0.6	1.0	1.6	3.3	0.1	6.9	0.0	2.6	2.6	2.0	9.4	0.4	8.8
	Portugal	3.2	2.5	x(5)	x(5)	2.3[d]	4.7[d]	x(5, 6)	8.0	0.0	1.8	1.8	1.3	9.8	0.5	9.3
	Slovak Republic	2.2	2.2	0.6	1.3	1.9	4.1	0.1	6.4	0.0	1.8	1.8	1.4	8.2	0.7	7.7
	Slovenia	3.3	1.8	0.8	1.4	2.1	3.9	a	7.2	0.1	2.2	2.3	2.0	9.5	0.9	9.1
	Spain	2.7	1.7	1.2	0.8[d]	2.0[d]	3.7[d]	x(4, 5, 6)	6.4	0.4	1.8	2.2	1.6	8.6	0.4	8.0
	Sweden	3.9	1.8	1.5	1.1	2.6	4.4	0.1	8.4	0.2	3.4	3.6	2.3	12.0	1.4	10.7
	Switzerland	4.4	2.6	1.0[d]	1.5[d]	2.5[d]	5.1[d]	x(3, 4, 5, 6)	9.5	x(11)	x(11)	4.0	2.1	13.4	0.3	11.5
	Turkey	2.1	2.2	1.1	1.9	3.1	5.2	a	7.3	x(11)	x(11)	4.3	3.7	11.6	1.0	11.0
	United Kingdom	4.0	2.0	1.6	0.7	2.3	4.3	a	8.3	0.3	3.2	3.4	2.8	11.7	2.4	11.1
	United States	3.9	2.1	x(5)	x(5)	2.2	4.3	0.0	8.3	x(11)	x(11)	3.2	2.7	11.5	0.9	11.0
	OECD average	3.4	2.1	1.2	1.1	2.3	4.3	m	7.8	0.3	2.5	2.9	2.2	10.7	0.9	9.8
	EU22 average	2.7	2.0	0.9	1.1	2.1	4.1	0.2	6.9	0.2	2.4	2.5	1.8	9.5	0.7	8.7
Partners	**Argentina**	3.7	2.7	x(5)	x(5)	1.8	4.6	a	8.3	x(11)	x(11)	2.9	m	11.1	0.2	m
	Brazil	4.1	3.5	x(5)	x(5)	3.0[d]	6.5[d]	x(5, 6)	10.6	x(11)	x(11)	3.7	3.3	14.3	1.0	13.8
	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	a	m	m	m	m	m	m	m	m
	Russian Federation	x(3, 4, 5, 6)	x(3, 4, 5, 6)	6.7[d]	0.4[d]	7.0[d]	7.0[d]	x(3, 4, 5, 6)	7.0	0.4	1.8	2.2	2.1	9.3	0.2	9.1
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	6.9	2.1	x(5)	x(5)	3.3	5.5	0.3	12.6	x(11)	x(11)	2.7	m	15.3	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: The 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 for 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 2019.

Source: OECD/UIS/Eurostat (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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

StatLink https://stat.link/k69x5a

Table C4.2. Distribution of sources of total public funds devoted to education, by level of government (2018)

Percentage of total government expenditure, 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	33	67[d]	x(2)	2	98[d]	x(5)	92	8[d]	x(8)	90	10[d]	x(11)	48	52[d]	x(14)	24	76[d]	x(17)
	Austria	75	14	11	37	51	12	96	4	0	96	3	0	83	10	7	59	33	8
	Belgium	23	73	3	23	72	5	16	83	1	15	84	2	21	76	3	21	75	4
	Canada[1]	4[d]	75[d]	22[d]	3[d]	10[d]	86[d]	m	m	m	m	m	m	m	m	m	m	m	m
	Chile	97	a	3	62	a	38	100	a	0	100	a	0	98	a	2	74	a	26
	Colombia	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	13	62	26	11	63	26	97	1	1	97	2	1	34	47	20	33	48	20
	Denmark	28	0	72	33	0	67	100	0	0	100	0	0	55	0	45	59	0	41
	Estonia	62	a	38	33	a	67	100	a	0	100	a	0	73	a	27	51	a	49
	Finland	33	a	67	8	a	92	98	a	2	98	a	2	52	a	48	35	a	65
	France	74	15	11	73	15	12	86	9	4	86	9	5	77	14	9	77	14	10
	Germany	6	75	19	6	71	23	27	71	2	20	78	2	13	74	14	10	73	17
	Greece	100	a	0	93	a	7	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	25	a	75	25	a	75	100	a	0	100	a	a	41	a	59	41	a	59
	Ireland	100	a	a	100	a	a	100	a	a	100	a	a	100	a	a	100	a	a
	Israel	86	a	14	67	a	33	97	a	3	97	a	3	88	a	12	71	a	29
	Italy	87	7	6	86	6	8	86	13	0	85	15	0	87	8	5	86	8	6
	Japan	17	55	28	1	30	69	91[d]	9[d]	1[d]	90[d]	9[d]	1[d]	33	45	22	20	25	55
	Korea	84	13	3	1	36	63	96	2	2	96	2	2	87	11	2	22	28	50
	Latvia	62	a	38	19	a	81	100	a	0	100	a	0	70	a	30	36	a	64
	Lithuania	72	a	28	21	a	79	99	a	1	99	a	1	79	a	21	41	a	59
	Luxembourg	92	a	8	91	a	9	100	a	0	100	a	0	93	a	7	93	a	7
	Mexico	81	19	0	27	73	0	81	18	0	79	21	0	81	19	0	40	60	0
	Netherlands	94	0	6	92	0	8	100	0	a	100	0	a	96	0	4	95	0	5
	New Zealand	100	a	a	100	a	a	100	a	a	100	a	a	100	a	a	100	a	a
	Norway	11	a	89	8	a	92	99	a	1	98	a	2	41	a	59	39	a	61
	Poland	60	1	39	4	2	95	100	0	0	100	0	0	71	1	29	30	1	69
	Portugal	83	6	11	83	6	11	100	0	0	100	0	0	86	5	9	86	5	9
	Slovak Republic	79	a	21	26	a	74	100	a	0	99	a	1	84	a	16	42	a	58
	Slovenia	88	a	12	88	a	12	99	a	1	99	a	1	91	a	9	91	a	9
	Spain	12	82	6	12	82	6	18	81	1	18	81	1	14	82	5	14	82	5
	Sweden	6	a	94	6	a	94	98	2	0	98	2	0	34	1	66	34	1	66
	Switzerland	3	61	36	0	60	40	34	66	0	17	83	0	12	62	25	5	67	28
	Turkey	98	a	2	98	a	2	100	a	0	100	a	0	99	a	1	99	a	1
	United Kingdom	57	a	43	57	a	43	100	a	0	100	a	0	69	a	31	69	a	31
	United States	9	42	49	1	2	98	46	42	12	46	42	12	19	42	39	13	13	74
	OECD average	59	15	26	44	13	42	88	11	1	87	12	1	68	13	19	56	13	30
	EU22 average	61	14	25	47	15	38	87	12	1	87	12	1	68	14	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	41	45	7	42	51	78	21	1	78	21	1	30	36	33	25	37	38
	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	a	a	m	a	a	m	m	m	m	m	m
	Russian Federation	3	52	45	3	52	45	82	18	0	82	18	0	22	44	35	22	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 in 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 2019.

Source: OECD/UIS/Eurostat (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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

StatLink https://stat.link/o5af3i

Table C4.3. Index of change in total public expenditure on education as a percentage of total government expenditure (2012 and 2018)

Reference year 2015 = 100, constant prices, initial sources of funds, by level of education and year

		Primary, secondary and post-secondary non-tertiary				Tertiary				Primary to tertiary					
		Change of public expenditure		Change in public expenditure on education as a percentage of total government expenditure		Change of public expenditure		Change in public expenditure on education as a percentage of total government expenditure		Change of public expenditure		Change in public expenditure on education as a percentage of total government expenditure		Change in total government expenditure	
		2012	2018	2012	2018	2012	2018	2012	2018	2012	2018	2012	2018	2012	2018
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
OECD	Countries														
	Australia	m	m	m	m	m	m	m	m	m	m	m	m	90.3	105.2
	Austria	99.3	100.9	100.9	98.9	100.8	102.2	102.3	100.1	99.9	101.4	101.4	99.4	98.5	102.1
	Belgium	99.1	102.5	98.1	100.8	96.6	107.9	95.7	106.1	98.4	103.9	97.5	102.2	101.0	101.7
	Canada[1]	97.1[d]	104.9[d]	100.6[d]	96.5[d]	101.4	107.8	105.2	99.1	98.5[d]	105.9[d]	102.1[d]	97.3[d]	96.4	108.7
	Chile	101.5	121.8	118.4	111.7	70.7	116.8	82.5	107.1	91.7	120.2	107.0	110.3	85.7	109.0
	Colombia	84.7	103.8	110.1	97.5	88.8	115.3	115.5	108.4	85.6	106.4	111.3	100.0	76.9	106.4
	Costa Rica	89.4	89.2	101.7	61.1	77.2	112.7	87.9	77.3	86.5	94.8	98.4	65.0	87.9	145.9
	Czech Republic	96.1	123.4	97.1	114.5	119.7	134.1	121.0	124.4	101.6	125.9	102.8	116.8	98.9	107.8
	Denmark	m	m	m	m	m	m	m	m	m	m	m	m	101.3	100.6
	Estonia	111.0	124.9	118.8	110.0	69.6	96.7	74.5	85.1	97.1	115.4	103.9	101.6	93.4	113.6
	Finland	100.0	96.8	101.1	95.4	105.8	88.0	107.0	86.7	101.8	94.0	103.0	92.6	98.9	101.5
	France	98.7	104.4	100.8	101.2	96.6	103.9	98.7	100.7	98.1	104.3	100.2	101.0	97.9	103.2
	Germany	100.6	105.9	103.0	99.0	98.1	107.4	100.5	100.4	99.8	106.4	102.2	99.4	97.7	107.0
	Greece	103.6	102.1	96.2	111.0	107.3	94.0	99.6	102.2	104.4	100.3	97.0	109.1	107.7	92.0
	Hungary	83.4	106.0	94.2	103.6	111.5	141.1	125.9	137.9	88.8	112.7	100.2	110.1	88.6	102.3
	Iceland	91.2	120.6	92.3	102.6	94.0	101.5	95.1	86.3	91.9	115.9	93.0	98.5	98.9	117.6
	Ireland	m	112.0	m	106.1	m	99.3	m	94.1	m	108.1	m	102.4	105.3	105.6
	Israel	91.6	119.8	94.9	102.6	92.6	99.3	96.0	85.0	91.8	115.9	95.1	99.3	96.4	116.7
	Italy	100.8	110.1	99.2	110.1	104.2	106.2	102.6	106.3	101.5	109.3	99.9	109.3	101.6	100.0
	Japan	102.1	98.6	102.4	96.9	104.9[d]	100.6[d]	105.3[d]	98.9[d]	102.7	99.0	103.0	97.3	99.6	101.7
	Korea	m	111.4	m	99.5	m	106.6	m	95.2	m	110.3	m	98.5	92.6	112.0
	Latvia	80.1	91.1	86.4	81.3	75.8	69.3	81.7	61.9	79.0	85.4	85.2	76.3	92.8	112.0
	Lithuania	106.1	105.1	112.7	98.0	107.1	74.6	113.7	69.6	106.4	95.0	113.0	88.6	94.1	107.2
	Luxembourg	100.2	107.1	106.4	96.5	75.3	85.7	79.9	77.2	96.3	103.8	102.3	93.6	94.2	110.9
	Mexico	92.4	87.4	98.3	83.8	82.1	88.1	87.4	84.5	89.8	87.6	95.6	84.0	93.9	104.3
	Netherlands	99.6	105.2	98.2	103.0	93.6	114.0	92.2	111.7	97.7	108.0	96.3	105.8	101.5	102.1
	New Zealand	m	m	m	m	m	m	m	m	m	m	m	m	98.0	110.2
	Norway	m	m	m	m	m	m	m	m	m	m	m	m	90.0	106.0
	Poland	97.9	108.9	103.0	96.0	85.2	99.3	89.7	87.4	94.2	106.1	99.2	93.5	95.0	113.5
	Portugal	102.0	107.1	102.3	110.1	91.9	94.6	92.2	97.2	99.9	104.6	100.2	107.4	99.7	97.3
	Slovak Republic	84.1	108.9	101.3	109.4	62.2	60.1	74.9	60.3	76.6	92.3	92.3	92.7	83.0	99.6
	Slovenia	107.7	114.2	110.5	113.2	117.7	117.2	120.8	116.2	110.1	114.9	113.0	113.9	97.5	100.9
	Spain	99.9	106.6	93.5	103.4	102.2	104.8	95.7	101.6	100.5	106.1	94.1	102.9	106.8	103.1
	Sweden	94.0	117.3	98.9	108.8	94.7	103.0	99.6	95.6	94.2	112.6	99.1	104.5	95.0	107.8
	Switzerland	99.1	104.0	107.7	99.4	92.9	106.4	101.0	101.7	97.3	104.7	105.7	100.1	92.0	104.6
	Turkey	83.1	112.0	95.9	89.6	86.2	112.8	99.5	90.3	84.2	112.3	97.2	89.9	86.7	124.9
	United Kingdom	93.1	92.6	92.8	91.0	93.4	111.4	93.1	109.5	93.2	97.4	92.9	95.7	100.3	101.8
	United States	96.2	107.1	97.5	100.1	99.9	98.8	101.3	92.3	97.3	104.6	98.6	97.8	98.7	107.0
	OECD average	96.4	106.9	101.1	100.1	93.8	102.4	98.1	95.8	95.5	105.5	100.1	98.7	95.6	107.2
	EU22 average	98.2	107.6	101.1	103.3	95.8	100.2	98.4	96.3	97.3	105.3	100.1	101.1	97.7	104.2
Partners	Argentina	91.3	77.2	105.2	82.8	87.6	93.2	101.0	100.0	90.5	80.8	104.3	86.7	86.8	93.2
	Brazil	102.0	91.7	105.2	97.4	70.9	99.5	73.1	105.6	94.4	93.6	97.4	99.4	96.9	94.2
	China	m	m	m	m	m	m	m	m	m	m	m	m	71.6	126.0
	India	m	m	m	m	m	m	m	m	m	m	m	m	81.8	120.5
	Indonesia	79.7	m	86.0	m	88.9	m	95.9	m	81.4	m	87.8	m	92.7	110.4
	Russian Federation	108.6	129.1	113.1	134.4	98.5	92.4	102.6	96.2	105.5	117.9	109.9	122.8	96.0	96.0
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	73.5	92.6
	South Africa	m	m	m	m	95.1	131.1	105.4	126.7	m	m	m	m	90.2	103.4
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	91.9	105.9

Note: The 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 for 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 (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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

StatLink https://stat.link/eo2ykl

Indicator C5. How much do tertiary students pay and what public support do they receive?

Highlights

- OECD countries and economies have three different approaches to setting tuition fees and providing direct financial support to tertiary students: no tuition fees and high financial support to students; high tuition fees and high financial support; and moderate tuition fees and targeted financial support to a smaller share of students.
- Indirect subsidies to tertiary students such as full or partial tuition waivers can reach over USD 4 000 in Chile, Ireland and New Zealand for students enrolled in bachelor's programmes in public institutions. The share of students in bachelor's or equivalent programmes receiving a fee waiver exceeds 35% in Chile, France, Italy and Spain.
- Within the European Union (EU) and the European Economic Area (EEA), countries charge the same tuition fees to nationals and students from other EU and EEA countries. Tuition is generally similar for national and foreign (or non-EU/EEA) bachelor's students in public institutions in Chile, Estonia (programmes in English only), Italy, Japan, Korea and Spain.

Context

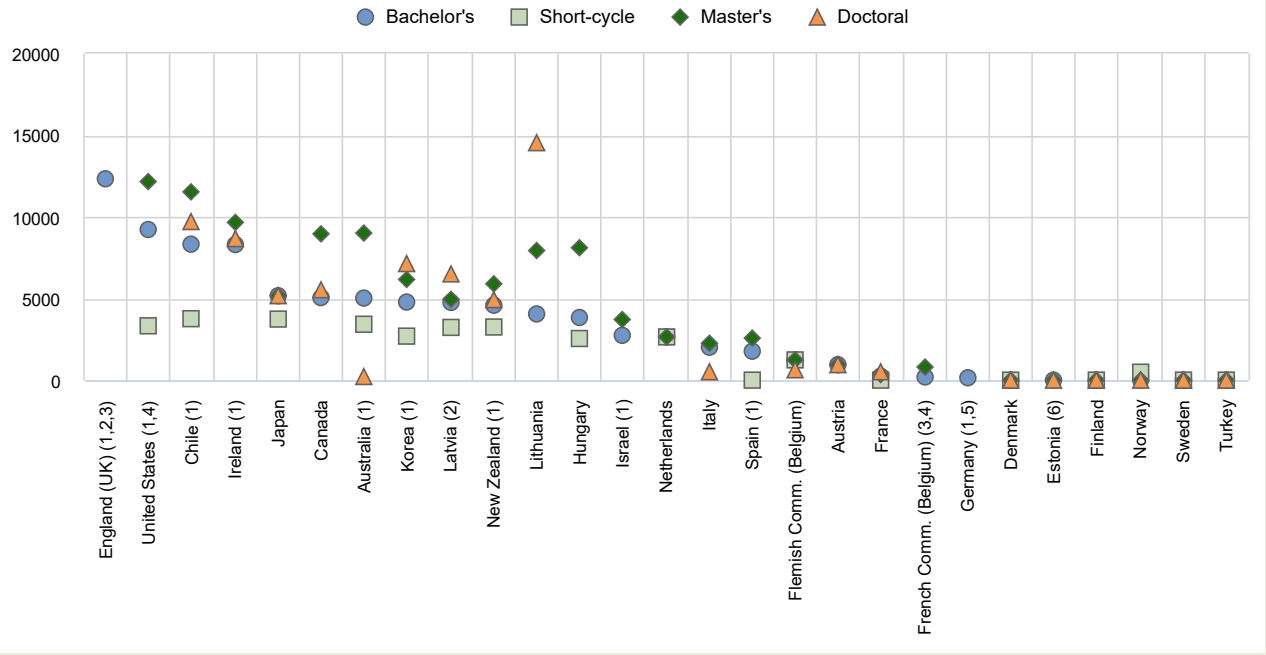
OECD and partner countries and economies have different approaches to providing financial support to students and to sharing the costs of tertiary education among governments, students and their families, and other private entities.

Tuition fees help 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 of teachers' and researchers' salaries, 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 between 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 tuition fees charged by public institutions to national students, by level of education (academic year 2019/20)

In USD converted using PPPs



1. Reference year: calendar year 2018 for Australia and Germany, 2019 for Chile, Israel, Korea and New Zealand; academic year 2018/19 for England (UK), Spain and the United States, 2020/21 for Finland and Ireland.
2. Government-dependent private institutions instead of public institutions.
3. Short-cycle tertiary programmes combined with bachelor's programmes.
4. Doctoral programmes combined with master's programmes.
5. Bachelor's, master's and doctoral programmes combined, public and private institutions combined, national and foreign students combined.
6. No tuition fees for full-time students enrolled in programmes with curricula in Estonian.

Countries and economies are ranked in descending order of the amount of tuition fees charged to national students enrolled in bachelor's programmes.

Source: OECD (2021), Table C5.1 See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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Other findings

- Public institutions do not charge any tuition fees to national students enrolled in bachelor's programmesin nearly one-third of countries, including Denmark, Estonia (for programmes taught in Estonian), Finland, Norway, Sweden and Turkey.
- In some countries, the difference in tuition fees for national and foreign students can be significant. In Australia, Canada, Ireland, New Zealand and the United States, public institutions charge foreign students (non-EU/EEA in the case of Ireland) on average over USD 14 500 more per year than national students at the bachelor's level. In Finland and Sweden, students from outside the EU/EEA area are charged about USD 13 000 per year for bachelor's programmes in public institutions, while no tuition fees are applied to national students.
- In about a third of the countries and economies with available data, tuition fees for bachelor's degrees charged by public institutions to national students have increased by at least 20% over the past decade, in real terms.

Analysis

Differentiation of tuition fees

Differentiation by level of study

Entry into tertiary education often means costs for students and their families, both in terms of tuition fees, foregone earnings 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 do not charge tuition fees to national students at this level in nearly one-third of countries with data, including Denmark, Estonia (for programmes taught in Estonian), Finland, Norway, the Slovak Republic, Sweden and Turkey (Figure C5.1). In a similar number of countries, tuition fees are moderate, with the average cost for students under USD 3 000. In the remaining countries and economies, tuition fees range from about USD 3 800 to over USD 8 000 per year. They exceed USD 12 000 in England (United Kingdom), where there are no public institutions at tertiary level and all students enrol in government-dependent private institutions (Figure C5.1).

In many OECD countries, short-cycle tertiary programmes are expanding, as they provide a shorter and cheaper tertiary programme and, in a number of countries, a better benefit-to-cost ratio than long-cycle tertiary programmes such as bachelor's and master's programmes (OECD, 2019[1]). Tuition fees for short-cycle tertiary programmes in public institutions are generally lower than for bachelor's programmes. Generally, they are free of charge in Denmark, France, Spain, Sweden and Turkey and amount to less than half the tuition fees for bachelor's programmes in Chile and the United States, where they cost less than USD 3 800 per year. In contrast, tuition fees for short-cycle tertiary programmes in public institutions are the same as for bachelor's programmes in the Flemish Community of Belgium and the Netherlands. In Norway, short-cycle tertiary is the only tertiary programme that charges fees, although only 22% of public institutions do so (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 or doctoral programme, 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. 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 or doctoral levels. In other countries and economies, similar tuition fees are charged on average for bachelor's and master's programmes, as in Austria, the Flemish Community of Belgium, Italy, Japan, Latvia (government-dependent private institutions) and the Netherlands (Table C5.1).

In contrast, tuition fees for master's programmes in public institutions are between 25% and 50% higher than for bachelor's programmes in Chile, France, Israel, Korea, New Zealand, Spain and the United States, while in the French Community of Belgium, Hungary and Lithuania, they are over 95% 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, the Flemish Community of Belgium and Italy), 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 average annual tuition fees in public institutions for doctoral programmes are about 15 times lower than for bachelor's programmes (about USD 200 compared to 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 Canada, Chile, France, Ireland, Korea, Latvia (government-dependent private institutions) 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). Lithuania is the only country where annual tuition for a doctoral programme is more than three times the tuition for a bachelor's programme (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 most OECD countries and economies with available data, less than 20% of all tertiary students enrol in independent private institutions. In only about one-fifth of OECD countries and economies are the majority of students enrolled in private institutions. In England (United Kingdom) and Latvia, the great majority of students 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 private institutions as in public ones. Tuition fees are over five times higher in private institutions than in public institutions in Spain; more than three times higher in Israel,Italy and the United States; and less than twice as high in Australia, Hungary, Japan,Korea and Latvia. In Estonia and Norway, no tuition fees are charged by public institutions for bachelor's degrees (in Estonia only for programmes taught in Estonian), while fees reach over USD 5 700 in private institutions. In contrast, indipendent private institutions in Chile,Lithuania and New Zealand charge slightly lower fees than public institutions at bachelor's level (Table C5.1).

Variation of tuition fees within countries

Tuition fees vary not only across countries and educational levels, but also within countries for a given level of education. For instance, in Canada, where annual average tuition fees for national students in public institutions are around USD 5 100, they range from 40% of this amount to over four times more, depending on the field of study (nearly USD 20 800). Among countries with high average tuition fees, the maximum fee charged is more than three times the average amount in Lithuania and twice the amount in New Zealand while in Australia, Chile, Ireland, Korea and the United States, the maximum fee charged is 20-45% higher than the average tuition fees for national students enrolled in bachelor's programmes (Figure C5.2).

The range of tuition fees is also wide in a few countries with more moderate fees, such as the Netherlands (annual average fees of USD 2 700), Italy (annual average fees of USD 2 000) and Spain (annual average fees of USD 1 800). Tuition fees can exceed USD 3 700 in Italy and Spain and USD 13 000 in the Netherlands, although in these countries, high tuition fees only apply for a small number of students. In contrast, the range is relatively small in the Flemish and French Communities of Belgium, Israel, and in countries where public institiutions do not charge any tuition fees (Figure C5.2).

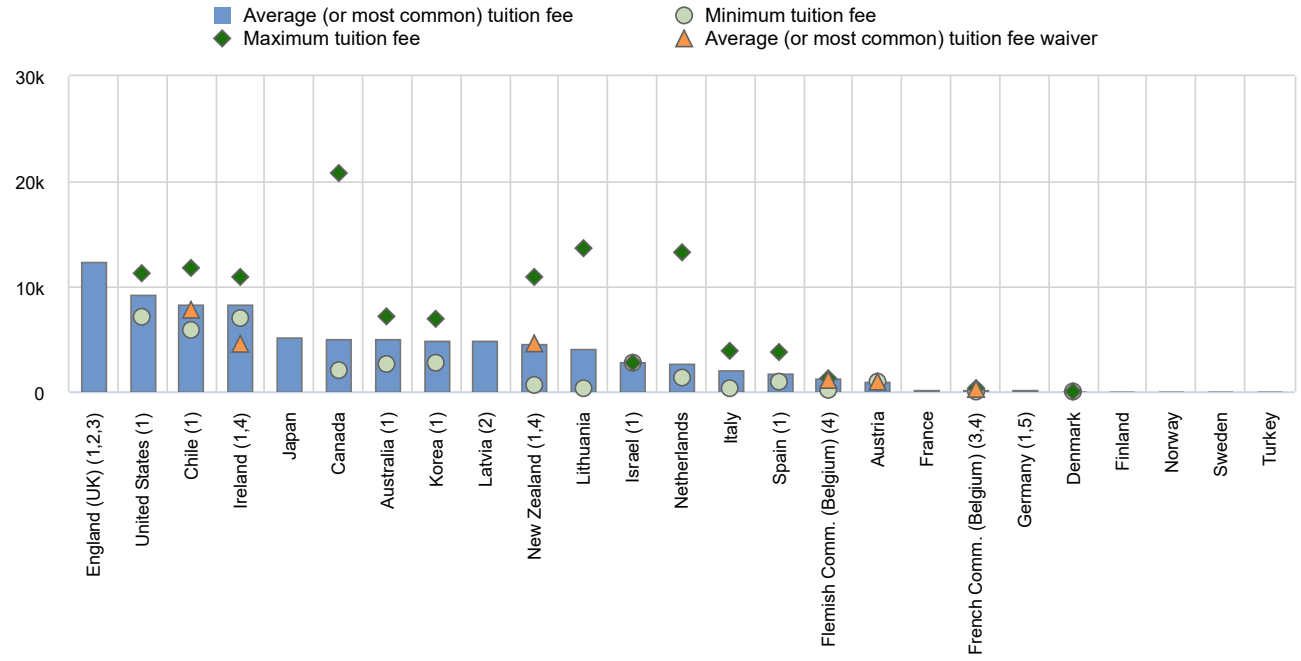
Minimum fees in countries with high tuition fees can be as low as 8% the average amount in Lithuania and 14% in New Zealand; between 40% and 60% the average amount in Australia Canada and Korea; and between 70% and 85% in Chile, Ireland and the United States. Among the other countries and economies, minimum tuition fees are about half the average amount in the Netherlands and Spain and 15% or less the average amount in Flemish and French Communities of Belgium and Italy (Figure C5.2). There are several reasons why tuition fees vary within countries, including institutions' autonomy to set their fees (either fully or within some limits) or the fact that some programmes are cheaper to provide than others (e.g. law degrees are cheaper to provide than medical degrees).

Another reason tuition fees vary within countries and those paid by students differ from what institutions charge are tuition fee waivers. While the tuition fee charged by an institution does not change *per se*, the fees paid by students who receive a tuition waiver are lower as the fee waiver is deducted. While a scholarship is a type of direct financial support to students that does not need to be be paid back, a tuition waiver is often granted by an educational institution and indirectly financed by the public sector to the tertiary institution. The waiver will eliminate the cost of tuition for a designated number of credit hours, but it cannot be used for any other educational expense. In a number of countries (e.g. Belgium and Italy), it is possible, especially for students from low-income backgrounds, to receive both a scholarship and a tuition waiver.

This type of indirect subsidy to tertiary education exists Austria, Chile, the Flemish and French Communities of Belgium, Ireland, and New Zealand. In Ireland, tuition fees charged by public institutions for bachelor's programmes may exceed USD 8 300, but the majority of first-cycle tertiary students benefit from the Free Fees Scheme and pay only an annual student contribution charge of USD 3 700 towards the cost of their programme of study (for academic year 2019/20). In New Zealand, first-time tertiary students do not pay any tuition fees in their first year of studies, as tuition waivers fully cover the fees (Figure C5.2).

Figure C5.2. Average, minimum and maximum tuition fees charged by public institutions and average amount of tuition fee waivers for national students enrolled in bachelor's programmes (academic year 2019/20)

In USD converted using PPPs



1. Reference year: calendar year 2018 for Australia and Germany, 2019 for Chile, Israel, Korea and New Zealand; academic year 2018/19 for England (UK), Spain and the United States, 2020/21 for Finland and Ireland.
2. Government-dependent private institutions instead of public institutions.
3. Short-cycle tertiary programmes combined with bachelor's programmes.
4. Tuition waivers applied to grant beneficiaries in the French and Flemish Communities of Belgium. Most students in Ireland only pay USD 3 770 instead of USD 8 304; all first-time tertiary students in New Zealand do not pay tuition fees in their first year.
5. Bachelor's, master's and doctoral programmes combined, public and private institutions combined, national and foreign students combined.
Countries and economies are ranked in descending order of the average (or most common) amount of tuition fees charged to national students enrolled in bachelor's programmes.
Source: OECD (2021) See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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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, many countries allow institutions to charge different tuition fees for particular programmes or student groups, including foreign students, in an effort to strike a balance between public and private sources for tertiary funding. As a result, in a number of countries tuition fees are higher for foreign students which contribute significantly to the funding of tertiary educational institutions. However, higher fees for foreign students can also impact international student flows (see Indicator B6), among other factors (OECD, 2017[2]).

Public institutions charge national and foreign students enrolled in bachelor's programmes similar tuition fees in Chile, Estonia (provided the curriculum is in English), Italy, Japan, Korea and Spain, while no tuition fees are applied to either national or foreign students in Norway (Table C5.1). In addition, within the EU and the EEA, countries charge the same tuition fees to nationals and students from other EU and EEA countries.

However, an increasing number of OECD countries charge higher tuition fees to foreign students than to national ones and, in some countries, this difference can be significant. For instance, in Australia, Canada, Ireland, New Zealand and the United States, public institutions charge foreign students (non-EU/EEA in the case of Ireland) on average over USD 14 500 more per year than national students at the bachelor's level (Table C5.1). In the United States, the higher tuition applies also to national students who study outside their own state. In Finland and Sweden, students from outside the EU/EEA area are charged about USD 13 000 per year for bachelor's programmes in public institutions, while no tuition fees are applied to national (or EU/EEA) students. In France and Latvia, public institutions (government-dependent private institutions for Latvia) charge non-EU/EEA students between USD 3 500 and USD 4 500 more than national students, while this difference is less than USD 1 000 in Austria and Hungary (Table C5.1).

Higher tuition fees do not necessarily discourage foreign students from studying abroad. 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, Canada and New Zealand, international students make up at least 13% of students enrolled at the bachelor's level, compared to only 5% on average across OECD countries (see Indicator B6).

Variations over time

In about a third of the countries and economies with available data, tuition fees for bachelor's degrees charged by public institutions for national students have increased by at least 20% over the past decade, in real terms. This is the case for England (United Kingdom, government-dependent private institutions), the Flemish Community of Belgium, Italy, New Zealand and Spain. The largest increase has been in England (United Kingdom), where tuition fees have tripled since 2009/10. In contrast, tuition fees for bachelor's programmes in public institutions decreased over this period in Austria, the French Community of Belgium, France, Germany, Ireland, Korea and Latvia (government-dependent private institutions). There has not been any change over this period among the countries that do not charge any tuition fees (Denmark, Estonia, Finland, Norway and Sweden). In Australia and Canada, tuition fees have remained fairly stable and have not increased by more than 10%, while in Chile, the Netherlands and the United States they were 14-16% higher in 2019/20 than in 2009/10 (Table C5.2).

Approaches to public financial support to tertiary national students

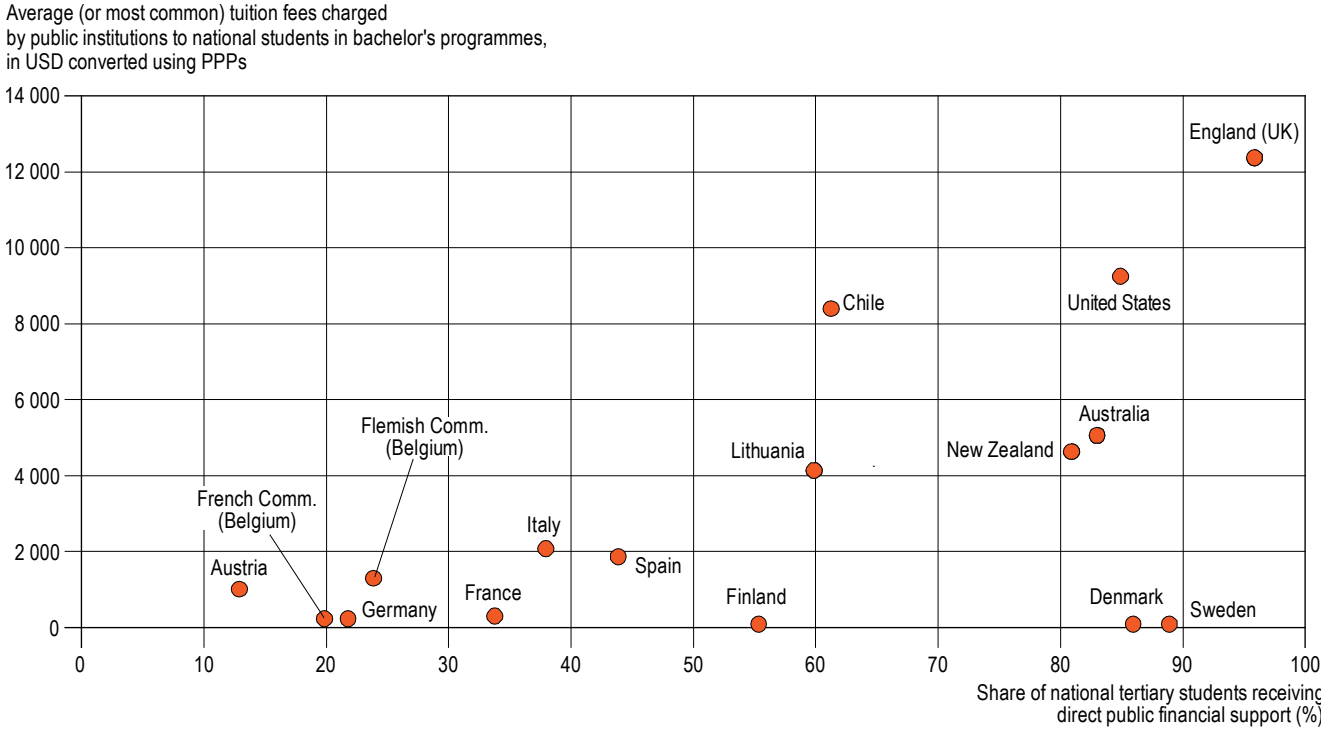
Broadening equal access to higher education has been an objective public policy for decades, but the policy tools used to achieve higher tertiary attainment are quite heterogeneous. Across different countries and economies, higher education attainment can be observed both in the presence of high and low levels of fees (Cattaneo et al., 2020[3]).

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, England (United Kingdom), New Zealand, Sweden and the United States, at least 80% of national students receive public financial support in the form of student loans, scholarships or grants, while this share is between 55% and 61% in Chile, Finland and Lithuania. Among other European countries, between 34% and 44% of students receive public financial support in France, Italy and Spain, while no more than 25% of students do so in Austria, the Flemish and French Communities of Belgium, Germany, and Switzerland (Figure C5.3). In these countries, public financial support instead targets selected groups of students, such as those from disadvantaged backgrounds or low-income families.

Three groups of countries are therefore identified: countries with low or no tuition fees and high financial support to students (Denmark, Finland and Sweden); countries with high tuition fees and high financial support to students (Australia, Chile, England [United Kingdom], Lithuania, New Zealand and the United States); and countries with moderate tuition fees and financial support to students targeted to less than 50% of tertiary students (Austria, the Flemish and French Communities of Belgium, France, Germany, Italy, and Spain) (Figure C5.3).

In the last decade, the share of students receiving public financial support in tertiary education has increased by at least 10 percentage points in Chile, Denmark, England (United Kingdom), Italy, Spain and Sweden: the strongest increase in the share of students receiving public financial support can be observed in Sweden (by 24 percentage points) and Chile (by 22 percentage points). This share has remained stable in all other OECD countries and economies with available data, with variations reaching at most ±7 percentage points. The largest decrease in the share of students receiving financial support in tertiary education was observed in New Zealand (Table C5.2).

Figure C5.3. Annual average tuition fees charged by public institutions to national students enrolled in bachelor's programmes and share of national tertiary students benefiting from direct public financial support (academic year 2019/20)



Source: OECD (2021), Tables C5.1 and C5.2. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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Forms of public financial support to tertiary national students

The type of financial support to tertiary students, whether in the form of loans, grants or scholarships, is a key question faced by many educational systems. 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[4]). 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 to 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[4]). A large share of indebted graduates could be a problem if their employment prospects are not sufficient enough 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 2 900 per student in Latvia to over USD 12 000 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 USD 1 500 per year in the French Community of Belgium to over USD 7 000 in Australia, Austria, Denmark, Italy, New Zealand and Switzerland (Table C5.2).

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 provide indirect subsidies to tertiary education by fully or partially waiving tuition fees charged by educational institutions (see section on *Variation of tuition fees within countries*).The average tuition waivers range from

USD 1 100 or less in Austria and the Flemish and French Communities of Belgium to nearly USD 7 800 in Chile at bachelor's level in public institutions. Tuition waivers are just below USD 4 600 in Ireland for beneficiaries of the Free Fees Scheme and in New Zealand for first-time tertiary students in their first year of study. The share of students in bachelor's programmes receiving a fee waiver reaches 22-25% in the French Community of Belgium and New Zealand; 39-53% in France, Italy and Spain; and 64% in Chile (Table C5.2).

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. In recent years, OECD countries and economies have passed several reforms to improve access to tertiary education: among countries with available data, 11 countries and economies have implemented reforms on the level of tuition fees. Nine of these combined the reforms with a change in the level of public subsidies available to students (Table C5.3).

In Chile, 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 10 to 11 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 in financial year 2018/19 on, and grants for living costs were replaced with larger loans for new eligible national students in academic year 2016/17 on. In Australia, measures were taken to improve the sustainability of the subsidy system for public institutions' students enrolled in bachelor's programmes (Table C5.3).

In addition, the COVID-19 health crisis had a strong impact on tertiary education and countries took several policy measures to cope with unprecedented situations. All OECD countries with available data implemented some policy tools, from a more flexible student loan repayment schedule and the introduction of financial aid packages to the adaptation of tuition fee policies and support to international students (see Box C5.1).

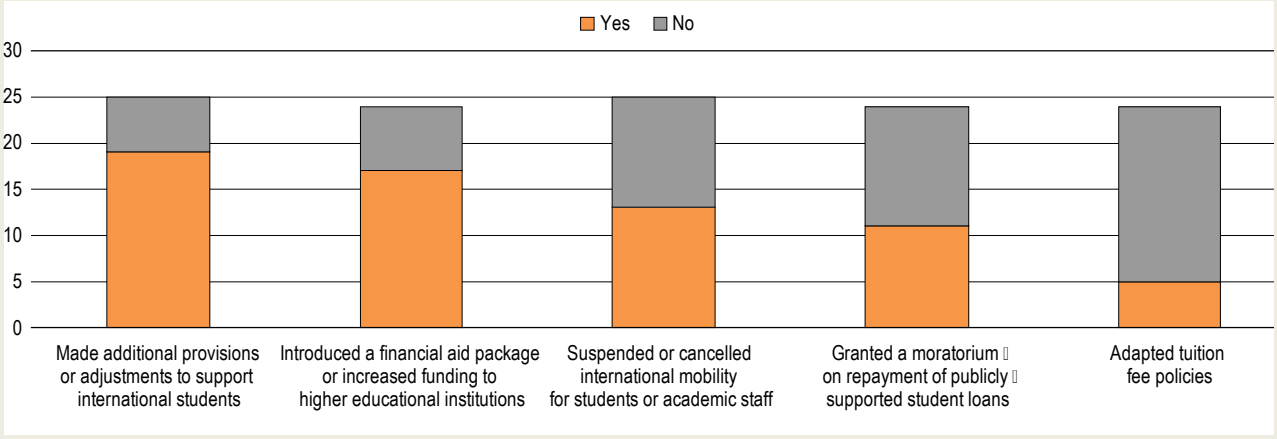
Box C5.1. Actions taken to cope with the COVID-19 crisis

Tertiary education is key for students' career and personal development. A failure to sustain effective tertiary systems can lead to inequalities, as youth may fall outside the education system or have difficulties in engaging in learning: their education and employment prospects thus become more uncertain. Economies have been confronted with a massive challenge of how to support tertiary education to keep students' education and, more generally, social cohesion on track. The economic crisis brought on by the spread of COVID-19 has affected the most vulnerable. Public financial support to students has therefore become key to sustaining effective tertiary education (World Bank, 2020[5]).

Several actions were taken across countries to support tertiary students during the crisis. While only five countries discussed or adopted changes to tuition fees (Hungary, Italy, Korea, Poland and the United States), the majority of them made adjustments in support of international students While the crisis has affected all tertiary students, it has had a severe impact on international and foreign students. 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. (Figure C5.4).

In addition, a large number of countries introduced schemes to facilitate tuition fee loan repayments or increase funding available to students. In 2020, Germany provided interest-rate support on student loans, Korea extended the repayment period of student loans, and Chile, England (United Kingdom), Finland, the Netherlands, Norway and Sweden increased tertiary students' loan capacity or provided them with the possibility to borrow additional funds. Additional funding for public scholarships was extended by a large majority of countries and economies with data available, including Chile, Finland, the Flemish Community of Belgium, France, Israel, Japan, Korea, Latvia, the Netherlands and Norway. In Norway, a portion of student loans could be converted into a grant under certain conditions with flexible criteiria for students employed in sectors at the frontlines during the pandemic. In Chile, Italy and Japan, students were also supported with additional tuition fee waivers (Table C5.4).

Figure C5.4. Number of countries that reported having taken actions on specific higher education aspects related to the COVID-19 crisis



Note: Data were collected in the first quarter of 2021.
Policies are sorted in descending order of the number of countries that adopted them.
Source: OECD (2021), Table C5.4. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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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 EU countries, citizens from other EU countries usually pay the same fees as national students. In these cases, foreign students refer to students who are citizens of countries outside the EU. 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 business enterprise, foreign or international agency), or whose 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.

Tuition fee amounts refer to **gross tuition fees** charged by institutions, before grants, scholarships and tuition waivers are applied.

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 gross domestic product. 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* (OECD, 2018[6]) and Annex 3 for country-specific notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

Source

Data refer to the academic year 2019/20 and are based on a special survey administered by the OECD in 2021 (for details, see Annex 3 at: https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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Indicator C5 tables

Tables Indicator C5. How much do tertiary students pay and what public support do they receive?

Table C5.1	Annual average (or most common) tuition fees charged by tertiary institutions to national and foreign students (2019/20)
Table C5.2	Variation of tuition fees over time and public financial support to students enrolled in tertiary programmes (2009/10 and 2019/20)
Table C5.3	Tuition fee policy reforms (2016/19)
Table C5.4	Actions taken to cope with the COVID-19 crisis (2020)

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Cut-off date for the data: 17 June 2021. 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*.

Table C5.1. Annual average (or most common) tuition fees charged by tertiary institutions to national and foreign students (2019/20)

In equivalent USD converted using PPPs, for full-time students, by type of institutions and level of education

		Share of tertiary students enrolled in independent private institutions (%)	Tuition fees, converted in USD using PPPs							
			National students							
			Public institutions				Independent private institutions			
			ISCED 5	ISCED 6	ISCED 7	ISCED 8	ISCED 5	ISCED 6	ISCED 7	ISCED 8
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD	**Countries**									
	Australia[1, 2]	22	3 428	5 024	8 993	208	7 357	9 226	12 487	1 623
	Austria[2]	21	m	952	952	952	m	m	m	m
	Canada	m	m	5 060	8 965	5 539	m	a	a	a
	Chile[1]	71	3 766	8 317	11 531	9 707	4 137	7 368	11 172	8 678
	Denmark	0	0	0	0	0	m	m	a	a
	Estonia[1]	8	a	No tuition fees for full-time students enrolled in programmes with curricula in Estonian			a	9 161	10 994	10 994
	Finland[3]	48	a	0	0	0	a	0	0	a
	France	21	0	233	333	520	m	m	m	m
	Germany[1, 2]	15	m	148[d]	x(3)	x(3)	m	5 187[d]	x(7)	x(7)
	Hungary	5	2 540	3 834	8 096	m	2 717	4 284	10 643	m
	Ireland[1]	3	m	8 304	9 667	8 676	m	m	m	a
	Israel[1]	12	m	2 753	3 720	a	a	9 004	10 052	a
	Italy	15	a	2 013	2 252	522	m	7 338	9 183	2 747
	Japan	78	3 742	5 177	5 173	5 172	6 787	8 798	7 832	5 824
	Korea[1]	80	2 698	4 792	6 157	7 140	6 920	8 582	11 506	12 511
	Latvia[4]	24	3 221	4 768	4 953	6 493	3 221	5 243	5 748	6 669
	Lithuania	10	a	4 048	7 947	14 540	a	3 773	5 109	12 332
	Netherlands	m	2 652	2 652	2 652	a	m	m	m	a
	New Zealand[1, 3]	10	3 264	4 584	5 904	4 931	4 653	4 376	6 042	a
	Norway	10	493	0	0	0	a	5 742[d]	x(7)	0
	Spain[1]	20	0	1 768	2 580	m	m	10 342	11 672	m
	Sweden[3]	10	0	0	0	0	0	0	0	0
	Turkey	8	0	0	0	0	0	0	0	0
	United States[1, 5]	26	3 313	9 212	12 171[d]	x(4)	15 727	31 875	25 929[d]	x(8)
	Economies									
	Flemish Comm. (Belgium)[6]	0	1 239	1 239	1 239	620	m	m	m	m
	French Comm. (Belgium)	0	x(3)	191[d]	808[d]	x(4)	a	a	a	a
	England (UK)[1, 4]	a	x(3)	12 330[d]	m	m	m	m	m	m

	Tuition fees, converted in USD using PPPs						
	Foreign students						
	Public institutions			Independent private institutions			
	ISCED 6	ISCED 7	ISCED 8	ISCED 6	ISCED 7	ISCED 8	Differentiation for foreign students
	(10)	(11)	(12)	(13)	(14)	(15)	(16)
OECD Countries							
Australia[1, 2]	19 602	18 423	16 651	11 239	12 670	36 849	Differentiated fees for national, out-of-state and foreign students
Austria[2]	1 903	1 903	1 903	m	m	m	Distinction between national/EU/EEA students and students from outside the EU/EEA
Canada	24 561	17 640	13 752	a	a	a	Differentiated fees for national, out-of-state and foreign students
Chile[1]	No differentiation for foreign students						
Denmark	m	m	m	m	a	a	Distinction between national/EU/EEA students and students from outside the EU/EEA
Estonia[1]	Differentiation based on the laguague of programmes' curricula			m	m	m	Distinction between national/EU/EEA students and students from outside the EU/EEA
Finland[3]	12 872	12 872	0	8 191	11 702	a	Distinction between national/EU/EEA students and students from outside the EU/EEA
France	3 792	5 161	520	m	m	m	Distinction between national/EU/EEA students and students from outside the EU/EEA
Germany[1, 2]	x(3)	x(3)	x(3)	x(7)	x(7)	x(7)	-
Hungary	4 832	8 010	m	4 654	16 275	m	Distinction between national/EU/EEA students and students from outside the EU/EEA
Ireland[1]	25 036	20 202	17 351	m	m	a	Distinction between national/EU/EEA students and students from outside the EU/EEA
Israel[1]	m	m	a	m	m	a	Differentiated fees for national, out-of-state and foreign students
Italy	No differentiation for foreign students						
Japan	No differentiation for foreign students						
Korea[1]	No differentiation for foreign students						
Latvia[4]	9 259	7 671	13 689	6 600	6 638	7 933	-
Lithuania	m	m	m	m	m	m	-
Netherlands	m	m	a	m	m	a	Distinction between national/EU/EEA students and students from outside the EU/EEA
New Zealand[1, 3]	19 239	20 836	4 931	m	m	a	-
Norway	No differentiation for foreign students						
Spain[1]	No differentiation for foreign students						
Sweden[3]	13 326	13 326	0	13 326	13 326	0	Distinction between national/EU/EEA students and students from outside the EU/EEA
Turkey	m	m	m	m	m	m	-
United States[1, 5]	26 382	18 597[d]	x(11)	31 875	25 929[d]	x(14)	-
Economies							
Flemish Comm. (Belgium)[6]	m	m	m	m	m	m	Distinction between national/EU/EEA students and students from outside the EU/EEA
French Comm. (Belgium)	m	m	m	a	a	a	
England (UK)[1, 4]	m	m	m	m	m	m	

Note: EEA refers to the European Economic Area.

1. Reference year: calendar year 2018 for Australia and Germany and 2019 for Chile, Israel, Korea and New Zealand; academic year 2018/19 for England (UK), Estonia, Spain and the United States and 2020/21 for Finland and Ireland.
2. Government-dependent and independent private institutions are combined.
3. Government-dependent private institutions instead of independent private institutions.
4. Government-dependent private institutions instead of public instituions.
5. 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.
6. Public and government-dependent private institutions combined.

Source: OECD (2021). See Source section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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

StatLink https://stat.link/itms9p

Table C5.2. Variation of tuition fees over time and public financial support to national students enrolled in tertiary programmes (2009/10 and 2019/20)

		Index of change of tuition fees charged by public institutions to national students between 2009/10 and 2019/20 (2009/10=100)			Average annual amount of tuition fee waivers for national students in public institutions in 2019/20, in equivalent USD converted using PPPs		Share of students benefitting in 2019/20 from tuition fee waivers		Annual average amount in 2019/20 in equivalent USD converted using PPPs		2019/20 distribution of students receiving				Share of students receiving public grants/ scholarships and/or public or government-guaranteed private loans in 2009/10
									Public grants/ scholarships	Public or government-guaranteed private loans	Public or government-guaranteed private loans only	Public grants/scholarships only	Public grants/scholarships and public or government-guaranteed private loans	Neither public grants/ scholarships nor public/ government-guaranteed private loans	
		ISCED 6	ISCED 7	ISCED 8	ISCED 6	ISCED 7	ISCED 6	ISCED 7	ISCED 5 to 8						
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
OECD	**Countries**														
	Australia[1, 2]	106	132	77	m	m	m	m	7 103	3 920	48	0	35	17	77
	Austria	84	84	84	952	952	m	m	8 136	a	a	13	a	87	18
	Canada	109	130	114	m	m	m	m	4 806	5 547	m	m	m	m	m
	Chile[1, 2]	116	109	109	7 793	12 028	64	22	5 614	5 158	14	41	6	39	39
	Denmark	a	a	a	a	a	a	a	8 161	4 450	0	62	23	14	73
	Estonia[1]	a	a	a	m	m	m	m	m	4 584	m	m	m	m	m
	Finland[1]	a	a	a	a	a	a	a	2 131	6 489	x(12)	x(12)	55[d]	45	56
	France	91	96	99	m	m	42	31	m	m	m	34	m	66	m
	Germany[1, 2, 3]	20[d]	x(1)	x(1)	m	m	m	m	4 186	4 186	x(12)	x(12)	22[d]	78	26
	Hungary	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Ireland[1]	86	86	86	4 534	m	m	m	m	m	m	m	m	m	m
	Israel			a					a	m	a	a	a	a	a
	Italy	129	m	40	a	a	39	38	7 136	m	0	38	0	62	20
	Japan	m	m	m	m	m	m	m	3 661	7 385	m	m	m	m	m
	Korea[1, 2]	87	m	m	m	m	m	m	3 729	5 129	m	m	m	m	m
	Latvia[4]	95	92	82	a	a	a	a	2 005	2 915	m	m	m	m	m
	Lithuania[5]	m	m	m	m	m	m	m	5 060	4 017	5	55	0	40	54
	Netherlands	114	114	a	a	a	0	0	4 568	9 440	m	m	m	m	m
	New Zealand[1, 2]	120	120	121	4 584	0	22	0	7 029	8 273	48	5	28	19	87
	Norway	a	a	a	a	a	a	a	4 601	12 119	m	m	m	m	m
	Spain	144	106	m	m	m	53	24	m	a	a	44	0	56	34
	Sweden	a	a	a	a	a	a	a	3 259	7 670	0	16	73	11	65
	Switzerland	m	m	m	m	m	m	m	7 590	6 038	0	6	1	93	11
	United States[1, 6]	116	118[d]	x(2)	a	a	a	a	2 178	4 600	9	33	44	15	78
	Economies														
	Flemish Comm. (Belgium)[2, 7]	164[d]	164[d]	140[d]	1 093	1 093	m	m	2 502	a	0	24	0	76	23
	French Comm. (Belgium)	73[d]	91[d]	x	220[d]	707[d]	25[d]	19[d]	1 521	a	0	20	0	80	20
	England (UK)[1, 3, 8]	334	a	a	a	a	a	a	m	18 280	96	0	0	4	83

1. Reference year: calendar year 2018 for Australia and Germany and 2019 for Chile, Korea and New Zealand; academic year 2018/19 for England (UK), Estonia and Spain and 2020/21 for Finland and Ireland. Reference years for distribution of public financial support: 2016 for Germany and 2015/16 for the United States.
2. Reference year for trends: calendar year 2008 for Australia and Germany, 2009 for Korea and New Zealand, 2010 for Chile; academic year 2008/09 for the Flemish Comm. of Belgium.
3. The distribution of financial support to students applies to BAföG-eligible students only.
4. Government-dependent private institutions instead of public institutions.
5. Reference year for trends on public financial support to students: calendar year 2014 for Lithuania.
6. The distribution of loans refers to ISCED 5 and 6 only.
7. Public and government-dependent private institutions combined. Index calculated using the average between minimum and maximum tuition fees.
8. Short-cycle tertiary programmes combined with Bachelor's programmes.

Source: OECD (2021). See Source section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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

StatLink https://stat.link/iapmys

Table C5.3. Tuition fee policy reforms (2016/19)

		Reforms implemented in 2016/19		
		On levels of tuition fees	Of which, at least some were combined with a change in the level of public subsidies available to students	Reforms implemented in 2016/19
		(1)	(2)	(3)
OECD	**Countries**			
	Australia	Yes	Yes	Reforms introduced in 2018 changed student loans from 2020 onwards, so that a new combined HELP student loan limit applies on the total amount of student debt that may be incurred. Repayments made against an individual's debt will be credited to towards the students' available loan balance within the total loan limit. An upper limit applies to eligible medicine, dentistry, veterinary science and aviation courses. Changes were also made regarding the financial support students may receive. In 2017 a new loan scheme was implemented for the VET sector.
	Austria	Yes	No	In 2017, the Student Support Act adjusted the provision of study grants to inflation, family income and changing living conditions. The average study grant increased approximately by 25 % and the share of grantees increased by approximately 12%.
	Chile	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.
	Finland	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 1 500).
	France	Yes	No	Differentiated tuition fees between European and non-European students were introduced and regulated in 2019/20. As from 2018, new students are part of the general social security scheme, so that they no longer pay a contribution of EUR 217. As from 2018, students provide an annual contribution of EUR 90 (indexed to inflation) to support and promote the social, health, cultural and sports aspects in education.
	Germany	No	No	In 2019, the general public student support (BAFöG) reform increased the amount of public financial support per eligible student by 17%.
	Hungary	Yes	No	The government specified a range within which tuition fees can be set by tertiary educational institutions, depending on the level and field of studies. Beneficiaries of state-funded scholarships are required to work in Hungary for a time that is at least equivalent to the duration of their studies, or pay back part of the scholarship received.
	Italy	Yes	Yes	Starting with academic year 2017/18, the total annual tuition fee amounts for first and second cycle studies are established by a regulation approved by each university respecting fairness in the amounts charged (Law 232/2016). Under the provisions of this law, students with an ISEE (Equivalent Economic Situation Indicator) declaration of up to EUR 13.000 and who fulfil requirements in progress in studies are exempted from fees for teaching, administrative and scientific services. Students with ISEE between EUR 13.000 and EUR 30.000 and who fulfil requirements in progress in studies have a fee reduction. Moreover, students enrolled in research doctoral programmes without grant are exempted from paying tuition fees.
	Japan	No	No	New programmes of needs-based scholarships have been implemented to enable students from low-income backgrounds to attend higher education.
	Korea	Yes	Yes	The interest rate of the Basic Plan for Student Loan was progressively reduced from 2.7% prior to 2016 to 2.2% in 2018. The Basic Plan for National Scholarships progressively reduced students' financial burden to cover on average of 51.7% of the tuition fees paid by the scholarships' beneficiaries.
	Netherlands	Yes	Yes	As from 2018/19 new tertiary students (ISCED 5, 6, 7) only have to pay half of the tuition fee for the first academic year. Therefore they can only borrow half of the tuition fee loan provided in the first academic year.
	New Zealand	Yes	Yes	Public subsidies available to students have increased. As from 2018, eligible students starting tertiary education for the first time can get their first year of provider-based tertiary education or first two years of industry training fees-free, up to NZD 12 000. As from 2020 until the end of 2022, in response to the economic impact of COVID-19, all apprenticeships and targeted vocational education and training programmes are fees-free. The government pays tertiary education organisations directly to cover these fees. Since 2017, all foundation education at level 1-2 has been funded at fees-free with set funding rates.
	Norway	No	No	From academic year 2016/17, Norway started a reform to gradually increase the yearly financial support from the State Educational Loan Fund from 10 to 11 months.
	Economies			
	Flemish Comm. (Belgium)	No	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)	No	No	The criteria for tertiary education scholarships were expanded in order to increase the total number of beneficiaries.
	England (UK)	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 introduced in 2016 and the postgraduate doctoral degree loan scheme introduced in 2018 aim to improve access to master's and doctoral degree programmes. The maximum fees for full-time accelerated bachelor's degree courses taking one year less to complete than a standard full-time course were increased from GBP 9 250 to GBP 11 100 per academic year for new students.

Note: Data were collected in the first quarter of 2021.
Source: OECD (2021). See Source section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://stat.link/2c3lkv

Table C5.4. Actions taken to cope with the COVID-19 crisis (2020)

		Policy measures related to the COVID-19 crisis	Actions taken to cope with the COVID-19 crisis: Granted a moratorium on repayment of publicly supported student loans	Introduced a financial aid package or increased funding to higher education institutions	Suspended or cancelled international mobility for students or academic staff	Made additional provisions or adjustments to support international students	Adapted tuition fee policies
		(1)	(2)	(3)	(4)	(5)	(6)
OECD	Countries						
	Australia	In January 2021, the Australian Government commenced the Job-ready Graduates Package of reforms to higher education. This package of reforms ensures that more Australians will get the opportunity to study for a university degree, makes it cheaper to study in areas of expected job growth, and provides more support to regional students and universities. A temporary exemption to the loan fee was introduced to encourage full-fee paying students to continue their studies. This exemption would have applied to most undergraduate students accessing the FEE HELP student loan programme.	No	Yes	No	Yes	No
	Austria	Deadlines were extended to present the proof of academic achievement required for need-based grant beneficiaries. In addition, the period of entitlement was extended and similar rules were applied to the family allowance.	No	No	No	Yes	No
	Chile	Students who applied to the State-Guaranteed Credit in July 2020 were exceptionally allowed to receive other types of student support from the state (waivers, scholarships and loans).	Yes	No	Yes	No	No
	Denmark	For some months students were granted the option to take out extra student loans/completion loans. The period for which the students can receive completion loans was extended. Citizens who were partially or entirely supported by public benefits, e.g. public grants, in April 2020 received DKR 1 000.	No	Yes	No	No	No
	Estonia	The number of international students in Estonia dropped by 5% in higher education institutions.	No	No	Yes	No	No
	Finland	The maximum study time for which students are entitled to receive student financial aid (public scholarships/ grants and government-guaranteed private study loans) have been modified. In academic year 2019-20 higher education students automatically received two additional months to meet their study progress requirements for financial aid eligibility. If students did not meet the requirements, their financial aid was cancelled or they reached the time limit to receive financial support due to the COVID-19 crisis, they could apply for the continuation of student financial aid. These changes aimed to prevent tertiary students from losing their eligibility to financial aid.	No	Yes	No	Yes	No
	France	The provision of scholarships extended by one month (July 2020) for those scholarship beneficiaries whose competitions or exams, internships were rescheduled because of the health crisis. Scholarships increased by 1.2% in 2020/21, the ticket for university canteen was set to EUR 1 for scholarship beneficiaries, additional places were created in courses in high demand, social funds were also increased.	Yes	Yes	Yes	Yes	No
	Germany	Interim financial aid, founded by the Ministry of Education and Research, is available to domestic and international students that are facing pandemic-related financial hardship. In addition, the loan scheme "KfW-Studienkredit" benefits from a government guarantee to finance a zero interest rate from May 2020 to December 2021 and to include non-EU international students from June 2020 to March 2021. German Länder have temporarily prolonged the regular period of study to account for pandemic related challenges thereby extending the period for which an eligible student can receive regular financial support (BAföG).	No	m	No	Yes	m
	Hungary	From May through December 2020, students could apply for a one-time, any-purpose, interest-free student loan of the amount of HUF 500 000 ("Student Loan Plus").	Yes	No	Yes	Yes	Yes
	Ireland	The Irish government has established a one-off COVID-19 payment scheme for tertiary students. The funding aims to assist all full-time undergraduate and postgraduate students in recognition of the significant upheaval they have experienced due to the COVID-19 pandemic.	No	Yes	No	Yes	No
	Israel	The share of students receiving public grants/scholarships increased to 24%, because of the COVID-19 crisis.	m	Yes	No	Yes	No
	Italy	For 1st and 2nd cycle, the ISEE limit for the exemption from fees has been increased up to EUR 20.000 and the fees reduction for students with ISEE declaration between EUR 13.000 and EUR 30.000 has become more consistent. Moreover, for students attending the last year of the doctoral course, the duration of the doctoral grant has been extended up to a maximum of 5 months if requested by the student.	No	Yes	Yes	Yes	Yes
	Japan	A cash handout was provided to those who experienced a big drop in household income and income from part-time work due to the COVID-19 crisis. JASSO (Japan's Student Services Organisation) introduced some flexibility so that those who faced sudden changes in family finances due to the pandemic could receive public loans. In addition, the government has provided assistance (extended deadlines or reduced payments) to those who have faced difficulties in meeting repayment deadlines. The government has also supported full or partial tuition fee waivers and extended tuition payment deadlines for universities and other educational institutions.	Yes	Yes	Yes	Yes	No

		Policy measures related to the COVID-19 crisis	Actions taken to cope with the COVID-19 crisis: Granted a moratorium on repayment of publicly supported student loans	Introduced a financial aid package or increased funding to higher education institutions	Suspended or cancelled international mobility for students or academic staff	Made additional provisions or adjustments to support international students	Adapted tuition fee policies
		(1)	(2)	(3)	(4)	(5)	(6)
OECD	**Countries**						
	Korea	In case of universities already supporting students with tuition waivers, special scholarships, and housing support, the government has provided financial support for universities to invest in online classes, prevention, and the improvement of the educational environment. Korea's government has provided emergency financial support, deployed online remote helpers and supported the establishment of distance education infrastructure. Additionally, by improving regulations on the operation of remote classes, universities can employ remote/face-to-face classes autonomously. Therefore, a distance education support centre has been established to improve the quality of remote classes. Smart devices have been provided to vulnerable students to close the digital gap between students. Furthermore, due to the Covid-19 crisis, the repayment burden of students has been reduced by delaying the repayment period of student loans for those who have lost their jobs or closed their businesses. Although overseas internships are suspended, joint online programmes between domestic and overseas universities (ISCED 6 and 7) is still permitted. At the same time, credit exchange between universities has been increased.	Yes	Yes	Yes	Yes	Yes
	Latvia	Student grants received by students were increased to EUR 200 for academic year 2020/21. In addition, in 2020 there were changes for government-guaranteed private student loans, as no additional guarantor is required other than the state. Starting from academic year 2020/21 both full- time and part-time students can apply for student loans. If the term of student credit repayment has been reached during March-December of 2020, but income has declined, repayment of the principal amount of credit may be deferred for a period of up to six months.	Yes	No	No	No	No
	Netherlands	Higher education institutions have a large degree of autonomy in the Netherlands: some institutions have cancelled the obligatory attendance by students from outside the EU or within the EU. Higher education institutions receive a lump sum budget, matching the stated degree of autonomy. Students that reached the limit of the number of months for the supplementary grant between June and August 2020 received a compensation of EUR 1 500. In addition, all students were granted 3 extra months of the travel reimbursement. If students encounter financial difficulties, they can increase their student loan from the Education Executive Agency. They can also apply for a tuition fee loan. Students can increase the maximum amount that can be borrowed by EUR 600 per month for a maximum of 3 months.	Yes	No	No	Yes	No
	New Zealand	From 2020 until the end of 2022, in response to the economic impact of COVID-19, all apprenticeships and targeted vocational education and training programmes are fees-free. The government pays tertiary education organisations directly to cover these fees. Funding to support access to digital technology during the COVID-19 lockdown was targeted at students, for computers or internet access, rather than to tertiary education organisations online platforms or capability. The Tertiary Education Commission (TEC) allowed more flexibility to funding rules on extramural study so that tertiary providers were supported to deliver education remotely during the COVID-19 lockdowns. The TEC also relaxed funding rules that restricted funding for shorter training options such as micro-credentials.	No	Yes	Yes	Yes	No
	Norway	The government has launched a COVID-19 rescue package', which covers several levels of education and training, including up-skilling. Nearly NOK 500 million have been made available to the higher education institutions for more student places and short upskilling courses. UNIT, the directorate responsible for ICT services in research and higher education, received an extra allocation of NOK 20 million to upgrade server capacity and provide more secure services to the sector. The application deadline for student support from the State Educational Loan Fund was extended and students can apply for NOK 26 000 as additional loan support (of which NOK 8000 can be converted into a grant) to help compensate for lost income due to COVID-19 closure of jobs, which also affected a lot of student jobs. An adhoc regulation prevents students from losing grant funding due to the pandemic (for example, students who live with their parents). Exceptions have also been made for students' income requirements for those students having worked in specific sectors connected to the fight against the pandemic (this income shall not reduce the amount of their educational grant). Also students receiving a specific grant due to disability have been granted an exception in the regulations (they are exceptionally allowed to work in specific sectors in the fight against the pandemic).	Yes	Yes	No	Yes	No
	Poland		Yes	Yes	Yes	Yes	Yes
	Sweden	Since autumn 2020, it is possible for unemployed persons to study while receiving unemployment compensation (thus they do not have to apply for financial support for students). Students may apply for additional loans. During 2021 and 2022 loan amounts have been increased by 25% for students who are 25 or older and who had an income before studying (to target lower incomes).	No	Yes	Yes	No	No
	Turkey		Yes	No	Yes	Yes	No
	United States	Policy response varies at the subnational level. Tuition and fee reductions (i.e. tuition reimbursement and tuition discounts) were implemented, however this was at the discretion of individual institutions.	Yes	Yes	Yes	Yes	Yes

		Policy measures related to the COVID-19 crisis	Actions taken to cope with the COVID-19 crisis: Granted a moratorium on repayment of publicly supported student loans	Introduced a financial aid package or increased funding to higher education institutions	Suspended or cancelled international mobility for students or academic staff	Made additional provisions or adjustments to support international students	Adapted tuition fee policies
		(1)	(2)	(3)	(4)	(5)	(6)
OECD	**Economies**						
	Flemish Comm. (Belgium)	Additional funding was provided for student services (EUR 1.5 million) and for higher education institutions (EUR 8.96 million) for the extra costs for online learning and examinations. Students obtaining a bachelor's in nursing (during academic year 2019/20) after completing an internship during the COVID-19 crisis also qualified for a EUR 1 000 grant (co-financed by the European Social Fund). Students receiving an additional grant for student housing did not have to repay it even after ending their student housing contracts early because of the COVID-19 lockdown restrictions.	No	Yes	No	No	No
	French Comm. (Belgium)	Additional funding (nearly EUR 2.3 million) was provided to higher educational institutions. The deadline for the payment of 2020/21 tuition fees was extended to 15 February 2021.	No	Yes	No	Yes	No
	England (UK)	Higher education providers in the United Kingdom can apply for business support schemes the government has put in place, such as the Coronavirus Job Retention Scheme and the various loan and financing schemes. Higher education providers registered in the "Approved (fee cap)" category in England may apply to the Higher Education Restructuring Regime.	No	Yes	Yes	Yes	No

Note: Data were collected in the first quarter of 2021.
Source: OECD (2021). See Source section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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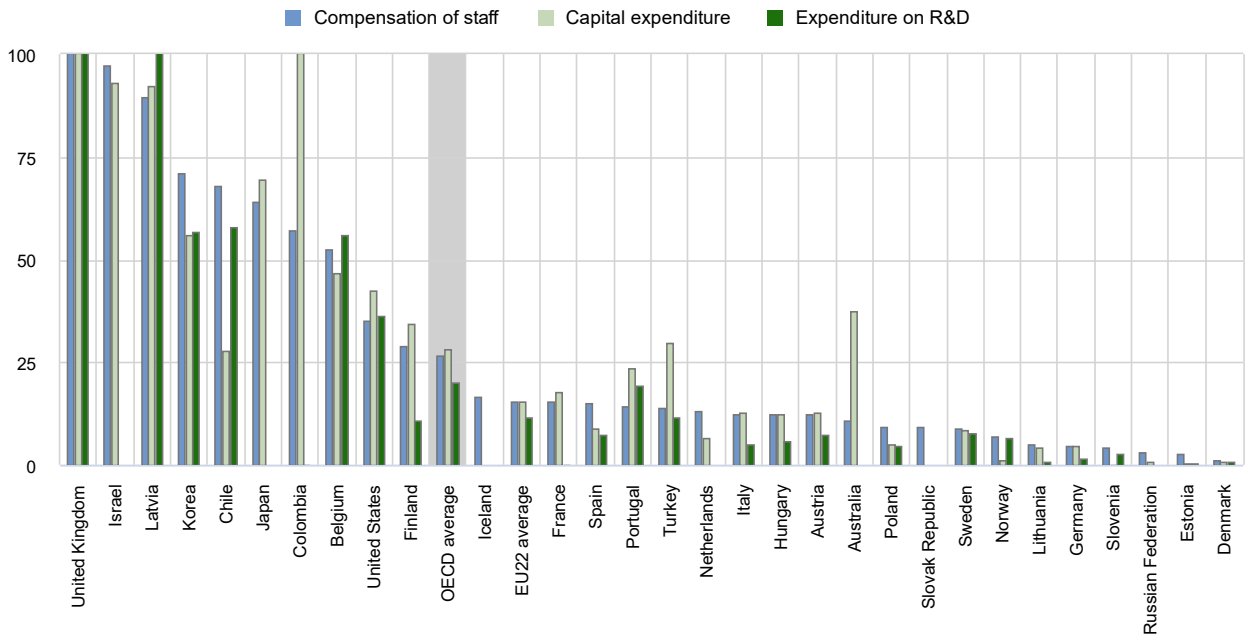
Indicator C6. On what resources and services is education funding spent?

Highlights

- From primary to tertiary level, most of the spending in educational institutions – 91% 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 (68%). Staff compensation constitutes a higher share of current expenditure in public institutions than in private ones across OECD countries, both at non-tertiary level (78% in public institutions and 71% in private ones) and at tertiary level (68% in public institutions and 64% in private ones).
- Public institutions account for around 80% of expenditure on compensation of personnel and on R&D and 77% of capital expenditure.

Figure C6.1. Share of expenditure on staff compensation, capital expenditure and expenditure on R&D allocated in private educational institutions (2018)

Tertiary education, in per cent



Note: Resources are allocated in both public and private institutions; this figure only displays the share of resources allocated in private institutions.
Countries are ranked in descending order of the share of the compensation of staff allocated in private institutions.
Source: OECD/UIS/Eurostat (2021), Table C6.4, available on line. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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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.

The allocation of education spending between public and private educational institutions also has equity implications, inasmuch as enrolment in private educational institutions is driven, among other factors, by family income and is associated with earning advantages.

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 what share of total resources on compensation of staff, capital, and research and development (R&D) is allocated in public and private institutions, and how spending has varied over time, covering the six-year period from 2012 to 2018.

Other findings

- OECD countries allocate on average 9% of their total education spending to capital expenditure from primary to tertiary level. Overall, the share of capital expenditure is higher at tertiary level (11%) than at non-tertiary level (8%). Large variations in the share of capital expenditure are observed across countries, with higher values in Latvia and Turkey (15% or more).
- In absolute terms, from primary to tertiary level, the average current expenditure per full-time equivalent student in OECD countries was about USD 11 000 in 2018, while the average capital expenditure was about USD 1 050 per student. These amounts vary widely across OECD countries: current expenditure ranges from less than USD 5 000 per student in Greece and Turkey to almost USD 23 000 in Luxembourg, while capital expenditure ranges from less than USD 400 per student in Colombia and Italy to almost USD 2 500 in Luxembourg.
- On average across OECD countries, expenditure on staff compensation per full-time equivalent student is higher at tertiary level (USD 10 600) than at non-tertiary level (USD 7 300).
- Between 2012 and 2018, current expenditure per student on primary to tertiary education in public institutions increased on average across OECD countries, with an average annual growth rate of more than 1% in real terms; it remained relatively stable in private institutions. Over the same period, the amount spent on R&D per full-time equivalent student increased by almost 1% in public institutions, while it slightly decreased in private institutions.

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– 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 troughs.

Given the labour-intensive nature of education, current expenditure represents the largest proportion of total expenditure on education in OECD and partner countries. In 2018, current expenditure accounted for 91% 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 83% in Latvia to 98% in Argentina across OECD and partner countries (Table C6.1). Broken down by educational level, the share ranges from 83% in Latvia to 99% in Italy at primary, secondary and post-secondary non-tertiary level, and from 56% in Greece to 99% in Argentina at tertiary level (Table C6.1). Larger differences across educational levels are observed when looking at the investment in current expenditure per student. In 2018, the average current expenditure per student across OECD countries was almost USD 11 000, with higher values at tertiary level (USD 16 400) than at non-tertiary level (USD 9 600). Across all education levels, current expenditure per student varies widely across OECD and partner countries, ranging from about USD 3 400 in Argentina to almost USD 23 000 in Luxembourg (Table C6.1).

Capital expenditure represents 9% of expenditure on primary to tertiary educational institutions on average across OECD countries, but reaches 12% or more in Australia, Estonia, Greece, Korea, Latvia, Norway and Turkey (Table C6.1). The share of capital expenditure is higher at tertiary level (11%) than at non-tertiary level (8%). Greece is by far the country that has invested more in infrastructure at tertiary level: in 2018, capital expenditure on tertiary education reached 44% of total expenditure. At non-tertiary level, Latvia allocates 17% of its education budget to capital expenditure, the highest share across countries with available data (Table C6.1). A similar pattern appears when looking at capital expenditure per student. Capital expenditure per student at tertiary education levels is almost double that at pre-tertiary levels (USD 1 600 and USD 900 respectively). The average capital expenditure from primary to tertiary education level across OECD countries is slightly over USD 1 000 per student. Australia, Korea, Luxembourg, Norway and the United States invested more per student in long-term assets in 2018 (over USD 1 500 per student), while Argentina, Colombia, Italy and Lithuania invested the least (less than USD 500) among OECD and partner countries (Table C6.1).

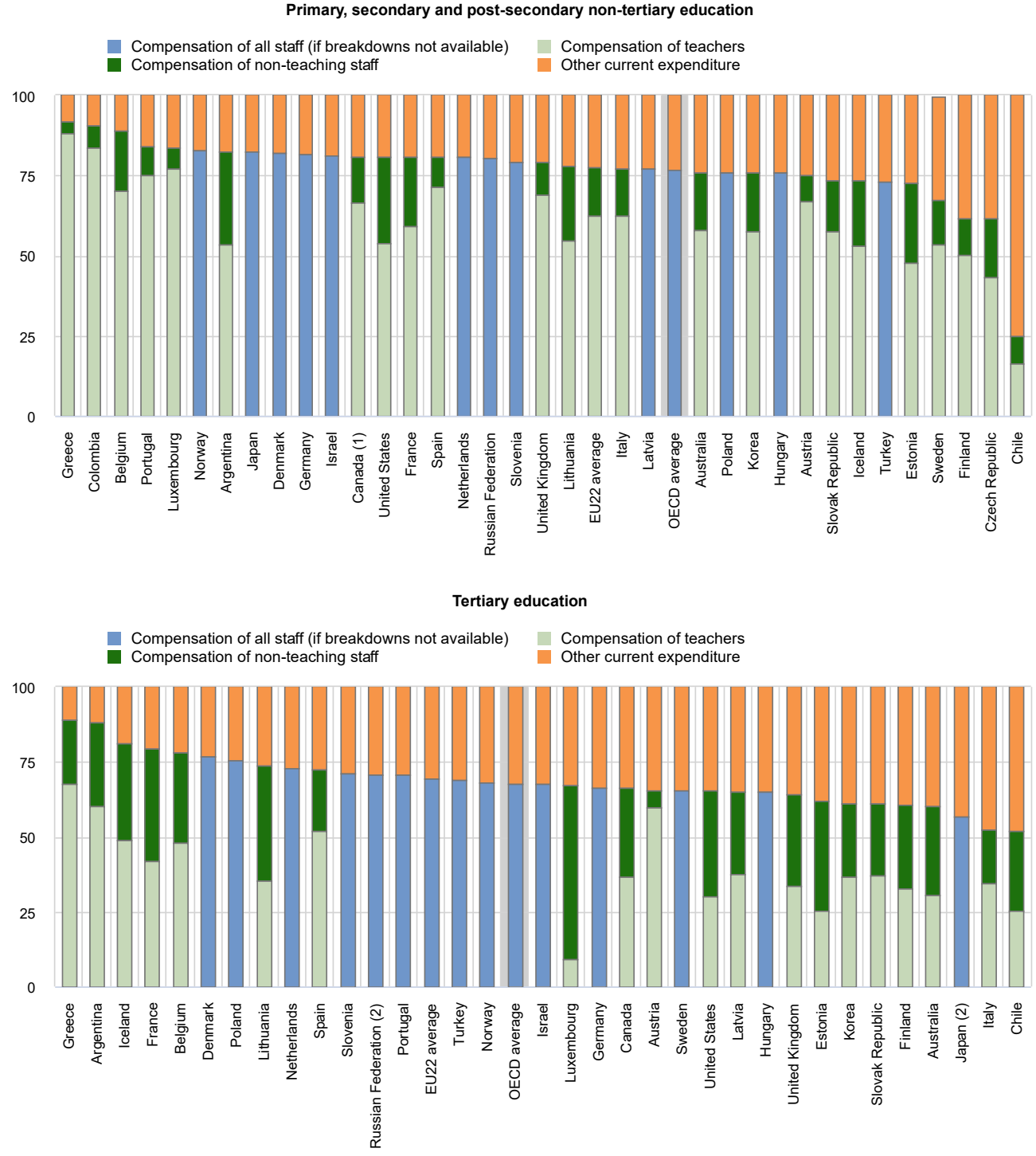
Distribution of current expenditure

Current expenditure in 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 2018, 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), which is stable on average over time but 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 (68%), due to the higher costs of facilities and equipment in tertiary education. Argentina, Belgium, Denmark, France, Greece, Iceland and Poland report the greatest share of current expenditure allocated to staff compensation at tertiary level (75% or more) among OECD and partner countries. At non-tertiary levels, Belgium, Colombia and Greece devoted 85% or more of educational expenditure to staff compensation, 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).

Figure C6.2. Distribution of current expenditure in public and private educational institutions (2018)

In per cent



1. Primary, secondary and post-secondary non-tertiary education include pre-primary programmes.
2. 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 (2021), Table C6.2. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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The staff compensation measure relative to the number of students shows that remuneration of teachers and other staff is higher at tertiary education levels than at non-tertiary ones. In 2018, OECD countries spent on average about USD 8 100 per full-time equivalent student on staff compensation from primary to tertiary levels, ranging from USD 10 600 per student at tertiary level to USD 7 400 at non-tertiary ones. However, there were substantial variations across OECD and partner countries and levels of education. At primary, secondary and post-secondary non-tertiary level, expenditure per student on staff compensation ranges from less than USD 3 000 in Argentina, Chile, Colombia and Turkey to more than USD 10 000 in Austria, Belgium, Iceland, Luxembourg, Norway and the United States. At tertiary level, spending on staff compensation per student exceeds USD 15 000 in Belgium, Luxembourg, Sweden, the United Kingdom and the United States (Table C6.2).

In countries with available data, compensation of teachers represents a higher share of current expenditure than that of other non-teaching staff, especially in non-tertiary education (Table C6.2 and Figure C6.2). 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 R&D 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).

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 and Italy devote the largest share to other current expenditure at tertiary level (48% of total current expenditure), while at non-tertiary level the share reaches 75% in Chile (Table C6.2 and Figure C6.2).

Distribution of current and capital expenditure, by type of educational institution

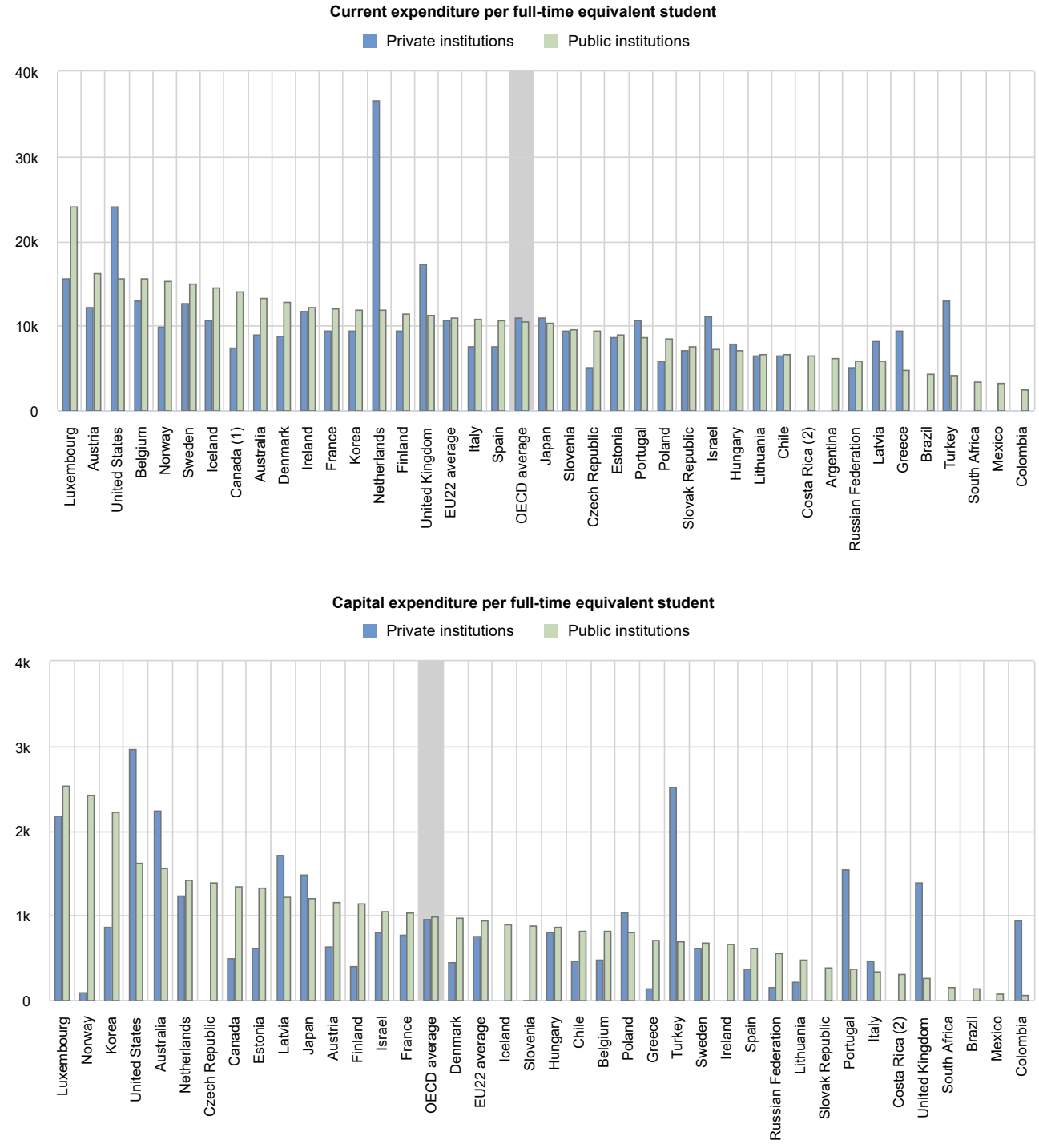
On average across OECD countries, public and private institutions divide their spending between current and capital expenditure in a similar way. There is wide variation across countries, however. The share of current expenditure is at least 10 percentage points higher in public institutions than in private ones at non-tertiary level in Colombia and Portugal, and at tertiary level in Australia (Table C6.3). Similarly, at non-tertiary level, capital expenditure accounts for more than 15% of total expenditure in public institutions in Korea and Latvia, while the share is over 15% in private institutions in Latvia and Poland. Italy records the lowest share of capital expenditure in public institutions at this level (1%). At tertiary level, public institutions in the Czech Republic, Estonia, Greece, Hungary, Latvia and Turkey have the highest shares of capital expenditure, at over 15%, while the highest shares for private institutions are observed in Australia, Hungary, Latvia and Turkey, also over 15% (Table C6.3).

Slightly bigger differences are observed when looking at investments in capital expenditure per student, which was about USD 1 000 across OECD countries in 2018 (Figure C6.3), with values slightly higher in public than in private educational institutions on average. Capital expenditure per student in public institutions is about twice as high at tertiary level as at non-tertiary level in OECD countries (USD 1 600 and USD 900, respectively). Similarly in private institutions, capital expenditure per student is also much higher at tertiary (USD 1 500) than non-tertiary (USD 700) level. At non-tertiary level, the highest capital expenditure per student is observed in private institutions in Luxembourg (USD 2 200), although in about 60% of countries, capital expenditure per student is higher in public than in private institutions. At tertiary level, the highest capital expenditure per student is observed for private institutions in Australia (USD 6 900), but in about two-thirds of countries, capital expenditure is higher in public institutions. Luxembourg is the country with the highest capital expenditure per student in public institutions at both tertiary and non-tertiary education levels. From primary to tertiary education, the lowest values of capital expenditure per student in public institutions (less than USD 400) are observed in Brazil, Colombia, Costa Rica, Italy, Mexico, Portugal, the Slovak Republic, and the United Kingdom.

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: 78% compared to 71% in private ones at non-tertiary level, and 68% compared to 64% 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). They may also be more likely 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 Chile, the Czech Republic, the Netherlands and Norway at non-tertiary level, and Finland, Israel, Japan, Korea, the Netherlands and the Slovak Republic at tertiary level (Table C6.3).

Figure C6.3. Current and capital expenditure per full-time equivalent student by type of institution, primary to tertiary education (2018)

In equivalent USD converted using PPPs



1. Primary education includes pre-primary programmes.
2. Year of reference 2019.

Countries are ranked in descending order of the current and capital expenditure per full-time equivalent student in public institutions.

Source: OECD/UIS/Eurostat (2021), *Education at a Glance Database*, https://stats.oecd.org. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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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 almost USD 6 100 on average across OECD countries. The biggest differences (over USD 3 000) are found in Canada, Italy and Luxembourg. In contrast, Estonia and the United Kingdom are the countries where not only expenditure on staff compensation per student is higher in private institutions, but the difference with the compensation in public institutions also exceeds USD 1 000. At tertiary level, the largest difference between staff compensation per student in public and private institutions among countries with available data is observed in Australia, Austria and Finland (above USD 4 000). However, France, Latvia, 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).

Allocation of staff compensation, capital and R&D expenditure between public and private educational institutions

The debate on the benefits and disadvantages of public and private education systems is long-standing and focuses on two main points: the concept of education as a public common good on the one side (see, for example, Reid and Australian Council of Deans of Education (2003[1])), and a more innovative and performing educational environment provided by private educational institutions on the other (Alderman, Orazem and Paterno, 2001[2]), which might lead, however, to social segregation (Courtioux and Maury, 2020[3]).

Enrolment in private educational institutions, in fact, is driven by many factors, including family income (Curi and Aquino Menezes-Filho, 2007[4]; Murnane et al., 2018[5]). At the same time, enrolment in private educational institutions is associated with a significant and positive earning advantage compared to public institutions, even after controlling for school quality, family background and educational achievement (Sandy and Duncan, 1996[6]). The choice between investing in public or private educational institutions therefore has an important impact in terms of equity and inclusiveness.

Across OECD countries, from primary to tertiary level, around or above 80% of resources devoted to compensation of personnel, capital expenditure and expenditure on R&D are allocated to public educational institutions (Table C6.4, available on line). Such shares are higher at non-tertiary than at tertiary education level, where more than one quarter of total resources devoted to compensation of personnel and capital expenditure are invested in private educational institutions.

In Belgium, Chile, Colombia, Finland, Israel, Japan, Korea, Latvia, the United Kingdom and the United States, the share of staff compensation allocated to private institutions in tertiary education is higher than the OECD average, while the countries with the lowest percentages are Denmark, Estonia and Slovenia (Table C6.4, available on line, and Figure C6.1). As for capital expenditure, the countries where the share of investments in private institutions is greater than 50% are Colombia, Israel, Japan, Korea, Latvia and the United Kingdom at tertiary education level and Chile, Colombia, Portugal and the United Kingdom at non-tertiary level (Table C6.4, available on line). It is to be noted, however, that the allocation of resources between public and private institutions is heavily influenced by the number of students enrolled in the two types of institutions.

At tertiary level, the share of funds allocated to public institutions is largest for expenditure on research and development (R&D) (80%) than for any other expenditure category. In Belgium, Chile, Korea, Latvia and the United Kingdom, however, more than half of the resources devoted to R&D are spent in private educational institutions (Table C6.4, available on line, and Figure C6.1). Expenditure on R&D per student in public tertiary institutions (USD 6 000) is more than twice that in private ones (USD 2 500) on average across OECD countries. In Finland, Luxembourg, Norway, Sweden and Switzerland, expenditure on R&D per student in public educational institutions was above USD 10 000 whereas expenditure per student on R&D in private institutions exceeds USD 9 000 in Denmark and Sweden (Table C6.3).

Trends in current and research expenditure per student

The share of resources devoted to a given category of expenditure highlights how those resources 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 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 six-year period between 2012 and 2018, the average annual growth rate of current expenditure per student in public institutions from primary to tertiary education was slightly higher than 1% across OECD countries. The greatest increase (above 4%) was observed in Hungary, Iceland, the Slovak Republic and Turkey, driven by large increases in teachers'

compensation per student in Icleand and the Slovak Republic. In Finland, Greece, Mexico and Slovenia, on the other hand, current expenditure per student decreased, mostly driven by a reduction in staff compensation per student. In private institutions, current expenditure per student at primary to tertiary level remained generally stable on average between 2012 and 2018 in countries with available data, although it increased by at least 3% per year in Hungary, Iceland and the Slovak Republic, and decreased by more than 6% in Turkey (Table C6.5, available on line).

Teachers' compensation per student in public institutions slightly increased between 2012 and 2018 in most countries with available data, with larger increases at tertiary level than at lower levels of education on average. At tertiary level, teachers' compensation 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 were recorded in Luxembourg and Mexico (greater than 4%). At non-tertiary level, Colombia, Iceland, Portugal, the Slovak Republic and Switzerland experienced the largest increases (3% or more per year), while the largest annual decreases were observed in Argentina, Finland and Mexico (Table C6.5, available on line).

The average annual growth rate in expenditure on R&D per student in public tertiary institutions between 2012 and 2018 (below 1%) shows wide variation across countries. Average increases exceeded 5% per year in Brazil, Finland, Luxembourg and Poland. Finland and Luxembourg are also, along with Denmark, Germany, Greece and Sweden, the OECD countries with the highest expenditure on R&D as a share of total tertiary expenditure (see Indicator C1). While in Luxembourg expenditure on R&D increased in parallel with increases in total expenditure on tertiary education, in Finland, total expenditure on tertiary education fell over the same period. In contrast, spending on R&D per student in public institutions fell by more than 1% in Chile, France, Lithuania, Mexico, Portugal and Turkey, with the largest drops observed in Mexico and Portugal. 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 Lithuania and 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 C6.5, 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 and Finland, both trends are positive, but R&D in public institutions grew faster than in private ones; in the Czech Republic and the United States, both trends are also positive, but R&D in private institutions grew faster; in Germany, Hungary, Slovenia and Sweden, spending on R&D rose in public institutions but fell in private ones. In Italy, Lithuania, Spain and Turkey, spending on R&D fell in both public and private institutions, but more in private institutions while in Chile the reduction was greater in public institutions. In Portugal, spending on R&D fell in public institutions but rose in private ones (Table C6.5, 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 health-care 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 (health care 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 category 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 years.

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 gross domestic product. 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 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[7]) and Annex 3 for country-specific notes https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

Source

Data refer to the financial year 2018 (unless otherwise specified) and are based on the UNESCO, OECD and Eurostat (UOE) data collection on education statistics administered by the OECD in 2020 (for details see Annex 3 at: https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf). 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 expenditure for 2012 to 2018 were updated based on a survey in 2020-21, and expenditure figures for 2012 to 2018 were adjusted to the methods and definitions used in the current UOE data collection.

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Indicator C6 tables

Tables Indicator C6. On what resources and services is education funding spent?

Table C6.1	Share of current and capital expenditure, by level of education (2018)
Table C6.2	Share of current expenditure, by resource category (2018)
Table C6.3	Share of current expenditure, by resource category and type of institution (2018)
WEB Table C6.4	*Allocation of staff compensation, capital and R&D expenditure between public and private educational institutions (2018)*
WEB Table C6.5	*Average annual growth rate of current and R&D expenditure per full-time equivalent student, by type of institution (2012 to18)*

StatLink https://stat.link/7pafi6

Cut-off date for the data: 17 June 2021. 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*.

Table C6.1. Share of current and capital expenditure, by level of education (2018)

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	89	11	88	12	89	11	88	12	90	10	89	11	83	17	87	13
	Austria	92	8	96	4	98	2	97	3	99	1	95	5	90	10	93	7
	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	89	11	90	10	88	12	89	11	a	a	89	11	98	2	92	8
	Colombia[2]	94	6	94	6	94	6	94	6	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	89	11	89	11	87	11	89	11	m	m	m	m
	Denmark	91	9	91	9	96	4	94	6	a	a	92	8	95	5	93	7
	Estonia	90	10	90	10	91	9	90	10	94	6	90	10	82	18	87	13
	Finland	88	12	88	12	93[d]	7[d]	91[d]	9[d]	x(5, 7)	x(6, 8)	90	10	97	3	92	8
	France	92	8	93	7	92	8	92	8	92	8	92	8	92	8	92	8
	Germany	93	7	94	6	90	10	92	8	94	6	92	8	92	8	92	8
	Greece[2]	97	3	98	2	97	3	98	2	m	m	97	3	56	44	88	12
	Hungary	93	7	93	7	92	8	93	7	89	11	93	7	81	19	89	11
	Iceland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Ireland	m	m	94	6	m	m	m	m	m	m	m	m	m	m	m	m
	Israel	87	13	x(5)	x(6)	92[d]	8[d]	92	8	100	0	89	11	91	9	90	10
	Italy	99	1	99	1	98[d]	2[d]	99[d]	1[d]	x(5, 7)	x(6, 8)	99	1	91	9	97	3
	Japan	88	12	88	12	91[d]	9[d]	90[d]	10[d]	x(5, 7, 13)	x(6, 8, 14)	89	11	89[d]	11[d]	89	11
	Korea	82	18	85	15	88	12	87	13	a	a	85	15	90	10	87	13
	Latvia	83	17	83	17	82	18	82	18	80	20	83	17	83	17	83	17
	Lithuania	93	7	94	6	93	7	94	6	93	7	93	7	94	6	93	7
	Luxembourg	91	9	89	11	89	11	89	11	100	0	90	10	93	7	90	10
	Mexico	m	m	m	m	m	m	m	m	a	a	m	m	m	m	m	m
	Netherlands	90	10	89	11	92	8	90	10	a	a	90	10	90	10	90	10
	New Zealand	89	11	91	9	94	6	93	7	98	2	92	8	98	2	93	7
	Norway	85	15	85	15	89	11	87	13	89	11	86	14	89	11	87	13
	Poland	91	9	93	7	91	9	92	8	92	8	92	8	88	12	91	9
	Portugal	96	4	94	6	92[d]	8[d]	93[d]	7[d]	x(5, 7)	x(6, 8)	94	6	95	5	94	6
	Slovak Republic	96	4	98	2	94	6	96	4	95	5	96	4	m	m	m	m
	Slovenia	91	9	91	9	94	6	92	8	a	a	92	8	92	8	92	8
	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	95	5	96	4	96	4
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Turkey	87	13	88	12	87	13	87	13	a	a	87	13	82	18	85	15
	United Kingdom	97	3	96	4	97	3	97	3	a	a	97	3	89	11	94	6
	United States	90	10	90	10	90	10	90	10	89	11	90	10	90	10	90	10
	OECD average	91	9	92	8	92	8	92	8	m	m	92	8	89	9	91	9
	EU22 average	92	8	93	7	93	7	93	7	m	m	93	7	89	11	92	8
Partners	**Argentina**	97	3	97	3	97	3	97	3	a	a	97	3	99	1	98	2
	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	x(5, 7)	x(6, 8)	x(5, 7)	x(6, 8)	92[d]	8[d]	92[d]	8[d]	x(13)	x(14)	92	8	90[d]	10[d]	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 17-22) 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 and because the figures presented in Indicator C1 cover expenditure inside and outside educational institutions, while figures presented here only cover expenditure on educational institutions. 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 2019.

Source: OECD/UIS/Eurostat (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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

StatLink https://stat.link/uo2dmf

Table C6.2. Share of current expenditure, by resource category (2018)

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	58	18	76	24	31	30	60	40	49	22	71	29
	Austria	67	8	75	25	60	6	66	34	64	7	72	28
	Belgium	70	19	89	11	48	30	78	22	64	22	86	14
	Canada[1]	67[d]	14[d]	81[d]	19[d]	37	30	66	34	55[d]	20[d]	75[d]	25[d]
	Chile	17	8	25	75	25	27	52	48	20	16	35	65
	Colombia	84	7	91	9	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	19	62	38	m	m	m	m	m	m	m	m
	Denmark	x(3)	x(3)	82	18	x(7)	x(7)	77	23	x(11)	x(11)	80	20
	Estonia	48	25	73	27	25	37	62	38	40	29	69	31
	Finland	50	12	62	38	33	28	61	39	45	17	61	39
	France	59	22	81	19	42	38	80	20	54	26	80	20
	Germany	x(3)	x(3)	82	18	x(7)	x(7)	67	33	x(11)	x(11)	77	23
	Greece	88	4	92	8	68	21	89	11	85	6	91	9
	Hungary	x(3)	x(3)	76	24	x(7)	x(7)	65	35	x(11)	x(11)	73	27
	Iceland	53[d]	20[d]	73[d]	27[d]	49[d]	32[d]	81[d]	19[d]	52[d]	23[d]	75[d]	25[d]
	Ireland	m	m	m	m	m	m	m	m	m	m	m	m
	Israel	x(3)	x(3)	81	19	x(7)	x(7)	68	32	x(11)	x(11)	78	22
	Italy	62	15	77	23	35	18	52	48	56	16	72	28
	Japan	x(3)	x(3)	82	18	x(7)	x(7)	57[d]	43[d]	x(11)	x(11)	74	26
	Korea	58	18	76	24	36	25	61	39	51	20	71	29
	Latvia	x(3)	x(3)	77	23	38	28	65	35	x(11)	x(11)	74	26
	Lithuania	55	23	78	22	35	38	74	26	49	28	77	23
	Luxembourg	77	6	84	16	9	58	67	33	68	13	81	19
	Mexico	m	m	m	m	m	m	m	m	m	m	m	m
	Netherlands	x(3)	x(3)	81	19	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)	83	17	x(7)	x(7)	68	32	x(11)	x(11)	78	22
	Poland	x(3)	x(3)	76	24	x(7)	x(7)	75	25	x(11)	x(11)	76	24
	Portugal	75	9	84	16	x(7)	x(7)	71	29	x(11)	x(11)	81	19
	Slovak Republic	58	16	73	27	37	24	61	39	53	18	70	30
	Slovenia	x(3)	x(3)	79	21	x(7)	x(7)	71	29	x(11)	x(11)	77	23
	Spain	71	10	81	19	52	21	73	27	66	13	78	22
	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)	73	27	x(7)	x(7)	69	31	x(11)	x(11)	72	28
	United Kingdom	69	10	79	21	34	30	64	36	57	17	74	26
	United States	54	27	81	19	30	35	65	35	44	30	74	26
	OECD average	m	m	77	23	m	m	68	32	m	m	74	26
	EU22 average	63	15	78	22	m	m	70	30	m	m	76	24
Partners	Argentina	53	29	83	17	60	28	88	12	55	29	84	16
	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	x(3)	x(3)	80	20	x(7)	x(7)	71[d]	29[d]	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 13-15) 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 2019.

Source: OECD/UIS/Eurostat (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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

StatLink https://stat.link/k4wta0

Table C6.3. Share of current expenditure, by resource category and type of institution (2018)

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	91	85	59	57	17	19	76	76	88	58	31	24	28	39	60	63
	Austria	95	99	67	67	9	3	76	71	90	91	60	57	6	3	66	60
	Belgium	95	97	68	72	20	17	88	90	95	96	50	46	30	31	81	76
	Canada[1]	92[d]	94[d]	67[d]	52[d]	14[d]	19[d]	82[d]	71[d]	90	a	37	a	30	a	66	a
	Chile	87	89	7	22	5	11	12	33	93	99	31	23	37	23	69	47
	Colombia	97	87	87	74	9	4	96	78	100	m	x(15)	m	x(15)	m	75	m
	Costa Rica[2]	97	m	70	m	6	m	75	m	90	m	x(15)	m	x(15)	m	74	m
	Czech Republic	89	100	43	47	18	21	61	68	83	m	42	m	17	m	59	m
	Denmark	92	95	x(7)	x(8)	x(7)	x(8)	83	78	95	97	x(15)	x(16)	x(15)	x(16)	77	68
	Estonia	90	93	47	52	26	14	73	66	82	96	25	26	37	33	62	59
	Finland	89	97	51	46	11	15	62	61	97	95	30	43	29	26	58	68
	France	92	93	60	53	22	21	82	73	92	91	40	53	41	22	81	74
	Germany	93	88	x(7)	x(8)	x(7)	x(8)	83	76	92	92	x(15)	x(16)	x(15)	x(16)	67	62
	Greece	97	99	91	51	2	22	93	73	56	a	68	a	21	a	89	a
	Hungary	92	93	x(7)	x(8)	x(7)	x(8)	76	76	81	81	x(15)	x(16)	x(15)	x(16)	65	65
	Iceland	m	m	53	54	20	17	73	72	m	m	49	49	32	32	81	81
	Ireland	93	m	58	m	10	m	67	m	98	m	36	m	1	m	37	m
	Israel	87	96	x(7)	x(8)	x(7)	x(8)	84	73	86	91	x(15)	x(16)	x(15)	x(16)	43	69
	Italy	99	98	63	46	16	0	79	46	91	91	35	32	17	19	52	51
	Japan	89	89	x(7)	x(8)	x(7)	x(8)	83	72	92[d]	88[d]	x(15)	x(16)	x(15)	x(16)	50[d]	61[d]
	Korea	84	91	58	59	19	15	76	74	87	92	29	40	27	24	56	64
	Latvia	83	83	27	x(8)	11	x(8)	77	77	84	83	35	38	46	26	81	64
	Lithuania	93	97	55	54	24	18	78	72	94	95	36	24	39	37	74	62
	Luxembourg	90	88	78	69	5	14	84	83	93	a	9	a	58	a	67	a
	Mexico	98	m	79	m	12	m	91	m	97	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	80
	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)	82	100	88	98	x(15)	x(16)	x(15)	x(16)	68	65
	Poland	93	83	x(7)	x(8)	x(7)	x(8)	76	74	88	94	x(15)	x(16)	x(15)	x(16)	76	68
	Portugal	96	85	81	47	8	12	90	59	95	93	x(15)	x(16)	x(15)	x(16)	74	54
	Slovak Republic	95	100	57	62	16	15	73	77	94	m	34	89	25	10	59	99
	Slovenia	92	100	x(7)	x(8)	x(7)	x(8)	79	64	92	100	x(15)	x(16)	x(15)	x(16)	73	40
	Spain	97	96	74	64	9	12	82	76	88	95	56	35	21	21	77	56
	Sweden	95	95	53	54	14	12	68	67	96	97	x(15)	x(16)	x(15)	x(16)	65	64
	Switzerland	90	m	71	m	14	m	85	m	m	m	m	m	m	m	m	m
	Turkey	87	88	x(7)	x(8)	x(7)	x(8)	85	35	84	75	x(15)	x(16)	x(15)	x(16)	73	50
	United Kingdom	98	96	67	71	12	8	79	79	a	89	a	34	a	30	a	64
	United States	90	90	54	52	27	26	81	78	91	89	31	28	36	34	67	62
	OECD average	92	93	61	m	14	m	78	71	90	91	m	m	m	m	68	64
	EU22 average	93	94	61	56	14	14	78	72	89	93	40	m	28	m	69	65
Partners	**Argentina**	97	m	53	m	29	m	83	m	99	m	60	m	28	m	88	m
	Brazil	97	m	m	m	m	m	78	m	97	m	m	m	m	m	69	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	92	96	m	m	m	m	81	61	90[d]	97[d]	x(15)	x(16)	x(15)	x(16)	71[d]	60[d]
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	95	m	77	m	7	m	84	m	95	m	26	m	34	m	60	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 25-30), on capital expenditure per student (Columns 31-36) and on Research and Development (Columns 37-38) 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, secondary and post-secondary non-tertiary education includes pre-primary programmes. Post-secondary non-tertiary figures are treated as negligible.
2. Year of reference 2019.

Source: OECD/UIS/Eurostat (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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

StatLink https://stat.link/j1cfpl

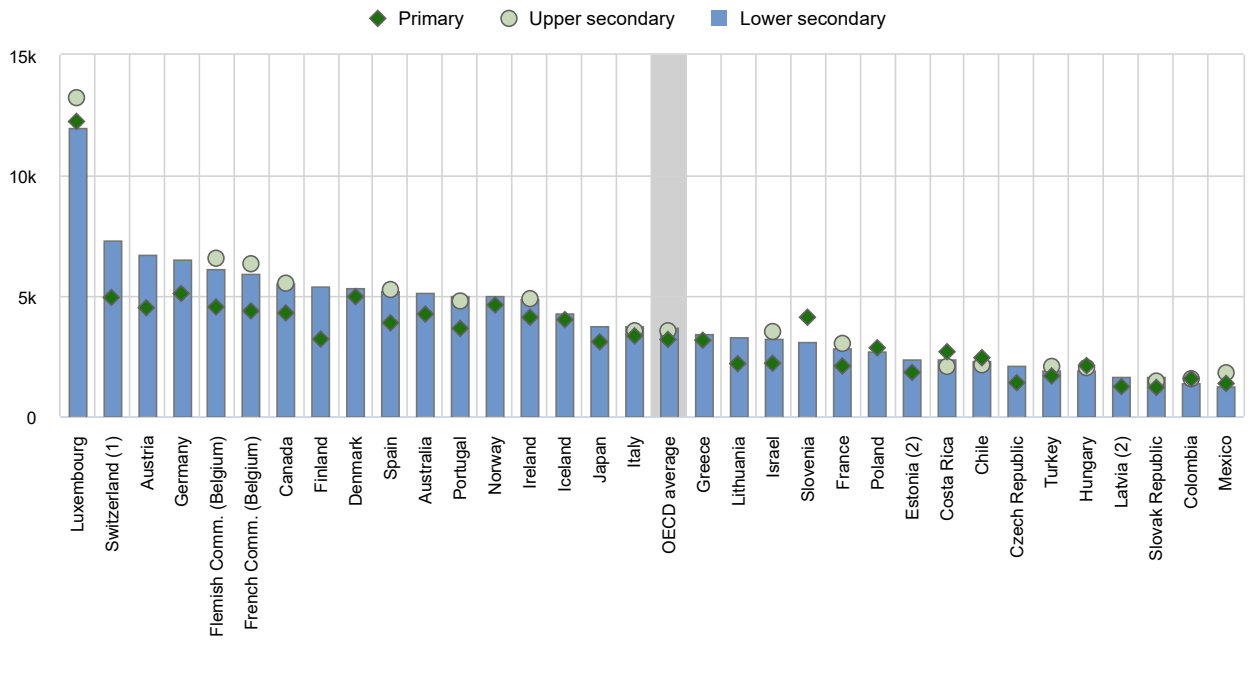
Indicator C7. Which factors influence teachers' salary cost?

Highlights

- This analysis calculates the salary cost of teachers per student using four factors: teachers' salaries, students' instruction time, teachers' teaching time and theoretical class size (see *Definitions* section). Different levels of salary cost of teachers per student result from various different combinations of these four factors.
- On average across OECD countries, the salary cost of teachers per student rises from USD 3 196 in primary education to USD 3 680 in lower secondary education.
- The two main factors influencing the level of teachers' salary costs are teachers' salaries and theoretical class sizes. Between 2005 and 2019, teachers' salaries in primary education increased in about two-thirds of OECD countries with data, and this additional cost was often compounded by a decline in average class size over this period.

Figure C7.1. Annual salary cost of teachers per student in public institutions, by level of education (2019)

USD converted using PPPs for private consumption



1. Teachers' statutory salaries after 10 years of experience instead of 15 years of experience.
2. Teachers' statutory salaries at the start of their career instead of after 15 years of experience for Latvia. Fixed minimum wage that applies to all teachers for Estonia.
Countries and economies are ranked in descending order of the annual salary cost of teachers per student in lower secondary education.
Source: OECD (2021), Table C7.1. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

StatLink https://stat.link/f75qex

Context

Governments have become increasingly interested in the relationship between the amount of resources devoted to education and student learning outcomes. They seek to provide more and better education for their population, while ensuring that public funding is used efficiently, particularly when public budgets are tight. Teachers' compensation usually accounts for the largest share of expenditure on education and thus of expenditure per student. The salary cost of teachers per student, as calculated in this indicator, is a function of students' instruction time, teachers' teaching time, teachers' statutory salaries and theoretical class sizes (see *Methodology* section).

Differences among countries in these factors may explain differences in the level of expenditure per student. Similarly, a given level of expenditure may be associated with different combinations of these factors. This indicator examines the choices countries make when investing their resources in primary and secondary education and explores how different policy choices related to these factors affect the salary cost of teachers.

The salary cost of teachers per student can be affected by other variables not directly assessed in this indicator, such as demographic changes. For example, in countries where enrolments have been declining in recent years, class sizes would also shrink (assuming all other factors remain constant), unless there was also a simultaneous drop in the number of teachers. This indicator does not distinguish between a reduction in class size due to demographic changes and a deliberate policy decision to reduce class size.

Other findings

- Similar levels of expenditure among countries can mask a variety of contrasting policy choices. For example, France and Hungary have nearly the same salary cost of teachers per primary student, but teachers' statutory salaries in France are 83% higher than in Hungary, which is more than balanced out by classes in France having about seven more students on average (based on the theoretical class size).
- On average across OECD countries, the salary cost of teachers per student represents 6.8% of gross domestic product (GDP) per capita at primary level and 7.9% at lower secondary level.
- Given a fixed level of salary cost, a reduction in class size can be compensated for by a decrease in teachers' salaries, a decrease in instruction time or an increase in teaching time. For example, in Australia, in order to reduce theoretical class size by one student and keep the salary cost per student constant, annual teacher salaries would have to fall by USD 3 700, annual instruction time would have to be reduced by 58 hours or annual teaching time would have to increase by 54 hours.

Note

The salary cost of teachers per student is estimated based on values for teachers' gross statutory salaries after 15 years of experience and the most prevalent qualifications (see Indicator D3), the theoretical instruction time for students (see Indicator D1), and teachers' statutory teaching time (see Indicator D4). This measure may differ from the actual salary cost of teachers (see Box C7.1).

The use of statutory salaries means that this indicator does not take into account the actual level of qualifications and the seniority of the teaching workforce. The statutory salary also does not include the employer's contribution to social security and pension and therefore does not represent the full cost incurred by the employer (i.e. the government). As a result, this measure is not comparable to the indicator on expenditure on teacher compensation (see Indicator C6).

Analysis

Variation in the salary cost of teachers per student by level of education

On average across OECD countries and economies, the salary cost of teachers is USD 3 196 per primary student, USD 3 680 per lower secondary student and USD 3 552 per general upper secondary student (Figure C7.1). Each of these averages masks a wide range of salary costs across countries. For example, in primary education, the salary cost of teachers per student in Germany (USD 5 097) is over four times the cost in Latvia (USD 1 235). Higher salary costs are a result of higher teachers' salaries and/or a higher number of teachers per student, which in turn is driven by smaller classes, longer required instruction time for students or shorter teaching hours for teachers.

The higher teachers' salary cost at lower secondary compared to primary education is the result of higher teachers' salaries and students' instruction time at lower secondary level, as well as a reduction in teaching time, all of which push the cost up. In 2019, the OECD average annual statutory salary for teachers with 15 years of experience was USD 46 131 at lower secondary level, around USD 1 125 more than the average statutory salary at primary level. Moreover, the average annual instruction time in lower secondary education was 115 hours longer than in primary education, while average teaching time was 66 hours shorter, implying that more teachers were needed to teach a given number of pupils.

In contrast to the other factors, theoretical class size tends to increase from 15 students at primary to 17 at lower secondary education, which partially offsets the increase in cost between the two levels. However, in general, the effect of the larger class size is not enough to offset the increase in cost caused by the other three factors, although exceptions exist. Chile, Colombia, Costa Rica, Hungary, Luxembourg, Mexico, Poland and Slovenia are the eight OECD countries where the salary cost of teachers per student in lower secondary is less than that in primary education (Tables C7.5a and b, available on line). Except in Colombia, Costa Rica, Hungary and Luxembourg, this is mainly due to a significant increase in the theoretical class size at lower secondary level by at least 6 students compared to primary level.

Variation in the salary cost of teachers per student after accounting for countries' wealth

The level of the salary cost of teachers per student is positively correlated with countries' GDP per capita, so it is important to also take into account relative wealth when comparing countries. On average across OECD countries, the salary cost of teachers per student represents 6.8% of GDP per capita at primary level, 7.9% at lower secondary level and 7.8% in general programmes at upper secondary level (Table C7.1).

The interpretation of the salary cost of teachers per student shifts when viewed relative to national wealth. Some countries devote a higher share of GDP on teachers' salary cost, even though the absolute value may be low. For example, Poland's salary cost of teachers per student in primary education is below the OECD average, at USD 2 852. However, this amount represents 8.4% of the country's GDP per capita, above the OECD average of 6.8%. The opposite is true in Ireland, where the salary cost of teachers per student in primary education (USD 4 108) is considerably higher than the OECD average, but represents only 4.6% of the country's GDP per capita, well below the OECD average (Table C7.1).

Box C7.1. Methodological limitations and potential future developments

Teachers' salary cost per student, as presented in this indicator, is an estimated measure of how much is spent on teachers' salaries in each country. In addition to teachers' salaries themselves, the indicator takes into account three factors that influence the number of teachers a system requires: the number of required instruction hours, the number of hours teachers spend teaching and the theoretical class size. Please see the *Methodology* section for more information on how these factors relate to each other and are combined to calculate the salary cost.

It is important to consider the limitations of this indicator's methodology when interpreting the results. First, the indicator is calculated using the statutory values for teaching and instruction time and teachers' statutory salaries. Therefore, the results presented in this indicator are theoretical in nature, and do not reflect the actual time teachers spend teaching or how much they actually earn each year. Indeed, even the concept of teaching and instruction time have become increasingly theoretical in nature, as learning settings become more flexible, making it difficult to accurately measure the amount of time spent on these activities.

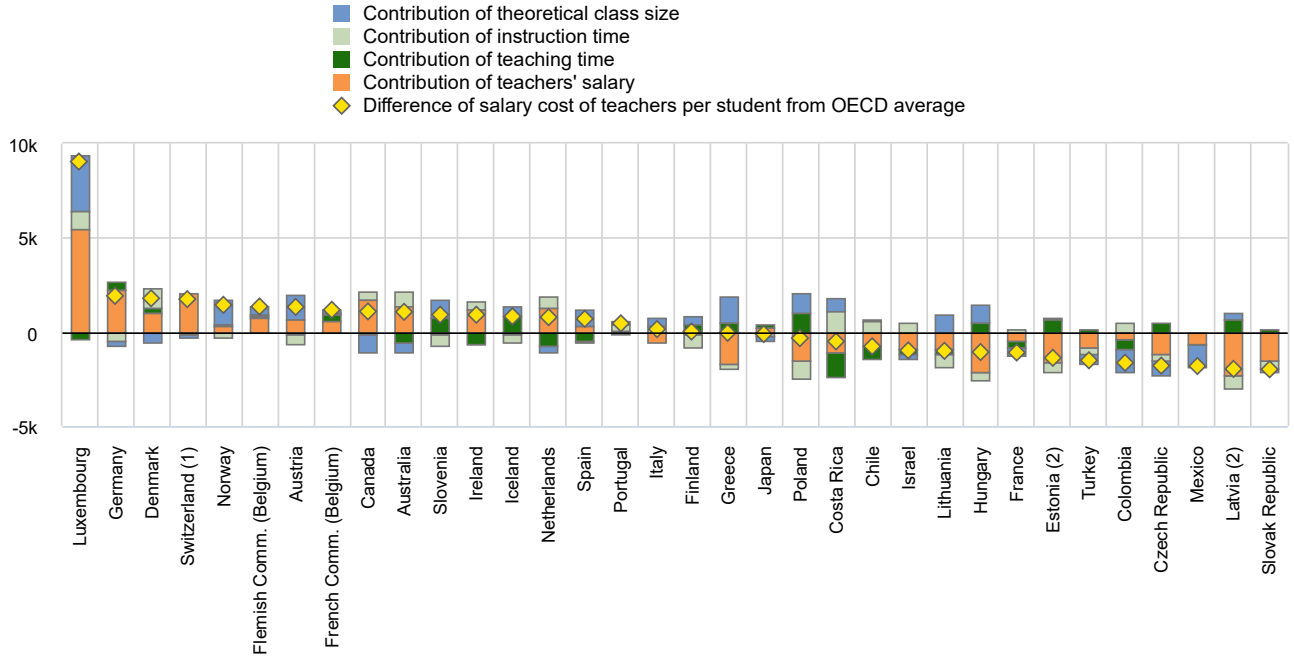
Second, by using national figures, the indicator misses the wide discrepancies that may exist within countries. The trade-off between teachers' salaries and class size, for example, may have very different effects depending on the socio-economic status of students and schools. Moreover, the trade-offs highlighted in this analysis are only a few of the many decisions countries must take when allocating their resources. Countries must also examine potential trade-offs with other investment areas, such as teacher training and school infrastructure, as well as trade-offs between different levels of education.

Although some of these limitations are difficult to address due to current data availability, there are several possible avenues that would expand the analytical potential of this indicator once more data become available. The first would be improving the measure used to estimate the cost of teachers. One way to achieve this might be to use teachers' average actual salaries, taking bonuses and allowances into account instead of statutory salaries. Another possibility would be to take into account the full cost to the government of teachers' salaries, including costs that do not go directly to teachers, such as employer's contributions and pensions.

Other avenues for potential future development include exploring the link between teachers' salary costs and school funding formulae, and how the trade-offs associated with teachers' salary costs may differ across subnational levels of decision making, such as schools, school districts and municipalities.

Figure C7.2. Contribution of various factors to salary cost of teachers per student in public institutions, primary education (2019)

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 344 lower than the OECD average. Poland has a smaller theoretical class size (+ USD 1 057) and less teaching time (+ USD 1 035) 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 1 505) and below-average instruction time (- USD 931), which push the cost down.

1. Teachers' statutory salaries after 10 years of experience instead of 15 years of experience.

2. Teachers' statutory salaries at the start of their career instead of after 15 years of experience for Latvia. Fixed minimum wage that applies to all teachers for Estonia.

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 (2021), Table C7.2. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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Contribution of each factor to the salary cost of teachers per student

The four factors which determine the salary cost of teachers per student affect it in different ways. The impact of the first factor, teachers' salaries, 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 would need to be hired in order to reduce class sizes while keeping everything else constant.

By comparing a country's salary cost to the OECD average, it is possible to determine the contribution of each of the four factors to the difference from the average. In other words, it is possible to assess whether a given salary cost is above average because of higher salaries, longer instruction times, shorter teaching hours, smaller class sizes or a combination of these four factors. Changing one of these factors may require compensatory trade-offs among the other factors in order to keep the total salary cost constant (Box C7.2).

Figure C7.2 shows the wide variety of combinations of the four factors across countries and their different effects on the salary cost of teachers per student. The size of the contribution of each factor to the difference between a country's salary cost and the OECD average depends on the difference between the factor itself and the respective OECD average. The sum of each factor's contribution equals the difference in salary cost between that country and the OECD average. For example, the salary cost per student in primary education in Australia is USD 4 251, USD 1 055 higher than the OECD average. This difference is the result of the contributory effects of the four factors: above-average teachers' salary adds USD 1 368, above-average instruction time adds USD 787, above-average theoretical class size substracts USD 591 from the difference and above-average teaching time substracts USD 509 (Table C7.2).

Different policies in countries with similar spending

Higher levels of expenditure on education cannot automatically be equated with better performance by education systems (OECD, 2019[1]). In addition to the fact that structural changes cannot guarantee better learning outcomes, countries spending similar amounts on education do not necessarily have similar education policies and practices. The OECD countries and economies shown in Figure C7.2 can be divided into four groups of similar teachers' salary cost per student, to illustrate the range of policy choices made by countries with similarl spending amounts.

Group 1: High salary cost of teachers per student in primary education

This group, which has the highest salary cost of teachers per student in primary education, is composed of Australia, Austria, the Flemish and French Communities of Belgium, Canada, Denmark, Germany, Luxembourg, Norway, and Switzerland.

The salary cost of teachers per student ranges from USD 4 200 to USD 5 100 in this group, except for Luxembourg where it exceeds USD 12 000. With the exception of Switzerland, all of these countries have above-average GDP per capita, but the relationship between salary cost and GDP per capita is not one-to-one. Some countries allocate a larger share of their wealth to this type of expenditure than others (Table C7.1).

Compared to countries from the other groups, it may seem as though these high-spending countries do not face trade-offs between the four factors analysed in this indicator. Indeed, all of the countries in this group can afford above-average teacher salaries *and for half of them*, below-average theoretical class sizes. However, the magnitude of the difference between these factors and the respective OECD averages differs considerably across these countries. In Germany and Luxembourg, for example, the high salary cost of teachers is mostly a result of high teachers' salaries, whereas in Austria and Norway it is mostly the result of small theoretical class sizes.

Group 2: Moderately high salary cost of teachers per student in primary education

This group is composed of ten countries with average or above-average salary costs: Finland, Greece, Iceland, Ireland, Italy, Japan, the Netherlands, Portugal, Slovenia and Spain. The salary cost of teachers per student in this group ranges from USD 3 086 to USD 4 112 (Table C7.1). This group is highly heterogeneous in terms of GDP per capita and education expenditure, which sheds light on the many different choices countries with similar spending can make.

A potential trade-off observed in some countries is between students' required instruction time and teachers' teaching time. In Ireland, for example, students receive 94 hours more instruction time per year than the OECD average, but this is almost entirely

offset by teaching time that is 136 hours longer than the average. Requiring longer teaching hours reduces the number of teachers that need to be hired. This measure can therefore compensate for higher teachers' salaries. This is the case in the Netherlands, where the requirement for 161 teaching hours above the OECD average helps to partly offset for the additional USD 19 861 teachers receive each year (the statutory teachers' salary in the Netherlands is USD 64 864, compared to the OECD average of USD 45 006).

Group 3: Moderately low salary cost of teachers per student in primary education

This group is composed of seven countries with below-average salary cost of teachers per student: Chile, Costa Rica, France, Hungary, Israel, Lithuania and Poland. Teachers' salary cost in this group range from USD 2 092 per student to USD 2 852 (Table C7.1). With the exception of France, all of these countries have below-average GDP per capita.

All seven countries in this group have below-average teachers' salaries, which is one of the main drivers of the below-average salary cost in primary education. However, there are considerable differences between them. In Hungary and Poland, lower teachers' salaries are partially compensated by shorter teaching hours and smaller theoretical class sizes. This is not the case in the other five countries, where teaching hours are higher than the OECD average. Similarly, France and Hungary have nearly the same salary cost of teachers per student, but teachers' statutory salaries in France are 83% higher than in Hungary, which is more than compensated for by having about seven more students per class (based on the theoretical class size). Instructional time in Hungary is also low compared to the OECD average, as teachers' pedagogical work extends beyond the classroom.

Group 4: Low salary cost of teachers per student in primary education

This group is composed of the seven countries with the lowest salary cost of teachers per student in primary education: Colombia, the Czech Republic, Estonia, Latvia, Mexico, the Slovak Republic and Turkey. The salary cost of teachers per student in this group ranges from USD 1 208 to USD 1 818 (Table C7.1). These countries all have below-average GDP per capita.

These countries have certain characteristics in common: they all have lower than average teacher salaries, shorter instruction hours (except in Colombia) and higher than average theoretical class size (except in Estonia and Latvia). The combined effect of these three factors leads to a significant decrease (compared to the other countries) in the salary cost of teachers per student. In an overall cross-country comparison, Colombia and Mexico might be bundled together as having low salary costs due to below-average teacher salaries and significantly above-average theoretical class sizes.

Evolution of average class size and teachers' salaries

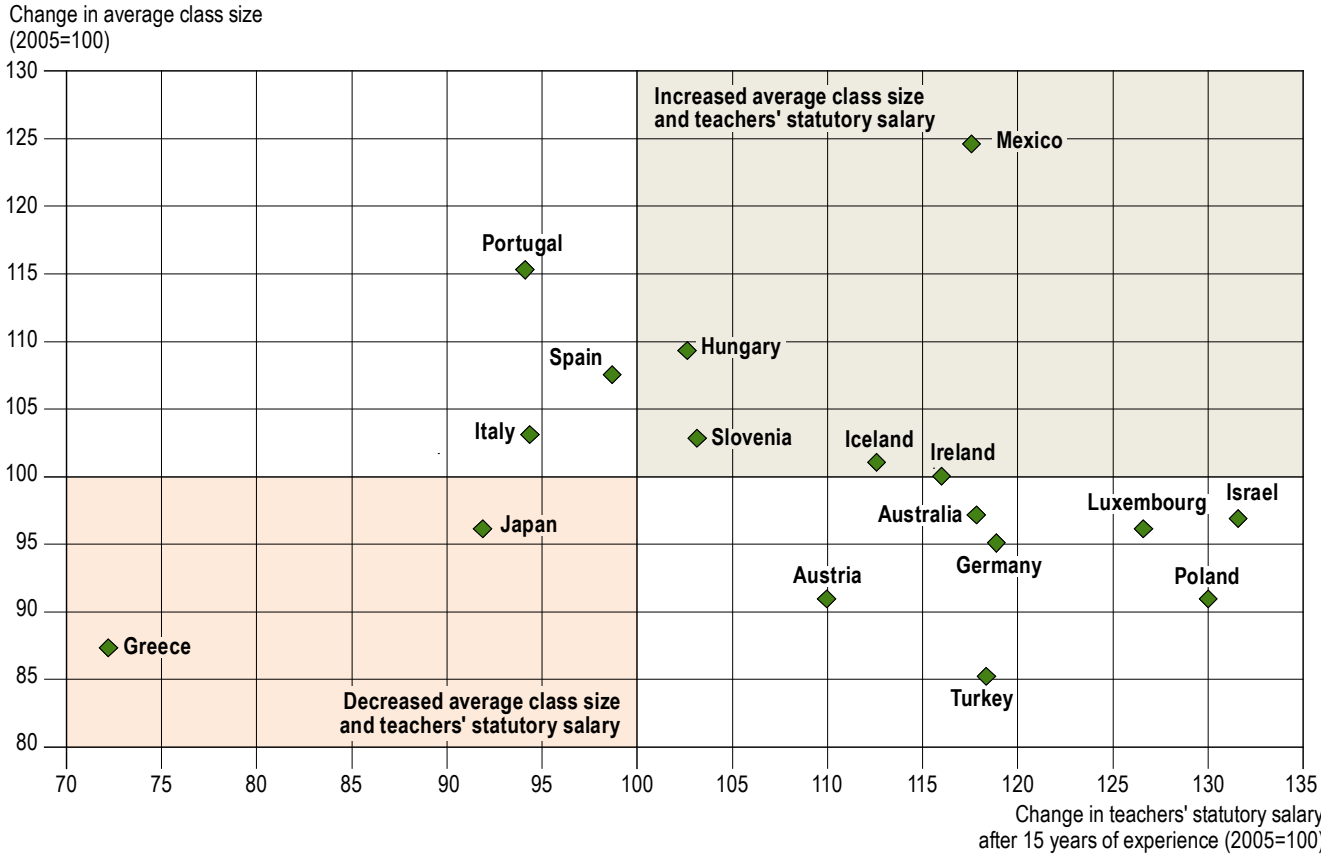
At each level of education, teachers' salaries generally have the greatest impact on the degree to which countries' salary cost of teachers per student diverges from the OECD average. The second most influential factor is the theoretical class size. The trade-off between these two variables, which are often the target of educational reforms and policies, reflects the choice countries have to make between increasing teachers' salaries and hiring more teachers. In fact, controlling for the total salary cost of teachers, countries with higher teachers' salaries tend to have bigger class sizes (OECD, 2018[2]).

Figure C7.3 plots the evolution of teachers' statutory salaries and average class sizes between 2005 and 2019. The average class size, unlike the theoretical class size discussed in the previous sections of this indicator, refers to the average actual class size obtained by dividing the number of students enrolled by the number of classes in each country (please see the *Definitions* section for more information on the difference between theoretical and average class size).

The figure groups countries into four different categories, each represented in a quadrant of the chart. Countries in the top-right and bottom-left quadrants exhibit a trade-off between average class size and teachers' salaries in this period. Countries in the top-right quadrant increased average class sizes (which brings the salary cost of teachers down) and increased teachers' salaries (which pushes the cost up). The most notable example among this group of countries is Mexico, where the average class size increased by 25% between 2015 and 2019, helping to offset the cost of increasing teachers' salaries by over 17%. Only two countries (Greece and Japan) faced the opposite trade-off, where average class sizes were reduced, but the additional cost was somewhat compensated for by lower teachers' salaries. It is important to note that although these changes have opposite effects on the salary cost, they are not necessarily taken in response to each other. In Japan, for example, the decrease in average class size was mainly due to a demographic change, whereas the decrease in teachers' salaries was mainly due to a revision of the salary system for all public officers, including teachers.

Figure C7.3. Index of change in teachers' salaries and in average class size in primary education between 2005 and 2019

Public institutions only



Note: The source for the average class size is the UNESCO/OECD/Eurostat data collection. The average class size does not correspond to the theoretical class size (see *Definitions* section).

Source: OECD (2021), *Education at a Glance Database*, http://stats.oecd.org. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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No particular trade-off between these two variables seems to have taken place in this period in the countries and economies in the top-left and bottom-right quadrants. Those in the top-left quadrant increased average class sizes and reduced teachers' salaries over this period, both measures that push down the salary cost of teachers. In some countries and economies, the cost was mostly pushed down by larger average class sizes – in Portugal, for example, average class size increased by 15% in this period – and in others, the cost was mostly pushed down by lower teachers' salaries – in Italy, teachers' salaries decreased by 6%.

The opposite trend is found in countries in the bottom-right quadrant, which reduced average class sizes and increased teachers' salaries, both measures that increase the salary cost of teachers. Once again, the size of the change in each variable differs across countries. Between 2005 and 2019, teachers' salaries increased by over 30% in Israel, while average class sizes fell by nearly 15% in Turkey.

It is interesting to observe countries that had a similar evolution in one of the factors but followed a very different path for the other. For example, between 2005 and 2019, both Mexico and Turkey increased teachers' salaries by about 18%. However, during the same period, Mexico also increased average class sizes by 25%, thus offsetting some of the additional cost of higher salaries, while Turkey reduced average class sizes by about 15%, thus increasing the salary cost of teachers even more.

Relation between PISA performance in reading and average class size

Smaller class sizes are often seen as beneficial, but the evidence regarding their impact on student learning is mixed. Results from the latest Programme for International Student Assessment (PISA 2018) show that education systems with smaller language-of-instruction classes generally showed higher mean reading performance than systems with larger classes. There was a negative correlation between larger classes and mean performance in reading, even after accounting for GDP, across OECD countries and across all countries. As shown in the study, differences in class size accounted for about 12% of the differences in mean reading performance across all countries and economies, and 26% of the differences across OECD countries (OECD, 2020[3]).

In the same vein, other research has found that smaller class sizes may be beneficial in some cases, such as for students from disadvantaged backgrounds who may need more individualised attention (Dynarski, Hyman and Whitmore Schanzenbach, 2013[4]). However, caution is advised when interpreting this finding. For instance, among countries and economies whose mean reading score was higher than 500 points (high performers) in PISA 2018, a dichotomy was observed between western countries (i.e. European countries, Australia and Canada) and East Asian countries and economies with regard to class size (OECD, 2020[3]). While among the 11 highest-performing western countries the size of language-of-instruction classes ranges from 20 students (in Finland) to 27 students per class (in Canada), among the 7 highest-performing East Asian countries and economies, it ranges between 26 students (in Korea) and 42 students per class in Beijing, Shanghai, Jiangsu and Zhejiang (China).

These mixed findings regarding class size suggest that there are important differences in the way class size is implemented in various countries. Further research is required to better understand the relationship between class size and student performance. However, given that reducing class size is a costly measure (Box C7.2), it is important to compare its impact with other possible interventions. As observed in Figure C7.3, one alternative is to increase teacher salaries. Evidence from PISA points to the importance of high-quality teaching in improving student outcomes, and one way to help school systems attract the best candidates to the teaching profession is by offering higher salaries. However, attracting good candidates to the teaching profession and retaining the effective ones is not just a matter of increasing salaries. Other factors include the quality of training before and after entering the profession and the relationship between teachers and society (OECD, 2016[5]).

Box C7.2. What might be the trade-offs of decreasing class size by one student?

This indicator assesses the impact of four factors (teachers' salaries, instruction time, teaching time and theoretical class size) on countries' salary cost of teachers per student and the trade-offs that can exist between them. This analysis can be used to answer the following question: assuming that the number of students and the salary cost remain constant, what are the potential trade-offs among the other factors which would compensate for a smaller class size? More specifically, by how much would salaries or instruction time have to decrease, or teaching time have to increase, in order to maintain the same salary cost?

Table C7.a presents the simulation results for decreasing the theoretical class size by one student. For each factor, the value is calculated keeping everything else constant. For example, in primary education in Australia, in order to reduce the theoretical class size by one student and keep the salary cost per student constant, teachers' salaries would have to be cut by USD 3 700, annual instruction time would have to fall by 58 hours, or annual teaching time would have to increase by 54 hours. Any one of these trade-offs would compensate for the additional cost of the smaller class size, without any change to the total salary cost of teachers per student.

These results emphasise the fact that reducing class sizes, by as little as one student, comes with a price tag. Indeed, class sizes have been decreasing in several OECD countries over recent years (see Indicator D2), although often as a result of demographic changes rather than of active policy choices. Class sizes tend to decrease when student enrolment falls because of the political, economic and organisational challenges of simultaneously reducing the number of teachers. However, in the long term, not reducing the teaching workforce is in itself a policy choice that will keep classes smaller. Table C7.a shows that the price of smaller class sizes can either be reflected in higher salary costs or can be offset by changes to the other three factors.

It is important to assess the results presented in Table C7.a by taking into account the current values of each factor in the country. For example, Chile already has the longest teaching hours of all OECD countries, so further increases to compensate for smaller class size may not be feasible or desirable.

This simulation is not meant to assess the real cost of reforms. This simple model only takes into account four factors, and it only shows the trade-off for one factor at a time. In reality, trade-offs will often consist of changes in several factors at the same time. Moreover, important regional variations, not captured by this indicator, may require specific policies that would not necessarily be reflected in the national averages. Rather, this analysis is only meant to highlight the importance of trade-offs in policy decisions, and to provide some guidance as to the direction and size of the potential trade-offs across the four factors assessed in this indicator.

Table C7.a. Keeping salary cost constant, what might be the trade-offs of decreasing class size by one student? (2019)

Trade-offs of decreasing theoretical class size in primary education, public institutions only

	Countries	Teachers' statutory salaries (in equivalent USD per year) (1)	Instruction time (in hours per year) (2)	Teaching time (in hours per year) (3)
OECD	Australia	-3 700	-58	54
	Austria	-5 100	-66	82
	Flemish Comm. (Belgium)	-4 100	-62	61
	French Comm. (Belgium)	-3 800	-58	54
	Canada	-3 700	-48	44
	Chile	-2 400	-69	74
	Colombia	-1 500	-39	38
	Costa Rica	-2 700	-99	111
	Czech Republic	-1 300	-33	31
	Denmark	-3 400	-62	45
	Estonia[1]	-1 600	-45	43
	Finland	-3 300	-50	56
	France	-2 200	-49	54
	Germany	-4 900	-46	47
	Greece	-2 800	-78	76
	Hungary	-2 000	-66	69
	Iceland	-3 300	-56	50
	Ireland	-4 100	-60	64
	Israel	-1 900	-57	53
	Italy	-2 900	-68	63
	Japan	-3 000	-47	48
	Latvia [1]	-1 200	-47	49
	Lithuania	-3 000	-57	86
	Mexico	-1 300	-31	32
	Netherlands	-3 900	-57	60
	Norway	-4 600	-71	77
	Poland	-2 600	-57	58
	Portugal	-3 100	-64	57
	Slovak Republic	-1 300	-42	49
	Slovenia	-3 700	-59	59
	Spain	-4 300	-69	84
	Switzerland [2]	-4 900	-52	55
	Turkey	-1 700	-38	41

Note: Results for teachers' statutory salaries are rounded to the nearest hundred. Teachers' salaries used in the calculation of this indicator refer to the annual statutory teachers' salaries in public institutions for teachers with 15 years of experience and the most prevalent qualification (Indicator D3). Instruction time refers to the average number of hours per year of compulsory instruction time (Indicator D1) and teaching time refers to the statutory net teaching hours over the school year (Indicator D4). The reference year for these factors may differ by one year for some countries. See Table C7.5a, available on line, for notes on each factor.

1. Teachers' statutory salaries at the start of their career instead of after 15 years of experience for Latvia. Fixed minimum wage that applies to all teachers for Estonia.
2. Teachers' statutory salaries after 10 years of experience instead of 15 years of experience.

Source: OECD (2021), Table C7.5a, available on line. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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Definitions

The data refer to public institutions only.

Average class size refers to number of students enrolled in a given education level divided by the number of classes. It measures the average number of students that are grouped together in classrooms (see Indicator D2).

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 or after-school activities that are formal parts of the compulsory programme (see Indicator D1).

Teachers' teaching time is the annual average number of hours that full-time teachers teach a group or class of students, including all extra hours, such as overtime (see Indicator D4).

Teachers' salary refers to the annual statutory salary of teachers after 15 years of experience, converted to USD using purchasing power parity (PPP) for private consumption (see Indicator D3).

Theoretical class size refers to the theoretical size of classes given the statutory – or theoretical – values of instruction and teaching time and the student-teacher ratio (see *Methodology* section). It does not reflect the actual average class size in countries.

Methodology

The salary cost of teachers per student (SCS) is calculated as:

$$SCS = Teacher\ salary * Instruction\ time * \frac{1}{Teaching\ time} * \frac{1}{Theoretical\ Class\ Size}$$

Where theoretical class size is calculated as:

$$Theoretical\ class\ size = \frac{Instruction\ time}{Teaching\ time} * \frac{Students}{Teachers}$$

The contribution of each factor to the level of the salary cost of teachers per student is analysed by comparing the salary cost of teachers per student in each country to the OECD average then calculating the contribution of these different factors to the variation from the OECD average. This exercise is based on a mathematical relationship between the various factors and follows the method presented in the Canadian publication *Education Statistics Bulletin* (Quebec Ministry of Education, Recreation and Sports, 2003[6]). Using this mathematical relationship and comparing a country's values for the four factors to the OECD averages makes it possible to measure both the direct and indirect contribution of each of these four factors to the variation in salary cost per student between that country and the OECD average.

Please see the *OECD Handbook for Internationally Comparative Education Statistics 2018* (OECD, 2018[7]) for more information and Annex 3 for country-specific notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

Source

Data referring to the 2019 school year are based on the UNESCO, OECD and Eurostat (UOE) data collection on education statistics and on the Survey on Teachers and the Curriculum, which were both administered by the OECD in 2020.

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Indicator C7 tables

Tables Indicator C7. Which factors influence teachers' salary cost?

Table C7.1	Salary cost of teachers per student, by level of education (2019)
Table C7.2	Contribution of various factors to salary cost of teachers per student in primary education (2019)
Table C7.3	Contribution of various factors to salary cost of teachers per student in lower secondary education (2019)
WEB Table C7.4	*Contribution of various factors to salary cost of teachers per student in general programmes of upper secondary education (2019)*
WEB Table C7.5a	*Factors used to compute the salary cost of teachers per student in public institutions, in primary education (2019)*
WEB Table C7.5b	*Factors used to compute the salary cost of teachers per student in public institutions, in lower secondary education (2019)*
WEB Table C7.5c	*Factors used to compute the salary cost of teachers per student in public institutions, in general programmes of upper secondary education (2019)*

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Cut-off date for the data: 17 June 2021. 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.

Table C7.1. Salary cost of teachers per student, by level of education (2019)

Annual salary cost of teachers per student in public institutions, in equivalent USD, converted using PPPs for private consumption, and in percentage of GDP per capita

		Salary cost of teachers per student (in USD, 2019 constant prices)			Salary cost of teachers per student (in percentage of GDP per capita)		
		Primary	Lower secondary	Upper secondary, general programmes	Primary	Lower secondary	Upper secondary, general programmes
		(1)	(2)	(3)	(4)	(5)	(6)
OECD	**Countries**						
	Australia	4 251	5 131	m	8.1	9.7	m
	Austria	4 511	6 711	m	7.7	11.4	m
	Canada	4 285	5 523	5 523	8.7	11.2	11.2
	Chile	2 430	2 280	2 138	9.3	8.7	8.2
	Colombia	1 556	1 350	1 565	9.7	8.4	9.7
	Costa Rica	2 677	2 342	2 076	12.3	10.8	9.5
	Czech Republic	1 395	2 093	m	3.2	4.9	m
	Denmark	4 970	5 338	m	8.2	8.9	m
	Estonia [1]	1 818	2 351	m	4.7	6.0	m
	Finland	3 209	5 388	m	6.2	10.4	m
	France	2 092	2 843	3 020	4.2	5.8	6.1
	Germany	5 097	6 514	m	9.1	11.7	m
	Greece	3 150	3 389	m	10.2	11.0	m
	Hungary	2 113	1 893	2 021	6.2	5.6	6.0
	Iceland	4 019	4 288	m	6.7	7.2	m
	Ireland	4 108	4 891	4 891	4.6	5.5	5.5
	Israel	2 198	3 210	3 514	5.2	7.6	8.4
	Italy	3 343	3 762	3 549	7.5	8.5	8.0
	Japan	3 086	3 780	m	7.4	9.0	m
	Korea	m	m	m	m	m	m
	Latvia [1]	1 235	1 668	m	3.9	5.2	m
	Lithuania	2 194	3 320	m	5.7	8.6	m
	Luxembourg	12 229	11 999	13 230	10.1	9.9	11.0
	Mexico	1 371	1 217	1 812	6.6	5.9	8.7
	Netherlands	3 966	m	4 866	6.7	m	8.2
	New Zealand	m	m	m	m	m	m
	Norway	4 627	4 998	m	7.9	8.5	m
	Poland	2 852	2 690	m	8.4	8.0	m
	Portugal	3 651	5 016	4 794	9.9	13.6	13.0
	Slovak Republic	1 208	1 652	1 460	3.7	5.1	4.5
	Slovenia	4 112	3 106	m	10.0	7.5	m
	Spain	3 881	5 209	5 259	9.2	12.3	12.5
	Sweden	m	m	m	m	m	m
	Switzerland [2]	4 940	7 289	m	6.8	10.0	m
	Turkey	1 680	1 924	2 068	6.1	7.0	7.5
	United States	m	m	m	m	m	m
	Economies						
	Flemish Comm. (Belgium)	4 535	6 135	6 567	8.3	11.2	12.0
	French Comm. (Belgium)	4 377	5 921	6 338	8.0	10.8	11.6
	England (UK)	m	m	m	m	m	m
	Scotland (UK)	m	m	m	m	m	m
	OECD average [3]	3 196	3 680	3 552	6.8	7.9	7.8

Note:. Teachers' salaries used in the calculation of this indicator refer to the annual statutory teachers' salaries in public institutions for teachers with 15 years of experience and the most prevalent qualification (Indicator D3). Instruction time refers to the average number of hours per year of compulsory instruction time (Indicator D1) and teaching time refers to the statutory net teaching hours over the school year (Indicator D4). The reference year for these factors may differ by one year for some countries. See Tables C7.5a, b and c, available on line, for notes on each factor.

1. Teachers' statutory salaries at the start of their career instead of after 15 years of experience for Latvia. Fixed minimum wage that applies to all teachers for Estonia.
2. Teachers' statutory salaries after 10 years of experience instead of 15 years.
3. The OECD average only includes countries and economies with data for all factors used to calculate salary cost.

Source: OECD (2021). See Source section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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

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Table C7.2. Contribution of various factors to salary cost of teachers per student in primary education (2019)

Public institutions only, in equivalent USD, converted using PPPs for private consumption

		Salary cost of teachers per student (2019)	Difference (in USD) from the 2019 OECD average of USD 3 196	Contribution of the underlying factors to the difference from the OECD average			
				Effect (in USD) of teachers' salary below/above the 2019 OECD average of USD 45 006	Effect (in USD) of instruction time (for students) below/above the 2019 OECD average of 811 hours	Effect (in USD) of teaching time (for teachers) below/above the 2019 OECD average of 769 hours	Effect (in USD) of theoretical class size below/above the 2019 OECD average of 15 students per class
		(1)	(2) = (3) + (4) + (5) + (6)	(3)	(4)	(5)	(6)
OECD	**Countries**						
	Australia	4 251	**1 055**	1 368	**787**	- 509	**- 591**
	Austria	4 511	**1 315**	698	**- 542**	- 117	**1 277**
	Canada	4 285	**1 089**	1 698	**479**	- 137	**- 951**
	Chile	2 430	**- 765**	- 707	**621**	- 739	**59**
	Colombia	1 556	**-1 640**	- 351	**502**	- 517	**-1 273**
	Costa Rica	2 677	**- 518**	-1 052	**1 063**	-1 288	**759**
	Czech Republic	1 395	**-1 800**	-1 160	**- 370**	491	**- 761**
	Denmark	4 970	**1 775**	1 013	**1 049**	277	**- 565**
	Estonia [1]	1 818	**-1 377**	-1 581	**- 517**	691	**29**
	Finland	3 209	**13**	- 121	**- 708**	411	**431**
	France	2 092	**-1 104**	- 429	**168**	- 411	**- 431**
	Germany	5 097	**1 901**	2 233	**- 474**	399	**- 257**
	Greece	3 150	**- 46**	-1 713	**- 265**	504	**1 429**
	Hungary	2 113	**-1 083**	-2 084	**- 437**	463	**975**
	Iceland	4 019	**823**	- 154	**- 387**	874	**490**
	Ireland	4 108	**912**	1 180	**404**	- 602	**- 70**
	Israel	2 198	**- 998**	- 898	**455**	- 223	**- 332**
	Italy	3 343	**148**	- 579	**311**	13	**402**
	Japan	3 086	**- 109**	276	**- 161**	90	**- 314**
	Korea	m	**m**	m	**m**	m	**m**
	Latvia [1]	1 235	**-1 961**	-2 329	**- 681**	698	**352**
	Lithuania	2 194	**-1 002**	- 913	**- 757**	- 226	**894**
	Luxembourg	12 229	**9 034**	5 454	**933**	- 376	**3 022**
	Mexico	1 371	**-1 825**	- 606	**- 29**	- 32	**-1 158**
	Netherlands	3 966	**771**	1 318	**536**	- 693	**- 390**
	New Zealand	m	**m**	m	**m**	m	**m**
	Norway	4 627	**1 431**	290	**- 288**	143	**1 285**
	Poland	2 852	**- 344**	-1 505	**- 931**	1 035	**1 057**
	Portugal	3 651	**455**	- 102	**396**	37	**125**
	Slovak Republic	1 208	**-1 988**	-1 539	**- 404**	102	**- 147**
	Slovenia	4 112	**917**	- 132	**- 638**	785	**902**
	Spain	3 881	**685**	284	**- 83**	- 446	**930**
	Sweden	m	**m**	m	**m**	m	**m**
	Switzerland [2]	4 940	**1 744**	2 030	**- 69**	- 84	**- 132**
	Turkey	1 680	**-1 516**	- 849	**- 282**	164	**- 549**
	United States	m	**m**	m	**m**	m	**m**
	Economies						
	Flemish Comm. (Belgium)	4 535	**1 340**	759	41	115	424
	French Comm. (Belgium)	4 377	**1 181**	612	71	309	189
	England (UK)	m	**m**	m	m	m	m
	Scotland (UK)	m	**m**	m	m	m	m

Note:. Teachers' salaries used in the calculation of this indicator refer to the annual statutory teachers' salaries in public institutions for teachers with 15 years of experience and the most prevalent qualification (Indicator D3). Instruction time refers to the average number of hours per year of compulsory instruction time (Indicator D1) and teaching time refers to the statutory net teaching hours over the school year (Indicator D4). The reference year for these factors may differ by one year for some countries. See Table C7.5a, available on line, for notes on each factor.

1. Teachers' statutory salaries at the start of their career instead of after 15 years of experience for Latvia. Fixed minimum wage that applies to all teachers for Estonia.
2. Teachers' statutory salaries after 10 years of experience instead of 15 years.

Source: OECD (2021). See Source section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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

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Table C7.3. Contribution of various factors to salary cost of teachers per student in lower secondary education (2019)

Public institutions only, in equivalent USD, converted using PPPs for private consumption

		Salary cost of teachers per student (2019)	Difference (in USD) from the 2019 OECD average of	Contribution of the underlying factors to the difference from the OECD average			
			USD 3 680	Effect (in USD) of teachers' salary below/above the 2019 OECD average of USD 46 131	Effect (in USD) of instruction time (for students) below/above the 2019 OECD average of 925 hours	Effect (in USD) of teaching time (for teachers) below/above the 2019 OECD average of 702 hours	Effect (in USD) of theoretical class size below/above the 2019 OECD average of 17 students per class
		(1)	(2) = (3) + (4) + (5) + (6)	(3)	(4)	(5)	(6)
OECD	**Countries**						
	Australia	5 131	**1 450**	1 503	343	-687	290
	Austria	6 711	**3 030**	1 036	-141	659	1 476
	Canada	5 523	**1 842**	1 940	-7	-268	178
	Chile	2 280	**-1 400**	-810	383	-1 034	61
	Colombia	1 350	**-2 331**	-432	665	-456	-2 108
	Costa Rica	2 342	**-1 339**	-1 045	597	-1 762	870
	Czech Republic	2 093	**-1 587**	-1 570	-120	360	-258
	Denmark	5 338	**1 658**	1 057	1 164	-43	-520
	Estonia [1]	2 351	**-1 329**	-2 002	-362	461	574
	Finland	5 388	**1 707**	67	-620	770	1 491
	France	2 843	**-838**	-478	73	86	-518
	Germany	6 514	**2 834**	3 012	-117	383	-444
	Greece	3 389	**-292**	-2 006	-577	518	1 773
	Hungary	1 893	**-1 787**	-2 160	-407	214	566
	Iceland	4 288	**608**	-269	-393	607	662
	Ireland	4 891	**1 211**	1 313	-5	-11	-86
	Israel	3 210	**-470**	-897	214	41	172
	Italy	3 762	**81**	-432	253	426	-165
	Japan	3 780	**100**	236	-131	494	-499
	Korea	m	**m**	m	m	m	m
	Latvia [1]	1 668	**-2 013**	-2 978	-432	353	1 045
	Lithuania	3 320	**-361**	-1 333	-515	-943	2 431
	Luxembourg	11 999	**8 319**	6 126	-694	-392	3 278
	Mexico	1 217	**-2 463**	-136	571	-859	-2 039
	Netherlands	m	**m**	m	m	m	m
	New Zealand	m	**m**	m	m	m	m
	Norway	4 998	**1 318**	215	-246	248	1 101
	Poland	2 690	**-990**	-1 627	-356	1 291	-297
	Portugal	5 016	**1 336**	-237	-33	645	962
	Slovak Republic	1 652	**-2 028**	-1 990	-336	213	84
	Slovenia	3 106	**-575**	-206	-641	422	-150
	Spain	5 209	**1 529**	725	572	211	20
	Sweden	m	**m**	m	m	m	m
	Switzerland [2]	7 289	**3 609**	3 212	118	-345	624
	Turkey	1 924	**-1 757**	-1 069	-262	962	-1 387
	United States	m	**m**	m	m	m	m
	Economies						
	Flemish Comm. (Belgium)	6 135	**2 455**	837	104	266	1 248
	French Comm. (Belgium)	5 921	**2 240**	653	96	369	1 123
	England (UK)	m	**m**	m	m	m	m
	Scotland (UK)	m	**m**	m	m	m	m

Note:. Teachers' salaries used in the calculation of this indicator refer to the annual statutory teachers' salaries in public institutions for teachers with 15 years of experience and the most prevalent qualification (Indicator D3). Instruction time refers to the average number of hours per year of compulsory instruction time (Indicator D1) and teaching time refers to the statutory net teaching hours over the school year (Indicator D4). The reference year for these factors may differ by one year for some countries. See Table C7.5b, available on line, for notes on each factor.

1. Teachers' statutory salaries at the start of their career instead of after 15 years of experience for Latvia. Fixed minimum wage that applies to all teachers for Estonia.
2. Teachers' statutory salaries after 10 years of experience instead of 15 years.

Source: OECD (2021). See Source section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterC.pdf).

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 much time do students spend in the classroom?

Highlights

- Students in OECD countries and economies receive an average of 7 638 hours of compulsory instruction during their primary and lower secondary education, ranging from 5 334 hours in Poland to almost double that in Australia (11 060 hours).
- Across OECD countries and economies, compulsory instruction time for primary students averages 807 hours per year, while lower secondary students receive an average of 116 more hours of compulsory education per year than primary students (923 hours).
- On average across OECD countries and economies, instruction in reading, writing and literature and in mathematics represents 42% of compulsory instruction time for primary school students, but only 27% of compulsory instruction time for lower secondary school students.

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. 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. During the COVID-19 pandemic, actual practices on organisation of the school year and distribution of instruction time across subjects may have differed from the statutory requirements in some countries due to school closures and changes in learning environment (e.g. remote learning, sanitary restrictions upon school reopening) (see *The state of global education – 18 months into the pandemic* (OECD, 2021[1]) and Annex 3 for more information).

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 Indicator C7, which shows the factors influencing the salary cost of teachers per student, and Indicator D6 on the allocation of funding to schools). 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

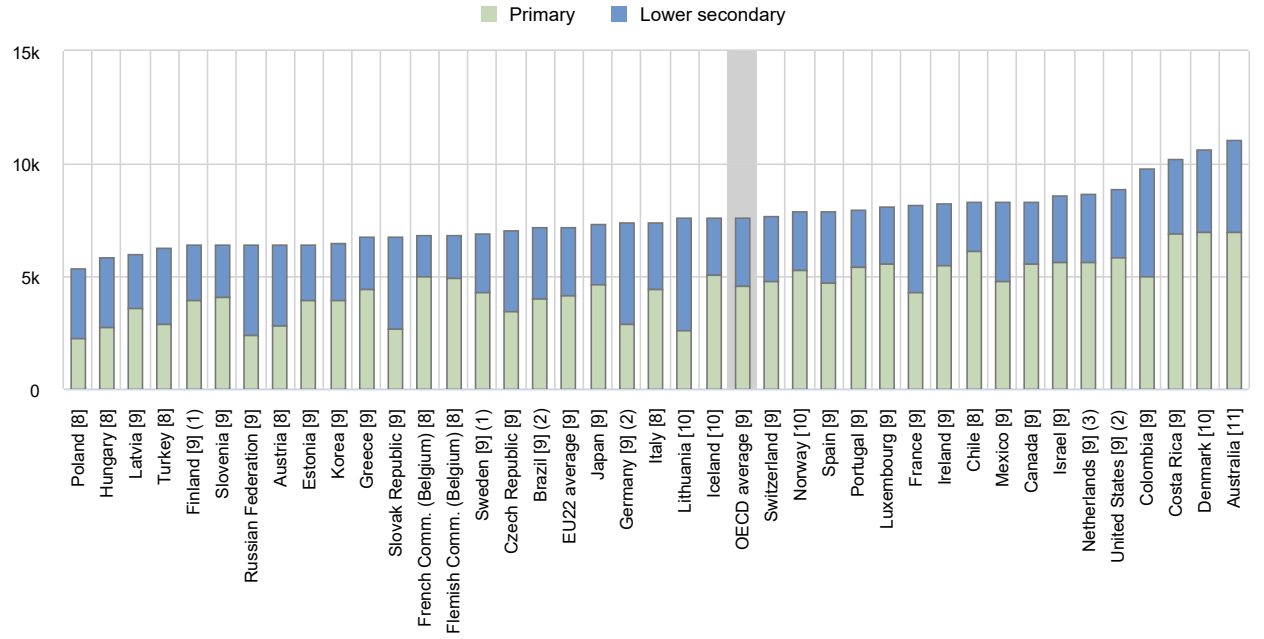
- Primary education lasts six years on average across OECD countries and economies, ranging from four to seven years. Lower secondary general education lasts three years on average across OECD countries and economies,

ranging from two to five years. In three out of five OECD and partner countries and economies, at least one year of upper secondary education is part of compulsory full-time general education.

- Excluding a few countries where the compulsory curriculum is mostly devoted to subjects with a flexible timetable, no compulsory instruction time for primary students and lower secondary students is devoted to subjects with a flexible timetable in most other OECD countries and economies. An average of 4% of compulsory instruction time both at the primary level and at the lower secondary level is devoted to flexible subjects chosen by schools.
- In about one-quarter of countries with available data, 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).

Figure D1.1. Compulsory instruction time in general education (2021)

In hours, in primary and lower secondary education, in public institutions



Note: Numbers in square brackets refer to the total number of years for primary and lower secondary education.
1. 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.
2. Year of reference 2020.
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 was excluded from the calculation.
Countries and economies are ranked in ascending order of the total number of compulsory instruction hours.
Source: OECD (2021), Table D1.1. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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Analysis

Compulsory 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 bear a heavier annual workload based on statutory requirements. In other countries, the workload is distributed evenly over more years. This indicator focuses on compulsory education at primary and lower secondary levels. However, in 19 OECD and partner countries, at least one year of pre-primary education is also compulsory, so the starting age for compulsory education is younger than the age at which primary education starts (see Figure X3.D1.1 in Annex 3 for more details on the number of years of compulsory education). Moreover, in around three out of five countries and economies with available data, at least one year of upper secondary education is part of compulsory full-time education (Table D1.1).

In around three out of four countries and economies with available data, students are required to start primary education at the age of 6. In most other countries, students are not required to start until they are 7, as in Estonia, Finland, Latvia, Lithuania, Poland, the Russian Federation and Sweden. Only in Australia, England (United Kingdom), New Zealand and Scotland (United Kingdom) does primary education start at age 5.

There is also substantial variation in the duration of primary education. On average across OECD countries and economies, primary education lasts six years, but it ranges from four years in Austria, Germany, Hungary, Lithuania, Poland, the Russian Federation, the Slovak Republic and Turkey to seven years in Australia, Denmark, Iceland, Norway and Scotland (United Kingdom). Lower secondary education averages three years, but ranges from two years in Chile and the Flemish and French Communities of Belgium to five years in Germany, the Russian Federation and the Slovak Republic, and six years in Lithuania (Table D1.2). However, the number of grades allocated to each level of compulsory education may differ within countries, across subnational entities, for example in federal countries such as Australia, Canada and the United States (Box D1.2).

Countries allocate annual instruction time differently over the year. The number of instruction days and the way they are distributed across the school year can vary significantly between countries, as countries organise holidays differently (Box D1.1). The distribution of instruction time during the week also varies between countries. For example, whereas students go to primary and lower secondary school five days per week in most countries, in Belgium and France, students typically do not go to school on Wednesday afternoon (see Box D1.2 in OECD (2019[2])). Countries also vary in the way they organise recess and breaks within the school day (see Box D1.2 in OECD (2018[3])).

Box D1.1. Organisation of breaks within the school year in lower secondary education (2021)

The length of the school year varies greatly between countries, implying that there is also wide variation in the number of weeks students are not at school across countries. Countries organise the school year in different ways, in terms of the frequency and length of school breaks during the school year.

In 26 out of 40 OECD countries and economies, the total length of school breaks is harmonised for the whole country, and varies from about 10 weeks in Mexico to about 18 weeks in Ireland, with an average of 14 weeks. However, the distribution of breaks during the school year can be flexible across subnational entities. For example, dates for school breaks are defined according to three zones in France, and similar flexibility occurs in Austria, the Czech Republic, the Netherlands, Poland, Slovenia and the Slovak Republic (see Figure X3.D1.3 in Annex 3 for the organisation of the school year at lower secondary level).

In another 14 OECD countries, the total length and the distribution of school breaks can differ between subnational entities (especially in federal countries), types of educational programmes (e.g. Chile) and/or individual schools (e.g. Italy), even if decisions related to these school breaks should be taken following some higher level guidelines. For example, schools in Italy autonomously organise school breaks under regional guidelines.

In all countries, the longest break is the one between two successive school years. This break varies from 5 weeks in some *cantons* in Switzerland to over 13 weeks in Chile (programmes with *Jornada Escolar Completa*), some regions in Italy, Latvia, Portugal (for grade 9) and the Russian Federation. In nearly all countries with available information, this break between two school years represents at least half of the school holiday time (Figure D1.2).

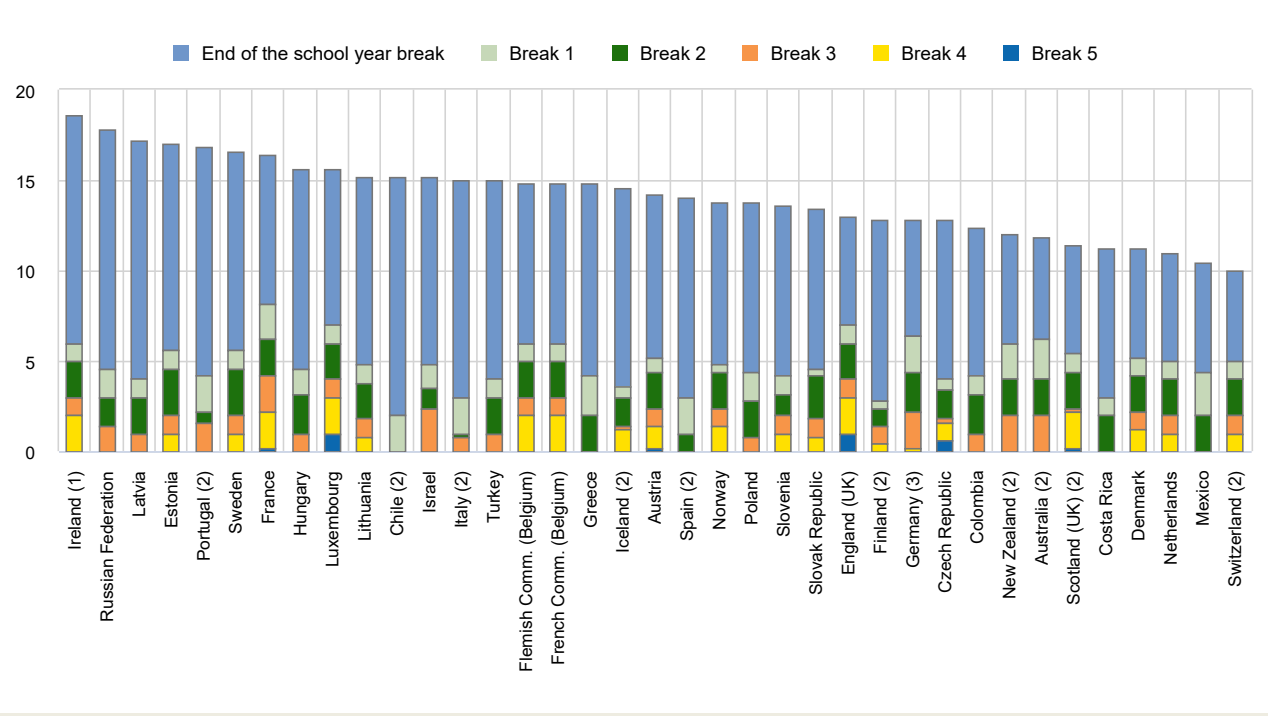
In addition to this long break, students usually have three to four other shorter holiday periods during the school year. Austria, the Czech Republic, England (United Kingdom), France, Luxembourg and Scotland (United Kingdom) as well as some *Länder* in Germany offer a fifth break. Only in Chile is there one additional break other than the long break (Figure D1.2).

Breaks during the school year differ in both length and timing, but the main common break period is at the end of calendar year, corresponding to either an approximately two-week break (in the northern hemisphere) or the end of the school year break in the southern hemisphere.

In most countries, the length of the different breaks within the school year varies, from a few days to two weeks. Exceptions to this pattern are Slovenia with four one-week breaks, and Australia, France, Greece and New Zealand with two-week breaks (from two breaks in Greece to four in France). Belgium, England (United Kingdom), Ireland and Luxembourg alternate one-week and two-week breaks during the school year (Figure D1.2).

Figure D1.2. School breaks in compulsory general lower secondary education (2021)

In weeks, in public institutions



Note: Breaks exclude public/religious days, except if these days are included in longer breaks.
1. End-of-year break includes examination periods.
2. Minimum length of breaks. Length of breaks may vary by region, by programme and/or by individual school.
3. Data for Nordrhein-Westfalen. The length and number of breaks for Germany are indicative only as variation between and among jurisdictions can occur.
Countries and economies are ranked in descending order of the total number of weeks of breaks for a school year.
Source: Estimated from Eurydice (2020) and OECD (2021). See *Source* section and Annex 3 for more information (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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In most countries, the organisation of breaks is usually similar at primary and lower secondary levels. However, breaks at the end of the school year are shorter at lower secondary level than at primary level by two weeks in Greece and Lithuania, and one week shorter in the Russian Federation. On the contrary, they are about one week longer in Israel, two weeks longer in Portugal, and three weeks longer in Ireland (see Figure X3.D1.2 in Annex 3 for the organisation of school year at the primary level).

During the school year 2020/21, some countries rescheduled some of the school breaks due to the COVID-19 pandemic. For example, some school breaks during the school year were extended for three to five days in the Flemish and French Communities of Belgium, the Czech Republic, Ireland and Slovenia (see Annex 3 for details). In France, the dates of spring break were harmonised across all three zones as an exceptional national measure.

Intended instruction time

Intended instruction time is the total number of hours during which schools are obliged to offer instruction in compulsory and, if applicable, non-compulsory subjects. However, intended instruction time could be different from actual instruction time.

In most countries, total statutory number of hours of intended and/or compulsory instruction time is defined at the national level (i.e. uniform across the country). Total statutory number of hours on intended and/or compulsory instruction time are defined at the subnational level in some federal countries (e.g. Belgium, Canada, Germany, the United States) and in some countries with a decentralised education system (e.g. Spain, the United Kingdom) (Box D1.2).

Box D1.2. Subnational variation in instruction time at the primary and lower secondary levels (2021)

Primary and lower secondary education is part of compulsory education in OECD countries. It is thus expected that all children enrolled in compulsory education receive a similar amount of instruction time within each country. However, subnational data provided by four countries (2021 data for Belgium and the United Kingdom, 2020 data for the United States and 2019 data for Canada) show that instruction time varies significantly among subnational entities within a single country.

Among the three countries with available information, the number of grades in primary and lower secondary education is similar across subnational entities in two countries only (Belgium and the United States), In the United Kingdom, the number of grades at the primary and at the lower secondary level varies by one year between subnational entities. The number of grades varies from six to seven years at the primary level, and from three to four years at the lower secondary level. Considering that the number of grades of compulsory education at the upper secondary levels also varies from one to two years at the subnational level, the total number of years of compulsory education varies at the subnational level, from 11 years in England, Scotland and Wales to 12 years in Northern Ireland. Nevertheless, as the theoretical starting age for primary education also varies by one year between Northern Ireland and other subnational entities, the theoretical ending age of compulsory education is similar for all students in the United Kingdom.

Despite a similar number of grades at primary and lower secondary levels at the subnational level in most countries, the number of compulsory instruction hours varies at the subnational level to various extents. At the primary level, the annual number of compulsory instruction hours varies by less than 2% in Belgium (11 hours, from 824 hours in the Flemish Community to 835 hours in the French Community), by 9% in the United Kingdom (74 hours among the two subnational entities with available data, from 787 hours in Northern Ireland to 861 hours in Wales) and by 75% in the United States (540 hours, from an estimated 720 hours in New Jersey to 1 260 hours in Texas). These variations in the annual amount of instruction hours can translate into significant variation in the total number of hours of instruction over the whole duration of primary education. Belgium has the smallest variation in the total number of compulsory instruction hours between subnational entities: the total number of compulsory instruction hours varies by 65 hours between the French and Flemish Communities (5 012 hours compared with 4 947 hours). The difference between subnational entities is 342 hours in the United Kingdom (Wales and Northern Ireland only). In Canada, the variation in intended instruction hours (compulsory and non-compulsory hours) between subnational entities reaches 745 hours. It is even larger in the United States, where the difference between the lowest and highest total compulsory instruction hours reaches 3 240 hours.

Variations are similar at the lower secondary level: the annual number of compulsory instruction hours varies by 3% in the United Kingdom, 6% in Belgium and 75% in the United States, although all three countries have smaller subnational variations at this level than at the primary level. The total number of compulsory instruction hours at the lower secondary level varies between subnational entities by 86 hours in the United Kingdom (Wales and Northern Ireland only), 112 hours in Belgium and 1 620 hours in the United States. In Canada, intended instruction time varies by 13% (353 hours) across subnational entities.

The extent of these variations may be related to differences across subnational entities in the number of annual days of instruction at both the primary and lower secondary levels, except in the United Kingdom, where the number of instruction days does not vary between subnational entities. In 2020, the annual number of instruction days at the primary level varies by 6% in Canada (10 days, from 180 days in Quebec to 190 days in Saskatchewan), 13% in Belgium (20 days, from 159 days in the Flemish Community to 179 days in the French Community, mostly due to differences in the way instruction time is defined in official documents, while the actual instruction time is similar) and 16% in the United States (26 days, from 160 days in Colorado to 186 days in Kansas). Similar variations are observed at the lower secondary level.

Source: *Education at a Glance Database*, http://stats.oecd.org.

Instruction may also occur outside compulsory school hours and outside the classroom or school, which is not covered in this indicator. In some countries, lower secondary school students are encouraged to take after-school classes in subjects already taught in school to help them improve their performance. Students can participate in after-school lessons in the form of remedial catch-up classes or enrichment courses, with individual tutors or in group lessons provided by school teachers, or in other independent courses (see Box D1.2 in OECD (2017[4]) and *Organisation of the School Day* in Annex 3 for more information).

Compulsory instruction time

Compulsory instruction time refers to the amount and allocation of instruction time that must be provided in almost every public school and must be attended by almost all public sector students, as per public regulations.

Across OECD countries and economies, total compulsory instruction time in primary and lower secondary general education averages 7 638 hours spanning across 9 years on average. This ranges from 5 334 hours in Poland (in 8 years) to 11 060 hours in Australia (in 11 years) (Figure D1.1). In England (United Kingdom), New Zealand and Scotland (United Kingdom), the regulations do not prescribe compulsory instruction time in schools. However, schools are required to be open for instruction for a minimum number of hours per day (New Zealand) or to allow sufficient instruction time to deliver a broad and balanced curriculum that includes all statutory requirements (England and Scotland [United Kingdom]).

On average across OECD countries and economies, students receive 4 590 hours of compulsory instruction over 6 years of primary education and 3 049 hours during 3 years of lower secondary general education. The average annual number of compulsory instruction hours tends to increase with level of education in most countries (from 807 hours in primary education to 923 hours in lower secondary general programmes on average across OECD countries and economies), except in Costa Rica (2% decrease), Luxembourg (9% decrease) and Portugal (8% decrease) (Table D1.1).

Compulsory instruction time per year generally increases with age (e.g. 783 hours at age 7, 843 hours at age 10 then 928 hours at age 13). In Korea, Latvia, Mexico and Poland, the average annual number of compulsory instruction hours increases by more than 40% between ages 7 and 13 (Table D1.5, available on line).

Compulsory instruction time, by definition, only captures the time spent by students in formal classroom settings (as established in public regulations). However, during the COVID-19 pandemic, the organisation of instruction was adapted in some countries to allow distance learning. In more than two-thirds of OECD countries and economies (21 out of 33 countries and economies at primary level and 25 countries and economies at lower secondary level), instruction was delivered via distance learning during school closures in 2020 (OECD/UIS/UNESCO/UNICEF/WB, 2021[5]). In some countries, statutory requirements on the organisation of the school year were adjusted. For instance, in Brazil, it was not mandatory for schools to cover the minimum statutory number of school days, but only to provide the minimum annual number of instruction hours required by regulation.

Non-compulsory instruction time

In about three out of five countries and economies with available data, there is no non-compulsory instruction time, so intended and compulsory instruction time are the same (i.e. intended instruction time is fully compulsory) for primary and lower secondary students. In another two-fifths of the countries and economies, intended instruction time includes both compulsory instruction time and a specified amount of non-compulsory instruction time (which must be provided in almost every public school, but which is not compulsory for almost all students in public schools): six countries at primary level and seven at lower secondary level (Table D1.1).

Among countries with available data, non-compulsory instruction time represents more than 20% of compulsory instruction time in a few countries. At the primary level, non-compulsory time accounts for 21% of total compulsory instruction time in Slovenia and 53% in Greece. At the lower secondary level, non-compulsory time accounts for 31% of total compulsory instruction time in Greece, 29% in France and 23% in Slovenia (Table D1.3 and Table D1.4). However these values need to be interpreted with caution. In France, for example, lower secondary students enjoy a wide variety of courses in non-compulsory curriculum, and they cannot physically attend all the subjects and hours indicated.

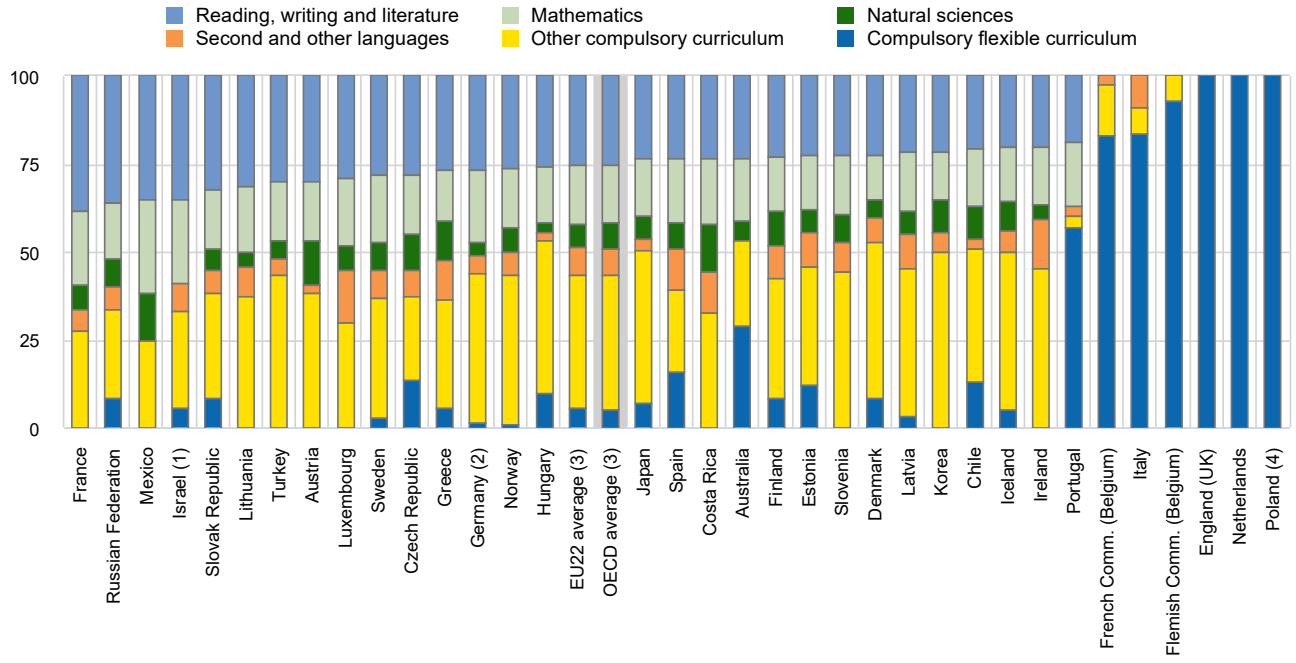
Instruction time per subject

On average across OECD countries, 42% of the compulsory instruction time is devoted to providing students with fundamental skills in literacy and numeracy: 25% on reading, writing and literature and 17% on mathematics. In particular, France, Israel (in Israel, it also includes time devoted to natural sciences, social studies and other languages), Lithuania, Mexico and the Russian Federation specifically allocate more than a half of compulsory instruction time on reading, writing and literature (first language), and mathematics (Ireland and Luxembourg could also be included in the list as instruction time on second language includes other national languages). Together with arts (10%), physical education and health (9%), natural sciences (7%), second and other languages (7%), and social studies (6%), these seven study areas form more than 80% of compulsory instruction time on average across OECD countries where instruction time per subject is specified (Table D1.3 and Figure D1.3).

Religion, ethics and moral education; information and communication technologies (ICT); technology; practical and vocational skills; and other subjects make up the remainder of the non-flexible compulsory curriculum at the primary level, representing about 12% of the compulsory instruction time on average across OECD countries (Table D1.3).

Figure D1.3. Instruction time per subject in primary education (2021)

In percentage of total compulsory instruction time, in public institutions



Note: Some subject categories include subjects in different categories. See source table for details.
1. Reading, writing and literature includes social studies and other languages. Mathematics includes natural sciences.
2. Year of reference 2020.
3. Excludes England (United Kingdom), the Flemish Community (Belgium), the French Community (Belgium), Italy, the Netherlands, Poland and Portugal.
4. Excludes the last year of primary education (first four years of primary school) for which the instruction time is allocated to specific compulsory subjects.
Countries and economies are ranked in descending order of the proportion of instruction hours devoted to reading, writing and literature.
Source: OECD (2021), Table D1.3. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

StatLink https://stat.link/r0m2o4

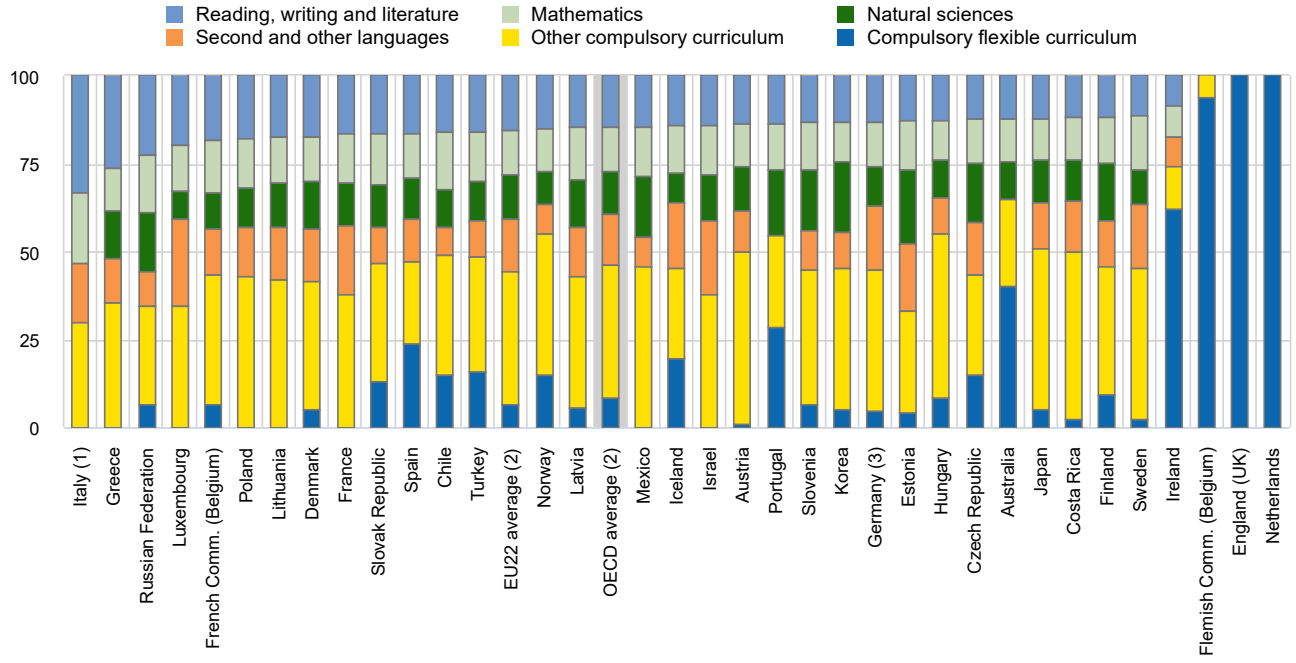
At the lower secondary level, the seven major study areas at the primary level continue to represent the major part of the curriculum (79%), but with a significant shift in the allocation of time from primary education as the curriculum generally becomes more subject-specific. On average across OECD countries and economies where instruction time per subject is

specified, reading, writing and literature (14%) and mathematics (13%) make up 27% of the compulsory curriculum: 15 percentage points lower than that in primary education. Proportions of time allocated to physical education and health (8%) and to the arts (7%) also decreased from those at the primary level. Conversely, the proportions of compulsory instruction time in natural sciences climbs from 7% to 12%, in social studies from 6% to 11%, and in second and other languages from 7% to 15%. Religion, ethics and moral education; ICT; technology; practical and vocational skills; and other subjects make up the remainder (about 14%) of the non-flexible compulsory curriculum for lower secondary students (Figure D1.4, Table D1.3 and Table D1.4).

At the lower secondary level, there is substantial variation in how countries allocate time to the different subjects within the compulsory curriculum. For example, reading, writing and literature account for 12% or less of compulsory instruction time in Australia, Costa Rica, the Czech Republic, Finland, Ireland, Japan and Sweden, but more than 25% of compulsory instruction time in Greece and Italy (in Italy, this also includes time devoted to social studies). In Ireland, reading, writing and literature are taught in two national languages, and therefore the combined instruction time of the two languages could reach around 15% of the total compulsory instruction time. Natural sciences account for 10% or less of compulsory instruction time in Iceland, Luxembourg and Norway, but 20% or more of compulsory instruction time in Estonia and Korea (in Korea, this also includes time devoted to ICT, technology, and practical and vocational skills). Compulsory instruction time devoted to second and other languages also varies widely between countries. Second-language instruction accounts for 7% or less of compulsory instruction time in Costa Rica and Greece and 13% or more in the French Community of Belgium, Iceland and Japan. In addition, more than four out of ten countries with available data allocate some compulsory instruction time for lower secondary students to instruction in another language in addition to a second language (Figure D1.4, Table D1.3 and Table D1.4).

Figure D1.4. Instruction time per subject in general lower secondary education (2021)

In percentage of total compulsory instruction time, in public institutions



Note: Some subject categories include subjects in different categories. See source table for details.
1. Reading, writing and literature includes social studies. Mathematics includes natural sciences.
2. Excludes England (United Kingdom), the Flemish Community (Belgium), Ireland and the Netherlands.
3. Year of reference 2020.
Countries and economies are ranked in descending order of the proportion of instruction hours devoted to reading, writing and literature.
Source: OECD (2021), Table D1.4. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

StatLink https://stat.link/axbns8

As the difference between the primary and lower secondary levels shows, there are significant differences in how time is allocated to school subjects as students grow older. For example, on average across OECD countries, 28% of instruction time is devoted to reading, writing and literature for 7-year-olds, 19% for 11-year-olds and 12% for 15-year-olds. In contrast, while an average of 4% of instruction time for 7-year-olds is devoted to a second language, 11% of instruction time for 11-year-olds is spent studying a second language and 1% studying other languages, while for 15-year-olds, the percentages are 10% and 5%, respectively. The proportion of instruction time devoted to other subjects also changes in a similar way across ages (Table D1.6, available on line).

Flexibility in the curriculum

In most countries, central and state authorities establish regulations or recommendations regarding instruction time and the curriculum. However, local authorities, schools, teachers and/or students also have varying degrees of freedom in organising instruction time or in choosing subjects.

In about one-quarter of countries with available data, the allocation of instruction time across grades is flexible in primary and lower secondary general education (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). In such cases, schools/local authorities are free to decide how much time should be allocated for each grade (Table D1.2).

Setting compulsory subjects within a flexible timetable is the practice for most subjects in a few countries and economies. In Portugal, more than half of the compulsory curriculum at the primary level is organised within a flexible timetable, and the proportion exceeds 80% in the Flemish and French Communities of Belgium and in Italy. In England (United Kingdom), the Netherlands and Poland (in each of the first three grades), the entire curriculum at the primary level is organised as a flexible timetable. At the lower secondary level, similar patterns are found in the Flemish Community of Belgium, England (United Kingdom) and the Netherlands. In these countries and economies, compulsory subjects and/or total instruction time are specified, but not how time should be allocated to each subject. Local authorities, schools and/or teachers are free to decide how much time to allocate to each compulsory subject. In Scotland (United Kingdom), at both primary and lower secondary levels, some compulsory subjects are specified, but there is no regulation on total instruction time, which is the responsibility of local authorities and schools themselves. Excluding these countries and economies, compulsory subjects with flexible timetables account for 1% of the compulsory instruction time at both primary and lower secondary levels, even if they are a significant part of the curriculum in some countries (Table D1.3 and Table D1.4).

Flexibility in the choice of subjects is less common across OECD countries. On average, 4% of compulsory instruction time is allocated to subjects chosen by schools at the primary level. At the lower secondary level, 4% of compulsory instruction time is allocated to subjects chosen by schools and another 3% to subjects chosen by students. However, some countries allocate a substantial part of the compulsory instruction time to flexible subjects. For example, about 10% or more of compulsory instruction time is allocated to subjects chosen by schools in Chile, the Czech Republic, Estonia (primary), the French Community of Belgium (lower secondary), Hungary (primary), the Slovak Republic (lower secondary) and Spain (primary). At least 20% of compulsory instruction time is allocated in this way in Australia (29% at the primary level and 22% at lower secondary level), Ireland (62% at lower secondary level) and Spain (24% at lower secondary level). In Australia, Iceland, Norway and Turkey, 15-20% of compulsory instruction time is allocated to subjects chosen by lower secondary students (Table D1.3 and Table D1.4).

Flexibility in the curriculum may allow more agile interventions to minimise the impact of learning interruptions due to the COVID-19 pandemic. For example, in Israel, the latest change in instruction time regulations in primary education and lower and secondary education illustrate different types of flexible allocation of compulsory instruction time to accommodate for unexpected changes in the organisation of instruction. At the primary level, compulsory instruction time for each grade is recommended to be distributed across a few clusters of similar subjects. Schools and teachers are then free to decide how much time to allocate to each compulsory subject within each cluster. At the secondary level, compulsory instruction hours for each compulsory subject are allocated across multiple grades. Schools and teachers are then free to adapt the education programmes for a period longer than one year.

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 (2007[6])).

This 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[7]) and Annex 3 for country-specific notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

Source

Data on instruction time are from the 2020 Joint Eurydice-OECD Instruction time data collection and refer to instruction time during compulsory primary and full-time (lower and upper) secondary general education for the school year 2020/21.

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OECD/UIS/UNESCO/UNICEF/WB (2021), *Special Survey on COVID Database*, https://www.oecd.org/education/Preliminary-Findings-COVID-Survey-OECD-database.xlsx (accessed on 17 May 2021). [5]

Indicator D1 tables

Tables Indicator D1. How much time do students spend in the classroom?

Table D1.1	Instruction time in compulsory general education (2021)
Table D1.2	Organisation of compulsory general education (2021)
Table D1.3	Instruction time per subject in primary education (2021)
Table D1.4	Instruction time per subject in general lower secondary education (2021)
WEB Table D1.5	*Instruction time in compulsory general education, by age (2021)*
WEB Table D1.6	*Instruction time per subject for 6-17 year-olds (2021)*

StatLink https://stat.link/3ruxib

Cut-off date for the data: 17 June 2021. 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*.

Table D1.1. Instruction time in compulsory general education[1] (2021)

By level of education, in public institutions

		Primary						Lower secondary					
		Number of grades that are part of compulsory education	Average hours per year			Total number of hours			Number of grades that are part of compulsory education	Average hours per year			Total number of hours		
			Compulsory instruction time	Non-compulsory instruction time	Intended instruction time	Compulsory instruction time	Non-compulsory instruction time	Intended instruction time		Compulsory instruction time	Non-compulsory instruction time	Intended instruction time	Compulsory instruction time	Non-compulsory instruction time	Intended instruction time
		(1)	(2)	(3)	(4)=(2)+(3)	(5)	(6)	(7)=(5)+(6)	(8)	(9)	(10)	(11)=(9)+(10)	(12)	(13)	(14)=(12)+(13)
OECD	**Countries**														
	Australia	7	1 000	m	m	6 998	m	m	4	1 016	m	m	4 062	m	m
	Austria	4	705	m	m	2 820	m	m	4	900	m	m	3 600	m	m
	Canada	6	922	a	922	5 530	a	5 530	3	923	a	923	2 770	a	2 770
	Chile	6	1 026	a	1 026	6 156	a	6 156	2	1 065	a	1 065	2 131	a	2 131
	Colombia	5	1 000	a	1 000	5 000	a	5 000	4	1 200	a	1 200	4 800	a	4 800
	Costa Rica	6	1 147	a	1 147	6 880	a	6 880	3	1 120	a	1 120	3 360	a	3 360
	Czech Republic	5	690	a	690	3 452	a	3 452	4	892	a	892	3 569	a	3 569
	Denmark	7	1 000	a	1 000	7 000	a	7 000	3	1 200	a	1 200	3 600	a	3 600
	Estonia	6	661	a	661	3 964	a	3 964	3	823	a	823	2 468	a	2 468
	Finland [2]	6	660	33	693	3 962	195	4 157	3	808	87	894	2 423	261	2 683
	France [3]	5	864	a	864	4 320	a	4 320	4	958	279	1 237	3 832	1 116	4 948
	Germany [4, 5]	4	725	a	725	2 900	a	2 900	5	900	a	900	4 502	a	4 502
	Greece	6	740	392	1 131	4 437	2 349	6 786	3	772	238	1 011	2 317	715	3 032
	Hungary	4	678	a	678	2 712	a	2 712	4	792	a	792	3 168	a	3 168
	Iceland	7	729	a	729	5 100	a	5 100	3	839	a	839	2 516	a	2 516
	Ireland	6	915	a	915	5 490	a	5 490	3	924	a	924	2 772	a	2 772
	Israel	6	938	a	938	5 629	a	5 629	3	989	a	989	2 968	a	2 968
	Italy	5	891	a	891	4 455	a	4 455	3	990	a	990	2 970	a	2 970
	Japan	6	778	a	778	4 669	a	4 669	3	890	a	890	2 669	a	2 669
	Korea	6	655	a	655	3 928	a	3 928	3	842	a	842	2 525	a	2 525
	Latvia	6	599	m	m	3 596	m	m	3	788	m	m	2 365	m	m
	Lithuania	4	645	54	699	2 578	216	2 794	6	834	119	952	5 003	712	5 715
	Luxembourg	6	924	a	924	5 544	a	5 544	3	845	a	845	2 535	a	2 535
	Mexico	6	800	a	800	4 800	a	4 800	3	1 167	a	1 167	3 500	a	3 500
	Netherlands [6]	6	940	a	940	5 640	a	5 640	3	1 000	a	1 000	3 000	a	3 000
	New Zealand	6	m	m	m	m	m	m	4	m	m	m	m	m	m
	Norway	7	753	a	753	5 272	a	5 272	3	874	a	874	2 622	a	2 622
	Poland	4	567	57	624	2 268	227	2 495	4	767	65	831	3 066	258	3 324
	Portugal	6	905	146	1 051	5 429	877	6 307	3	835	25	860	2 505	75	2 580
	Slovak Republic	4	673	a	673	2 693	a	2 693	5	819	a	819	4 095	a	4 095
	Slovenia	6	682	140	822	4 091	840	4 931	3	766	179	944	2 298	536	2 833
	Spain	6	792	a	792	4 750	a	4 750	3	1 056	a	1 056	3 167	a	3 167
	Sweden [2]	6	714	m	m	4 283	m	m	3	869	m	m	2 607	m	m
	Switzerland	6	800	m	m	4 801	m	m	3	961	m	m	2 884	m	m
	Turkey	4	720	a	720	2 880	a	2 880	4	843	a	843	3 371	a	3 371
	United States [4]	6	973	m	m	5 837	m	m	3	1 022	m	m	3 066	m	m
	Economies														
	Flemish Comm. (Belgium)	6	824	a	824	4 947	a	4 947	2	951	a	951	1 902	a	1 902
	French Comm. (Belgium)	6	835	a	835	5 012	a	5 012	2	895	a	895	1 790	a	1 790
	England (UK)	6	m	a	m	m	a	m	3	m	a	m	m	a	m
	Scotland (UK)	7	m	a	m	m	a	m	3	m	a	m	m	a	m
	OECD average	6	807	m	m	4 590	m	m	3	923	m	m	3 049	m	m
	EU22 average	5	766	m	m	4 189	m	m	3	886	m	m	3 024	m	m
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil [4]	5	800	m	m	4 000	m	m	4	800	m	m	3 200	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	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	4	598	m	m	2 393	m	m	5	803	m	m	4 016	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
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: Columns showing instruction time combined for compulsory primary and lower secondary education (i.e. Columns 15-18) and compulsory upper secondary education (i.e. Columns 19-25) 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. 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. Non-compulsory instruction time are theoretical maximum limits.
4. Year of reference 2020.
5. Excludes the last year of compulsory education, which can be classified at either the lower secondary or the upper secondary level.
6. The number of grades in lower secondary education is three or four, depending on the track. The fourth year of pre-vocational secondary education was excluded from the calculation.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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

StatLink https://stat.link/cxkp3s

Table D1.2. Organisation of compulsory general education[1] (2021)

By level of education, in public institutions

		Primary				Lower secondary			
		Number of grades that are part of compulsory education	Theoretical starting age	Average number of instruction days per year	Flexible allocation of instruction time across multiple grades	Number of grades that are part of compulsory education	Theoretical starting age	Average number of instruction days per year	Flexible allocation of instruction time across multiple grades
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OECD	**Countries**								
	Australia	7	5	200	No	4	12	200	No
	Austria	4	6	180	No	4	10	180	No
	Canada	6	6	185	No	3	12	185	No
	Chile	6	6	186	No	2	12	185	No
	Colombia	5	6	200	No	4	11	200	No
	Costa Rica	6	6	200	No	3	12	200	No
	Czech Republic	5	6	195	Yes	4	11	195	Yes
	Denmark	7	6	200	No	3	13	200	No
	Estonia	6	7	175	Yes	3	13	175	Yes
	Finland [2]	6	7	189	Yes	3	13	189	Yes
	France	5	6	162	No	4	11	162	No
	Germany [3, 4]	4	6	188	No	5	10	188	No
	Greece	6	6	174	No	3	12	162	No
	Hungary	4	6	179	No	4	10	179	No
	Iceland	7	6	170	Yes	3	13	170	Yes
	Ireland	6	6	183	No	3	12	165	No
	Israel	6	6	214	No	3	12	205	Yes
	Italy	5	6	200	No	3	11	200	No
	Japan	6	6	203	No	3	12	203	No
	Korea	6	6	190	Yes	3	12	190	Yes
	Latvia [5]	6	7	169	No	3	13	173	No
	Lithuania	4	7	175	Yes	6	11	185	Yes
	Luxembourg	6	6	180	No	3	12	169	No
	Mexico	6	6	200	No	3	12	200	No
	Netherlands [6]	6	6	m	Yes	3	12	m	Yes
	New Zealand	6	5	195	m	4	11	193	m
	Norway	7	6	190	Yes	3	13	190	Yes
	Poland	4	7	180	No	4	11	180	No
	Portugal	6	6	179	No	3	12	167	No
	Slovak Republic	4	6	187	No	5	10	187	No
	Slovenia	6	6	190	No	3	12	185	No
	Spain	6	6	175	No	3	12	175	No
	Sweden [2]	6	7	178	Yes	3	13	178	Yes
	Switzerland	6	6	188	No	3	12	188	No
	Turkey	4	6	180	No	4	10	180	No
	United States [3]	6	6	180	m	3	12	180	m
	Economies								
	Flemish Comm. (Belgium)	6	6	159	No	2	12	161	No
	French Comm. (Belgium)	6	6	179	No	2	12	179	No
	England (UK)	6	5	190	m	3	11	190	m
	Scotland (UK)	7	5	190	m	3	12	190	m
	OECD average	6	6	186	a	3	12	184	a
	EU22 average	5	6	181	a	3	12	179	a
Partners	Argentina	m	m	m	m	m	m	m	m
	Brazil [3]	5	6	200	No	4	11	200	No
	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	4	7	169	No	5	11	175	No
	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	

Note: Students go to school five days a week (six days in some schools in Israel and secondary education in Italy). In some countries, the statutory length of the school day varies within the school week. Due to the COVID-19 pandemic, statutory requirements on organisation of the school year may be adjusted in some countries (e.g. in Brazil, it was not mandatory to cover the minimum statutory number of school days). Columns showing the organisation of compulsory upper secondary education (i.e. Columns 9-12) 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. For some subjects, allocation of instruction time across multiple levels of education is flexible.
3. Year of reference 2020.
4. Excludes the last year of compulsory education, which can be classified at either the lower secondary or the upper secondary level.
5. Flexible allocation of instruction time across three consecutive grades, is applicable for grades 1, 4 and 7 only in 2020/21.
6. The number of grades in lower secondary education is three or four, depending on the track. The fourth year of pre-vocational secondary education was excluded from the calculation.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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

StatLink https://stat.link/bxgl67

Table D1.3. Instruction time per subject in primary education (2021)

As a percentage of total compulsory instruction time, in public institutions

		Reading, writing and literature	Mathematics	Natural sciences	Social studies	Second language	Other languages	Physical education and health	Arts	Religion/ ethics/ moral education	Information and communication technologies (ICT)	Technology	Practical and vocational skills	Other subjects	Compulsory subjects with flexible timetable	Compulsory options chosen by the students	Compulsory flexible subjects chosen by schools	Total compulsory curriculum	Non-compulsory curriculum
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
OECD	**Countries**																		
	Australia	23	18	6	8[d]	x(16)	x(16)	8	5	x(4)	x(11)	4[d]	x(11)	x(16)	x(16)	m	29[d]	**100**	**m**
	Austria	30	17	13[d]	x(3)	2	a	11	9	9	x(17)	x(3)	6	4	a	a	a	**100**	**m**
	Canada	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**a**
	Chile	20	17	9	9	3	x(16)	9	10	6	x(16)	2	x(16)	2	a	a	13[d]	**100**	**a**
	Colombia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**a**
	Costa Rica	23	19	14	9	12	a	5	5	5	a	a	a	9	a	a	a	**100**	**a**
	Czech Republic	28	17	10[d]	x(3)	8	a	8	10	x(13)	1	4[d]	x(11)	x(16)	a	x(16)	14[d]	**100**	**a**
	Denmark	22	13	5	3	5	2	5	9	3	x(14)	a	6	19	9[d]	a	a	**100**	**a**
	Estonia	23	15	7	5	8	2	11	15	x(16)	x(16)	3	a	a	a	a	12[d]	**100**	**a**
	Finland [1]	23	15	10	4	8	1	9	16	5	x(17)	a	a	a	4	a	4	**100**	**5**
	France	38	21[d]	7[d]	3	6	a	13	8	4	x(2, 3)	x(3)	a	a	a	a	a	**100**	**a**
	Germany [2]	27	21	4	6	5	a	11	13	6	0	2	0	4	a	1	a	**100**	**a**
	Greece	27	14	11	6	9	2	9	10	3	3	a	a	a	a	a	6	**100**	**53**
	Hungary	26	16	3	a	2	a	20	16	4	a	4	a	a	a	a	10	**100**	**a**
	Iceland	20	16	8	13[d]	6[d]	x(5, 15)	9	19[d]	x(4)	3	a	x(8)	a	a	5[d]	x(15)	**100**	**a**
	Ireland [3]	20	17	4[d]	8	14	a	4	12	10	x(17)	x(3)	a	11	a	a	a	**100**	**a**
	Israel	35[d]	24[d]	x(2)	x(1)	8	x(1)	x(12)	x(12)	8	a	a	19[d]	a	a	a	6	**100**	**a**
	Italy [4]	x(14)	x(14)	x(14)	x(14)	9	a	x(14)	x(14)	7	a	x(14)	a	a	84[d]	a	x(17)	**100**	**a**
	Japan	23	16	7	6	3	a	10	12	3	a	a	a	13	7	a	a	**100**	**a**
	Korea	21	14	9[d]	9[d]	6	a	7	9	x(4,13)	x(12,13)	x(12)	x(3)	25[d]	a	a	a	**100**	**a**
	Latvia	21	17	6	6	8	2	8	11	1	2	1	3	9	a	a	3	**100**	**m**
	Lithuania	31	19	4	4	8	a	13	17[d]	4	a	x(8)	a	a	a	a	a	**100**	**8**
	Luxembourg [3]	29	19	7	2	15	a	10	11	7	a	a	a	a	a	a	a	**100**	**a**
	Mexico	35	27	13	10	m	a	5	5	5	a	a	a	a	a	a	a	**100**	**a**
	Netherlands [4]	x(14)	x(14)	x(14)	x(14)	x(14)	a	x(14)	x(14)	x(14)	x(14)	x(14)	x(14)	a	100[d]	a	a	**100**	**a**
	New Zealand	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**m**
	Norway	26	17	7	7	7	a	11	14	8	a	a	2	a	a	a	1	**100**	**a**
	Poland [4, 5]	x(14)	x(14)	x(14)	x(14)	x(14)	a	x(14)	x(14)	a	x(14)	x(14)	a	x(14)	100[d]	a	a	**100**	**10**
	Portugal [4]	18	18	x(14)	x(14)	3	a	3	x(14)	a	x(17)	x(14)	a	x(16)	53[d]	a	4[d]	**100**	**16**
	Slovak Republic	32	17	6	3	6	x(16)	8	10	4	2	a	2	x(16)	a	x(16)	8[d]	**100**	**a**
	Slovenia	22	17	8	7[d]	8	a	14	15	x(4)	x(17)	5	2	1	a	a	a	**100**	**21**
	Spain	23	18	7	7	12	x(16)	10	x(16)	6	a	a	a	0	a	x(16)	16[d]	**100**	**a**
	Sweden [1]	28	19	8	12	7	1	7	7	a	a	3	5	a	a	3	a	**100**	**m**
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	a	a	a	a	**m**	**m**
	Turkey	30	17	5	13	5	a	14	7	2	a	a	1	7	a	a	a	**100**	**a**
	United States	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**m**
	Economies																		
	Flemish Comm. (Belgium) [4]	x(14)	x(14)	x(14)	x(14)	x(14)	a	x(14)	x(14)	7	x(17)	x(3)	a	x(17)	93[d]	a	x(14)	**100**	a
	French Comm. (Belgium) [4]	x(14)	x(14)	x(14)	x(14)	2	a	7	x(14)	7	a	x(14)	a	a	83[d]	a	a	**100**	a
	England (UK) [4]	x(14)	x(14)	x(14)	x(14)	x(14)	a	x(14)	x(14)	x(14)	x(14)	x(14)	a	a	100[d]	a	a	**100**	a
	Scotland (UK)	m	m	m	m	m	a	m	m	m	m	m	m	a	a	a	a	**m**	a
	OECD average [4]	25	17	7	6	7	0	9	10	5	1	1	2	4	1	0	4	**100**	3
	EU22 average [4]	26	17	7	5	7	1	10	11	5	1	2	1	3	1	0	4	**100**	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	a	a	m	m	m	a	a	a	a	a	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	36	16	8	a	6	a	12	8	1	a	4	a	a	a	a	9	**100**	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: The averages were adjusted to add up to 100% and do not correspond exactly to the average of each column. Please refer to Table D1.6, available on line, for instruction time per subject for each age (see *StatLink* at the end of the indicator). See *Definitions* and *Methodology* sections for more information. Data available at: http://stats.oecd.org, *Education at a Glance Database*.

1. For some subjects, allocation of instruction time across multiple levels of education is flexible.
2. Year of reference 2020.
3. The second language of instruction includes other national languages taught.
4. England (United Kingdom), Flemish Comm. (Belgium), French Comm. (Belgium), Italy, the Netherlands, Poland and Portugal are not included in the averages.
5. Excludes the last year of primary education (first four years of primary school) for which the instruction time is allocated to specific compulsory subjects.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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

StatLink https://stat.link/gx3iaz

Table D1.4. Instruction time per subject in general lower secondary education (2021)

As a percentage of total compulsory instruction time, in public institutions

		Reading, writing and literature	Mathematics	Natural sciences	Social studies	Second language	Other languages	Physical education and health	Arts	Religion/ ethics/ moral education	Information and communication technologies (ICT)	Technology	Practical and vocational skills	Other subjects	Compulsory subjects with flexible timetable	Compulsory options chosen by the students	Compulsory flexible subjects chosen by schools	Total compulsory curriculum	Non-compulsory curriculum
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
OECD	**Countries**																		
	Australia [1]	12	12	11	9[d]	x(16)	x(16)	8	4	x(4)	x(11)	4[d]	x(11)	x(16)	x(16)	18	22[d]	**100**	**m**
	Austria	13	13	12	11	12	x(15)	12	13	7	x(17)	a	7	x(15)	a	1[d]	a	**100**	**m**
	Canada	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**a**
	Chile	16	16	11	11	8	x(16)	5	8	5	x(16)	3	x(16)	3	a	a	15[d]	**100**	**a**
	Colombia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**a**
	Costa Rica	12	12	12	14	7	7	5	10	2	5	a	7	5	a	a	2	**100**	**a**
	Czech Republic	12	12	17	9	10	5	8	8	x(13)	1	2[d]	x(11)	x(16)	a	x(16)	15[d]	**100**	**a**
	Denmark	18	13	13	8	8	8	5	x(15)	3	x(15)	x(15)	2	19	a	5[d]	a	**100**	**a**
	Estonia	13	14	21	11	10	10	6	6	x(16)	x(16)	5	a	a	a	a	4[d]	**100**	**a**
	Finland [2]	12	13	16	8	8	5	12	7	4	x(17)	a	6	a	6	a	4	**100**	**11**
	France [3]	16	14	12	12[d]	12	7	12	8	x(4)	x(17)	4	1	1	a	a	a	**100**	**29**
	Germany [4]	13	13	11	11	12	6	8	9	5	1	2	2	2	a	4	a	**100**	**a**
	Greece	26	13	14	8	6	6	6	6	6	4	3	1	a	a	a	a	**100**	**31**
	Hungary	13	11	11	9	10	a	17	8	3	3	3	a	3	a	a	8	**100**	**a**
	Iceland	14	14	8	8[d]	19[d]	x(5, 15)	8	8[d]	x(4)	2	a	x(8)	a	a	20[d]	x(15)	**100**	**a**
	Ireland [5, 6]	9	9	x(16)	5	9	x(16)	5	x(16)	x(16)	x(16)	x(16)	x(16)	2	a	a	62[d]	**100**	**a**
	Israel	14	14	13[d]	19	11	10	6	5	9	x(3)	x(3)	a	a	a	a	a	**100**	**a**
	Italy	33[d]	20[d]	x(2)	x(1)	10	7	7	13	3	a	7	a	a	a	a	x(17)	**100**	**a**
	Japan	12	12	12	11	13	a	10	7	3	a	3	a	12	5	a	a	**100**	**a**
	Korea	13	11	20[d]	15[d]	10	a	8	8	x(4)	x(3)	x(12)	x(3)	9	a	x(16)	5[d]	**100**	**a**
	Latvia	15	15	14	14	8	6	7	6	a	1	1	3	6	a	a	5	**100**	**m**
	Lithuania	18	13	13	14	10	5	8	7	3	3	5	a	1	a	a	a	**100**	**14**
	Luxembourg [5]	19	13	8	11	12	13	8	9	7	a	a	a	a	a	a	a	**100**	**a**
	Mexico	14	14	17	12	9	a	6	6	8	a	11	a	3	a	a	a	**100**	**a**
	Netherlands [6]	x(14)	x(14)	x(14)	x(14)	x(14)	x(14)	x(14)	x(14)	x(14)	x(14)	x(14)	x(14)	a	100[d]	a	a	**100**	**a**
	New Zealand	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**m**
	Norway	15	12	9	9	8	x(15)	9	9	6	x(15)	x(15)	7	x(15)	a	15[d]	x(15)	**100**	**a**
	Poland	18	14	11	13	11	4	14	5	a	4	2	0	4	a	a	a	**100**	**8**
	Portugal	13	13	19	16	x(14)	x(14)	10	x(14)	a	x(14)	x(14)	a	a	28[d]	a	a	**100**	**3**
	Slovak Republic	16	14	12	11	10	x(16)	7	6	3	3	x(16)	3	x(16)	a	x(16)	13[d]	**100**	**a**
	Slovenia	13	13	17	15[d]	11	x(15)	9	8	x(4)	x(17)	4	a	2	a	7[d]	a	**100**	**23**
	Spain	16	13	12	10	12	x(16)	7	x(16)	4	a	x(16)	a	3	a	x(16)	24[d]	**100**	**a**
	Sweden [2]	11	15	10	14	8	10	11	7	a	a	3	9	a	a	2	a	**100**	**m**
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	a	a	m	a	**m**	**m**
	Turkey	16	14	11	8	10	x(15)	5	6	8	3	3	1	a	a	16[d]	a	**100**	**a**
	United States	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	**m**	**m**
	Economies																		
	Flemish Comm. (Belgium) [6]	x(14)	x(14)	x(14)	x(14)	x(14)	x(14)	x(14)	x(14)	6	a	x(14)	a	a	75[d]	x(16)	19[d]	**100**	a
	French Comm. (Belgium)	18	15	10	13	13	a	10	3	7	x(16)	3	x(16)	a	a	x(16)	7[d]	**100**	a
	England (UK) [6]	x(14)	x(14)	x(14)	x(14)	x(14)	a	x(14)	x(14)	x(14)	x(14)	x(14)	x(14)	x(14)	100[d]	a	a	**100**	a
	Scotland (UK)	m	m	m	m	m	m	m	m	m	m	m	m	a	a	a	a	**m**	a
	OECD average [6]	14	13	12	11	10	5	8	7	4	2	3	2	3	1	3	4	**100**	4
	EU22 average [6]	15	13	13	11	9	6	9	7	3	2	3	2	2	2	1	4	**100**	7
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	a	m	m	m	a	a	m	a	a	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	22	16	17	9	10	a	7	5	a	2	5	1	a	a	m	7	**100**	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: The averages were adjusted to add up to 100% and do not correspond exactly to the average of each column. Please refer to Table D1.6, available on line, for instruction time per subject for each age (see *StatLink* at the end of the indicator). See *Definitions* and *Methodology* sections for more information. Data available at: http://stats.oecd.org, *Education at a Glance Database*.

1. 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.
2. For some subjects, allocation of instruction time across multiple levels of education is flexible.
3. Non-compulsory instruction time are theoretical maximum limits.
4. Year of reference 2020.
5. The second language of instruction includes other national languages taught.
6. England (United Kingdom), Flemish Comm. (Belgium), Ireland and the Netherlands are not included in the averages.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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

StatLink https://stat.link/qmaz1o

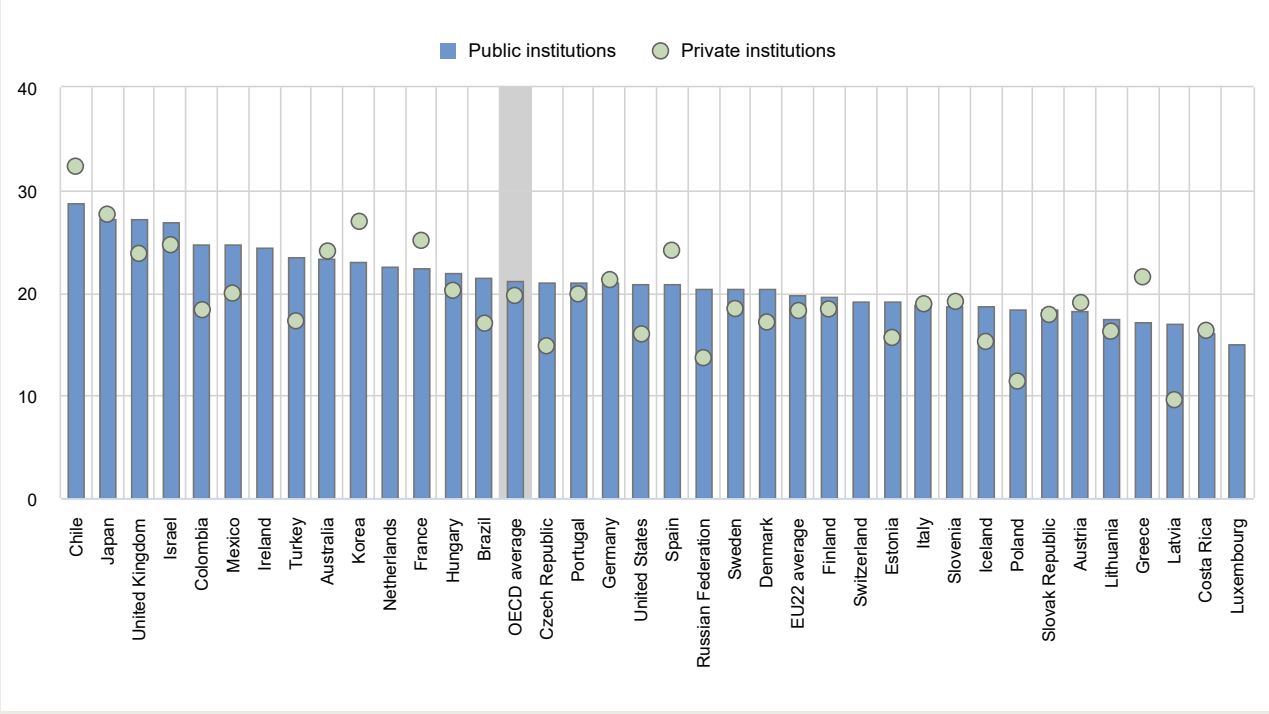
Indicator D2. What is the student-teacher ratio and how big are classes?

Highlights

- At primary level, the average class in OECD countries in 2019 had 21 students in public institutions and 20 in private institutions. The difference in class size between public and private primary institutions varies substantially across OECD countries.
- On average across OECD countries, there are 15 students for every teacher in primary education and 13 students per teacher in lower secondary education. The average school class has 21 students in primary education and 23 in lower secondary education.
- Between 2013 and 2019, the average class size remained constant at lower secondary level both in public and private institutions. However, while 8 out of 31 countries with available data experienced a decrease in the average class size by at least 5% in public lower secondary schools, this was only the case for 6 out of the 29 countries with available data in private lower secondary institutions.

Figure D2.1. Average class size in primary education, by type of institution (2019)

In number of students per class



Compare your country: https://www.compareyourcountry.org/education-at-a-glance-2021/en/6/all/default

Countries are ranked in descending order of class size in primary education public institutions.

Source: OECD/UIS/Eurostat (2021), Table D2.1. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

StatLink https://stat.link/k5j4er

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 in OECD (2020[1])).

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 (Bouguen, Grenet and Gurgand, 2017[2]), overall evidence of the effect of class size on student performance is mixed (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 COVID-19 context, critical disruptions to education systems have occurred across OECD and partner countries. As part of countries' responses to COVID-19, the inclusion of remote learning has been central to reduce learning losses (OECD, 2021[5]). Despite the virtual nature of this type of learning, the interactive aspect of online education remains vital and creating a teacher-student as well as student-content engagement is central. A major concern is finding the optimal class size that would allow at the same time interaction between students, students' involvement as well as teachers' ability to provide effective feedback.

As schools are progressively reopening, countries with a smaller class size are likely to find it easier to conciliate between social distancing and the opportunity for all students to benefit from face-to-face learning.

Other findings

- Class size varies significantly across countries. The biggest classes in primary education are observed in Chile (31 students per classroom), while in Costa Rica, the average class size is 16 students.
- At primary level, there are 15 students for every teacher on average across OECD countries. Among OECD and partner countries, the student-teacher ratio ranges from 9 to 1 in Greece and Luxembourg to over 23 to 1 in Brazil, Mexico, India and the Russian Federation.
- On average across OECD countries, the average class size differs between public and private institutions by one student per class both, in primary and lower secondary education.

Note

Class size 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 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 size measures 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.

Analysis

Class size

Average class size in primary and lower secondary education

The indicator on class size is limited to primary and lower secondary education. At higher levels of education, class sizes are difficult to define and compare, as students are often split into several different classes at these levels, depending on the subject matter.

At the primary level, the average class in OECD countries is 21 pupils. There are fewer than 28 pupils per class in nearly all of the countries with available data, with the exception of Chile with 31 pupils (Table D2.1).

At lower secondary level, average class size in OECD countries is 23 students. Among all countries with available data, it varies from fewer than 20 students per class in Estonia, Finland, Latvia, Lithuania, Poland and the Russian Federation to more than 30 students per class in Costa Rica and Japan (Table D2.1).

The number of students per class tends to increase between primary and lower secondary education. In Costa Rica, it increases by 17 students. On the other hand, in the United Kingdom and, to a lesser extent Australia, Chile, Hungary and the Russian Federation, the number of students per class decreases between these two levels of education (Table D2.1).

Class size in public and private institutions

Class size is one factor that parents may consider when choosing a school for their children. Hence, the difference in average class size between public and private schools (and between different types of private institutions) could influence enrolment.

In most OECD countries, average class sizes do not differ between public and private institutions by more than one student per class at both primary and lower secondary level. However, in some countries (including Colombia, the Czech Republic, Latvia, Poland, the Russian Federation and Turkey), the average class in public primary schools has at least six students more than the average class in private schools (Table D2.1) . However, with the exception of Brazil and Colombia, the private sector is relatively small in all of these countries, representing at most 5% of students at primary level (Education at a Glance Database). In contrast, in Chile, Greece, Korea and Spain the average class in private institutions is bigger than in public institutions by at least three students.

At lower secondary level, where private institutions are more prevalent, the comparison of class size between public and private institutions shows a more mixed picture. The average class in private lower secondary institutions is larger than in public institutions in 9 countries, smaller in 18 countries and the same in 6 countries. The differences, however, tend to be smaller than in primary education (Table D2.1).

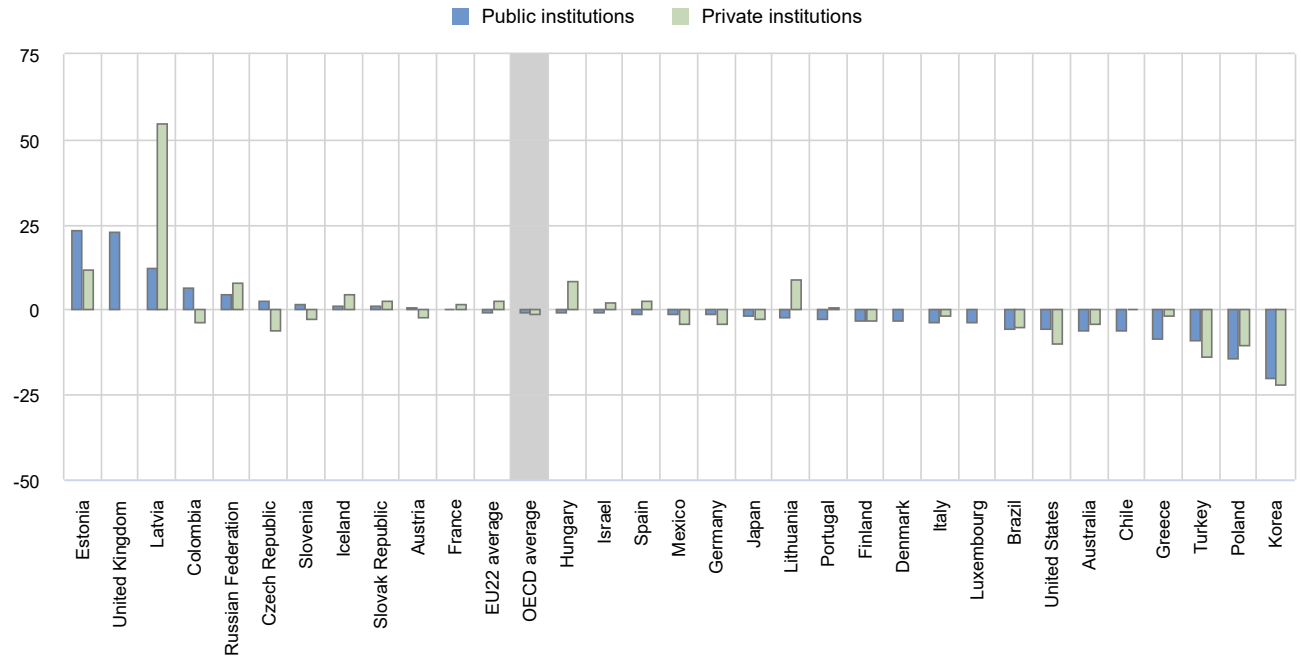
Trends in average class size

Between 2013 and 2019, class sizes remained constant at primary level and lower secondary level on average across OECD countries, but this average masks considerably substantial changes in individual countries. At primary level, class size decreased by three students in Brazil and increased by four students in Mexico, over the same period across countries with available data. At lower secondary level, the change is even more striking, where the average class size fell by seven students in Korea and increased by four in the United Kingdom between 2013 and 2019 (Table D2.1).

On average across OECD countries, class size remained constant in both public and private lower secondary institutions between 2013 and 2019 (Figure D2.1). This average masks more substantial changes in individual countries: in Estonia, for example, the average class sizes in both public and private institutions were among the lowest in 2013 and remained below the OECD average in 2019, despite an increase over the period. Interestingly, other countries such as Korea, with the highest average class size in 2013, experienced a decrease in class size between 2013 and 2019, both for public and private institutions (Table D2.1).

Figure D2.2. Change in the average class size in lower secondary education, by type of institution (2013 and 2019)

In per cent



Countries are ranked in descending order of average class size in public institutions.

Source: OECD/UIS/Eurostat (2021), Table D2.1. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

StatLink https://stat.link/ku8xam

Box D2.1. The complexity of defining an optimal class size for online classes

The online classroom may have considerable advantages for educational continuity when on-campus courses cannot take place. Indeed, online learning was one of the main responses to the COVID-19 crisis across countries (OECD, 2021[5]). However, there is concern about what happens to the class sizes when enrolment is not limited by the constraint of a physical classroom. Defining a class size that ensures at the same time high attendance, teacher-student interaction, instructor feedback and student involvement in class is challenging.

Class participation is a central aspect of student learning and instructor teaching. From the students' perspective, speaking up in class teaches them to express ideas and asking questions allows them to obtain information to enhance their own understanding. Students' questions then allow teachers to see what points need to be clarified and then adjust their instruction accordingly (Chin, 2008[6]). Some other studies have revealed the high potential of participation and peer-to-peer interaction to contribute to critical thinking (Frijters, ten Dam and Rijlaarsdam, 2008[7]).

Some research has focused on examining the ideal online class size with regards to interaction, but the results appear to be mixed. On the one hand, "large" classes (more than 30 students) allow more interactions between students and more potential points for discussion. On the other, they may lead to "information overload" and less instructor-student interaction (Parks-Stamm, Zafonte and Palenque, 2016[8]).

Hence, the solution is not to determine a "one-size-fits-all" optimal class size for online courses, as the choice of a particular online pattern depends on the characteristics of each educational system.

Student-teacher ratios

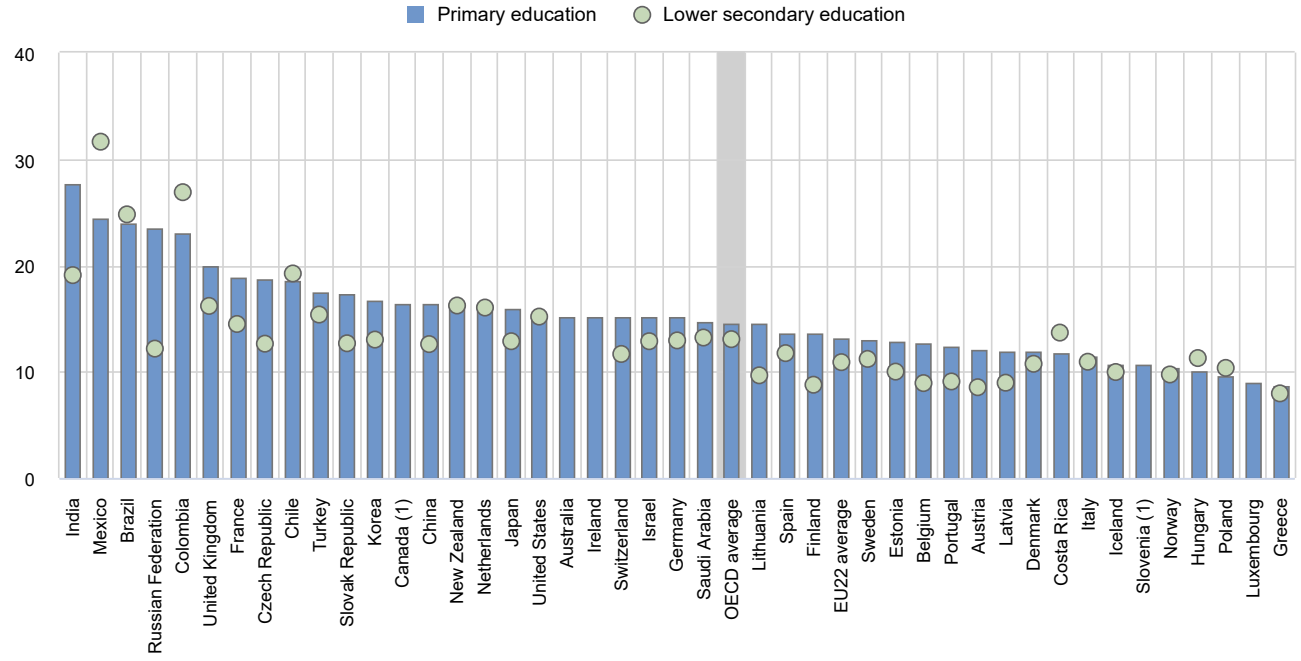
Student-teacher ratios across levels of education

The ratio of students to teaching staff compares the number of students (full-time equivalent) to the number of teachers (full time equivalent) at a given level of education and in similar types of institutions. It does not consider the amount of instruction time for students compared to the length of a teacher's working day, nor how much time teachers spend teaching.

At primary level, there are 15 students for every teacher on average across OECD countries. In OECD and partner countries, the student-teacher ratio ranges from 9 to 1 in Greece and Luxembourg to over 23 to 1 in Brazil, India, Mexico and the Russian Federation. Student teacher ratios vary even more at lower secondary level, from fewer than 10 students per teacher in Austria, Belgium, Finland, Greece, Latvia, and Portugal to more than 25 students per teacher in Colombia and Mexico (Figure D2.1).

On average, there are fewer students per teacher at secondary level (13) than at primary level (15) (Table D2.1). The lower student-teacher ratio at secondary level may result from higher instruction time (as instruction hours tend to increase with the education level, so does the number of teachers) or from lower teaching hours (teaching time decreases with the level of education as teacher specialisation increases).

Figure D2.3. Ratio of students to teaching staff in primary and lower secondary education (2019)



1. Primary includes pre-primary education.
Countries are ranked in descending order of the ratio of students to teaching staff in primary education.
Source: OECD/UIS/Eurostat (2021), Table D2.2. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

StatLink https://stat.link/hgj6n7

At upper secondary level, the OECD average is about 13 students per teacher and the difference between general and vocational programmes in student-teacher ratios varies across countries. On average, the ratio of students to teaching staff in upper secondary vocational programmes and that in upper secondary general programmes are the same (13 to 1 in both types of programmes) (Table D2.1). While the difference between the two is negligible in a few countries, there are, in fact, around as many countries where the ratio is greater in vocational programmes as there are countries where it is lower. In

Latvia, vocational programmes (18 to 1) have twice as many students per teacher as general programmes (9 to 1). This may be due to the fact that in some countries, vocational programmes are significantly work-based, thus vocational students spend considerable time outside of school. As a result, schools need fewer teachers, which may translate into higher student teacher ratios (OECD, 2017[9]). In other countries such as Brazil,, the opposite is true: there are 13 students per teacher in vocational programmes and 25 students per teacher in general programmes, the largest difference among all countries with available data. Depending on the field of study selected, students in vocational education may require more instructor attention, especially as they have access to more sophisticated equipment. In fact, vocational students require more careful supervision as skill specificity rises. This may have important implications in terms of the cost of vocational instruction, as advanced vocational training requires both specialised machinery and a greater level of human resources (Astor, Guerra and Van Acker, 2010[10]).

Although tertiary education may involve more self-learning than primary and secondary education, the number of students per teacher remains an important concern. The student-teacher ratio is considered to be a proxy of quality in education (OECD, 2013[11]). Students are more likely to receive more support and attention when the student-teacher ratio is low (Biddle, 2002[12]). At tertiary level, the student-teacher ratio ranges from 5 to 1 in Luxembourg and 9 to 1 in Norway to over 20 to 1 in Belgium, Brazil, Colombia, India, Ireland and Turkey. In Colombia, the student-teacher ratio in tertiary education reaches 27 to 1 (Table D2.2).

Student-teacher ratios across types of institution

Differences between public and private institutions in student-teacher ratios are similar to those observed for class size. On average across countries for which data are available, the ratio of students to teaching staff is slightly higher in public institutions than in private institutions at lower and upper secondary level (Table D2.3).

At lower secondary level, large differences between public and private institutions are found in Colombia, Mexico and Turkey, where there are at least eight more students per teacher in public institutions than in private ones. In all these countries, however, less than 20% of lower secondary students are enrolled in private institutions (Education at a Glance Database). In contrast, the student-teacher ratio is lower in public institutions than in private institutions in some countries. This difference is most pronounced in Chile, where around 40% of students are enrolled in public institutions (Education at a Glance Database). In this country, the student-teacher ratio is 15 to 1 in public institutions, compared to 23 to 1 in private institutions (Table D2.3).

At upper secondary level, the student-teacher ratio is greater in public institutions than in private institutions in 17 countries, smaller in public institutions in 15 countries, and similar for both sectors in 4 countries. Mexico has the highest difference in student-teacher ratios at this level, with 25 students per teacher in public institutions and only 14 students per teacher in private institutions (Table D2.3). 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, in which the student-teacher ratio is typically lower than the ratio in general programmes (Education at a Glance Database).

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[13]) and Annex 3 for country-specific notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

Source

Data refer to the academic year 2018/19 and are based on the UNESCO-UIS/OECD/Eurostat data collection on education statistics administered by the OECD in 2020 (for details, see Annex 3 at: https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf.

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Indicator D2 tables

Tables Indicator D2. What is the student-teacher ratio and how big are classes?

Table D2.1	Average class size, by type of institution and level of education (2013 and 2019)
Table D2.2	Ratio of students to teaching staff in educational institutions, by level of education (2019)
Table D2.3	Ratio of students to teaching staff, by type of institution (2019)

StatLink https://stat.link/7gq4rf

Cut-off date for the data: 17 June 2021. 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*.

A corrigendum has been issued for this page.
See: https://www.oecd.org/about/publishing/Corrigendum_Education-at-a-Glance-2021.pdf

Table D2.1. Average class size, by type of institution and level of education (2013 and 2019)

		Primary					Lower secondary					2013					
			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	All primary 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	22	24	24	a	22	23	25	24	23	25	24
	Austria	18	19	x(2)	x(2)	18	21	21	x(7)	x(7)	21	18	19	18	21	22	21
	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	29	32	34	25	31	29	31	33	25	30	29	31	30	31	31	31
	Colombia	25	18	a	18	23	32	24	a	24	30	24	19	22	30	25	29
	Costa Rica	16	16	25	16	16	36	19	29	17	33	m	m	m	m	m	m
	Czech Republic	21	15	15	a	21	22	18	18	a	22	20	15	20	22	19	22
	Denmark	20	17	17	a	20	21	19	19	a	20	21	m	m	21	m	m
	Estonia	19	16	16	6	19	19	14	15	6	19	17	16	17	15	12	15
	Finland	20	18	18	a	20	19	19	19	a	19	19	17	19	20	20	20
	France	22	25	25	a	23	25	26	27	12	25	23	23	23	25	26	25
	Germany	21	21	x(2)	x(2)	21	24	23	x(7)	x(7)	24	21	21	21	24	24	24
	Greece	17	22	a	22	17	20	23	a	23	20	17	19	17	22	23	22
	Hungary	22	20	21	16	22	21	21	22	17	21	21	20	21	21	20	21
	Iceland	19	15	15	a	19	20	14	14	a	20	19	16	18	20	13	20
	Ireland	24	m	m	m	m	m	m	a	m	m	25	m	m	m	m	m
	Israel	27	25	25	a	26	29	24	24	a	28	28	24	27	29	24	28
	Italy	19	19	a	19	19	21	21	a	21	21	19	20	19	22	22	22
	Japan	27	28	a	28	27	32	33	a	33	32	27	30	27	32	34	33
	Korea	23	27	a	27	23	26	25	25	a	26	24	29	24	33	32	33
	Latvia	17	10	a	10	17	16	15	a	15	16	16	8	16	15	9	14
	Lithuania	18	16	a	16	17	19	20	a	20	19	16	12	16	20	19	20
	Luxembourg	15	m	19	m	m	18	m	19	m	m	15	19	15	19	18	19
	Mexico	25	20	a	20	24	27	23	a	23	27	20	19	20	28	24	27
	Netherlands	23	m	m	m	m	m	m	m	m	m	m	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	11	12	11	18	20	16	13	17	19	19	11	18	23	17	22
	Portugal	21	20	22	20	21	22	23	24	23	22	21	21	21	22	23	22
	Slovak Republic	18	18	18	a	18	20	19	19	a	20	18	17	18	19	18	19
	Slovenia	19	19	19	a	19	20	19	19	a	20	19	22	19	20	19	20
	Spain	21	24	25	20	22	25	27	27	21	25	21	24	22	25	26	25
	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	17	a	17	23	26	17	a	17	25	23	20	23	28	20	28
	United Kingdom	27	24	28	12	26	25	23	25	12	23	27	a	25	20	a	19
	United States	21	16	a	16	20	26	18	a	18	25	22	18	21	28	20	27
	OECD average	21	20	21	18	21	23	21	22	19	23	21	20	21	23	22	23
	Average for countries with available data for both reference years	21	20			21	23	21			23	21	20	21	23	22	23
	EU22 average	20	18	19	15	19	21	20	19	17	21	19	18	19	21	20	21
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	21	17	a	17	20	27	23	a	23	26	25	18	23	28	24	28
	China	m	m	m	m	m	m	m	m	m	m	37	44	38	50	52	50
	India	m	m	m	m	m	m	m	m	m	m	x(13)	x(13)	26	x(16)	x(16)	30
	Indonesia	m	m	m	m	m	m	m	m	m	m	26	22	25	31	31	31
	Russian Federation	20	14	a	14	20	19	12	a	12	19	18	13	18	19	11	18
	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	24	23	24	28	26	28

Source: OECD/UIS/Eurostat (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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 in educational institutions, by level of education (2019)

		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	m	12	m	m	m	16	m
	Austria	12	9	10	10	10	9	11	8	15	13
	Belgium	13	9	11	9	10	9	15	x(10)	x(10)	21
	Canada[1]	16	x(1)	x(5)	x(5)	13	m	m	m	m	m
	Chile	19	19	20	22	20	20	a	m	m	m
	Colombia	23	27	x(5)	x(5)	24	26	68	24	28	27
	Costa Rica	12	14	14	13	14	14	a	m	m	m
	Czech Republic	19	13	11	11	11	12	15	11	17	17
	Denmark	12	11	10	16	11	11	a	15	15	15
	Estonia	13	10	14	18	15	12	x(5)	a	13	13
	Finland	14	9	14	20	18	13	20	a	15	15
	France	19	14	13	8	11	13	19	13	18	17
	Germany	15	13	12	13	12	13	13	13	12	12
	Greece	9	8	11	8	10	9	m	a	m	m
	Hungary	10	11	11	12	11	11	8	x(10)	x(10)	11
	Iceland	11	10	m	m	m	m	m	m	m	m
	Ireland[2]	15	m	13	a	13	m	m	m	m	23
	Israel[2]	15	13	m	m	m	m	m	m	16	m
	Italy[3]	11	11	12	9[d]	10[d]	11[d]	x(4)	a	20	20
	Japan[3]	16	13	x(5)	x(5)	12	12	x	m	m	m
	Korea	17	13	12	10	11	12	a	m	m	m
	Latvia	12	9	9	18	11	10	25	13	18	17
	Lithuania	14	10	9	10	9	10	11	a	15	15
	Luxembourg	9	x(5)	x(5)	x(5)	9[d]	9	9	9	5	5
	Mexico	24	32	28	17	23	27	a	19	18	18
	Netherlands	16	16	16	19	18	17	a	17	15	15
	New Zealand	16	16	12	17	12	14	21	15	17	17
	Norway	10	10	11	10	11	10	8	8	9	9
	Poland	10	10	11	9	10	10	18	9	14	14
	Portugal	12	9	x(5)	x(5)	9[d]	9[d]	x(5)	x(10)	x(10)	15
	Slovak Republic	17	13	14	13	13	13	13	8	11	11
	Slovenia[1]	11	x(1)	15	14	14	m	a	18	14	14
	Spain	14	12	11	8	10	11	a	11	13	12
	Sweden	13	11	x(5)	x(5)	13	12	10	10	10	10
	Switzerland[2]	15	12	11	13	12	12	m	a	14	14
	Turkey	18	15	12	11	11	13	a	47	20	23
	United Kingdom	20	16	16	25	18	17	a	x(10)	x(10)	11
	United States	15	15	15	a	15	15	x(10)	x(10)	x(10)	14
	OECD average	15	13	13	13	13	13	18	15	15	15
	EU22 average	13	11	12	12	12	11	14	12	14	15
Partners	Argentina	m	m	m	m	m	m	a	m	m	m
	Brazil	24	25	25	13	23	24	30	3	24	24
	China	16	13	x(5)	x(5)	14	13	m	m	m	m
	India	28	19	x(5)	x(5)	24	21	m	m	m	25
	Indonesia	m	m	m	m	m	m	a	m	m	m
	Russian Federation	24	12[d]	x(2)	x(8)	x(2, 8)	m	x(8)	13[d]	13	13[d]
	Saudi Arabia	15	13	x(5)	x(5)	14	14	1	m	17	20
	South Africa	m	m	m	m	29	m	56	m	m	m
	G20 average	18	16	m	m	16	16	m	m	m	18

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 (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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A corrigendum has been issued for this page.
See: https://www.oecd.org/about/publishing/Corrigendum_Education-at-a-Glance-2021.pdf

Table D2.3. Ratio of students to teaching staff, by type of institution (2019)

		Lower secondary				Upper secondary				All secondary programmes			
			Private institutions				Private institutions				Private institutions		
		Public institutions	All private institutions	Government-dependent private institutions	Independent private institutions	Public institutions	All private institutions	Government-dependent private institutions	Independent private institutions	Public institutions	All 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	13[d]	11[d]	11[d]	m	m	m	m	m
	Austria	8	10	x(2)	x(2)	10	10	x(6)	x(6)	9	10	x(10)	x(10)
	Belgium	9	9	9	a	9	10	10	a	9	9	9	a
	Canada[2]	m	m	m	m	13	15	x(6)	x(6)	m	m	m	m
	Chile	15	23	24	20	17	22	24	16	16	22	24	17
	Colombia	29	21	a	21	25	23	a	23	28	22	a	22
	Costa Rica	15	8	x(2)	x(2)	14	9	x(6)	x(6)	14	8	x(10)	x(10)
	Czech Republic	13	12	12	a	10	11	11	a	12	11	11	a
	Denmark	11	10	11	4	12	6	6	13	11	10	10	5
	Estonia[3]	10	8	8	4	16	12	11	15	13	10	9	11
	Finland	9	11	11	a	18	17	17	a	13	16	16	a
	France	14	16	16	m	11	12	12	m	13	14	14	m
	Germany	13	13	x(2)	x(2)	12	11	x(6)	x(6)	13	12	x(10)	x(10)
	Greece	8	9	a	9	10	9	a	9	9	9	a	9
	Hungary	11	12	13	11	11	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	x(5)	m	a	m
	Israel	13	1	1	a	11	m	m	a	12	m	m	a
	Italy[3]	11	11	a	11	10	7	a	7	11	8	a	8
	Japan[3]	13	11	a	11	11	14	a	14	12	13	a	13
	Korea	13	14	14	a	11	12	12	a	12	13	13	a
	Latvia	9	7	a	7	11	12	a	12	10	10	a	10
	Lithuania	10	9	a	9	9	8	a	8	10	9	a	9
	Luxembourg	9	x(6)	9	x(8)	9	11[d]	10	11[d]	9	11	10	11
	Mexico	36	16	a	16	25	14	a	14	31	15	a	15
	Netherlands	16	16	a	16	18	18	a	18	17	18	a	18
	New Zealand	16	13	a	13	13	11	10	11	15	11	10	12
	Norway	10	10	11	6	11	11	11	a	10	11	11	6
	Poland	10	10	10	10	10	12	10	12	10	11	10	11
	Portugal[3]	9	13	11	14	9	10	12	9	9	11	11	11
	Slovak Republic	13	12	12	a	14	12	12	a	13	12	12	a
	Slovenia	m	m	m	a	14	14	24	10	m	m	m	10
	Spain	10	16	16	14	9	14	15	13	10	15	15	13
	Sweden	11	12	12	a	13	14	14	a	12	13	13	a
	Switzerland[3]	12	m	m	m	12	m	m	m	12	m	m	m
	Turkey	16	8	a	8	12	8	a	8	14	8	a	8
	United Kingdom[3]	16	16	18	8	16	19	21	8	16	18	20	8
	United States	16	10	a	10	16	10	a	10	16	10	a	10
	OECD average	13	12	12	11	13	12	13	12	13	12	13	11
	EU22 average	11	11	12	9	12	11	12	11	11	11	12	10
Partners	**Argentina**	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	26	20	a	20	24	18	a	18	25	19	a	19
	China	12	17	x(2)	x(2)	14	18	x(6)	x(6)	13	17	x(10)	x(10)
	India	21	17	x(2)	x(2)	23	25	x(6)	x(6)	22	21	x(10)	x(10)
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	12	5	a	5	x(1)	x(2)	a	x(4)	12	5	a	m
	Saudi Arabia	13	11	x(2)	x(2)	14	15	x(6)	x(6)	14	13	x(10)	x(10)
	South Africa	m	m	m	m	m	33	m	m	m	m	m	m
	G20 average	17	13	m	m	15	15	m	m	16	13	m	m

1. Includes only general programmes in lower and upper secondary education.
2. Lower secondary is included in primary education.
3. Upper secondary includes programmes outside upper secondary level. See Annex 3 for further details.

Source: OECD/UIS/Eurostat (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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

- Teachers' actual salaries at pre-primary, primary and general secondary levels of education are 81-96% of the earnings of tertiary-educated workers on average across OECD countries and economies.
- The actual salaries of male and female teachers are very similar (a difference of less than 2% on average). However, male lower secondary teachers' actual salaries are around 20% lower than the earnings of tertiary-educated male workers whereas female lower secondary teachers earn 3% more than their peers. This shows that the teaching profession may be more attractive to women than to men, compared to other professions, but it also reflects the persistent gender gap in earnings in the labour market.
- On average across OECD countries and economies, primary and secondary school heads' actual salaries are at least 28% 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.

The global pandemic creates new challenges for the economy and education systems, and will also put pressure on public expenditure. 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 the salaries and career prospects of teachers as they try to ensure both high-quality teaching and sustainable education budgets (see Indicators C6 and D2).

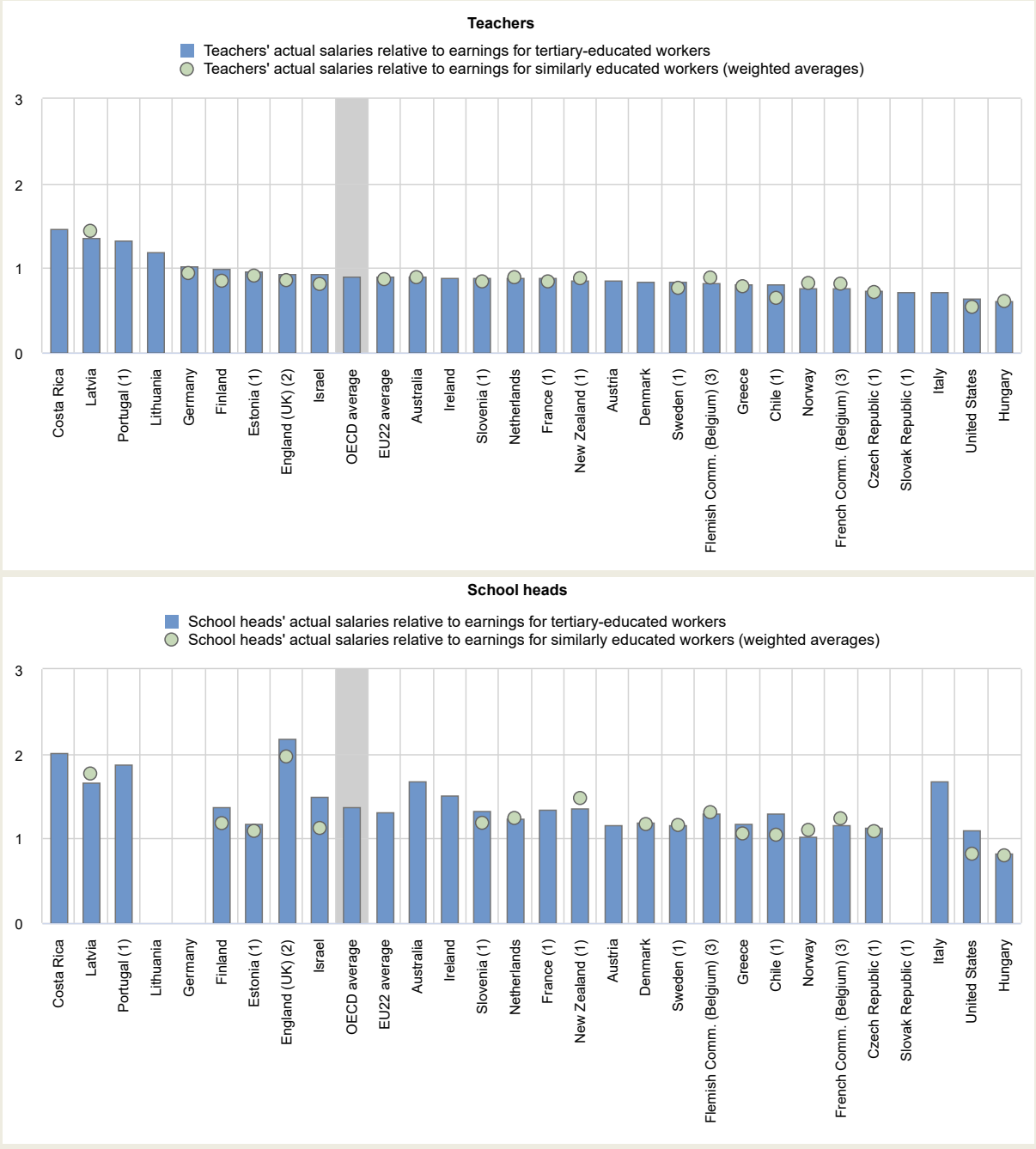
Statutory salaries are just one component of teachers' and school heads' total compensation. Other benefits, such as regional allowances for teaching in remote areas, family allowances, reduced rates on public transport and tax allowances on the purchase of instructional materials may also form part 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 D3.1 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. School heads' actual salaries are more than 51% higher on average than those of teachers across primary and secondary education in OECD countries and economies.
- Between 2005 and 2020, on average across OECD countries and economies with available data for all reference years, the statutory salaries of teachers with 15 years of experience and the most prevalent qualifications increased by 3% at primary level, 4% at lower secondary level (general programmes) and 2% at upper secondary level (general programmes).
- Between 2010 and 2019, on average across OECD countries and economies with available data for all reference years, the actual salaries of 25-64 year-old teachers increased by 11% at pre-primary level, 9% at primary, 11% at lower secondary and 10% at upper secondary.
- 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 (2020)

Ratio of salaries to the earnings of full-time, full-year workers with tertiary education



Note: Data refer to 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. Year of reference for salaries of teachers/school heads differs from 2020. See Table D3.3 for more information.
2. Data on earnings for full-time, full-year workers with tertiary education refer to the United Kingdom.
3. 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 (2021), Table D3.2. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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Analysis

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.

Data on teachers' salaries are available for three qualification levels: minimum, most prevalent and maximum. The salaries of teachers with the maximum qualifications can be substantialy higher than those with the minium qualfications. However, in some countries, very few teachers hold the minimum or maximum qualifications. In many countries, most teachers have the same qualification level. For these reasons, the following analysis on statutory salaries focuses on teachers who hold the most prevalent qualifiations.

Statutory salaries of teachers

Teachers' salaries vary widely across countries. The salaries of lower secondary school teachers with 15 years of experience and the most prevalent qualifications (a proxy for mid-career salaries of teachers) range from less than USD 20 000 in Hungary and the Slovak Republic to more than USD 70 000 in Canada, Germany and the Netherlands, 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. The salaries of teachers with 15 years of experience and the most prevalent qualifications vary from USD 44 209 at the pre-primary level to USD 48 025 at the primary level, USD 49 701 at the lower secondary level and USD 51 917 at the upper secondary level. In the Flemish and French Communities of Belgium, Denmark, and Lithuania, upper secondary teachers with 15 years of experience and the most prevalent qualifications earn between about 25% and 30% more than pre-primary teachers with the same experience, while in Finland they earn around 50% more. In Finland, 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 Chile, Costa Rica, Slovenia, Turkey 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 and Scotland (United Kingdom) (Table D3.1).

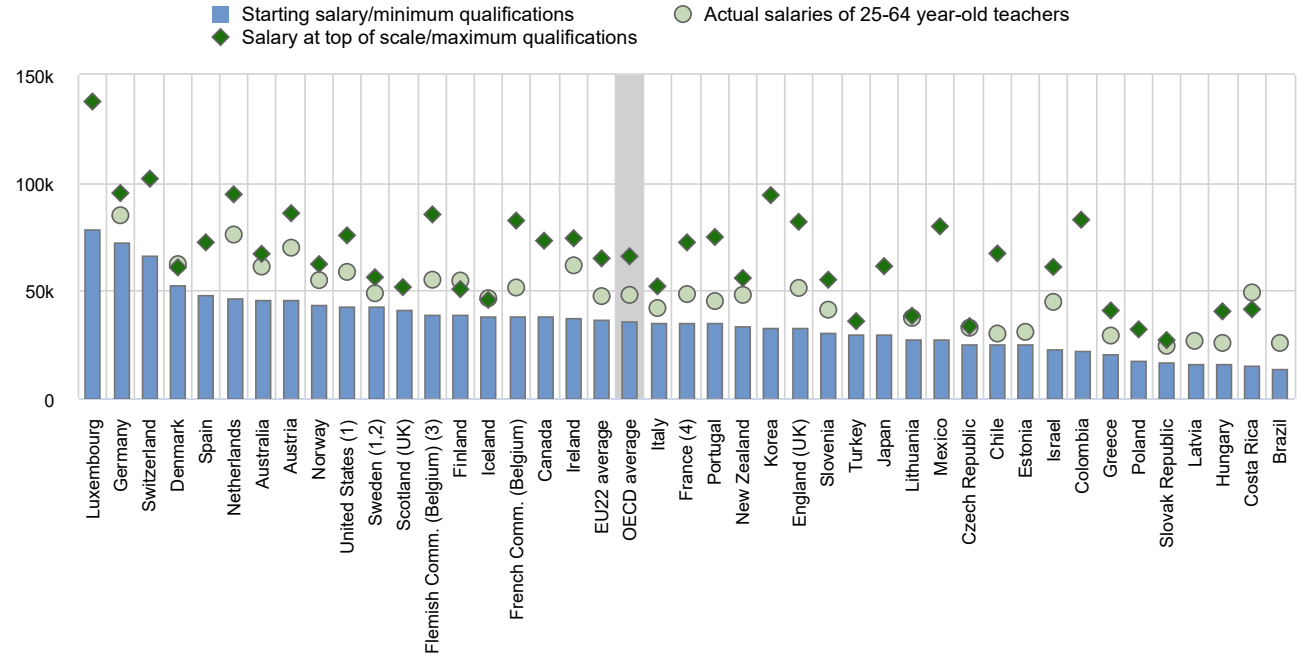
However, in Israel, the salary of a pre-primary teacher is about 6% higher than the salary of an upper secondary teacher. This difference results from the "New Horizon" reform, begun in 2008 and almost fully implemented by 2014, which increased salaries for pre-primary, primary and lower secondary teachers. Another reform, launched in 2012 with implementation ongoing, aims to raise salaries for upper secondary teachers.

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. 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.

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 29% higher than average starting salaries after 10 years of experience, and 38% higher after 15 years of experience. Average salaries at the top of the scale (reached after an average of 25 years) are 67% higher than the average starting salaries. The difference in salaries by level of experience varies largely between countries. At the lower secondary level, salaries at the top of the scale exceed starting salaries by less than 20% in Denmark, Iceland, and Turkey, whereas salaries at the top of the scale are more than 2.8 times starting salaries in Korea (after at least 37 years of experience).

Figure D3.2. Lower secondary teachers' average actual salaries compared to the statutory starting and top of the scale salaries (2020)

Annual salaries of teachers in public institutions, in equivalent USD converted using PPPs



Compare your country: https://www.compareyourcountry.org/education-at-a-glance-2021/en/7/all/default

Note: Actual salaries include bonuses and allowances.

1. Actual base salaries.
2. Salaries at the top of the scale and the minimum qualifications, instead of the maximum qualifications.
3. Salaries at the top of the scale and the most prevalent qualifications, instead of the 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 the minimum qualifications.

Source: OECD (2021), Table D3.3 and *Education at a Glance Database*, http://stats.oecd.org. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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The range of salaries within countries also increases as different qualification levels of teachers can be associated to different salary scales. At the lower secondary level, on average across OECD countries and economies, the statutory salary of a teacher with the most prevalent qualifications and 15 years of experience is 40% higher than that of a teacher starting out with the minimum qualifications. At the top of the salary range with the maximum qualifications, the average statutory salary is 85% higher than the average starting salary with the minimum qualifications (Table D3.1 and Figure D3.2).

In terms of the maximum statutory salary range (from starting salaries with the minimum qualifications to maximum salaries with the 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 (8-38% lower) than the OECD average, but maximum salaries are at least 21% 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, Scotland (United Kingdom) and Sweden, where starting salaries are between 7% and 48% higher than the OECD average, while maximum salaries are at least 5% lower than the OECD average (8-30% lower). This results from relatively flat/compressed salary scales in a number of these countries (Figure D3.2).

In contrast, for lower secondary teachers, maximum salaries (at the top of the scale, with the 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 and Flemish Communities of Belgium, Hungary, Ireland, Israel, Japan, Korea, Mexico, the Netherlands, and Portugal (Figure D3.2).

The salary premium for teachers with the maximum qualifications at the top of the pay scales (which may correspond to a very small proportion of teachers), 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 nine OECD countries and economies, while it exceeds 60% in Chile, Colombia, France, Hungary, Israel, Mexico and Portugal (Figure D3.2 and Table D3.1).

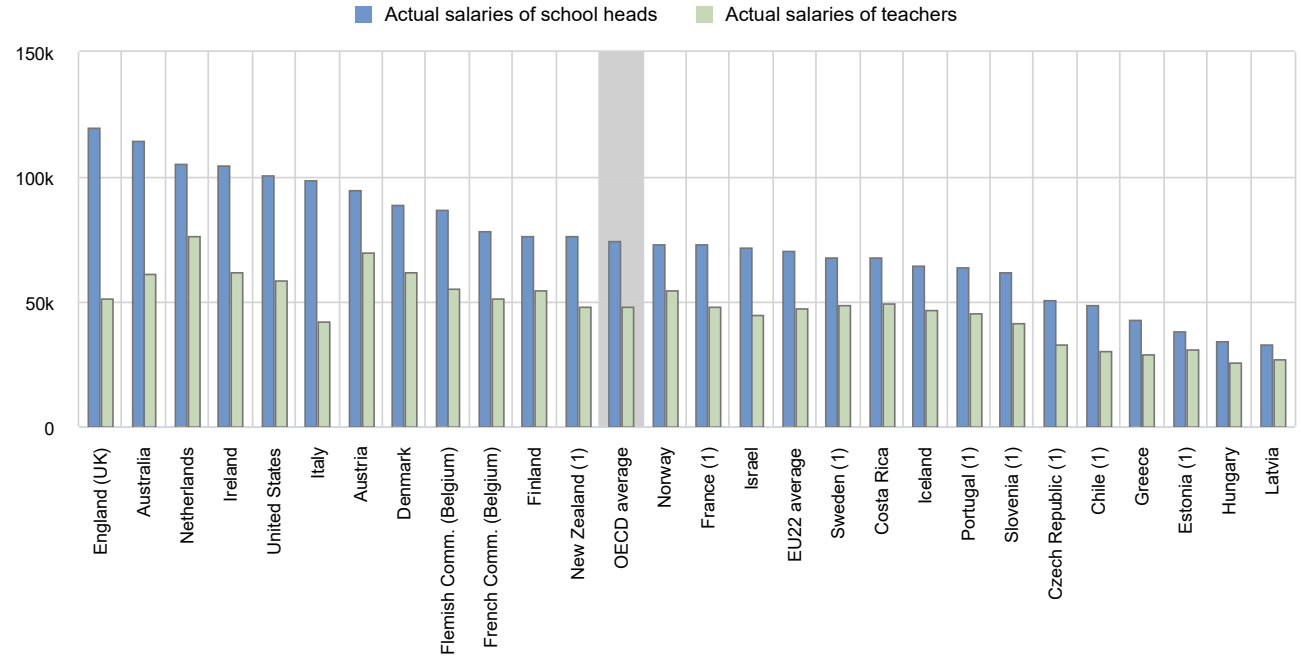
Actual salaries of teachers

In addition to statutory salaries, teachers' actual salaries include work-related payments, such as annual bonuses, results-related bonuses, extra pay for holidays, sick-leave pay and other additional payments (see *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.

Across OECD countries and economies, in 2020, the average actual salaries of teachers aged 25-64 were USD 40 707 at pre-primary level, USD 45 687 at primary level, USD 47 988 at lower secondary level and USD 51 749 at upper secondary level.

Figure D3.3. Actual salaries of lower secondary teachers and school heads (2020)

Annual actual salaries (including bonuses and allowances), in equivalent USD converted using PPPs



Note: Includes only teachers and school heads in public institutions

1. Year of reference differs from 2020. See Table D3.3 for more information.

Countries and economies are ranked in descending order of actual salaries of school heads.

Source: OECD (2021), Table D3.3. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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There are 27 OECD countries and economies with available data on both the statutory salaries of teachers with 15 years of experience and the 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 six of these countries and economies at pre-primary level and in 11 of these countries and economies at upper secondary level. This shows the effect of additional allowances (included in data for actual but not statutory salaries) and of differing levels of experience in the teaching populations of countries (Table D3.3 and Figure D3.3).

It is also possible to examine how teachers' actual salaries compare to the minimum and maximum salaries. This gives an indication of the distribution of teachers between the minimum and maximum salary levels. At the lower secondary level, actual salaries of 25-64 year-old teachers are, on average, 35% higher than the statutory starting salary for teachers with the minimum qualification. This difference is less than 20% in Chile, Denmark, Germany, Italy and Sweden, suggesting that many teachers are being paid close to the minimum salary. On the contrary, in Brazil, Costa Rica, Hungary, Ireland, Israel, Latvia and the Netherlands, the difference is over 60%, suggesting that most teachers are paid much more than the minimum salary. A similar analysis comparing actual salaries with the maximum salary shows that actual salaries of 25-64 year-old teachers are, on average, 27% lower than the statutory salary at the top of the scale for teachers with the maximum qualification. The difference is greater than 35% in Chile, England (United Kingdom), the Flemish and French Communities of Belgium, Hungary and Portugal, suggesting that few teachers are paid at or near the maximum salary level. In four countries, average actual salaries of teachers are greater than the statutory salary at the top of the scale for teachers with the maximum qualification (Costa Rica, Denmark, Finland and Iceland), which implies that allowances awarded in addition to the statutory salary have a substantial effect on teachers' take home pay (Figure D3.2).

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.

In most OECD countries and economies, a tertiary degree is required to become a teacher, 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 Table X2.8 in Annex 2 for the proportion of teachers by attainment level, and *Methodology* section for more details).

Among the 21 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), Hungary, and the United States. Very few countries and economies have teachers' actual salaries that reach or exceed those of similarly educated workers. However, upper secondary teachers in Germany have actual salaries that are the same as those of similarly educated workers, and actual salaries exceed by at least 14% those of similarly educated workers in Latvia (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, teachers' actual salaries relative to other tertiary-educated workers increase with higher education levels. On average, pre-primary teachers' salaries amount to 81% of the full-time, full-year earnings of tertiary-educated 25-64 year-olds. Primary teachers earn 86% of this benchmark salary, lower secondary teachers 90% and upper secondary teachers 96% (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 Slovak Republic, pre-primary teachers' salaries are 56% of those of tertiary-educated workers, in Hungary they are 58% and in the United States they are 59%. However, in some countries, teachers earn more than tertiary-educated adults, either at all levels of education (Costa Rica, Latvia, Lithuania and Portugal) or only at some levels (at upper secondary level in Finland and at secondary level in Germany). In Costa Rica (at the secondary level), Latvia (at primary and secondary levels) and Portugal, teachers earn at least 30% more than tertiary-educated workers (Table D3.2 and Figure D3.1).

Box D3.1. 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.

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 a potential impact on the level of earnings of tertiary-educated workers used to compute relative salaries. As a consequence, this also affects the measure of teachers' relative salaries. However, a recent analysis among five volunteer countries with available data that allow excluding from earnings data those of teachers showed that removing teachers from the earnings of tertiary-educated workers tended to lead to only a small change in relative salaries (from 0.01 to 0.04 percentage points depending on the level of education and age group). There is then little evidence to suggest that including teachers in the earnings data significantly biases the measure of relative salaries.

Part-time work

The relative measures of salaries are based on the salaries and earnings 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 work 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, 2018[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 statutory salaries (based on collective labour agreements), but also for actual salaries.

Part-year work

Not only is the measure of teachers' relative salaries 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 the earnings of tertiary-educated workers.

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, earnings data are at least partially based on the Labour Force Survey (LFS) of that country. However, the teachers' salary data often come from regulations, collective agreements, administrative sources or sample surveys.

Differences in pension 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 have higher salaries, but they may also have to make their own pension arrangements. Differences in pension 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 teachers' relative salaries.

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 country-specific notes in Annex 3.

Salaries of school heads

The responsibilities of school heads may vary between countries and also within countries, depending on the schools they lead. 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).

Statutory salaries of 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 included in the salary. 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 D3.12, 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 focus 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.

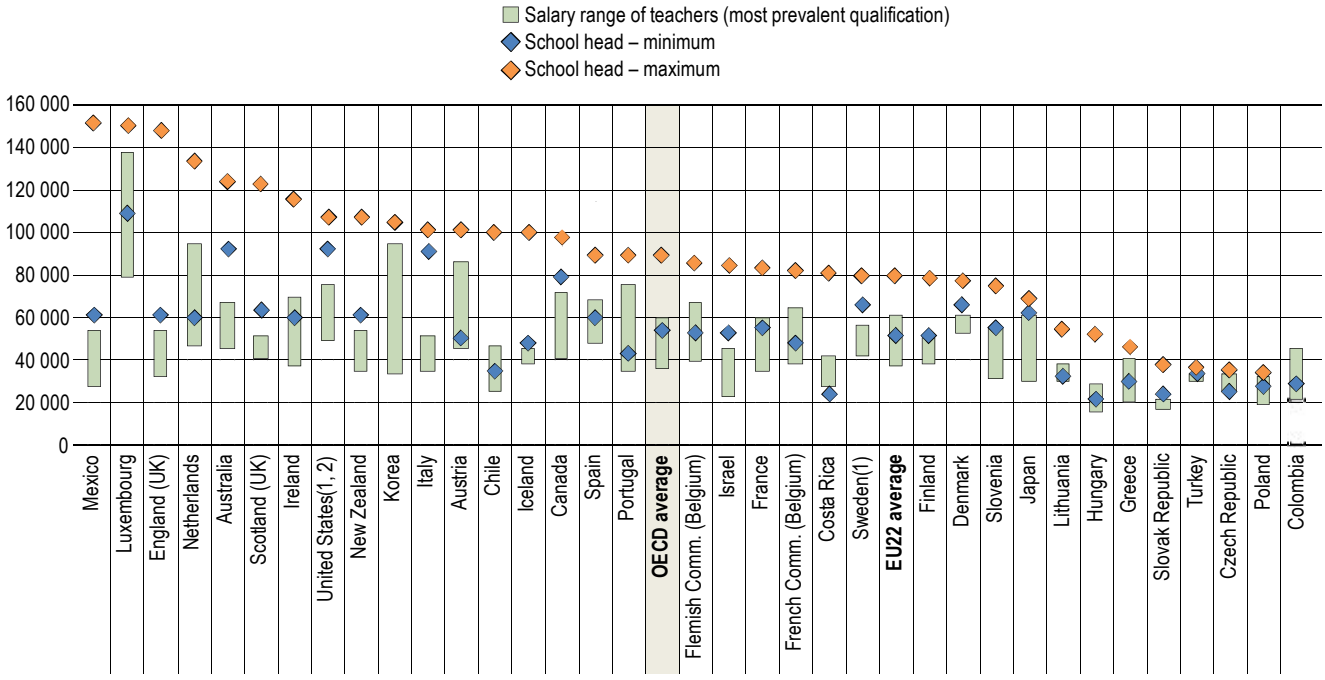
At lower secondary level, the minimum salary for school heads is USD 54 278 on average across OECD countries and economies, ranging from USD 21 308 in Latvia to USD 108 765 in Luxembourg. The maximum salary is USD 88 754 on average across OECD countries and economies, ranging from USD 34 478 in Poland to USD 152 032 in Mexico. 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 (Table D3.4).

On average across OECD countries and economies, the maximum statutory salary of a school head with the minimum qualifications is 73% higher than the minimum statutory salary at primary level, 72% higher than the minimum in lower secondary and 69% higher in upper secondary. There are only ten 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 even expect to earn more than three times the starting salary (Table D3.4).

Figure D3.4. Minimum and maximum statutory salaries for lower secondary teachers and school heads (2020)

Annual statutory salaries of teachers and school heads, in equivalent USD converted using PPPs



Note: salaries in public institutions, for teachers with the most prevalent qualifications at a given level of education and for school heads with minimum qualifications.
1. Actual base salaries.
2. Minimum salary refers to the most prevalent qualification (master's degree or equivalent) and maximum salary refers to the highest qualification (education specialist or doctoral degree or equivalent).
Countries and economies are ranked in descending order of maximum salaries of school heads.
Source: OECD (2021), Table D3.4. and *Education at a Glance Database*, http://stats.oecd.org. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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The minimum statutory salaries for school heads with the minimum qualifications are higher than the starting salaries of teachers, except in Costa Rica. The difference between minimum salaries for school heads (with the minimum qualifications) and starting salaries for teachers (with the most prevalent qualifications) increases with level of education: they are 32% higher on average across OECD countries and economies at pre-primary level, 42% at primary level, 49% at lower secondary level and 49% 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), the Slovak Republic, Sweden 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 48% higher than the salary of teachers at the top of the scale (with the 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).

Actual salaries of school heads

Average actual salaries for school heads aged 25-64 ranged from USD 68 794 at primary level to USD 74 419 at lower secondary level and USD 79 033 at upper secondary level (Table D3.3, see Box D3.1 for variations at subnational level).

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 2020 were 51% higher than those of teachers at primary level. The premium is 55% at lower secondary level and 53% 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 (primary and 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 the Czech Republic, school heads' actual salaries are 40% higher than teachers' at pre-primary level, but the difference is 55% at lower secondary and 59% at upper secondary level. In Costa Rica, Estonia, Latvia and Slovenia, the difference is much larger at pre-primary level than at primary and lower secondary levels (Table D3.3).

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. School heads earn more than teachers and, unlike teachers, typically earn more than similarly educated workers at all of the levels of education considered. This difference tends to increase with the level of education. Among the 19 OECD countries and economies with available data (for at least one level), it is only school heads in Hungary and the United States and pre-primary school heads in Denmark whose actual salaries are at least 5% lower than the earnings of similarly educated workers. In contrast, school heads' salaries are at least 40% higher than those of similarly educated workers in England (United Kingdom) and New Zealand (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 28% more than tertiary-educated adults at primary level, 37% 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), Finland (pre-primary), Hungary and Norway (pre-primary) (Table D3.2).

Box D3.2. 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 2020 in Belgium, for example, the annual starting salary of a primary school teacher varied by only 3% (USD 1 231), from USD 37 795 in the French Community to USD 39 036 in the Flemish Community. In comparison, subnational variation was the largest in the United States, where the starting salary of a primary school teacher varied by 81% (USD 27 438) across subnational entities, ranging from USD 33 968 in Oklahoma to USD 61 406 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

A corrigendum has been issued for this page.
See: https://www.oecd.org/about/publishing/Corrigendum_Education-at-a-Glance-2021.pdf

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 38% (USD 11 345) between subnational entities (from USD 29 789 to USD 41 133), while salaries at the top of the salary scale varied by only 6% (USD 2 811, from USD 50 717 to USD 53 528). 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 35 334 to USD 59 114 (a difference of 67%, or USD 23 780) and the largest for salaries at the top of the salary scale, ranging from USD 44 337 to USD 111 425 (a difference of 151%, or USD 67 088).

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 2020. 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 three subnational entities with available data) ranged from USD 48 099 in Wales to USD 53 826 in Northern Ireland, a difference of 12% or USD 5 727. In comparison, school heads' salaries ranged from USD 97 249 in Northern Ireland to USD 119 548 in England, a difference of 23% or USD 22 299. 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 94 165 in the French Community to USD 97 643 in the Flemish Community, a difference of 4%, or USD 3 478. In the United States, subnational variation in actual salaries is 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 school heads' salaries is largest at lower and upper secondary levels, while subnational variation in teachers' salaries is similar across levels of education. 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.

Salary trends of teachers since 2000

Trends in statutory salaries

Teachers' statutory salaries increased overall in real terms in most of the countries for which data are available between 2000 and 2020. However, only one in three 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 period with no break in the time series. Among these countries, around two-thirds show an increase over this period and one-third show a decrease.

The biggest decreass in statutory salaries in real terms between 2000 and 2020 were in Greece, where statutory salaries fell by up to 14%. There were also smaller declines in teachers' statutory salaries in real terms in England (United Kingdom) (1%), France (by about 6%), Italy (less than 0.5%) and Japan (by nearly 10%). Statutory salaries increased by more than 40% for primary and secondary teachers in Ireland and Israel (pre-primary and secondary levels). However, in some countries, an overall increase in teachers' statutory salaries between 2000 and 2020 includes periods when statutory salaries fell in real terms, particularly from 2010 to 2013 (Table D3.6, available on line).

Over the period 2005 to 2020, for which half of OECD countries and economies have comparable trend data for at least one level of education, around two-thirds of these countries 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 2020, statutory salaries increased by about 3% at primary level, 4% at lower secondary level and 2% 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' statutory 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 Australia (pre-primary), Germany (primary and lower secondary), Iceland (pre-primary), Israel, and Norway (at pre-primary) (Table D3.6, available on line).

A corrigendum has been issued for this page.
See: https://www.oecd.org/about/publishing/Corrigendum_Education-at-a-Glance-2021.pdf

In most countries, the salary increases were similar across primary, lower secondary and upper secondary levels between 2005 and 2020. However, this is not the case in Israel, where statutory salaries increased by more than 50% at pre-primary level, 28% at primary level, 42% at lower secondary level and 46% 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, statutory salaries have decreased slightly since 2005 in a few countries and economies including France, Hungary (primary and secondary), Italy, Portugal, Spain (secondary) and the United States (primary). They decreased by 9% in Japan and by more than 25% in Greece as the result of reductions in remuneration, the implementation of new wage grids and salary freezes since 2011 (Table D3.6, available on line).

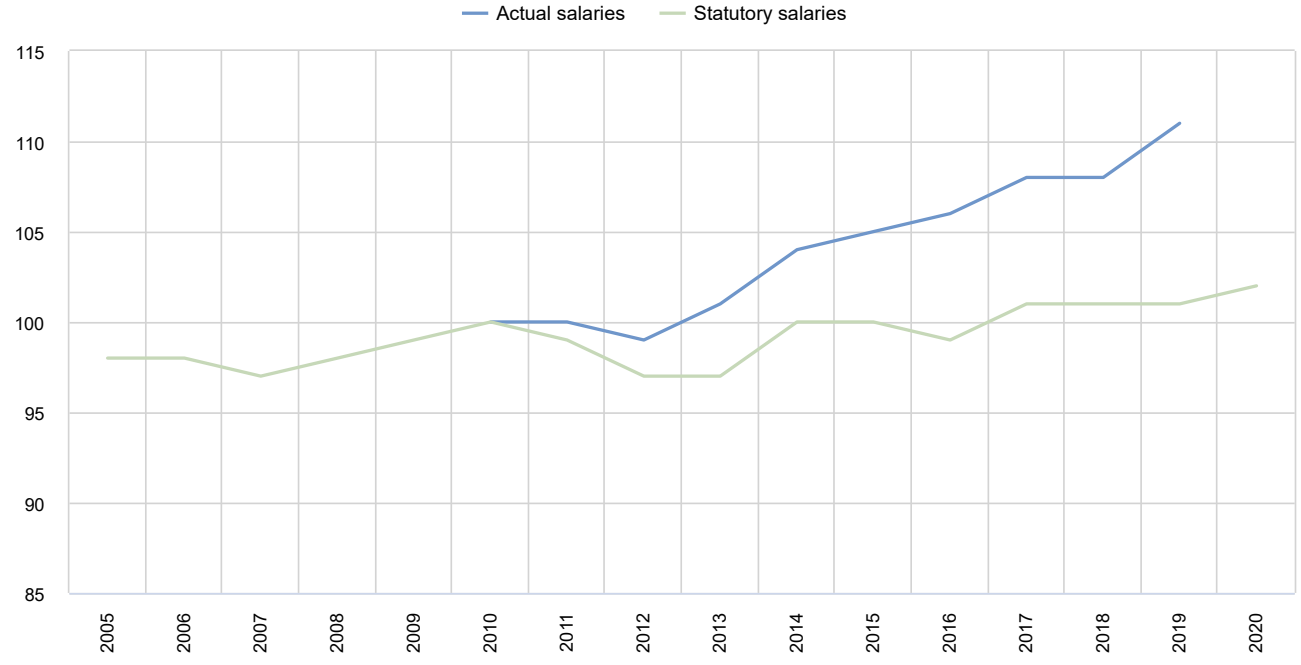
Trends in actual salaries

Teachers' actual salaries increased overall in real terms in most countries for which data are available between 2010 and 2019. Among countries with available trend data, around three-quarters of countries show an increase over this period and one-quarter show a decrease. However, only one in three OECD countries have available data on actual salaries of teachers aged 25-64 for the whole period with no break in the time series (Table D3.6, available on line).

For the countries with available data (and no breaks in the time series), actual salaries increased between 2010 and 2019 by 11% at pre-primary level, 9% at primary, 11% at lower secondary and 10% at upper secondary. The increase in salaries was over 25% at all levels of education in the Czech Republic, Hungary and Israel. In Sweden, actual salaries increased by 18% at pre-primary level but by over 21% at primary and secondary levels. Actual salaries decreased in six countries and economies in at least one level of education. They fell by more than 8% in real terms in England (United Kingdom) and by 15% in the Flemish Community of Belgium (Table D3.7, available on line).

Figure D3.5. Change in lower secondary teachers' salaries in OECD countries (2005 to 2020)

Average change in statutory and actual of teachers, index of change (2010 = 100)



Note: Data refer to averages computed for OECD countries with available data for all reference years. Statutory salaries refer to teachers with 15 years of experience and the minimum qualification. Actual salaries refer to teachers aged 25-64. OECD averages for statutory salaries and actual salaries are not necessarily computed for the same group of countries.
Source: OECD (2021), Tables D3.6 and D3.7, available on line. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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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 D3.10 and D3.11, 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 D3.8, 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 the countries and economies with available information.

It is also common to award 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 D3.8, 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 the 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 D3.8, 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, Hungary and Portugal (Table D3.9, available on line).

Among the 30 countries and economies with available data, around one-quarter provide additional compensation to school heads for participating in management tasks above and beyond their usual responsibilities as school heads or for working overtime. At lower secondary level, about half of the countries and economies (Australia, Austria, Chile, England [United Kingdom], Finland, France, the French Community of Belgium, Hungary, 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 D3.8 and D3.9, 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 and Spain, where school heads are rewarded for high performance, but teachers are not. In Spain, this allowance is fixed at the end of their term of office after a positive performance evaluation and can be kept for the rest of their working life. 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 D3.8 and D3.9, 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 available data, with the exception of Australia, where such incentives are only provided to teachers (Tables D3.8 and D3.9, available on line).

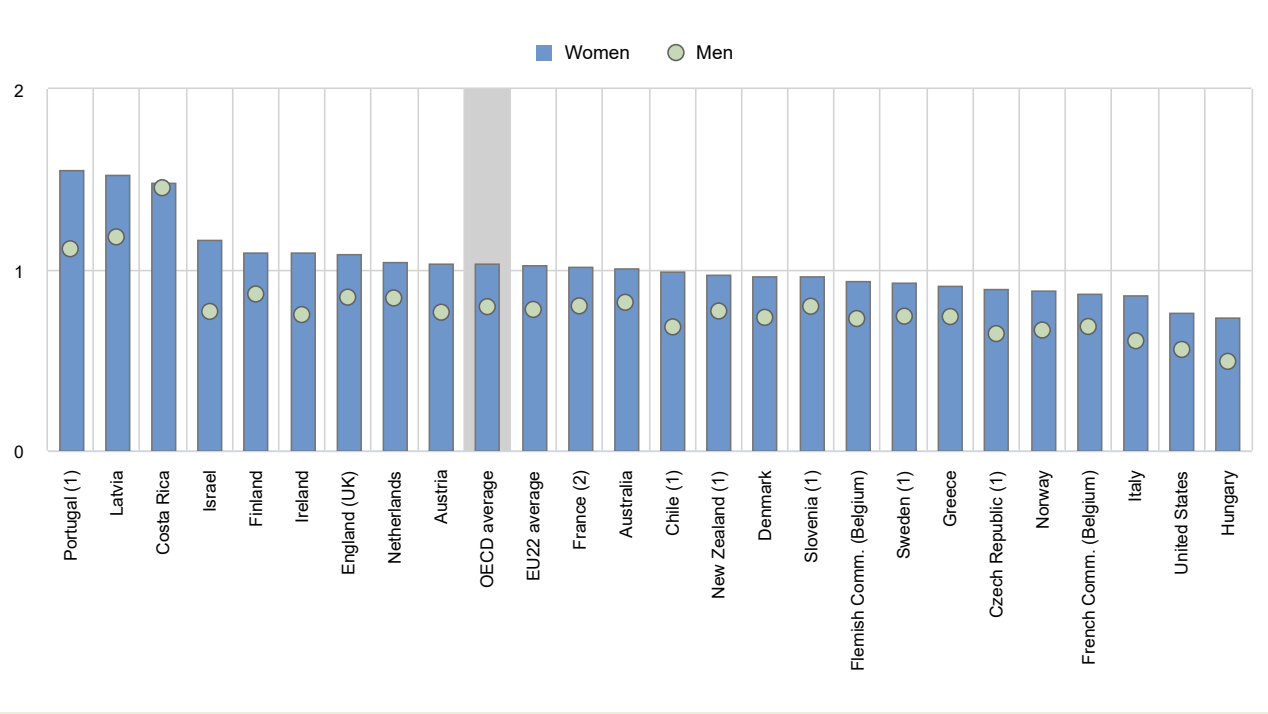
Box D3.3. Actual average salaries of teachers, by age group and gender (2020)

Statutory salaries of teachers increase with the number of years of experience as teachers and this results in an increase in the actual salaries of teachers by age. At primary and secondary levels, actual salaries of older teachers (aged 55-64) are, on average, 35% to 37% higher than those of younger teachers (aged 25-34), but this difference between age groups varies considerably between countries and economies. The difference is less than 20% at all levels of education in Australia, Latvia, Norway and Sweden, while it is 60% or more in Austria, Greece, Israel and Portugal (OECD.stat).

Despite the higher teachers' salaries for older age groups, the comparison of teachers' salaries with the earnings of tertiary-educated workers seems to show that teachers' salaries may evolve at a slower rate than the earnings of other tertiary-educated workers and that the teaching profession is less attractive as the workforce ages. On average across OECD countries and economies, teachers' actual salaries relative to the earnings of tertiary-educated workers are about 9 to 10 percentage points higher among the youngest adults (aged 25-34) than among the older age groups (aged 55-64) at the primary and lower secondary levels. However, there are large differences between countries. In Chile, Greece, Hungary and Israel, teachers' actual salaries relative to the earnings of tertiary-educated workers are higher for older age groups at pre-primary, primary and secondary levels. These are also countries where actual salaries of teachers increase the most with age among OECD countries.

Figure D3.6. Relative salaries of lower secondary teachers, by gender (2020)

Ratio of actual salaries to the earnings of full-time, full-year workers with tertiary education



Note: Data refer to ratio of average actual salary (including bonuses and allowances) of teachers in public institutions, relative to the earnings of full-time, full-year workers with tertiary education.
1. Year of reference is 2019 for teachers' salaries.
2. Year of reference is 2018 for teachers' salaries.
Countries and economies are ranked in descending order of relative actual salaries of women teachers.
Source: OECD (2021), Table D3.5, available on line. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

StatLink https://stat.link/nd3qx5

In public educational institutions, the differences between actual salaries for male and female teachers are small. On average across OECD countries, actual salaries of female teachers are less than 2% lower than those of male teachers

at primary and secondary levels. However, there are differences across countries and levels of education that may result from differences in the distribution of teachers by qualification level or experience. For example, at the lower secondary level, actual salaries of female teachers are 4% lower than those of male teachers in France, but 4% higher in Israel.

There are larger gender differences in the ratio of teachers' actual salaries to the earnings of tertiary-educated workers aged 25-64. On average across OECD countries and economies, actual salaries of male teachers (aged 25-64) are 76% to 85% (at primary and lower secondary levels) of the earnings of a tertiary-educated 25-64 year-old full-time, full-year male worker. Teachers' actual salaries relative to the earnings of tertiary-educated workers are between 22 and 24 percentage points higher among women than among men at these levels. The gender difference also varies greatly between countries. At the lower secondary level, relative salaries of female teachers are 2 percentage points higher than those of male teachers in Costa Rica, but the difference exceeds 30 percentage points in Chile, Ireland, Israel, Latvia and Portugal (Figure D3.6).

This higher ratio among female teachers shows that the teaching profession may be more attractive to women than to men, compared to other professions, but it also reflects the persistent gender gap in earnings (in favour of men) in the labour market (Table D3.5, 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 25-64, 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 Statistics 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 (Tables D3.14 and 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[5]) and Annex 3 for country-specific notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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 2018/19 school year 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 Labour Market and Social Outcomes of Learning Network.

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Indicator D3 tables

Tables Indicator D3. How much are teachers and school heads paid?

Table D3.1	Teachers' statutory salaries based on the most prevalent qualifications at different points in teachers' careers (2020)
Table D3.2	Teachers' and school heads' actual salaries relative to earnings of tertiary-educated workers (2020)
Table D3.3	Teachers' and school heads' average actual salaries (2020)
Table D3.4	School heads' minimum and maximum statutory salaries, based on minimum qualifications (2020)
WEB Table D3.5	*Teachers' actual salaries relative to earnings of tertiary-educated workers, by age group and gender (2020)*
WEB Table D3.6	*Trends in teachers' statutory salaries, based on the most prevalent qualifications after 15 years of experience (2000 and 2005 to 2020)*
WEB Table D3.7	*Trends in average teachers' actual salaries (2000, 2005 and 2010 to 2020)*
WEB Table D3.8	*Criteria used for base salaries and additional payments awarded to teachers in public institutions, by level of education (2020)*
WEB Table D3.9	*Criteria used for base salaries and additional payments awarded to school heads in public institutions, by level of education (2020)*
WEB Table D3.10	*Decision-making level for criteria used for determining teachers' base salaries and additional payments, by level of education (2020)*
WEB Table D3.11	*Decision-making level for criteria used for determining school heads' base salaries and additional payments, by level of education (2020)*
WEB Table D3.12	*Structure of compensation system for school heads (2020)*

StatLink https://stat.link/u0m6oe

Cut-off date for the data: 17 July 2021. 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*.

Table D3.1. Teachers' statutory salaries, based on the most prevalent qualifications at different points in teachers' careers (2020)

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	45 418	68 353	68 353	70 642	45 683	65 658	65 658	67 081	45 681	62 021	62 021	67 094	45 681	68 549	65 714	67 094
	Austria	m	m	m	m	45 892	49 675	55 142	80 386	45 665	51 858	57 732	85 833	45 785	55 887	62 882	91 296
	Canada	m	m	m	m	40 305	70 021	71 664	71 664	40 305	70 021	71 664	71 664	40 305	70 021	71 664	71 664
	Chile	25 147	31 041	37 824	46 637	25 147	31 041	37 824	46 637	25 147	31 041	37 824	46 637	26 004	32 184	39 138	48 351
	Colombia [1]	21 912	39 961	39 961	45 955	21 912	39 961	39 961	45 955	21 912	39 961	39 961	45 955	21 912	39 961	39 961	45 955
	Costa Rica	26 005	30 547	32 817	39 630	26 262	30 850	33 144	40 026	27 064	31 796	34 161	41 258	27 064	31 796	34 161	41 258
	Czech Republic	23 866	24 712	25 304	28 182	25 389	26 997	28 182	33 259	25 389	27 081	28 266	33 513	25 389	27 081	28 266	33 429
	Denmark	45 361	51 455	51 455	51 455	52 293	58 050	60 185	60 185	52 558	58 767	60 765	60 765	49 447	64 259	64 259	64 259
	Estonia	a	a	a	a	24 730	a	a	a	24 730	a	a	a	24 730	a	a	a
	Finland [2]	31 602	34 362	34 595	34 595	35 865	41 399	44 180	46 831	38 734	44 711	47 715	50 577	41 074	49 183	51 496	54 586
	France [3]	31 803	36 513	39 049	56 009	31 803	36 513	39 049	56 009	34 833	39 543	42 079	59 340	34 833	39 543	42 079	59 340
	Germany	m	m	m	m	65 475	75 935	80 407	86 171	72 588	83 636	88 037	95 216	75 913	86 276	91 041	106 035
	Greece	20 643	25 105	27 335	40 720	20 643	25 105	27 335	40 720	20 643	25 105	27 335	40 720	20 643	25 105	27 335	40 720
	Hungary	15 813	18 519	19 891	28 122	15 813	18 519	19 891	28 122	15 813	18 519	19 891	28 122	15 813	20 577	22 101	31 247
	Iceland [1]	39 148	40 210	42 317	43 418	38 856	39 917	42 024	43 125	38 856	39 917	42 024	43 125	37 710	41 440	45 554	45 554
	Ireland	a	a	a	a	37 096	56 448	62 313	71 822	37 096	58 455	62 906	72 415	37 096	58 455	62 906	72 415
	Israel	25 956	33 929	38 080	66 520	22 833	29 874	33 163	55 655	22 948	30 916	36 718	58 226	27 753	32 130	35 769	56 021
	Italy	32 481	35 612	38 984	47 287	32 481	35 612	38 984	47 287	34 910	38 558	42 385	51 925	34 910	39 476	43 564	54 271
	Japan	m	m	m	m	29 898	42 353	49 497	61 240	29 898	42 353	49 497	61 240	29 898	42 353	49 497	62 852
	Korea	33 477	50 572	59 103	94 108	33 477	50 572	59 103	94 108	33 539	50 634	59 165	94 170	32 800	49 895	58 426	93 431
	Latvia	15 933	a	a	a	15 933	a	a	a	15 933	a	a	a	15 933	a	a	a
	Lithuania	21 086	23 422	26 484	29 756	29 332	30 266	33 667	38 343	29 332	30 266	33 667	38 343	29 332	30 266	33 667	38 343
	Luxembourg	69 425	89 789	101 360	122 650	69 425	89 789	101 360	122 650	78 681	98 959	109 204	137 610	78 681	98 959	109 204	137 610
	Mexico	21 444	27 045	33 906	42 704	21 444	27 045	33 906	42 704	27 258	34 417	43 330	54 191	52 449	60 444	64 491	64 491
	Netherlands	46 042	60 653	71 024	85 315	46 042	60 653	71 024	85 315	46 394	70 621	81 064	94 660	46 394	70 621	81 064	94 660
	New Zealand	m	m	m	m	34 847	53 247	53 247	53 247	34 847	53 247	53 247	53 247	34 847	53 247	53 247	53 247
	Norway	39 222	47 831	47 831	48 310	43 048	51 352	51 352	55 188	43 048	51 352	51 352	55 188	50 864	56 259	56 259	62 277
	Poland	18 890	25 210	30 768	32 071	18 890	25 210	30 768	32 071	18 890	25 210	30 768	32 071	18 890	25 210	30 768	32 071
	Portugal	34 701	42 226	44 802	74 902	34 701	42 226	44 802	74 902	34 701	42 226	44 802	74 902	34 701	42 226	44 802	74 902
	Slovak Republic [4]	13 524	15 429	15 797	17 673	16 757	18 838	19 295	21 583	16 757	18 838	19 295	21 583	16 757	18 838	19 295	21 583
	Slovenia [4]	30 530	36 304	44 203	51 094	30 530	37 642	45 857	55 032	30 530	37 642	45 857	55 032	30 530	37 642	45 857	55 032
	Spain	43 135	46 816	49 898	61 456	43 135	46 816	49 898	61 456	48 178	52 300	55 687	68 405	48 178	52 300	55 687	68 405
	Sweden [1, 4,5, 6]	40 542	42 620	42 872	47 286	40 995	45 647	47 664	54 473	42 305	47 160	48 988	56 112	43 396	47 615	49 310	56 743
	Switzerland	55 631	69 372	m	84 896	59 642	74 274	m	90 838	66 476	84 747	m	101 904	74 869	96 557	m	115 200
	Turkey	28 897	29 585	30 812	32 428	28 897	29 585	30 812	32 428	30 052	30 740	31 967	33 584	30 052	30 740	31 967	33 584
	United States [6]	41 427	54 047	62 193	77 690	41 762	55 309	62 102	72 545	42 488	58 038	66 105	75 851	42 461	58 000	65 248	74 344
	Economies																
	Flemish Comm. (Belgium)	39 036	48 949	55 107	67 424	39 036	48 949	55 107	67 424	39 036	48 949	55 107	67 424	48 699	62 067	70 779	85 299
	French Comm. (Belgium)	37 795	47 253	53 198	65 088	37 795	47 253	53 198	65 088	37 795	47 253	53 198	65 088	47 012	59 917	68 327	82 343
	England (UK)	32 493	a	53 528	53 528	32 493	a	53 528	53 528	32 493	a	53 528	53 528	32 493	a	53 528	53 528
	Scotland (UK)	41 133	51 627	51 627	51 627	41 133	51 627	51 627	51 627	41 133	51 627	51 627	51 627	41 133	51 627	51 627	51 627
	OECD average	33 016	41 260	44 209	54 349	34 942	44 871	48 025	58 072	36 116	46 716	49 701	60 478	37 811	49 370	51 917	63 028
	EU22 average	32 221	39 164	42 896	52 282	35 220	43 692	48 015	58 530	36 587	45 984	50 226	61 412	37 571	48 167	52 604	64 504
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil [7]	13 983	m	m	m	13 983	m	m	m	13 983	m	m	m	13 983	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. Year of reference 2019.
2. Data on pre-primary teachers include the salaries of kindergarten teachers who are the majority.
3. Includes the average of fixed bonuses for overtime hours for lower and upper secondary teachers.
4. 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).
5. Excludes the social security contributions and pension-scheme contributions paid by the employees.
6. Actual base salaries.
7. Year of reference 2018.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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

StatLink https://stat.link/8mch25

Table D3.2. Teachers' and school heads' actual salaries relative to earnings of tertiary-educated workers (2020)

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	2019	a	0.87	0.89	0.87	0.95	0.88	0.89	0.88	m	m	m	m	1.34	1.44	1.68	1.67
	Austria	2019	m	m	m	m	m	0.75	0.85	0.96	m	m	m	m	m	1.07	1.15	1.40
	Canada [1]	2018	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Chile [1]	2017	0.64	0.63	0.65	0.68	0.79	0.78	0.80	0.84	1.03	1.02	1.04	1.12	1.28	1.27	1.29	1.40
	Colombia [1]	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Costa Rica	2019	m	m	m	m	1.16	1.22	1.46	1.46	m	m	m	m	1.91	1.76	2.01	2.01
	Czech Republic [1]	2018	0.79	0.72	0.72	0.73	0.61	0.74	0.73	0.76	1.05	1.09	1.09	1.15	0.86	1.13	1.13	1.20
	Denmark	2019	m	m	m	0.84	0.69	0.83	0.84	0.99	0.88	1.17	1.17	m	0.90	1.19	1.19	m
	Estonia	2019	0.78	0.93	0.91	0.90	0.73	0.95	0.95	0.95	0.98	1.09	1.09	1.09	1.04	1.17	1.17	1.17
	Finland	2018	0.74	0.76	0.85	0.95	0.67	0.88	0.98	1.11	0.90	1.06	1.18	1.25	0.84	1.23	1.37	1.47
	France [2]	2017	0.80	0.78	0.84	0.95	0.80	0.78	0.88	0.99	1.01	1.01	m	m	1.01	1.01	1.34	1.34
	Germany	2019	m	0.85	0.94	0.99	m	0.92	1.02	1.08	m	m	m	m	m	m	m	m
	Greece [3]	2018	0.75	0.75	0.78	0.78	0.75	0.75	0.80	0.80	1.02	1.02	1.06	1.06	1.04	1.04	1.17	1.17
	Hungary	2019	0.62	0.61	0.61	0.57	0.58	0.61	0.61	0.66	0.83	0.80	0.80	0.80	0.79	0.81	0.81	0.88
	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	0.86	0.89	0.89	m	m	m	m	m	1.24	1.51	1.51
	Israel	2018	0.81	0.80	0.81	0.89	0.85	0.87	0.93	0.99	a	1.17	1.12	1.40	a	1.53	1.50	1.73
	Italy	2017	m	m	m	m	0.66	0.66	0.71	0.76	a	m	m	m	a	1.68	1.68	1.68
	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	2019	1.14	1.46	1.44	1.57	1.07	1.37	1.35	1.48	1.72	1.75	1.76	2.13	1.62	1.65	1.66	2.01
	Lithuania	2018	m	m	m	m	1.19	1.19	1.19	1.19	m	m	m	m	m	m	m	m
	Luxembourg	2019	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	2019	0.80	0.80	0.89	0.89	0.76	0.76	0.88	0.88	1.03	1.03	1.24	1.24	1.04	1.04	1.23	1.23
	New Zealand [1]	2019	m	0.87	0.88	0.92	m	0.85	0.86	0.92	m	1.39	1.48	1.62	m	1.28	1.36	1.45
	Norway	2019	0.76	0.82	0.82	0.82	0.69	0.76	0.76	0.83	0.96	1.10	1.10	1.23	0.87	1.02	1.02	1.23
	Poland	2018	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Portugal [1]	2018	m	m	m	m	1.48	1.34	1.33	1.43	m	m	m	m	1.88	1.88	1.88	1.88
	Slovak Republic [1]	2019	m	m	m	m	0.56	0.72	0.72	0.75	m	m	m	m	m	m	m	m
	Slovenia [1]	2019	0.79	0.82	0.84	0.84	0.72	0.86	0.88	0.93	1.50	1.18	1.18	1.22	1.36	1.33	1.33	1.38
	Spain	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Sweden [1]	2019	0.77	0.82	0.76	0.76	0.71	0.80	0.83	0.85	1.15	1.16	1.16	1.15	1.04	1.15	1.15	1.18
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Turkey	2019	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	United States	2019	0.52	0.52	0.54	0.56	0.59	0.61	0.63	0.66	0.78	0.79	0.82	0.84	1.04	1.05	1.09	1.12
	Economies																	
	Flemish Comm. (Belgium)	2018	0.92	0.90	0.89	0.92	0.82	0.82	0.82	0.98	1.33	1.33	1.31	1.29	1.21	1.21	1.29	1.45
	French Comm. (Belgium)	2018	0.89	0.86	0.81	0.87	0.80	0.78	0.76	0.96	1.25	1.27	1.24	1.28	1.13	1.15	1.16	1.40
	England (UK)	2019	0.79	0.79	0.86	0.86	0.84	0.84	0.93	0.93	1.47	1.47	1.97	1.97	1.55	1.55	2.18	2.18
	Scotland (UK)	2019	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	OECD average		m	m	m	m	0.81	0.86	0.90	0.96	m	m	m	m	m	1.28	1.37	1.46
	EU22 average		m	0.85	0.87	0.90	0.80	0.87	0.90	0.97	1.13	1.15	m	m	1.13	1.23	1.31	1.40
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 2019 for salaries of teachers and school heads.
2. Year of reference 2018 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 (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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

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See: https://www.oecd.org/about/publishing/Corrigendum_Education-at-a-Glance-2021.pdf

Table D3.3. Teachers' and school heads' average actual salaries (2020)

Annual average salaries (including bonuses and allowances) of teachers and school heads in public institutions, in equivalent USD converted using PPPs for private consumption

		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	64 840	60 082	61 098	59 834	91 288	98 644	114 771	114 376
	Austria [1]	m	61 955	69 868	78 945	m	87 682	94 690	115 621
	Canada	m	m	m	m	m	m	m	m
	Chile [2]	29 505	29 331	29 981	31 567	47 828	47 388	48 381	52 161
	Colombia	m	m	m	m	m	m	m	m
	Costa Rica	39 003	40 892	49 182	49 182	64 366	59 162	67 558	67 558
	Czech Republic [2]	27 336	32 928	32 715	33 915	38 335	50 592	50 592	53 776
	Denmark	50 866	61 746	62 156	73 277	66 473	88 625	88 625	m
	Estonia	23 605	30 892	30 892	30 892	33 695	37 991	37 991	37 991
	Finland [3]	37 235	49 025	54 541	61 609	46 647	67 933	76 113	81 365
	France [4]	43 978	42 837	48 310	54 186	55 378	55 378	73 172	73 172
	Germany	m	76 997	84 869	89 816	m	m	m	m
	Greece [1, 5]	27 297	27 297	29 178	29 178	37 907	37 907	42 515	42 515
	Hungary	24 647	25 728	25 728	27 979	33 244	34 330	34 330	37 100
	Iceland	42 265	46 497	46 497	62 337	58 161	64 359	64 359	86 783
	Ireland	m	59 204	61 652	61 652	m	85 976	104 826	104 826
	Israel	40 605	41 952	44 754	47 706	a	73 483	71 852	83 049
	Italy	38 978	38 978	41 800	44 464	a	98 704	98 704	98 704
	Japan	m	m	m	m	m	m	m	m
	Korea	m	m	m	m	m	m	m	m
	Latvia	21 089	27 047	26 678	29 209	31 951	32 583	32 767	39 595
	Lithuania [6]	37 389	37 389	37 389	37 389	m	m	m	m
	Luxembourg	m	m	m	m	m	m	m	m
	Mexico	m	m	m	m	m	m	m	m
	Netherlands	65 416	65 416	76 004	76 004	88 959	88 959	105 514	105 514
	New Zealand [2]	m	47 560	48 055	51 644	m	71 513	76 083	81 416
	Norway	49 638	54 796	54 796	59 446	62 492	73 288	73 288	88 736
	Poland	m	m	m	m	m	m	m	m
	Portugal [2]	50 207	45 600	45 192	48 686	63 714	63 714	63 714	63 714
	Slovak Republic [1, 7]	18 937	24 354	24 354	25 356	m	m	m	m
	Slovenia [2]	33 355	40 066	41 124	43 348	63 427	61 737	61 737	63 919
	Spain	m	m	m	m	m	m	m	m
	Sweden [1, 2]	41 292	46 830	48 719	49 629	61 083	67 589	67 589	68 995
	Switzerland	m	m	m	m	m	m	m	m
	Turkey	m	m	m	m	m	m	m	m
	United States	54 934	55 980	58 625	61 162	96 367	97 414	100 628	103 584
	Economies								
	Flemish Comm. (Belgium)	55 522	55 000	55 009	66 078	81 457	81 457	86 975	97 643
	French Comm. (Belgium)	53 880	52 687	51 317	65 057	75 930	77 543	78 582	94 165
	England (UK)	45 849	45 849	51 164	51 164	84 696	84 696	119 548	119 548
	Scotland (UK)	m	m	m	m	m	m	m	m
	OECD average	40 707	45 687	47 988	51 749	m	68 794	74 419	79 033
	EU22 average	38 296	45 099	47 375	51 334	55 586	65 806	70 496	73 663
Partners	Argentina	m	m	m	m	m	m	m	m
	Brazil [4]	25 030	25 366	25 740	26 724	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 2019.
3. Includes data on the majority, i.e. kindergarten teachers only for pre-primary education.
4. Year of reference 2018.
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 (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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

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Table D3.4. School heads' minimum and maximum statutory salaries, based on minimum qualifications (2020)

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	90 210	112 809	**1.25**	91 829	128 743	**1.40**	91 986	123 497	**1.34**	91 986	123 497	**1.34**
	Austria	m	m	**m**	50 413	101 042	**2.00**	50 413	101 042	**2.00**	66 382	126 835	**1.91**
	Canada	m	m	**m**	77 411	98 209	**1.27**	79 235	97 867	**1.24**	83 491	102 123	**1.22**
	Chile	34 372	99 949	**2.91**	34 372	99 949	**2.91**	34 372	99 949	**2.91**	35 558	103 376	**2.91**
	Colombia [1]	23 609	m	**m**	23 609	m	**m**	28 485	m	**m**	28 485	m	**m**
	Costa Rica	22 944	69 253	**3.02**	22 426	69 889	**3.12**	23 534	81 343	**3.46**	23 534	81 343	**3.46**
	Czech Republic	24 627	29 282	**1.19**	25 558	34 698	**1.36**	25 558	34 698	**1.36**	25 558	34 783	**1.36**
	Denmark	a	75 689	**a**	65 339	76 752	**1.17**	65 339	76 752	**1.17**	a	a	**a**
	Estonia	a	a	**a**	a	a	**a**	a	a	**a**	a	a	**a**
	Finland [2]	35 802	38 928	**1.09**	50 319	68 785	**1.37**	51 979	77 843	**1.50**	59 461	72 600	**1.22**
	France [3]	42 401	61 897	**1.46**	42 401	61 897	**1.46**	54 742	83 341	**1.52**	54 742	83 341	**1.52**
	Germany	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**
	Greece	26 825	46 391	**1.73**	26 825	46 391	**1.73**	29 831	46 391	**1.56**	30 776	47 336	**1.54**
	Hungary	21 949	47 327	**2.16**	21 949	47 327	**2.16**	21 949	52 586	**2.40**	24 388	52 586	**2.16**
	Iceland	42 975	68 925	**1.60**	48 122	99 742	**2.07**	48 122	99 742	**2.07**	79 350	99 946	**1.26**
	Ireland	a	a	**a**	46 081	102 022	**2.21**	59 924	115 629	**1.93**	59 924	115 629	**1.93**
	Israel	a	a	**a**	52 380	84 084	**1.61**	52 446	84 312	**1.61**	43 269	109 033	**2.52**
	Italy	a	a	**a**	91 415	101 086	**1.11**	91 415	101 086	**1.11**	91 415	101 086	**1.11**
	Japan	m	m	**m**	62 209	68 763	**1.11**	62 209	68 763	**1.11**	63 750	72 401	**1.14**
	Korea	a	105 232	**a**	a	105 232	**a**	a	105 047	**a**	a	104 308	**a**
	Latvia	21 308	a	**a**	21 308	a	**a**	21 308	a	**a**	21 308	a	**a**
	Lithuania	32 307	53 901	**1.67**	32 307	53 901	**1.67**	32 307	53 901	**1.67**	32 307	53 901	**1.67**
	Luxembourg	a	a	**a**	a	a	**a**	108 765	150 419	**1.38**	108 765	150 419	**1.38**
	Mexico	26 970	79 041	**2.93**	26 970	79 041	**2.93**	60 751	152 032	**2.50**	57 983	78 271	**1.35**
	Netherlands	57 072	104 433	**1.83**	57 072	104 433	**1.83**	59 999	133 146	**2.22**	59 999	133 146	**2.22**
	New Zealand	m	m	**m**	61 057	106 668	**1.75**	61 057	106 668	**1.75**	61 057	106 668	**1.75**
	Norway	a	a	**a**	a	a	**a**	a	a	**a**	a	a	**a**
	Poland	26 853	33 764	**1.26**	27 586	34 478	**1.25**	27 586	34 478	**1.25**	31 424	39 324	**1.25**
	Portugal	42 586	88 875	**2.09**	42 586	88 875	**2.09**	42 586	88 875	**2.09**	42 586	88 875	**2.09**
	Slovak Republic	20 244	33 537	**1.66**	23 633	37 322	**1.58**	23 633	37 322	**1.58**	23 633	37 864	**1.60**
	Slovenia	54 653	74 695	**1.37**	54 653	74 695	**1.37**	54 653	74 695	**1.37**	52 619	80 521	**1.53**
	Spain	49 931	76 151	**1.53**	49 931	76 151	**1.53**	60 309	89 048	**1.48**	60 309	89 048	**1.48**
	Sweden [1, 4]	a	a	**a**	65 819	80 071	**1.22**	65 819	80 071	**1.22**	67 461	79 440	**1.18**
	Switzerland	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**
	Turkey	33 640	36 371	**1.08**	33 255	35 986	**1.08**	33 255	36 757	**1.11**	33 640	38 297	**1.14**
	United States [4, 5]	87 152	103 297	**1.19**	88 043	104 649	**1.19**	91 756	107 172	**1.17**	92 849	107 578	**1.16**
	Economies												
	Flemish Comm. (Belgium)	57 792	86 181	**1.49**	57 792	86 181	**1.49**	52 404	86 181	**1.64**	63 770	104 055	**1.63**
	French Comm. (Belgium)	43 064	82 343	**1.91**	43 064	82 343	**1.91**	48 429	82 343	**1.70**	61 560	98 246	**1.60**
	England (UK)	60 962	147 755	**2.42**	60 962	147 755	**2.42**	60 962	147 755	**2.42**	60 962	147 755	**2.42**
	Scotland (UK)	63 838	123 180	**1.93**	63 838	123 180	**1.93**	63 838	123 180	**1.93**	63 838	123 180	**1.93**
	OECD average [6]	43 442	73 838	**1.77**	49 925	81 410	**1.73**	54 278	88 754	**1.72**	56 511	90 078	**1.69**
	EU22 average [6]	38 293	61 265	**1.60**	46 039	71 497	**1.60**	51 382	79 992	**1.61**	53 530	83 633	**1.60**
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. Year of reference 2019.
2. Includes data on the majority, i.e. kindergarten school heads only for pre-primary education.
3. For 2018/19, the methodology was revised, The new data apply to school heads (ISCED 02 and 1) in charge of schools with ten classes or more, i.e with teaching responsibilities accounting for 50% or less of their working time, in line with the international guidelines.
4. Actual base salaries.
5. Minimum salary refers to the most prevalent qualification (master's degree or equivalent) and maximum salary refers to the highest qualification (education specialist or doctoral degree or equivalent).
6. Excludes countries for which either the starting salary (with minimum qualifications) or the salary at top of scale (with maximum qualifications) is not available. It refers to the average value for the ratio, and is then different from the ratio of the average maximum salary to the average minimum salary.
Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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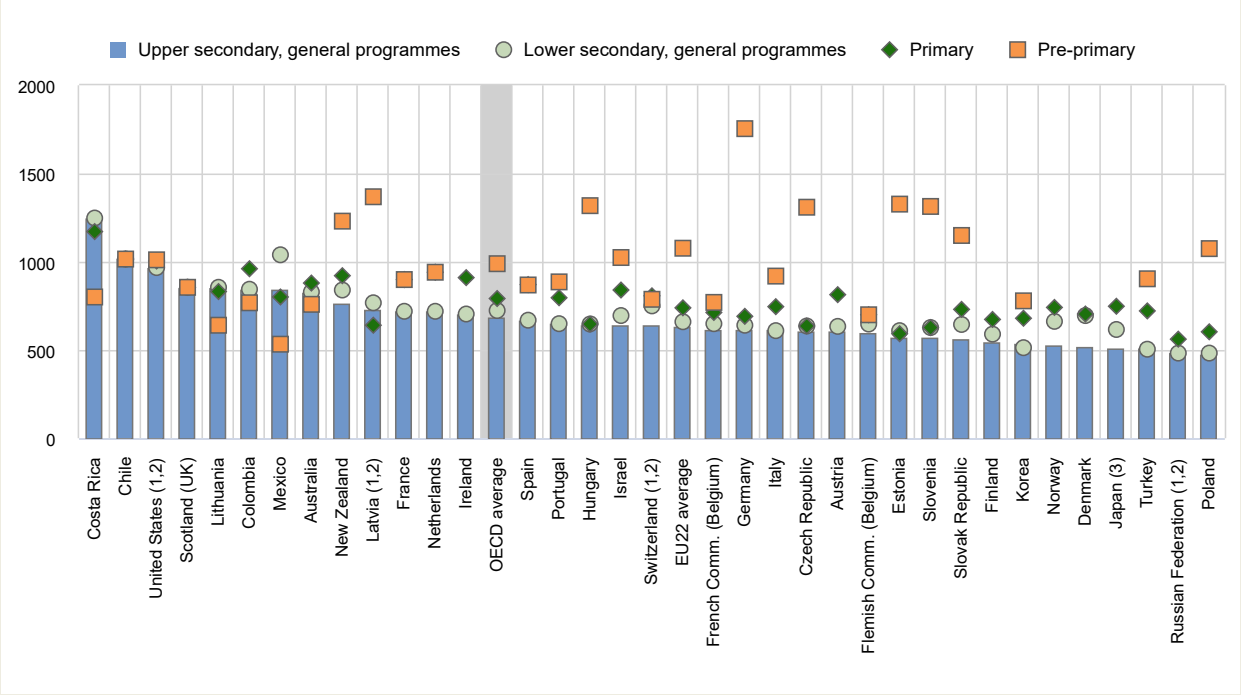
Indicator D4. How much time do teachers and school heads spend teaching and working?

Highlights

- According to official regulations or agreements, teachers in public schools in OECD countries and economies are required to teach on average 989 hours per year at pre-primary level, 791 hours at primary level, 723 hours at lower secondary level (general programmes) and 685 hours at upper secondary level (general programmes).
- 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.
- School heads in OECD countries and economies work an average of 44 weeks per year at pre-primary, primary and secondary levels of education. Their annual statutory working time averages to 1 656 hours at pre-primary level, 1 627 hours at primary level, 1 626 hours at lower secondary level and 1 627 hours at upper secondary level. In about two-thirds of OECD countries, school heads are required to work during students' school holidays.

Figure D4.1. Teaching time of teachers, by level of education (2020)

Net statutory teaching time in hours per year, in public institutions



1. Actual teaching time (in Latvia except for pre-primary level).
2. Reference year differs from 2020. 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 (2021), Table D4.1. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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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, marking students' work, 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 some countries, actual working practices of teachers and school heads may have differed from the statutory requirements during the COVID-19 pandemic, due to school closures and changes in learning environment related to the sanitary measures (e.g. remote learning, sanitary restrictions upon school reopening) (see *The state of global education – 18 months into the pandemic* (OECD, 2021[1]) and Annex 3 for more information).

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 Indicator C7).

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 OECD countries and economies at pre-primary level than at any other level, ranging from 532 hours in Mexico to 1 755 hours in Germany.
- At lower secondary level, teachers spend 44% of their working time on teaching on average, ranging from 35% or less in 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.
- In 17 OECD countries and economies, teachers' statutory working time includes working time during students' school holidays in at least one level of education. In most of these countries, working time during school holidays is required to be spent on specific activities, such as preparing for the next school term, or individual and/or collective professional development activities.
- In more than half of 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 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 (see Table X3.D4.3 in Annex 3).

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 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, about two-thirds of the countries and economies with available information are able to exclude the number of days spent on these activities from statutory teaching time. However, in the remaining 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.

One in four countries and economies cannot exclude professional development days from teaching time at all levels of general education. 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, about one-quarter of countries and economies with available information cannot exclude student examination days from teaching time at each level of general 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 (see Table X3.D4.4 in Annex 3 for more information).

Other forms of professional development activities and student examinations may result in the overestimation of teaching time, even if they are not required to be excluded from 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 complexity of estimation and the fact that only some teachers participate in these activities make it difficult to standardise the reporting practice across all countries to exclude these activities from teaching time.

Working time for teachers and school heads

Total working time data in this indicator refer to required working hours during the reference year as indicated in the official documents such as legal documents and collective agreements for teachers and/or school heads, or general labour law with specific guidance for these professions. In some countries such as France, Japan, Korea, Portugal (school heads), Switzerland (teachers) and Turkey, the statutory working time for teachers and/or school heads is not specific to these professions and refers to working time of civil servants or other workers in general. Since working time can be defined in various units (hours per week, per month or per annum, for example), some calculation may be required to estimate the annual working time when working time is defined based on a unit other than annual number of hours.

Total working time refers to typical working time of teachers in 64% of countries and economies and to typical working time of school heads in 71% of countries and economies. In other countries and economies, total working time refers to either maximum or minimum required working time. For example, statutory total working time for teachers in England (United Kingdom) and Korea and for school heads in Ireland refers to a minimum number of working hours. On the contrary, total statutory working time of teachers and school heads is defined as a maximum number of working hours in some countries, for example, in Chile, Norway, Poland and Scotland (United Kingdom) (see Tables X3.D4.3 and X3.D4.8 in Annex 3).

More detailed information on the reporting practices on teaching time and working time for all participating countries and economies is available in Annex 3.

Box D4.2. Teaching and working time at the subnational level (2020)

There are regional differences in teachers' statutory teaching and working time in the four countries reporting subnational data (Belgium, Canada, Korea and the United Kingdom). 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 2020; 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 12% higher in the French Community than it is in the Flemish Community (178 days compared to 159 days) due to differences in how a school day is defined in the regulations. However, teaching hours vary by only 3% between the two communities (616 hours in the Flemish Community compared to 601 hours in the French Community). In contrast, in Canada, the number of days teaching at primary and secondary levels varies by 6% across the different provinces and territories (between 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 35% higher than teaching time in the region with the shortest teaching hours (945 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 7% at upper secondary level (from 514 hours to 551 hours) and by 32% at lower secondary level (from 437 hours to 575 hours). They also vary by 12% at the primary level (from 632 hours to 706 hours) and by 21% at the pre-primary level (from 728 hours to 878 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.

Across countries and economies with available data, statutory teaching time in public schools varies more at pre-primary level than at any other level. On average across OECD countries and economies, pre-primary teachers are required to teach 989 hours per year, spread over 41 weeks or 195 days. Their annual number of teaching days ranges from 158 days in the Flemish Community of Belgium to 225 days in Germany and Norway and their annual teaching hours range from 532 hours in Mexico to 1 755 hours in Germany. These large variations across countries and economies result from the combination of the variations in the length of school year and the number of daily teaching hours. For example, pre-primary teachers in Mexico teach an average of 2.7 hours per day over 200 days, whereas in Germany they teach an average of 7.8 hours per day over 225 days (Table D4.1).

Primary school teachers are required to teach 791 hours per year in public institutions on average. In most countries and economies 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 teach 800 hours per year, 78 hours more than in Turkey. However, as teachers teach more days in Mexico than in Turkey (200 days compared to 181 days), teachers in both countries teach 4 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 723 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 Chile, Costa Rica and Mexico (Table D4.1)

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 685 hours per year. Teaching time ranges from fewer than 500 hours per year in Poland and the Russian Federation to more than 1 000 hours in Chile and Costa Rica. Teachers in Finland, Japan, Korea, Norway, Poland, the Russian Federation and Turkey teach for less than three hours per day, on average, compared to more than six hours in Costa Rica (Table D4.1).

Teaching time requirements may, however, change 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 reducing their teaching hours. For example, in Chile and Portugal, teachers may have a reduced teaching workload based on their number of years in the profession and/or age.

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 the same number of 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).

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 25% more time in the classroom than primary school teachers. In the Czech Republic, Estonia, Germany, Hungary, 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, Poland, 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, Scotland (United Kingdom) and Slovenia. The teaching load for primary school teachers is 3-6% lighter than for lower secondary school teachers in Costa Rica, Estonia and Lithuania; 17% lighter in Latvia; and 23% lighter in Mexico (Table D4.1).

Teaching time at lower and upper secondary levels is similar across most countries. However, annual required teaching time at the lower secondary level is at least 20% more than at the upper secondary level in Japan, Mexico and Norway, and up to 35% in Denmark (Table D4.1).

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 (it also includes activities other than teaching, such as keeping order and administrative tasks), and it thus provides a full picture of teachers' actual teaching load.

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. For example, lower secondary teachers actually teach 6-10% more hours than their statutory teaching time in Lithuania, New Zealand and Slovenia, and up to 21% more hours in Poland (OECD, 2021[2]).

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 (Box D4.1).

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 and economies with available information, school heads in pre-primary institutions are required to take some teaching responsibility in 13 countries and economies (46%), can voluntarily teach in 3 countries (11%) and are not required to teach in 12 countries (43%). In primary education, teaching is required from school heads in more than half of the countries with available data (17 out of 33 countries and economies). Teaching responsibilities become less common for school heads at secondary level. In general lower and upper secondary education, school heads are required to teach in 13 out of 33 countries and economies (39%), are free to teach at their own discretion in 5 countries and economies (15%), and are not required to teach in 15 countries (45%). In all the countries and economies with available data, the teaching responsibilities of school heads in secondary education are similar in general and vocational programmes (Table D4.6, 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 a minimum and/or maximum number of 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 144 hours to 594 hours. In most of these countries, teaching represents less than 30% of school heads' statutory working time, but the proportion reaches 32% in the Slovak Republic and exceeds 73% in Ireland (in the Education and Training Board sector) (Table D4.6, 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 at secondary level actually have either no or minimal teaching hours (for more information on minimum and/or maximum teaching time requirements, refer to Table X3.D4.10 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 exception is Turkey, where teaching requirements for school heads are the same at all levels of education (Table D4.6, available on line). In almost all countries, the teaching requirements for school heads do not vary between general and vocational programmes (Table D4.6, 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. Other criteria can also be considered, for example the socio-economic status of the regions in Ireland.

Working time of teachers

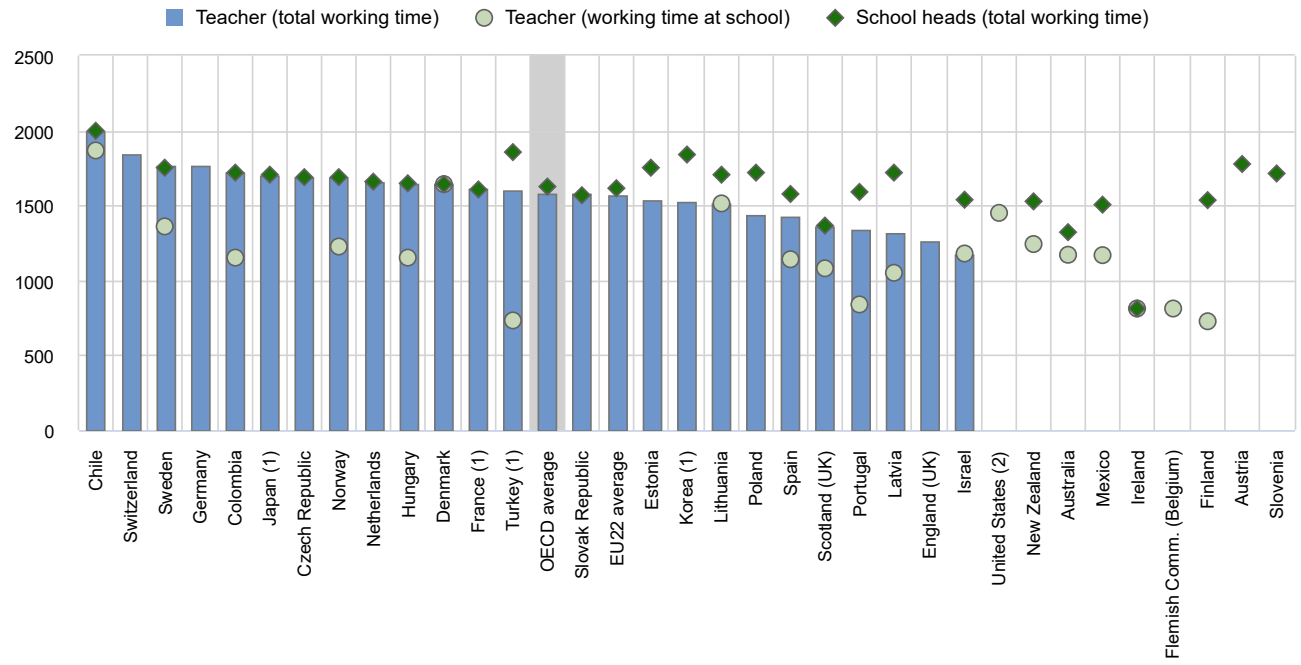
In the majority of countries, teachers' working time is partly determined by the statutory teaching time specified in working regulations. In addition, in most countries, teachers are formally required to work a specific number of hours per year, as stipulated in collective agreements or other contractual 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 with data, 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 nearly half of these countries and economies (the Flemish Community of Belgium, Hungary, Latvia, 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, 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 (however, due to the COVID-19 pandemic, actual working practices could have been different from statutory requirements (OECD, 2021[1])). This is the case in the Czech Republic, England (United Kingdom), Estonia (in primary and secondary education), the French Community of Belgium (in pre-primary and primary education), Germany, Japan, Korea, the Netherlands, Poland and Switzerland (Table D4.2). The variation across countries in the number of annual working hours of teachers can also result from the fact that total working time spans over students' school vacations. For example, at general lower secondary level, teachers' total working time ranges from 1 178 hours in Israel, where teachers are not required to work during school vacation, to 1 998 hours in Chile, where teachers work up to 3 weeks during school vacations (Figure D4.2). In 17 OECD countries and economies, teachers' statutory working time includes working time during students' school holidays in at least one level of education. In many countries, working time during school holidays is required to be spent on specific activities, such as preparing for the next school term, and individual and/or collective professional development activities (see Table X3.D4.5 in Annex 3 for details).

Figure D4.2. Working time of teachers and school heads in general lower secondary education (2020)

Statutory working time in hours per year, in public institutions



1. Teachers' working time requirements refer to those of civil servants.
2. Reference year differs from 2020. Refer to the source table for details.

Countries and economies are ranked in descending order of teachers' total working hours and then working hours at school in general lower secondary education.

Source: OECD (2021), Tables D4.2 and D4.3. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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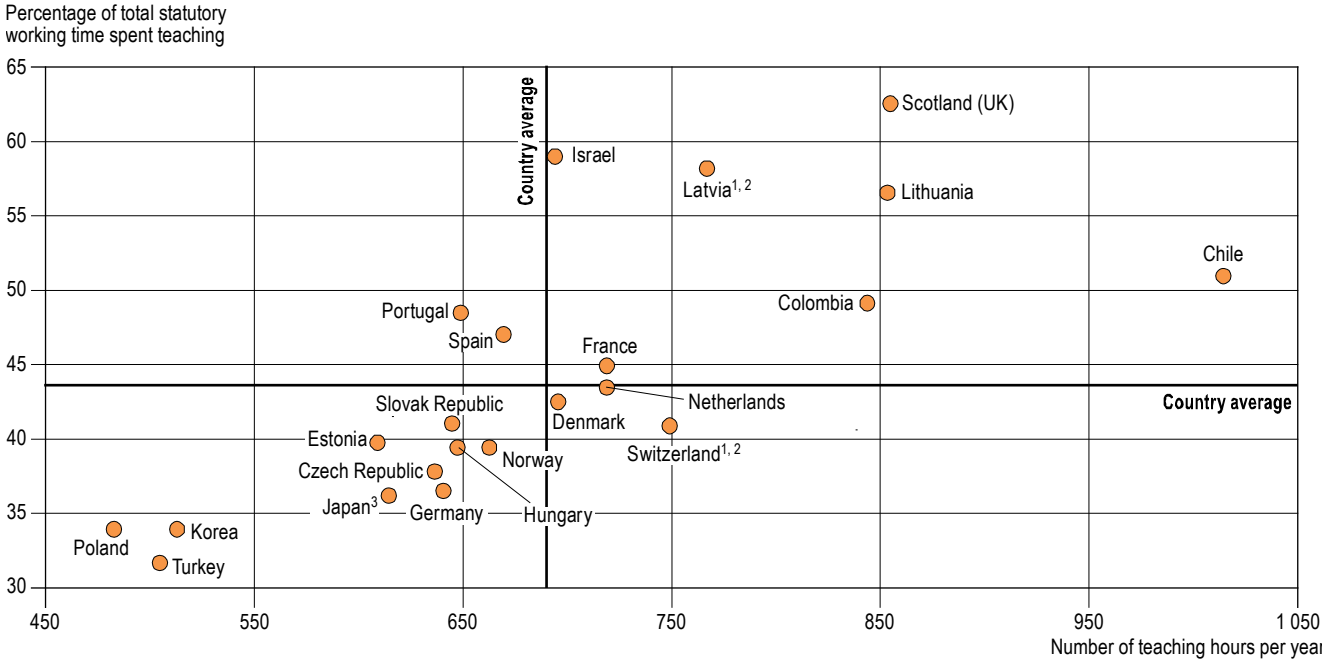
Non-teaching time

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.

Even though teaching is a core activity for teachers, in a large number of countries, teachers spend most of their working time on activities other than teaching. In the 22 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 Korea, Poland and Turkey to at least 50% in Chile, Israel, Latvia, Lithuania and Scotland (United Kingdom) (Figure D4.3).

Figure D4.3. Percentage of lower secondary teachers' working time spent teaching (2020)

Net teaching time 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. Actual teaching time.
2. Reference year differs from 2020. Refer to the source table for details.
3. Average planned teaching time in each school at the beginning of the school year.
Source: OECD (2021), Tables D4.1 and D4.2. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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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, Denmark and Israel have a similar number of teaching hours (696 hours in Denmark and 695 hours in Israel), but 42% of teachers' working time is spent on teaching in Denmark, compared to 59% in Israel. 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 40-41% of their working time teaching, but teachers teach 609 hours in Estonia, compared to 750 hours in Switzerland (Figure D4.3).

In some countries, such as Austria (primary and secondary levels), Costa Rica, the French Community of Belgium (lower and upper secondary levels), Italy, Lithuania (pre-primary) and Mexico (upper secondary level), there are no formal requirements for time spent on non-teaching activities (Table D4.2). However, this does not mean that teachers are given total freedom to

carry out other tasks. 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 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.

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 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 for general lower secondary teachers, non-teaching tasks for teachers such as individual planning or preparing lessons, marking and correcting student work, and communicating and co-operating with parents are mandatory during their statutory working time in more than 34 out of the 39 countries and economies with available data. General administrative work and teamwork and dialogue with colleagues are also required in at least 30 countries and economies, and can be decided at the school level in at least 3 other countries with available data for each type of task. For such mandatory tasks, incentives such as reductions in teaching time and financial compensation are rare (Table D4.4, available on line).

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 not required for all general lower secondary teachers in more than two out of five countries. In more than 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 the other responsibilities, in addition to financial compensation (Figure D4.4 and Table D4.5, available on line).

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 about two out of three countries and economies with available information. However, in some countries, not all teachers can perform student counselling. For example, in Israel, only teachers with a master's degree or higher can perform this duty (Table D4.5, available on line).

Teachers not only perform the tasks that are required by regulations or school heads, they also often perform tasks voluntarily. In at least 17 countries and economies 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 more than two-fifths of the countries and more than two-thirds of these countries offer financial compensation for this additional teaching (Table D4.5, available on line).

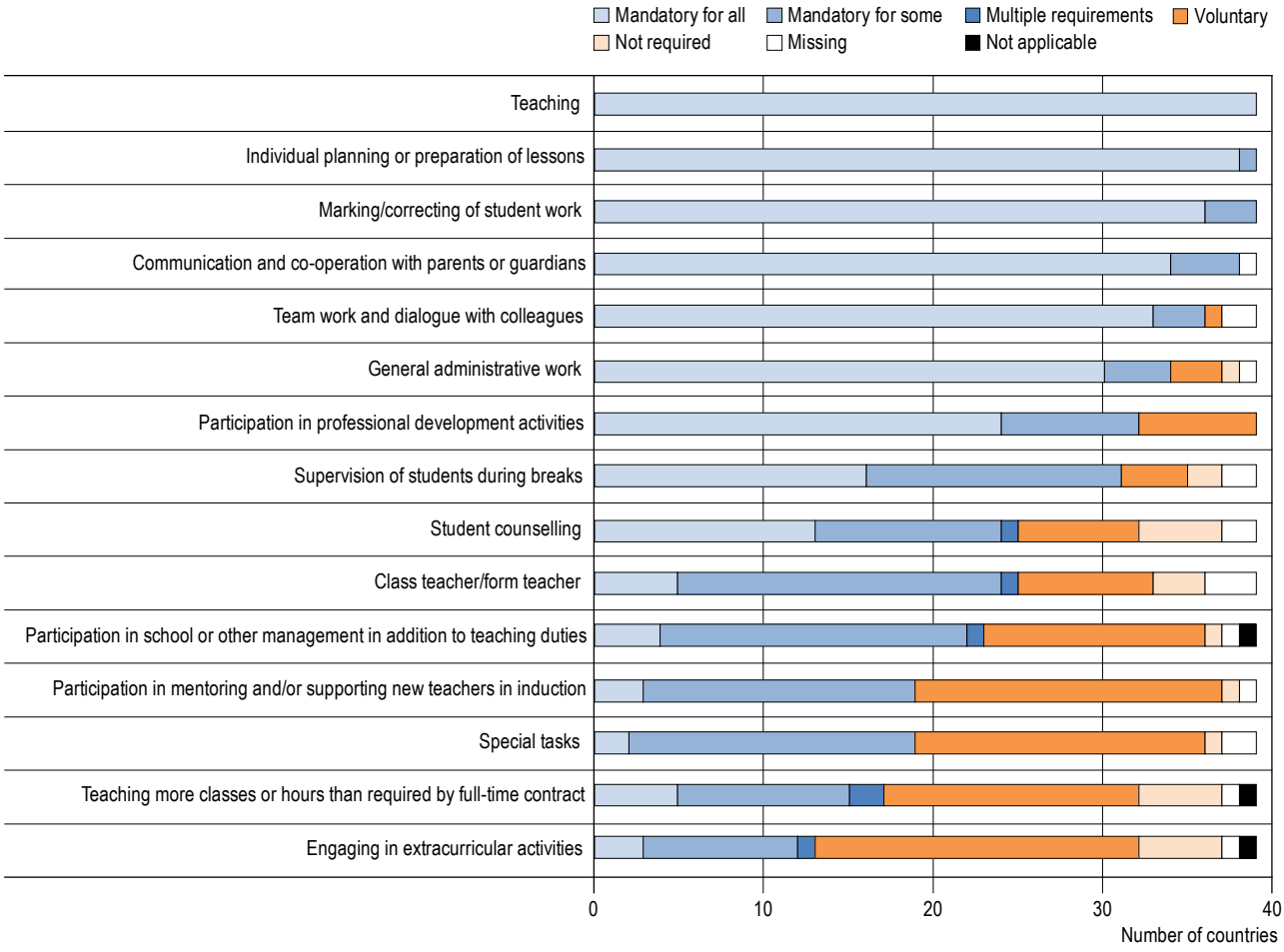
Participation in professional development activities is considered an important responsibility of teachers at all levels of education, as it is mandatory for teachers at all levels in 23 countries. Participation is required at the discretion of individual schools in ten countries for at least one level of education. Only eight countries allow teachers to participate in professional development activities at their own discretion at all levels with data (Table D4.5, available on line). Regardless of the requirement, a large majority of teachers in OECD countries participate in professional development activities (OECD, 2019[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 16 countries, but this is much more widespread at pre-primary (22 countries) and primary (21 countries) level (Table D4.4).

Differences in task requirements between countries could explain the differences in the proportion of statutory working time spent on non-teaching tasks. For example, Japan is one of the four countries where engaging in extracurricular activities is mandatory at lower secondary level. Indeed, lower secondary teachers in Japan reported having spent the highest proportion of actual working time among OECD countries (13%) on this task (OECD, 2019[3]).

Figure D4.4. Task requirements of teachers, by tasks and responsibilities (2020)

Lower secondary teachers in public institutions



Note: "Mandatory for some" indicates that the specified task or responsibility is mandatory at the discretion of individual schools or in some subnational entities.
Tasks and responsibilities are listed in decreasing order of the number of countries where the specified item is mandatory to some extent.
Source: OECD (2021), Tables D4.4 and D4.5, available on line only. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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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), Portugal and Turkey, civil servants' regulations apply for school heads' working time (as for teachers, except in Mexico). Only in England (United Kingdom), the Flemish Community of Belgium, Germany (in most *Länder*) and Italy are there no official documents specifying quantitative information on the working time for school heads (Figure D4.2 and Table X3.D4.9 in Annex 3).

According to level of education, on average across OECD countries and economies, school heads work 44 weeks or 212-215 days per year. On average, school heads' annual statutory working hours do not vary much between levels of education: they average 1 656 hours at pre-primary level, 1 627 hours at primary level, 1 626 hours at lower secondary level, and 1 627 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, except in Lithuania. Across all levels of education, school heads in Chile have the longest hours (1 998 hours per year). In contrast,

school heads' statutory working hours are the 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 (Table D4.3).

In 20 out of the 28 OECD and partner countries and economies with available data (71% of countries), school heads' annual working hours do not vary much across levels of education. In the remaining eight countries where their statutory working time does vary, school heads in pre-primary and primary education generally work more hours per year than those in secondary education. For example, school heads' statutory hours in pre-primary schools are 1-8% higher than in primary and secondary schools in Australia, Estonia, Finland and New Zealand. In Mexico, 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 24%) (Table D4.3).

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.D4.9 in Annex 3).

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 managing human/financial resources, organising professional development activities and 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 or educational programmes (for more details, refer to Table X3.D4.9 in Annex 3).

However, in about one-quarter of countries with available information (Denmark, Estonia, Finland, Italy, Mexico, the Netherlands, New Zealand, Norway 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.D4.9 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 contract 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[4]) and Annex 3 for country-specific notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

Source

Data are from the 2020 OECD-INES-NESLI Survey on Working Time of Teachers and School Heads and refer to the school year 2019/20 (statutory information) or school year 2018/19 (actual data).

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Indicator D4 tables

Tables Indicator D4. How much time do teachers and school heads spend teaching and working?

Table D4.1	Organisation of teachers' teaching time (2020)
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Table D4.3	Organisation of school heads' working time (2020)
WEB Table D4.4	*Tasks of teachers, by level of education (2020)*
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WEB Table D4.6	*Teaching requirements of school heads (2020)*

StatLink https://stat.link/we4zp9

Cut-off date for the data: 17 June 2021. 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*.

Table D4.1. Organisation of teachers' teaching time (2020)

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	41	196	199	200	200	202	758	878	828	821	829
	Austria [1]	m	38	38	38	38	m	185	185	185	185	m	814	635	605	605
	Canada	m	37	37	37	m	m	185	185	185	m	m	m	m	m	m
	Chile [2]	38	38	38	38	38	182	182	182	182	182	1 016	1 016	1 016	1 016	1 016
	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	195	195	195	195	195	800	1 170	1 248	1 248	1 248
	Czech Republic [1]	44	39	39	39	39	211	193	193	193	193	1 308	637	637	608	608
	Denmark [1]	a	a	a	a	a	a	a	a	a	a	a	705	696	517	721
	Estonia [1]	46	35	35	35	40	221	174	174	174	199	1 326	592	609	574	a
	Finland [3]	m	38	38	38	38	m	187	187	187	187	m	673	589	548	688
	France [1]	36	36	36	36	36	162	162	a	a	a	900	900	720	720	720
	Germany [1]	46	40	40	40	40	225	193	193	193	193	1 755	691	641	610	626
	Greece	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Hungary [2]	43	38	38	38	38	206	180	180	179	179	1 318	648	648	644	644
	Iceland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Ireland [1]	m	37	33	33	m	m	183	165	165	m	m	909	704	704	m
	Israel [1]	38	38	36	36	36	181	181	174	174	174	1 024	839	695	639	639
	Italy [3]	41	39	39	39	39	184	170	170	170	170	918	746	610	610	610
	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	778	680	513	539	537
	Latvia [5, 6]	39	35	35	35	44	190	170	170	170	215	1 368	640	768	726	m
	Lithuania [2]	a	36	37	37	a	a	173	178	178	a	640	830	854	854	1 032
	Luxembourg	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Mexico [1]	42	42	42	36	36	200	200	200	172	172	532	800	1 040	843	688
	Netherlands [2]	40	40	m	m	m	200	200	m	m	m	940	940	720	720	m
	New Zealand [1]	41	38	38	38	m	205	192	191	190	m	1 230	922	840	760	m
	Norway [2]	47	38	38	38	38	225	190	190	190	190	a	741	663	523	595
	Poland [2]	45	38	38	37	37	215	179	179	177	177	1 075	604	483	478	478
	Portugal [2]	38	38	38	38	38	177	177	177	177	177	885	797	649	649	649
	Slovak Republic [1]	44	38	38	38	38	209	187	187	187	187	1 150	729	645	561	598
	Slovenia [1]	46	38	38	38	38	219	190	190	190	190	1 314	627	627	570	570
	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	39	39	39	39	188	188	188	188	188	788	806	750	638	731
	Turkey [1]	37	37	37	37	37	181	181	181	181	181	903	722	505	505	505
	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) [3]	37	37	37	37	37	158	158	159	159	159	700	700	646	601	632
	French Comm. (Belgium) [1]	37	37	37	37	37	178	178	178	178	178	771	712	650	616	650
	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	41	38	38	38	38	195	184	184	183	186	989	791	723	685	691
	EU22 average	42	37	37	37	38	197	180	179	179	184	1 077	738	660	629	656
Partners	**Argentina**	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
	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: Due to the COVID-19 pandemic, statutory requirements on organisation of teachers' teaching time may be adjusted temporarily in some countries. 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 2019 for Latvia (except for pre-primary level) and Switzerland, 2017 for the Russian Federation and 2016 for the United States.
Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://stat.link/swhdcy

Table D4.2. Organisation of teachers' working time (2020)

Teachers' statutory working time at school and total working time in public institutions over the reference 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	1 018	1 171	1 169	1 169	1 207	a	a	a	a	a
	Austria	m	a	a	a	a	m	a	a	a	a
	Canada	m	m	m	m	m	m	a	a	a	a
	Chile	1 866	1 866	1 866	1 866	1 866	1 998	1 998	1 998	1 998	1 998
	Colombia	1 152	1 152	1 152	1 152	1 152	1 720	1 720	1 720	1 720	1 720
	Costa Rica	a	a	a	a	a	a	a	a	a	a
	Czech Republic	a	a	a	a	a	1 688	1 688	1 688	1 688	1 688
	Denmark	1 643	1 643	1 643	1 643	1 643	1 643	1 643	1 643	1 643	1 643
	Estonia	1 610	a	a	a	a	1 610	1 540	1 540	1 540	1 540
	Finland	m	811	727	667	792	a	a	a	a	a
	France [1]	954	954	a	a	a	1 607	1 607	1 607	1 607	1 607
	Germany	a	a	a	a	a	1 763	1 763	1 763	1 763	1 763
	Greece	m	m	m	m	m	m	m	m	m	m
	Hungary	1 476	1 152	1 152	1 146	1 146	1 648	1 648	1 648	1 648	1 648
	Iceland	m	m	m	m	m	m	m	m	m	m
	Ireland	m	1 073	811	811	m	a	a	a	a	a
	Israel	1 061	1 231	1 178	1 235	1 235	1 061	1 231	1 178	1 235	1 235
	Italy	a	a	a	a	a	a	a	a	a	a
	Japan [1]	a	a	a	a	a	1 705	1 705	1 705	1 705	1 705
	Korea [1]	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	m	m	m	m	m	m	m	m	m	m
	Mexico	772	890	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	m	a	a	a	a	m
	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	1 432	1 432	1 416	1 416
	Portugal	1 044	956	838	838	838	1 339	1 339	1 339	1 339	1 339
	Slovak Republic	m	m	m	m	m	1 575	1 575	1 575	1 575	1 575
	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 [1]	a	a	a	a	a	1 841	1 841	1 841	1 841	1 841
	Turkey [1]	985	800	732	732	732	1 604	1 604	1 604	1 604	1 604
	United States [2]	1 441	1 443	1 449	1 446	a	m	m	m	m	a
	Economies										
	Flemish Comm. (Belgium)	910	910	811	756	794	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)	1 080	1 080	1 080	1 080	a	1 365	1 365	1 365	1 365	a
	OECD average	m	m	m	m	m	m	1 553	1 575	1 577	m
	EU22 average	m	m	m	m	m	m	1 525	1 566	1 564	1 564
Partners	Argentina	m	m	m	m	m	m	m	m	m	m
	Brazil	m	m	m	m	m	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: Due to the COVID-19 pandemic, statutory requirements on organisation of teachers' working time may be adjusted temporarily in some countries. 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. Working time requirements refer to those of civil servants.

2. Year of reference 2016.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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

StatLink https://stat.link/m95dnt

Table D4.3. Organisation of school heads' working time (2020)

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, 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	201	201	201	m	1 355	1 321	1 321	1 321	m
	Austria	m	39	39	39	39	m	190	190	190	190	m	1 776	1 776	a	a
	Canada	m	m	m	m	m	m	m	m	m	m	m	a	a	a	a
	Chile	47	47	47	47	47	227	227	227	227	227	1 998	1 998	1 998	1 998	1 998
	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	200	200	200	200	200	a	a	a	a	a
	Czech Republic	44	44	44	44	44	211	211	211	211	211	1 688	1 688	1 688	1 688	1 688
	Denmark	46	46	46	46	46	222	222	222	222	222	1 643	1 643	1 643	1 643	1 643
	Estonia	46	44	44	44	44	221	219	219	219	219	1 768	1 752	1 752	1 752	1 752
	Finland	43	44	44	44	44	215	209	209	209	209	1 666	1 536	1 536	1 536	1 536
	France[1]	a	a	a	a	a	a	a	a	a	a	1 607	1 607	1 607	1 607	1 607
	Germany	46	46	46	46	46	225	225	225	225	225	m	m	m	m	m
	Greece	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Hungary	43	43	43	43	43	206	206	206	206	206	1 648	1 648	1 648	1 648	1 648
	Iceland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Ireland	m	37	33	33	m	m	183	167	167	m	m	1 073	811	811	m
	Israel	a	42	41	41	41	a	204	197	197	197	a	1 594	1 538	1 538	1 538
	Italy	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
	Japan[1]	m	44	44	44	44	m	220	220	220	220	1 705	1 705	1 705	1 705	1 705
	Korea[1]	48	48	48	48	48	230	230	230	230	230	1 840	1 840	1 840	1 840	1 840
	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	213	213	213	213	212	1 704	1 704	1 704	1 704	1 696
	Luxembourg	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Mexico	45	45	45	44	44	215	215	215	212	212	1 290	1 290	1 505	1 696	1 696
	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	m	205	192	191	190	m	1 640	1 536	1 528	1 520	m
	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[1]	48	48	48	48	48	227	227	227	227	227	1 589	1 589	1 589	1 589	1 589
	Slovak Republic	44	44	44	44	44	209	209	209	209	209	1 568	1 568	1 568	1 568	1 568
	Slovenia	45	45	45	45	45	214	214	214	214	214	1 712	1 712	1 712	1 712	1 712
	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[1]	48	48	48	48	48	236	236	236	236	236	1 856	1 856	1 856	1 856	1 856
	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	44	44	44	215	212	212	212	215	1 656	1 627	1 626	1 627	m
	EU22 average	44	44	44	44	44	214	211	211	211	213	1 663	1 626	1 615	1 605	1 658
Partners	Argentina	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
	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: Due to the COVID-19 pandemic, statutory requirements on the organisation of school heads' working time may be adjusted temporarily in some countries. 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. Working time requirements refer to those of civil servants.
2. Actual data.
3. Year of reference 2016.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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

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A corrigendum has been issued for this page.
See: https://www.oecd.org/about/publishing/Corrigendum_Education-at-a-Glance-2021.pdf

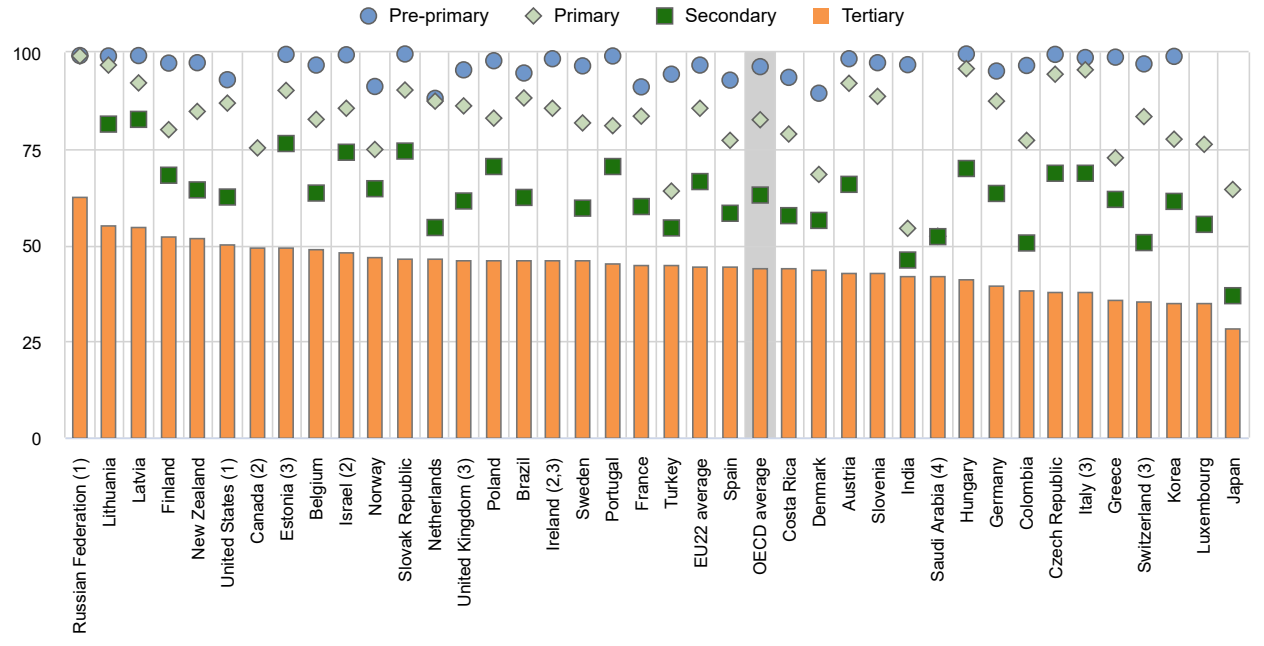
Indicator D5. Who are the teachers?

Highlights

- In the great majority of countries with available data, women are over-represented among teachers in primary and secondary education, while they are under-represented in tertiary education.
- Between 2005 and 2019, 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.
- 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, 11% in lower secondary education and 8% in upper secondary education, on average across OECD countries

Figure D5.1. Gender distribution of teachers, by level of education (2019)

Percentage of women among teaching staff in public and private institutions



1. Tertiary includes programmes outside tertiary level. See Annex 3 for further details.
2. For Canada, tertiary level values include only public institutions. For Ireland values for all levels except pre-primary education include only public institutions. For Israel, values for all levels of education include only public institutions.
3. Upper secondary includes programmes outside upper secondary level. See Annex 3 for further details.
4. Year of reference 2018 instead of 2019.

Countries are ranked in descending order of the share of female teachers in tertiary education.

Source: OECD/UIS/Eurostat (2021), Table D5.1. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

StatLink https://stat.link/shl1qp

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]). Looking at teachers' attrition rates and the characteristics of the teachers who leave the profession can then shed light on the way to develop effective policies to attract and retain teachers in the teaching profession (Indicator D7).

In terms of gender, 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]).

Finally, the COVID-19 pandemic has posed significant challenges for education systems around the world, notably to ensure the safe return to school (for teachers and students) after the reopening of schools, and government initiatives to tackle this issue are worth investigating (OECD, 2021[3]).

Other findings

- At all education levels, the share of women is higher among the new generation of teachers (below the age of 30) than among older teachers (50 years and older).
- 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.
- The share of older teachers (aged 50 and over) increases with the education level, from 33% in primary education to 36% in lower secondary and 40% in upper secondary education, on average across OECD countries.
- Given that older adults face higher risks of developing severe forms of COVID-19, several countries (Austria, Chile, Colombia, the Czech Republic, Germany, Latvia and Slovenia) have prioritised teachers' vaccination based on their age, as an attempt to ensure the safe reopening of schools, at the pre-primary to upper secondary levels combined (OECD, 2021[3]).

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 (Table D5.1). 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 63% at secondary level and only 44% at tertiary level on average across OECD countries (Figure 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 (64%), India (54%) 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 68% of lower secondary teachers on average across OECD countries, with values ranging from 43% in Japan to 84% 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 81% 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, New Zealand and the Russian Federation do women make up more than 50% of teachers in tertiary education (Figure 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 63% 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 45% or less in Denmark and Switzerland to over 70% in Latvia, Lithuania and the Slovak Republic (Table D5.1).

In some countries, the share of female teachers differs significantly between general and vocational programmes. For instance, in Austria, Brazil, Chile, 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 at least 50% vocational teachers in all of these countries except Brazil (49%) and Chile (48%). In contrast, the share of female teachers is the same in general and vocational programmes in the Czech Republic (at 60%), Norway (55%) and Slovenia (67%) (Table 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 (OECD, 2015[4]) (Croft et al., 2014[5]) (Kane and Mertz, 2012[6]). 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, 2017[2]) (OECD, 2014[7]). 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[7])).

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 (OECD, 2021[8]) (Drudy, 2008[9]). While there is little evidence that a teacher's gender has an effect on student performance (Antecol, Eren and Ozbeklik, 2015[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 (OECD, 2014[13]) (Beilock et al., 2010[14]).

Trends in the gender profile of teachers

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 67% 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 57% 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 51% of teachers under the age of 30, compared to 39% among those aged 50 or older (Table D5.2).

Trends in the share of female teachers between 2005 and 2019

The indicators above 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.

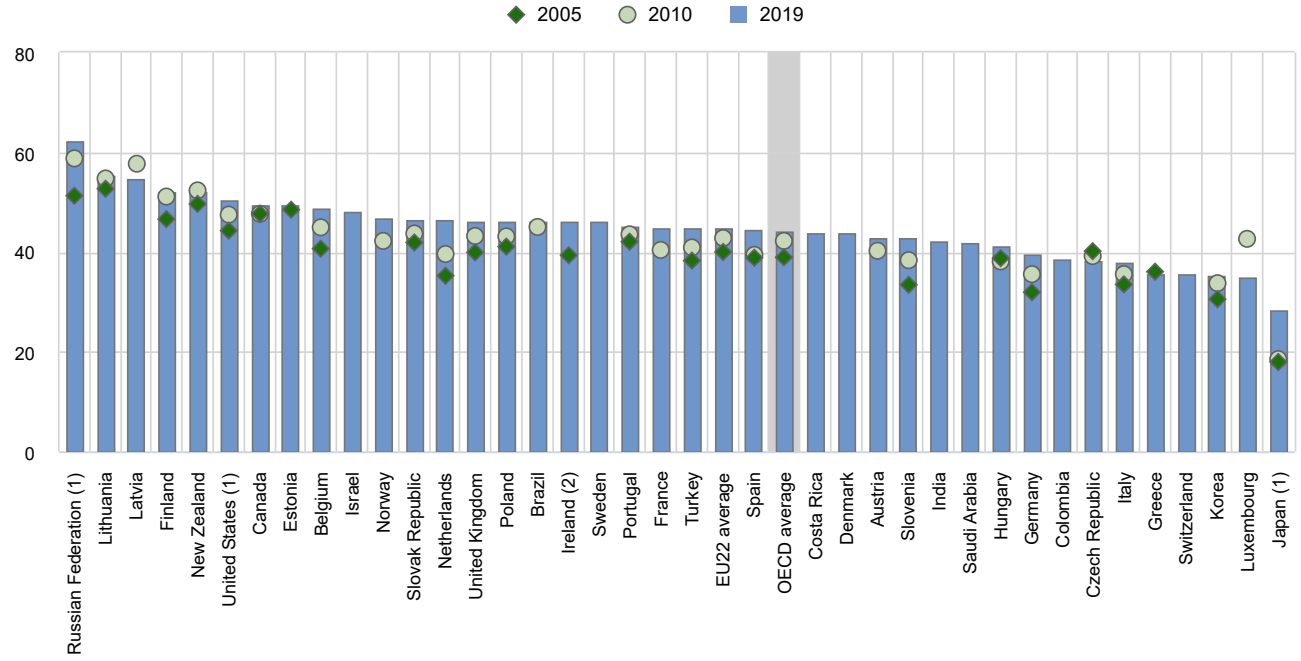
On average, for all OECD countries with data for both years, the rise in the share of female teachers (from 69% in 2005 to 72% in 2019) has widened the gender gap by 3 percentage points for the primary and secondary levels combined. This increase in the gender gap reaches 7 percentage points in Ireland and Korea, 8 percentage points in Greece and 11 percentage points in Slovenia. The share of female teachers in 2019 remains below the OECD average in Korea (68%) and Greece (67%), while it is above-average in Ireland (79%) and Slovenia (89%) (Table D5.2).

At tertiary level, on average across OECD countries with available trend data, there was a 5 percentage-point decrease in the gender gap, as the share of female teachers increased from 39% in 2005 to 44% in 2019. The largest increases in the share of female teachers (over 10 percentage points) are found in Japan, the Netherlands and the Russian Federation. While women remain under-represented among tertiary teachers in Japan (28%) and the Netherlands (46%), the share of female tertiary teachers reaches 62% in 2019 in the Russian Federation. At the other end of the spectrum, the Czech Republic experienced a 2 percentage-point decrease in the share of female tertiary teachers, from 40% in 2005 to 38% in 2019 (Figure 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[7]) (OECD, 2017[2]).

Figure D5.2. Gender distribution of teachers at the tertiary level (2005, 2010 and 2019)

Percentage of women among teaching staff in public and private institutions



1. Tertiary includes programmes outside tertiary level. See Annex 3 for further details.
2. Public institutions only.
Countries are ranked in descending order of the share of female teachers in 2019.
Source: OECD/UIS/Eurostat (2021), Table D5.1 and Education at a Glance Database, http://stats.oecd.org/. See Source section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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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, 11% 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 5% or less of upper secondary teachers in the Czech Republic, Finland, Germany, Greece, Hungary, Italy, Lithuania, Poland, Portugal, Slovenia, Spain and Switzerland (Table D5.3).

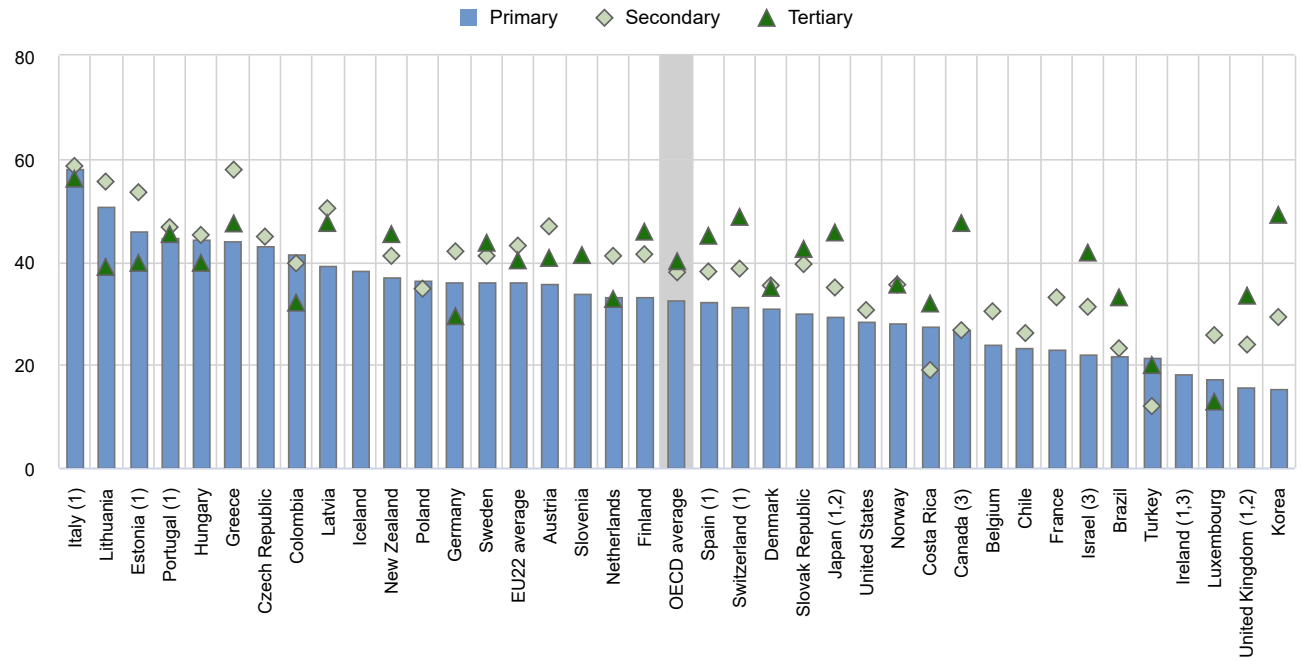
On average across OECD countries, more than half of primary, lower secondary and upper secondary teachers are aged between 30 and 49, and a high share of teachers are at least 50 years old. The share of older teachers (aged 50 and over) increases with the education level, from 33% in primary education to 38% in secondary education and 40% in tertiary education. In most countries, at least one teacher in every three at tertiary level is aged 50 or over. There is, however, a high level of variation across countries, with the share at tertiary level ranging from 13% in Luxembourg to 56% in Italy (Figure 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 Indicator C7).

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]). As an attempt ensure the safe reopening of schools, a number of countries had prioritised teachers' vaccination as of March 2021. Teachers' age was a criterion for the prioritisation of vaccination among teachers at the pre-primary to upper secondary levels combined in Austria, Chile, Colombia, the Czech Republic, Germany, Latvia and Slovenia (OECD, 2021[3]).

Figure D5.3. Share of teachers at least 50 years old, by level of education (2019)

In per cent



1. Secondary includes programmes outside secondary level. See Annex 3 for further details.
2. Tertiary includes programmes outside tertiary level. See Annex 3 for further details.
3. For Canada, tertiary level values include only public institutions. For Ireland and Israel, values for all levels of education include only public institutions.
Countries are ranked in descending order of the share of teachers over the age of 50 in primary education.
Source: OECD/UIS/Eurostat (2021), 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://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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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[16]) and Annex 3 for country-specific notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

Source

Data refer to the academic year 2018/19 and are based on the UNESCO-UIS/OECD/EUROSTAT data collection on education statistics administered by the OECD in 2020 (for details, see Annex 3 at https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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Indicator D5 Tables

Tables Indicator D5. Who are the teachers?

Table D5.1	Gender distribution of teachers (2019)
Table D5.2	Gender distribution of teachers by age group (2019) and percentage of female teachers for all ages (2005 and 2019)
Table D5.3	Age distribution of teachers (2019)

StatLink https://stat.link/spx4m3

Cut-off date for the data: 17 June 2021. 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.

Table D5.1. Gender distribution of teachers (2019)

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	98	92	72	64	50	56	69	52	41	43	66
	Belgium	97	83	66	64	61	62	46	x(10)	x(10)	49	71
	Canada[1]	x(2)	75[d]	x(2)	x(6)	x(6)	75	m	54	44	50	m
	Chile	99	81	69	58	48	56	a	m	m	m	m
	Colombia	97	77	51	x(6)	x(6)	49	66	38	38	38	59
	Costa Rica	94	79	58	58	56	58	a	49	44	44	69
	Czech Republic	100	94	78	60	60	60	45	60	38	38	76
	Denmark	89	68	62	52	45	51	a	37	44	44	64
	Estonia[2]	100	90	82	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	60	60	59	60	41	54	42	45	68
	Germany	95	87	66	59	50	56	59	32	40	39	66
	Greece	99	73	67	57	53	55	56	a	36	36	66
	Hungary	100	96	76	68	58	64	61	x(10)	x(10)	41	75
	Iceland	93	83	83	m	m	m	m	m	m	m	m
	Ireland[1, 2]	98	85	x(4, 6)	70[d]	a	70[d]	m	x(10)	x(10)	46	m
	Israel[1]	99[d]	86	79	x(6)	x(6)	71	m	56	47	48	m
	Italy	99	95	77	68	60[d]	64[d]	x(5, 6)	a	38	38	77
	Japan	97	64	43	x(6)	x(6)	31[d]	x(6, 8, 9)	50[d]	23[d]	28[d]	48
	Korea	99	77	71	55	48	54	a	44	33	35	62
	Latvia	99	92	84	84	73	81	66	65	53	55	84
	Lithuania	99	97	83	81	71	78	63	a	55	55	82
	Luxembourg	96	76	x(6)	x(6)	x(6)	55[d]	27	54	33	35	66
	Mexico	94	68	54	50	47	49	a	m	m	m	m
	Netherlands	88	87	54	54	55	55	a	51	46	46	66
	New Zealand	97	85	68	62	56	61	52	53	52	52	73
	Norway	91	75	75	55	55	55	36	36	47	47	67
	Poland	98	83	76	70	63	66	69	69	46	46	76
	Portugal	99	81	72	x(6)	x(6)	69[d]	x(6)	x(10)	x(10)	45	71
	Slovak Republic	100	90	76	73	71	72	65	61	46	47	78
	Slovenia	97	89[d]	x(2)	67	67	67	a	47	42	43	78
	Spain	93	77	61	58	52	56	a	51	43	44	65
	Sweden	96	82	65	x(6)	x(6)	54	45	44	46	46	71
	Switzerland	97	83	56	48	44[d]	45[d]	x(5, 6)	a	35	35	62
	Turkey	94	64	58	52	49	51	a	42	45	45	58
	United Kingdom	95	86	63	62	57[d]	60[d]	a	x(10)	x(10)	46	67
	United States	93	87	67	58	a	58	x(10)	x(10)	x(10)	50[d]	70
	OECD average	96	82	68	63	56	60	54	50	43	44	70
	EU22 average	97	86	71	66	59	63	55	52	44	45	73
Partners	Argentina	m	m	m	m	m	m	a	m	m	m	m
	Brazil	95	88	66	59	49	57	48	49	46	46	70
	China	97	69	57	m	m	54	m	m	m	m	m
	India	97	54	48	m	m	43	m	a	m	42	m
	Indonesia	m	67	m	m	m	m	a	m	m	m	m
	Russian Federation[2]	99	99	82	x(3)	x(8)	x(3, 8)	x(8)	73[d]	54	62[d]	87
	Saudi Arabia	100	52	52	m	m	53	65	30	42	42	m
	South Africa[3]	m	m	m	m	m	57	61	m	m	m	m
	G20 average	96	76	62	m	m	55	m	m	m	44	m

Note: The data for "All levels of education" do not include early childhood educational development (ISCED 01).

1. For Canada, tertiary level values include only public institutions. For Ireland values for all levels except pre-primary education include only public institutions. For Israel, values for pre-primary, lower secondary, upper secondary, short-cycle tertiary and all tertiary include only public institutions.

2. Pre-primary includes early childhood education.

3. Year of reference 2018 instead of 2019.

Source: OECD/UIS/Eurostat (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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

StatLink https://stat.link/x3e8lo

Table D5.2. Gender distribution of teachers by age group (2019) and percentage of female teachers for all ages (2005 and 2019)

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	
		2019		2019		2019		2019		2005	2019	2005	2019
		< 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	74	72	53	53	38	m	74	m	43
	Belgium	84	79	70	62	67	57	64	45	65[d]	70	41	49
	Canada[1, 2]	83[d]	70[d]	x(1)	x(2)	83	70	60	44	73	75	48	50
	Chile	80	81	71	66	61	50	m	m	70	71	m	m
	Colombia	77	78	51	52	47	50	47	30	m	64	m	38
	Costa Rica	66	81	56	57	56	58	47	38	m	69	m	44
	Czech Republic	92	95	73	81	52	58	m	m	71[d]	77	40	38
	Denmark	59	71	54	64	54	46	42	40	m	62	m	44
	Estonia[3]	83	92	73	84	60	73	52	46	m	83	48	49
	Finland	82	77	77	73	66	57	48	52	69	73	47	52
	France	88	77	61	57	60	57	57	40	m	68	m	45
	Germany	91	86	79	66	72	52	45	31	65	71	32	39
	Greece	88	61	74	64	79	50	44	32	59	67	36	36
	Hungary	91	96	68	76	62	59	46	36	79	78	39	41
	Iceland	78	84	79	84	m	m	m	m	m	m	m	m
	Ireland[2]	80	86	x(5)	x(6)	65	69	m	m	72	79	39	46
	Israel[2]	91	83	87	76	83	65	55	45	79	80	m	48
	Italy[3]	94	97	68	78	55	64	51	34	78	78	34	38
	Japan[3, 4]	65	68	45	40	38	23	49	25	46	49	18	28
	Korea	74	86	71	62	68	34	66	24	61	68	31	35
	Latvia	85	93	69	85	60	83	57	53	m	87	m	55
	Lithuania	89	98	74	82	64	78	51	53	84[d]	85	53	55
	Luxembourg	77	76	x(5)	x(6)	63[d]	50[d]	36	30	m	65	m	35
	Mexico	m	m	m	m	m	m	m	m	56	58	m	m
	Netherlands	87	85	61	47	65	48	49	37	66[d]	70	35	46
	New Zealand	87	87	73	68	64	61	54	49	69	73	50	52
	Norway	69	79	69	79	59	50	44	44	m	70	m	47
	Poland	79	85	68	75	57	63	m	m	76	77	41	46
	Portugal[3]	90	79	64	73	59	70	44	40	74	74	42	45
	Slovak Republic	86	93	76	78	78	72	60	44	77	79	42	47
	Slovenia	90[d]	88[d]	x(1)	x(2)	56	65	49	38	78	89	33	43
	Spain	79	78	64	59	59	53	50	39	62	67	39	44
	Sweden	75	83	57	66	53	52	49	44	m	70	m	46
	Switzerland[3]	88	80	66	52	59	41	52	30	m	66	m	35
	Turkey	77	49	68	42	67	36	54	32	m	57	38	45
	United Kingdom[3]	84	89	65	59	63[d]	55[d]	47	43	68	72[d]	40	46
	United States[4]	89	87	70	68	63	57	m	m	74	75	44	50
	OECD average	83	82	68	67	63	57	51	39	70	72	40	44
	Average for countries with available data for both reference years									69	72	39	44
	EU22 average	85	85	68	70	63	60	50	41	71	75	40	45
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	82	91	59	69	53	58	51	43	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	m
	Russian Federation[4]	m	m	m	m	x(7)	x(8)	64[d]	56[d]	86	87	51	62
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	42
	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	44

1. Primary includes pre-primary education.
2. For Canada, tertiary level values include only public institutions. For Ireland, values for all levels of education include only public institutions. For Israel, values for lower secondary, upper secondary and all tertiary include only public institutions.
3. Upper secondary includes programmes outside upper secondary level. See Annex 3 for further details.
4. Tertiary includes programmes outside tertiary level. See Annex 3 for further details.

Source: OECD/UIS/Eurostat (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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 (2019)

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
		(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	18	46	36	13	40	46	8	45	48	13	43	43
	Belgium	21	55	24	17	56	27	12	55	32	17	55	28
	Canada[1]	10[d]	63[d]	27[d]	x(1)	x(2)	x(3)	10	63	27	10	63	27
	Chile	18	59	23	18	57	25	18	56	27	18	58	25
	Colombia	11	47	41	10	51	40	9	52	40	10	49	41
	Costa Rica	7	66	27	10	71	19	10	71	19	8	68	23
	Czech Republic	9	48	43	9	54	37	4	43	53	7	48	44
	Denmark	18	52	31	18	52	30	6	53	41	15	52	33
	Estonia[2]	11	43	46	8	37	55	7	41	52	9	41	50
	Finland	8	58	33	8	58	33	3	46	50	7	55	38
	France	12	65	23	9	58	33	9	58	33	10	60	30
	Germany	9	55	36	6	51	43	5	55	40	7	53	40
	Greece	10	46	44	2	43	55	1	39	61	6	43	51
	Hungary	6	49	44	4	48	47	3	54	43	5	50	45
	Iceland	6	56	38	6	56	38	m	m	m	m	m	m
	Ireland[3]	13	69	18	x(7)	x(8)	x(9)	13	63	24	13	66	21
	Israel[3]	13	65	22	10	62	28	10	57	33	12	62	26
	Italy[2]	1	41	58	2	45	53	2	36	62	2	40	58
	Japan[2]	19	51	29	18	51	31	13	48	39	17	50	32
	Korea	17	67	15	12	59	29	10	60	30	14	63	23
	Latvia	12	48	39	8	42	50	7	42	51	10	45	45
	Lithuania	5	44	51	3	42	55	3	40	57	4	42	54
	Luxembourg	22	61	17	x(7)	x(8)	x(9)	10[d]	65[d]	26[d]	15	63	22
	Mexico	m	m	m	m	m	m	m	m	m	m	m	m
	Netherlands	16	51	33	15	47	38	11	44	45	14	48	37
	New Zealand	13	50	37	13	48	39	11	46	43	12	48	39
	Norway	19	53	28	19	53	28	8	49	42	16	52	32
	Poland	7	57	36	6	62	32	4	59	37	6	59	36
	Portugal[2]	1	54	44	1	49	50	2	55	44	1	53	46
	Slovak Republic	7	63	30	9	53	38	8	50	42	8	55	37
	Slovenia	8[d]	58[d]	34[d]	x(1)	x(2)	x(3)	4	49	47	8	58	34
	Spain	9	59	32	5	57	38	4	57	38	6	58	35
	Sweden	10	54	36	8	55	37	6	49	45	8	53	39
	Switzerland[2]	19	49	31	10	56	34	5	52	43	13	52	35
	Turkey	17	62	21	23	70	7	15	69	16	18	67	15
	United Kingdom[2]	28	56	16	22	60	18	17	56	28	23	57	20
	United States	16	56	28	16	56	28	12	55	33	15	55	29
	OECD average	12	55	33	11	53	36	8	52	40	11	54	35
	EU22 average	11	53	36	8	51	41	6	50	44	9	52	39
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	11	67	22	12	65	23	11	65	24	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	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

1. Primary includes pre-primary education.

2. Upper secondary includes programmes outside upper secondary level. See Annex 3 for further details.

3. For Ireland values for all levels of education include only public institutions. For Israel, values for lower secondary and upper secondary education include only public institutions.

Source: OECD/UIS/Eurostat (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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

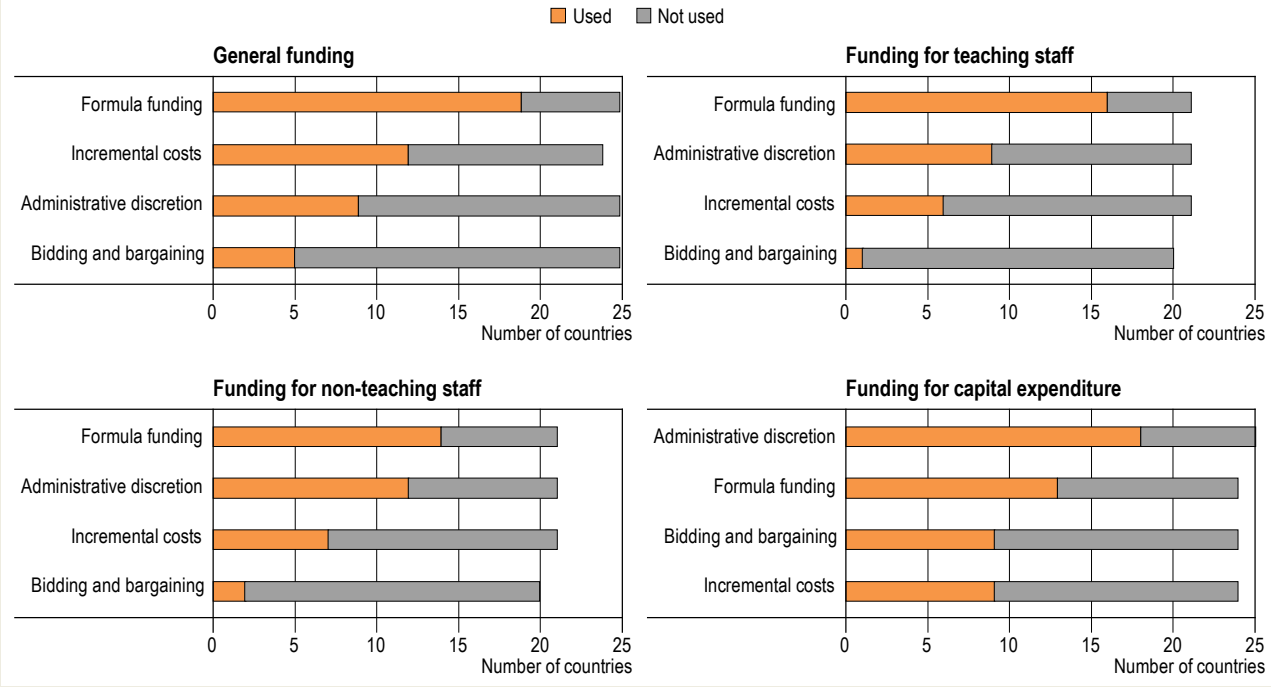
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Indicator D6. How are public funds allocated to schools?

Highlights

- The frameworks for allocating and distributing public funding to public primary and lower secondary educational institutions vary greatly across OECD member and partner countries and economies.
- Funding formulas are the most commonly used basis for allocation among OECD and partner countries and economies. Most countries use funding formulas to some extent.
- Among the multiple equity criteria used in funding methodologies, the most commonly used relate to characteristics of students, and in particular to low-income students or students with disabilities.

Figure D6.1. Basis used to allocate funding to public primary educational institutions, by category of funding (2019)



Note: The category of general funding includes funds not allocated for particular kinds of expenditure or where it is not possible to disaggregate information by category of expenditure. The category "Funding for other current expenditure" is not included here but is included in Figure X3.D6.1

The bases used to allocate funding are ranked in descending order of the number of countries using them.

Source: OECD (2021), Table D6.1. See *Source* section for more information and Annex 3 for notes and figure relating to other current expenditure (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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Context

The level of school funding matters, but so does the framework and strategy for allocating it. The mechanisms through which school funding is governed, distributed and monitored play a key role in ensuring that resources are directed where they can make the most difference (OECD, 2017[1]). The choices made in the design of school funding frameworks can also help to promote more equity among schools and in outcomes for learners.

In recent years, the organisation of OECD school systems has become increasingly complex and characterised by multi-level governance, where the links between multiple actors operating at different levels are more fluid and open to negotiation (Burns and Köster, 2016[2]). This may impact on the levels of government involved in school funding. It may also impact on the complexity and diversity in their interactions, as each level of government involved in the allocation of funding can use different bases to determine the amount of funding allocated to schools (or the most local level of governance) (OECD, 2017[1]), different criteria to operationalise the basis for allocation and different mechanisms used to distribute funding. The various restrictions with which local or regional authorities may need to comply also provide a good indication of their autonomy in decision making (Atkinson et al., 2005[3]).

The frameworks for school funding are based on four dimensions: the levels of government involved in the allocation of funding, the basis used to decide the allocation of funding, the criteria used in the allocation and the mechanisms used to distribute funding. Differences between countries in these four dimensions result in large differences in the systems used to allocate and distribute public funds to schools (or the most local level of governance) and in the ways equity issues are taken into account.

This indicator focuses on the frameworks for the public funding of public primary and lower secondary educational institutions rather than the amount of resources allocated to or spent on education (for an analysis of how much is spent on education, see Indicators C1, C2, C3, C4 and C6).

Other findings

- It is possible to identify five distinct groups of countries and economies based on how many levels of government are involved and which level(s) directly fund (i.e. after transfers) expenditure on educational institutions. However, this does not imply any similarity in the bases used to allocate resources nor in the funding mechanisms used to distribute funding.
- The way funding is allocated to current and capital expenditure is quite different. It is far more common to use discretionary methods when allocating resources for capital expenditure.
- Formula funding plays an important role in the amount of resources received by primary and lower secondary educational institutions from local governments, but there is greater use made of administrative discretion, incremental costs, and bidding and bargaining than is the case at higher levels of government.
- Earmarked grants are the most commonly used mechanism to distribute funding. This implies in many cases that funding is spent by a level of government (or school) that has limited discretion over how funds are spent.

Analysis

Box D6.1. Key concepts related to funding frameworks

Basis used to allocate funding

The basis for allocating funds to educational institutions (or the most local level of government) refers to the way decisions are taken about the amount of funds to allocate to sub-central authorities or schools (or most local level of governance). The basis for allocation is distinct and separate from the way funds are actually transferred (which is referred to as the funding mechanism). Four main bases are used throughout the analysis:

- **Administrative discretion** is based on an individual assessment of the amount of resources that each sub-central authority or school needs. While it might involve the use of indicators, the final allocation might not necessarily correspond to the calculations and these would not be universally applied to all sub-central authorities or schools. Administrative discretion and incremental costs (see below) are often combined.
- **Incremental costs** take into consideration the historical expenditure to calculate the amount of funds to allocate for the following year, with minor modifications to take into account specific changes (e.g. student numbers, school facilities, input prices).
- **Bidding and bargaining** involves open competitions for additional funding offered via the participation of sub-central authorities or schools in a particular programme or making a case for additional resources.
- **Formula funding** involves the use of objective criteria with a universally applied rule to establish the amount of resources that each recipient is entitled to. The relevant authority uses a formally defined procedure (a formula) to determine the level of public funds allocated based on a set of predetermined criteria, which in most cases are input-, output- or performance-oriented. These predetermined criteria are impartially applied to each recipient (e.g. sub-central authority or school). Formula funding relies on a mathematical formula which contains a number of variables, each of which has a coefficient attached to it to determine school budgets. Formulas typically contain four main groups of variables: 1) basic: student number and grade level-based; 2) needs-based; 3) curriculum or educational programme-based; and 4) school characteristics-based.

Criteria used for allocation

Many of the bases for allocation described above depend on specific criteria. For example, student numbers might be used in funding formulas or for incremental cost methods. The criteria included in this analysis refer to any qualitative or quantitative data that are used to determine how many resources (money, staff, equipment, etc.) are allocated to a particular sub-central authority, school or most local level of governance.

Funding mechanism used to distribute funding

The funding mechanism refers to the way funds are transferred from one level of government to another (or to schools). In particular, the focus is on the extent to which the body that receives the funds has discretion to specify how (and for what purpose) the money should be spent. The funding mechanisms are unrelated to the allocation method, all different combinations of allocation method and funding mechanism are possible.

- **Lump sum transfer:** Funds that recipients can use at their own discretion. They are completely free to spend the money as they wish. “Lump sum” refers to the method of transfer, not to the allocation method; the amount being transferred may vary between sub-central authorities or between schools.
- **Restricted block grant:** Funds that recipients can use at their own discretion, but within given areas of spending (e.g. operating costs). This, therefore, leaves a high degree of discretion over the proportion of the grant that will be allocated to different categories of expenditure, such as salaries and operational costs, and also over the amount allocated to lower levels of governance.
- **Earmarked grant:** Funds that recipients are required to use for specific elements/items of current expenditure (e.g. teacher professional development, extra funds for special needs education). For example, central authorities may provide a range of grants to sub-central authorities which are earmarked for particular items of expenditure

in order to allow the central authorities to shape policy while allowing sub-central authorities to take operational decisions.

- **School-specific grant:** Funds that recipients are required to use for current expenditure in specific schools (or most local level of governance). This is the most restrictive type of transfer from the central to lower level authorities and implies reduced or no administrative discretion to reallocate funding among different schools.
- **Dedicated grant:** Funds which are not administered by the recipients (e.g. teacher salaries which are directly paid by the relevant authority; operating costs directly paid by the relevant authority). In this case, funds are not transferred to individual schools (or most local level of governance). This would apply to situations where the central government directly pays teachers' salaries or where it (re)builds schools.

Funding frameworks for educational institutions

Levels of government involved

In this indicator, five distinct levels of government or education authority at which decisions on the funding of schools (or the most local level of governance) can be taken are distinguished: central, state, provincial or regional, sub-regional or inter-municipal, and local levels (see *Definitions* section). However, for the purpose of describing funding frameworks for primary and lower secondary educational institutions and to ease the comparison between federal countries and non-federal ones, the levels of decision making are grouped into three categories: central or state governments, provincial/regional or sub-regional/inter-municipal authorities or governments, and local authorities or governments.

Not all levels of decision making exist in all countries, and where they do exist, they are not necessarily involved in decisions about school funding. In some cases, the levels of government involved in decision making also vary according to the level of education and/or programme orientation. Five distinct groups of countries can be identified based on the number of levels of government involved in decision making and the level(s) that directly fund (i.e. after transfers) expenditure on educational institutions.

In a small group of four countries (Austria, Ireland, the Netherlands and Turkey), a single level of government (the central level) takes decisions on the funding of schools (or lowest level of governance). In Lithuania, this framework applies to lower secondary vocational programmes only, whereas in Ireland and the Netherlands it applies to both primary and lower secondary level.

In the majority of countries, decisions related to the allocation and/or distribution of funds are taken at two levels. Among these countries, the highest level transfers funds to the lowest level of governance involved, which takes decisions on all categories of expenditure (Australia, Chile, Denmark, Estonia, Finland, Hungary, Korea, Latvia, Lithuania [primary and lower secondary general programmes], Norway, the Russian Federation [lower secondary vocational programmes], Sweden and Turkey), whereas the decisions on funding are shared between these two levels of government in a smaller number of countries and economies (England [United Kingdom], France [primary and lower secondary general programmes], Israel, Mexico, Slovenia, Spain [lower secondary] and Switzerland).

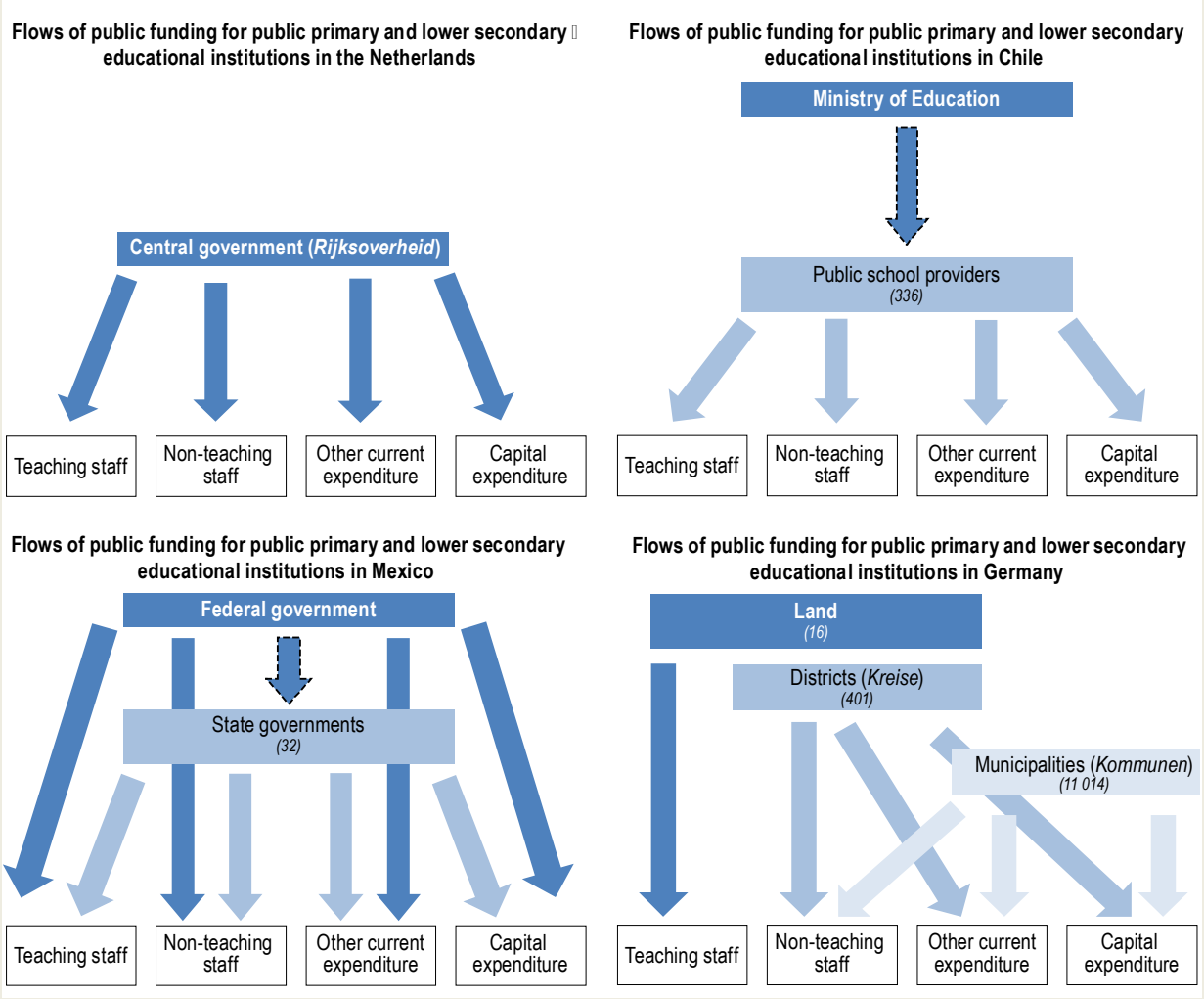
In the remaining countries and economies, three levels of government are involved in decisions about school funding. In five countries (Austria, the Czech Republic, France [primary], Poland and the Russian Federation [primary and lower secondary general programmes]), funding is shared between two levels of government whereas funding is shared between all three levels in Brazil, Colombia, the French Community of Belgium, Germany, Japan, Spain (primary) and the United States.

Although countries can be grouped based on the levels of government involved in funding educational institutions, this does not imply any similarity in the bases used to allocate resources nor in the funding mechanisms used to distribute funding to schools (or the most local level of governance) in each of these groups. For example, in Finland and Turkey, funding flows from one level of government to a lower one, which then distributes funds between different categories of expenditure, but the autonomy of the lower level of government is much greater in Finland than in Turkey. In Finland, central government funding accounts for about 25% of total public expenditure on educational institutions. The allocation of funds to local authorities is based on formula funding and the local level then has complete autonomy to allocate funds to categories of expenditure. This contrasts with Turkey, where a combination of administrative discretion and incremental costs are used by the central government to allocate resources for current expenditure to provincial governments. The central government then distributes funding using a combination of restricted block grants, earmarked grants, school-specific grants and dedicated grants. This means that the provincial level in Turkey has less discretion in how funding is allocated and spent because of the restrictions and earmarks associated with the funding it receives (Table D6.1, Table D6.2 and Table D6.5, available on line).

Box D6.2. How public funding flows from government to educational institutions

Figure D6.2. Examples of funding flow diagrams

Flows of public funding for public primary and lower secondary institutions in the Netherlands, Chile, Mexico and Germany



Note: The diagram is indicative of the flows of public funding for public educational institutions between levels of government and the final education provider (which may be educational institutions or the most local level of governance). The size of the arrows is not representative of the magnitude of the flows - flows may vary greatly in magnitude but this is not shown in the diagram.

Where funding is shared between different levels of government, these levels of government can be responsible for funding different categories of expenditure or they can share the responsibility for funding each category. For example, in France for primary education, the central government funds teaching staff while local government funds all other expenditure (after receiving transfers from the central and regional governments). This contrasts with Spain, where the central and regional governments share responsibility for funding all categories of expenditure on lower secondary educational institutions, because the central government directly manages educational institutions in the autonomous cities of Ceuta and Melilla.

The flows of funding through each country's system can be seen in the funding flow diagrams associated with this indicator (see examples in Figure D6.2). Each arrow refers to a flow of funding between two levels of government. The direction of the arrows shows the level of government that distributes the funds and the level that receives it. The flow diagrams intend to show the way public funds flow from the most central level to the schools (or most local level of governance). They also display the flows of public funds in the other direction where relevant. In the diagrams, the width of the arrows does not

A corrigendum has been issued for this page.
See: https://www.oecd.org/about/publishing/Corrigendum_Education-at-a-Glance-2021.pdf

vary based on the amount of funds flowing between the two levels (for a distribution of funds between levels of government, see Indicator C4).

Full-size versions of funding flow diagrams for all OECD and partner countries and economies with available data can be found in Annex 3.

Bases used to allocate funding

The basis for the allocation of funds to educational institutions (or the most local level of government) refers to the way decisions are taken about the amount of funds to allocate to sub-central authorities or schools (or most local level of governance). Four main bases are used to various extents in countries: administrative discretion, incremental costs, bidding and bargaining, and formula funding (see Box D6.1 for definitions).

Countries do not tend to use one basis exclusively for allocating all funding; in many cases, they use two or more bases together. For example in Estonia, a combination of incremental costs (using previous expenditure per student) and formula funding (using student enrolment) is used to allocate funds for the various categories of expenditure related to educational institutions.

The bases used for funding and their prevalence also vary by type of expenditure. Among the 31 OECD and partner countries and economies with available information, formulas is the most commonly used basis for funding (particularly for teaching staff), compared to the other three bases to allocate current resources, while administrative discretion is the most commonly used basis to allocate funding for capital expenditure. Bidding and bargaining is not a common way of allocating funding for any type of expenditure (Figure D6.1).

Several bases are commonly used in combination with each other and the combinations used vary substantially between countries and economies (and there is no clear pattern that these combinations vary depending on the number of levels of government involved in the allocation of funds). Austria, England (United Kingdom), France, Slovenia, Spain and the United States reported all four bases being used in at least one category of expenditure. Only six countries reported only one basis being used; Mexico uses administrative discretion only, while Brazil, Finland, Israel, the Netherlands and Norway use funding formulas exclusively. All other countries and economies use some combination of two or three bases. Overall, it is very common for formula funding to be used in combination with administrative discretion. Seventeen countries and economies use these two bases together; four of these use this combination exclusively (the French Community of Belgium, Germany, Japan and Latvia).

Funding mechanisms used to distribute funding

The mechanism used to actually distribute funding is distinct from the basis used to allocate it (and there is no clear pattern that specific mechanisms are associated with specific basis used to allocate funds). There are five main mechanisms used: lump sum transfer, restricted block grant, earmarked grant, school-specific grant and dedicated grant (see Box D6.1 for definitions).

An analysis of funding mechanisms aims to understand how funds are actually transferred from one level of government to another, or from a level of government to a school (or lowest level of governance). It also sheds some light on the extent to which a specific level of government (or school) has autonomy in deciding how and on what categories of expenditure the funds should be spent.

Among the 31 OECD and partner countries and economies with available information, earmarked grants are the most commonly used mechanism: 26 countries and economies use them for at least one category of expenditure (Table D6.5, available on line). This implies, in many cases, that the level of government (or school) receiving this funding has limited discretion on the way these funds can be spent. However, there is considerable variation in the most commonly used mechanisms between categories of expenditure. For general funding, a similar number of countries distribute (at least some of) their funding as lump sums (i.e. allowing complete discretion) (13 countries and economies) and as earmarked grants (15 countries). For capital expenditure, school-specific grants are a fairly popular mechanism and are used by 11 countries and economies, but they are less likely to be used for dispersing funds for teaching (only in Hungary) and non-teaching staff (only in Hungary, Lithuania and Turkey).

Although earmarked grants are very common and are even the only mechanism used in Japan and the Russian Federation for all categories of expenditure, five countries do not use this mechanism in their funding system of educational institutions.

Funding is distributed using a combination of restricted block grants and lump sums in Austraila, only lump sums in Finland and Norway, dedicated grants in Mexico, and restricted grants in Brazil.

In most cases, combinations of multiple funding mechanisms are used. Four countries use all five funding mechanisms, for at least one category of expenditure (Hungary, Ireland, Israel and the United States). The remaining 21 countries and economies use a combination of two, three or four funding mechanisms. There are no obvious patterns of combinations (other than the prevalence of earmarked grants) associated with specific categories of expenditure.

Use of funding formulas in allocating funding to educational institutions

Funding formulas are the most commonly used basis for allocation among OECD and partner countries and economies. Most use funding formulas to some extent. Among the 31 countries and economies for which data are available, only 6 countries did not report using them for any category of expenditure (the Czech Republic, Denmark, Hungary, Mexico, Switzerland and Turkey). On the contrary, 17 countries use them for all categories of expenditure, and 8 use them for some categories of expenditure only (Table D6.1).

The wide-scale use of funding formulas suggests that they have a substantial effect on the amount of funding allocated to sub-central levels of government, schools or the most local level of governance.

Use of funding formulas by level of government

The use of funding formulas is most common for all categories of expenditure at the highest levels of government (i.e. central or state). For example, among the 17 countries and economies with available data on general funding of educational institutions, formulas are used to allocate all public funding from central government to public primary and lower secondary educational institutions in 5 countries and most public funding in a further 12 countries (Table D6.2).

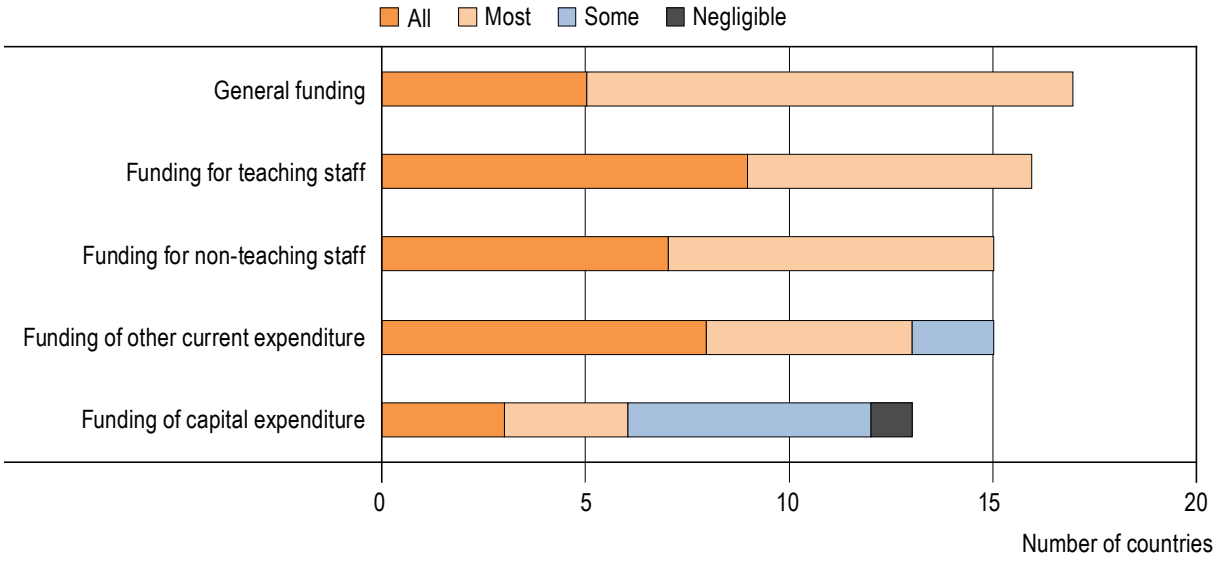
At lower levels of government, smaller proportions of public funding are allocated to educational institutions through formulas. Among the 13 countries and economies with available data for general expenditure, local government allocates all public funding through funding formulas in only one country. Among the other countries, formulas are used at the local level to allocate most public funding in nine countries, some of the public funding in one country and only a negligible amount of funding in two countries. Therefore, formula funding plays a big role in the resources received by educational institutions from local governments. However, there is greater use made of the other bases (measured in terms of the proportion of funding received) at the local level than is the case at higher levels of government. This may result from the different responsibilities of the different governments, or may simply reflect a trend of greater discretion being used in funding decisions (Table D6.2).

Use of funding formulas by category of expenditure

In the vast majority of countries and economies, funding formulas are used by central or state governments to allocate all or most funding for all categories of expenditure, with the exception of funding for capital expenditure. Capital expenditure is the category of expenditure where funding formulas are least often used compared to other three mechanisms used to fund educational institutions. It is therefore not surprising that a relatively small share of funding is allocated using them. The variation in the share of funding allocated by funding formulas is similar to the variation in the use of funding formulas. For instance, among the five categories of expenditure, funding for teaching staff is the category for which funding formulas are used the most often, and it is also the category for which the largest share of funding depends on formulas. This shows that when funding formulas are used, they tend to have a substantial impact on the share of funding (Figure D6.3 and Table D3.2).

Local governments are less likely to use funding formulas than central or state governments, but the extent of the difference varies by category of expenditure. Funding for non-teaching staff is the category of expenditure with the biggest difference between levels of government in the proportion of funds allocated based on formulas. At the central or state level, 15 countries and economies use funding formulas to allocate all or most of their funding to expenditure on non-teaching staff, and none use funding formulas to allocate some or a negligible amount of funding to this category of expenditure. At the local level, five countries use funding formulas to allocate all or most of their funding to this category of expenditure, compared to three using funding formulas to allocate some or a negligible amount of funds to this category of expenditure. This means that local governments are more likely to use methods based on discretion to allocate funding for non-teaching staff. This is quite different from capital expenditure, for which the proportion of funding allocated using formulas is lower at all levels of government, but there is little variation between levels of government (Table D6.2).

Figure D6.3. Proportion of public funding allocated by central or state governments to public primary educational institutions (or the lowest level of governance) using funding formulas, by category of funding (2019)



Source: OECD (2021), Table D6.2. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

StatLink https://stat.link/ckwdjb

Criteria used to address equity issues

Educational equity is a broad concept and is not easily definable. The pursuit of equity in education usually takes into account three different possible strategies underpinning policy making: seeking equal opportunities, equal treatment or equal results across students and schools (Castelli, Ragazzi and Crescentini, 2012[4]). This is reflected in the choices countries make about how to allocate resources to educational institutions.

There are two main ways of considering equity in terms of education funding: horizontally and vertically. While horizontal equity refers to the provision of resources across units with similar needs (students or institutions), vertical equity refers to the distribution of resources across units of different needs. Horizontal and vertical equity can be complementary goals. While horizontal equity is assessed by minimum variability in the distribution of resources for similar students, vertical equity focuses on providing differential funding for different student groups based on their needs (OECD, 2017[1]).

The data presented below focus on the criteria that countries use to address equity when allocating resources. These criteria could be used in bidding and bargaining, funding formulas, or incremental cost methods of allocation. The choice of criteria reflects the strategies to address equity as well as the aims of horizontal and/or vertical equity.

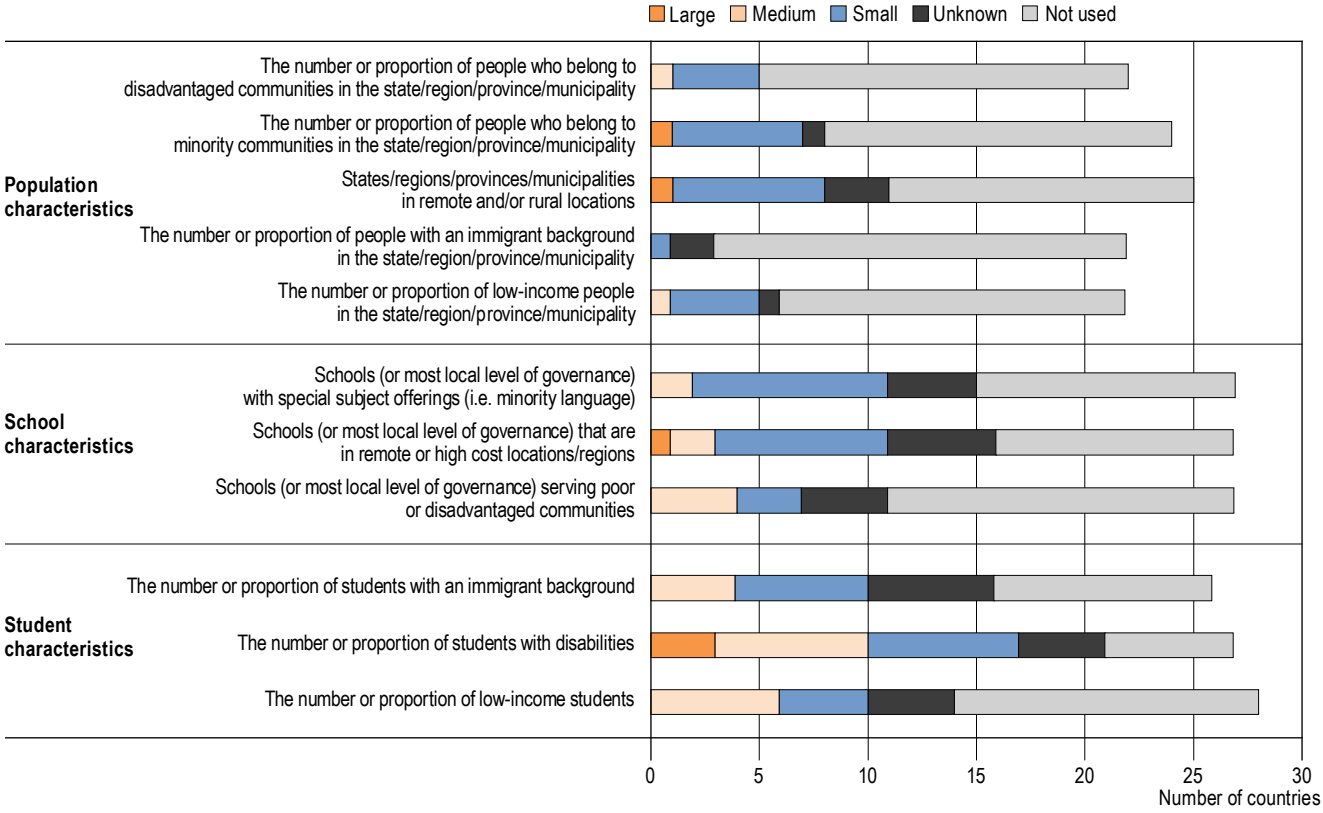
Differences in equity criteria used by reference groups

Among the 31 OECD and partner countries and economies with available information, equity criteria used in funding the different categories of expenditure tend to relate to one of three reference groups: the population of the locality (state/region/province/municipality), the schools or the students enrolled. Criteria that relate to characteristics of the population of the locality are the least commonly used, whereas criteria relating to schools and students are more common. Of the 26 countries and economies with available data on allocation of funding by central and state governments, 25 use at least one criterion related to student characteristics, 23 use at least one criterion based on school characteristics and 14 use at least one criterion based on population characteristics (Table D6.3).

It is very common for countries to use a combination of criteria that relate to different reference groups. Twelve countries and economies use a combination of criteria including at least one criterion related to each group (students, schools and population characteristics). A further 11 countries and economies use a combination including at least one criterion that relates to student,

and school characteristics only. This means that countries and economies using a population-based criterion usually also use a criterion based on student and/or school characteristics. Denmark is an exception to this pattern, as the number or proportion of low-income people in the locality and the existence of localities considered remote and/or rural are used as equity criteria, but no student- or school-based criteria are used (Figure D6.4 and Table D6.3).

Figure D6.4. Share of total funding allocated by central and state governments to primary and lower secondary educational institutions by equity criteria (2019)



Source: OECD (2021), Table D6.3. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

StatLink https://stat.link/snt8py

Differences in equity criteria used, by characteristic

As well as grouping the criteria by the population to which they refer, it is also possible to group them based on five broad characteristics to which they relate: poverty (low-income, poor or disadvantaged populations/schools/students), disability (students with disabilities), location (remote, rural or high-cost locations), immigrant status (Immigrant background of students or population) and minority communities (people who belong to minority communities and schools offering minority languages).

Criteria related to disability are the most commonly used. Of the 27 countries and economies with available data, only central and state governments in the Czech Republic, Denmark, England (United Kingdom), Mexico, Norway and Sweden do not use this equity criterion. These countries and economies tend to either give large autonomy in the way to allocate funding to schools (or most local level) to more local levels of government (Norway and Sweden), use discretionary allocation methods instead of funding formulas (the Czech Republic, Denmark and Mexico) or use other criteria to address equity (England [United Kingdom]) (Table D6.3).

Many countries and economies provide specific support to schools or localities that are either remote, expensive or both, by including criteria in funding allocation methodologies that take account of this. Central or state governments in 18 countries include in their methods to allocate public funds to schools (or most local level) criteria related to the location, compared to 8

who do not include such criteria. Across the countries using a location criterion, there is some variation in whether the criterion refers to schools (in remote or high-cost locations) or to localities (remote or rural states/regions/provinces/municipalities). Eight countries and economies (Australia, Brazil, Chile, England [United Kingdom], France, Hungary, Korea and Latvia) allocate resources based only on the school's location, whereas four countries (Colombia, Denmark, Israel and Turkey) only allocate resources based on the remoteness or rurality of the locality. The remaining six countries (Estonia, Ireland, Japan, Poland, the Russian Federation and Switzerland) use both criteria (Table D6.3).

Most countries allocate funding using some measure of low-income or disadvantage. Of the 28 countries and economies with available data on the criteria used for the allocation of funds from central or state governments, 18 use at least one poverty-based criterion compared to 10 that do not. The most frequently used criterion is the number or proportion of low-income students, which is used by central or state governments in 14 countries and economies. However, it is very common among countries to use multiple poverty-based criteria. For example, nine countries and economies use the number or proportion of low-income students as well as schools (or most local level of governance) serving poor or disadvantaged communities (Table D6.3).

Among the five broad characteristics that have been identified to group equity criteria, criteria relating to immigrant status and minority communities are the least commonly used by central and state governments to allocate funds, even if they are still very commonly used. Immigrant status is used by central or state governments in 16 out of the 27 countries and economies with available data. When immigrant status is used, they far more often refer to students than to the population of the locality. This means funding is directed to where schools have significant numbers of students with an immigrant background enrolled rather than to areas of the country where there is a high number of people with an immigrant background living (Table D6.3).

Share of funding allocated by equity criteria

Many criteria may be used in funding formulas (or other allocation methods), but countries can give different relative weights to each of these criteria, which means they can impact to a varying extent on the amount of funds allocated. For the allocation of funds under the responsibility of central or state governments, each criterion tends to have a modest impact on the amount or proportion of funds allocated. On average across all equity criteria, the use of an equity criterion has a large impact on funding in 5% of the countries and economies using it, a medium impact in 20% of countries and economies using it and a small impact in 50% of countries and economies using it. This suggests that equity criteria on their own have a limited impact on the funding received by schools (or the most local level of decision making) and that other criteria have a greater effect (Table D6.3).

There is some variation between criteria in their impact on funding. Among the 14 countries and economies where the central or state government uses the number or proportion of low-income students in the allocation of funds, this criterion has a medium impact on the funding allocated in 6 countries and economies and a small impact in 4 (the impact is unknown in the remaining 4 countries). In comparison, the number or proportion of students with disabilities has a large impact on funding in three countries and economies, a medium impact in seven countries and a small impact in seven countries (the impact is unknown in the remaining four countries). The result is that where the number or proportion of students with disabilities is used as a criterion in funding allocations, it has a greater impact on funding than where the number or proportion of low-income students is used (Figure D6.4).

Definitions

See Box D6.1 for definitions related to **bases for allocation**, **criteria used to allocate funding** and **type of funding mechanisms**.

Levels of decision making

Central government: The central government consists of all bodies at the national level that take decisions or participate in different aspects of decision making.

State government: The state is the first territorial unit below the nation in "federal" countries or countries with similar types of governmental structures. State governments are the decision-making bodies at this governmental level. For all other countries, this level does not exist.

Provincial/regional authorities or governments: The province or the region is the first territorial unit below the national level in countries that do not have a "federal" (or similar) type of governmental structure and the second territorial unit below the national level in countries with "federal" (or similar) types of governmental structures. Provincial/regional authorities or governments are the decision-making bodies at this level.

Sub-regional or inter-municipal authorities or governments: The sub-region is the second territorial unit below the national level in countries that do not have a "federal" (or similar) type of governmental structure. Sub-regional or inter-municipal authorities or governments are the decision-making bodies at this level.

Local government: The municipality or community is the smallest territorial unit in the country with a governing authority. The **local authority** may be the education department within a general-purpose local government, or it may be a special-purpose government whose sole area of authority is education.

Coverage

Thirty-one OECD and partner countries and economies contributed to the 2020 OECD-NESLI survey on school funding frameworks used to develop this indicator: Australia, Austria, Brazil, Chile, Colombia, the Czech Republic, Denmark, England (United Kingdom), Estonia, Finland, France, the French Community of Belgium, Germany, Hungary, Ireland, Israel, Japan, Korea, Latvia, Lithuania, Mexico, the Netherlands, Norway, Poland, the Russian Federation, Slovenia, Spain, Sweden, Switzerland, Turkey and the United States.

The information collected on funding frameworks was limited to the main funding mechanisms used to allocate and distribute public funding to public educational institutions (or the most local level of governance). This means that some funding is not covered by the analysis. However, in around half of the countries with available data, all of the public funding for public educational institutions is covered by the analysis and most public funding for public educational institutions is covered by another third of countries. See Annex 3 for more information and for country-specific notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

Source

Data are from the 2020 OECD-NESLI survey on school funding frameworks, which refers to the year 2019.

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Indicator D6 tables

Tables Indicator D6. How are public funds allocated to schools?

Table D6.1	Basis used to allocate funding to public primary educational institutions (2019)
Table D6.2	Use of funding formulas to allocate public funding to public primary educational institutions (2019)
Table D6.3	Equity criteria used in allocating central or state government funding for primary and lower secondary educational institutions (2019)
WEB Table D6.4	*Basis used to allocate funding to public lower secondary educational institutions (2019)*
WEB Table D6.5	*Main funding mechanisms used to distribute funding to public primary educational institutions (2019)*
WEB Table D6.6	*Main funding mechanisms used to distribute funding to public lower secondary educational institutions (2019)*
WEB Table D6.7	*Levels of government involved in funding public primary educational institutions (2019)*
WEB Table D6.8	*Levels of government involved in funding public lower secondary educational institutions (2019)*
WEB Table D6.9	*Use of funding formulas to allocate public funding to public lower secondary educational institutions (2019)*
WEB Table D6.10	*Equity criteria used in allocating provincial or regional government funding for primary and lower secondary educational institutions (2019)*
WEB Table D6.11	*Equity criteria used in allocating local government funding for primary and lower secondary educational institutions (2019)*

StatLink https://stat.link/vmbd2w

Cut-off date for the data: 17 June 2021. 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*.

Table D6.1. Basis used to allocate funding to public primary educational institutions (2019)

Allocation of all public funds from all levels of government to educational institutions or the most local level of governance

		General funding				Funding for teaching staff				Funding for non-teaching staff				Funding of other current expenditure				Funding of capital expenditure			
		Administrative discretion	Incremental costs	Bidding and bargaining	Formula funding	Administrative discretion	Incremental costs	Bidding and bargaining	Formula funding	Administrative discretion	Incremental costs	Bidding and bargaining	Formula funding	Administrative discretion	Incremental costs	Bidding and bargaining	Formula funding	Administrative discretion	Incremental costs	Bidding and bargaining	Formula funding
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
OECD	**Countries**																				
	Australia	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	Yes	Yes
	Austria	a	a	a	a	No	No	No	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	No
	Canada	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Chile	No	No	Yes	Yes	No	No	No	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No	Yes	Yes
	Colombia	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	Yes	No	No	Yes	No	No	No	Yes
	Costa Rica	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	No	No	Yes	No
	Denmark	Yes	Yes	No	No	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
	Estonia	No	Yes	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	No
	Finland	No	a	No	Yes	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	France	a	a	a	a	Yes	Yes	m	Yes	Yes	Yes	m	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	a
	Germany	No	No	No	Yes	No	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes
	Greece	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Hungary	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	No	No
	Iceland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Ireland	No	Yes	No	Yes	No	No	No	Yes	No	No	No	No	No	No	Yes	Yes	No	No	No	Yes
	Israel	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes
	Italy	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Japan	a	a	a	a	Yes	No	No	Yes	Yes	No	No	Yes	Yes	m	m	m	Yes	m	m	Yes
	Korea	Yes	No	Yes	Yes	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
	Latvia	a	a	a	a	No	No	No	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	No	No	No
	Lithuania	Yes	No	No	Yes	Yes	No	No	Yes	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	Yes	No	No
	Luxembourg	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Mexico	Yes	No	No	No	m	m	m	m	m	m	m	m	Yes	No	No	No	Yes	No	No	No
	Netherlands	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes
	New Zealand	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Norway	No	No	No	Yes	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
	Poland	Yes	Yes	No	Yes	a	a	a	a	a	a	a	a	Yes	Yes	No	Yes	Yes	Yes	No	Yes
	Portugal	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Slovak Republic	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Slovenia	a	a	a	a	No	No	No	Yes	No	No	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes	No
	Spain	No	Yes	Yes	Yes	No	No	No	Yes	No	No	Yes	Yes	Yes	Yes	No	Yes	No	No	Yes	Yes
	Sweden	No	Yes	No	Yes	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Switzerland	a	a	a	a	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No
	Turkey	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No
	United States	No	Yes	Yes	Yes	a	a	a	a	a	a	a	a	a	a	a	a	Yes	Yes	No	Yes
	Economies																				
	Flemish Comm. (Belgium)	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	French Comm. (Belgium)	No	No	No	No	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No	Yes
	England (UK)	Yes	Yes	No	Yes	a	a	a	a	a	a	a	a	No	No	No	Yes	Yes	Yes	Yes	Yes
	Scotland (UK)	m	m	m	m	m	m	m	m	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	m	m	m	m	m	m	m	m
	Brazil	No	No	No	Yes	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
	China	m	m	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	m	m
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	No	No	No	Yes	Yes	No	No	No	Yes	No	No	No	No	Yes	No	No	Yes	No	No	No
	Saudi Arabia	m	m	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	m	m

Note: The basis for allocation of funds to educational institutions (or the most local level of government) refers to the way decisions are taken about the amount of funds to allocate to sub-central authorities or schools (or most local level of governance). The basis for allocation is distinct and separate from the way funds are actually transferred (which is referred to as the funding mechanism).

Administrative discretion - is based on an individual assessment of the amount of resources that each sub-central authority or school needs. While it might involve the use of indicators, the final allocation might not necessarily correspond to the calculations and these would not be universally applied to all sub-central authorities or schools. Administrative discretion and incremental costs are often combined.

Incremental costs - takes into consideration the historical expenditure to calculate the amount of funds to allocate for the following year, with minor modifications to take into account specific changes (e.g. student numbers, school facilities, input prices). Administrative discretion and incremental costs are often combined.

Bidding and bargaining - involves sub-central authorities or schools responding to open competitions for additional funding offered via participation in a particular programme or making a case for additional resources.

Formula funding - involves the use of objective criteria with a universally applied rule to establish the amount of resources that each school is entitled to. The relevant authority uses a formally defined procedure (a formula) to determine the level of public funds allocated based on a set of predetermined criteria, which in most cases are input-, output- or performance-oriented. These predetermined criteria are impartially applied to each recipient (e.g. sub-central authority or school). Formula funding relies on a mathematical formula which contains a number of variables, each of which has a coefficient attached to it to determine school budgets. Formulas typically contain four main groups of variables: i) basic: student number and grade level-based; ii) needs-based; iii) curriculum or educational programme-based; and iv) school characteristics-based.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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

StatLink https://stat.link/o2j80e

Table D6.2. Use of funding formulas to allocate public funding to public primary educational institutions (2019)

Extent to which public funding is allocated based on funding formulas, by level of governance of funds and by category of expenditure

		Central/state government					Provincial/regional government					Local government				
		General funding	Funding for teaching staff	Funding for non-teaching staff	Funding of other current expenditure	Funding of capital expenditure	General funding	Funding for teaching staff	Funding for non-teaching staff	Funding of other current expenditure	Funding of capital expenditure	General funding	Funding for teaching staff	Funding for non-teaching staff	Funding of other current expenditure	Funding of capital expenditure
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD	**Countries**															
	Australia	Most	Most	Most	Most	Some	a	a	a	a	a	a	a	a	a	a
	Austria	a	a	a	a	a	a	All	m	m	a	a	a	m	m	a
	Canada	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Chile	Most	Most	Most	Most	Most	a	a	a	a	a	Most	Most	Most	Most	Most
	Colombia	Most	All	Most	Some	Some	a	a	a	a	a	Some	Negl.	Negl.	Some	Negl.
	Costa Rica	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
	Denmark	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
	Estonia	a	All	All	All	a	a	a	a	a	a	Most	Most	Most	Most	a
	Finland	Most	a	a	a	a	a	a	a	a	a	m	m	m	m	m
	France	a	Most	Most	a	a	a	a	a	a	a	a	a	m	m	a
	Germany	Most	Most	a	a	Some	Most	a	Some	Some	Some	Most	a	Some	Some	Some
	Greece	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Hungary	a	a	a	a	a	a	a	a	a	a	m	m	m	m	m
	Iceland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Ireland	Most	All	All	All	All	a	a	a	a	a	a	a	a	a	a
	Israel	Most	Most	Most	Most	Most	a	a	a	a	a	Most	Most	Most	Most	Most
	Italy	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Japan	a	All	All	m	All	a	m	m	m	m	a	m	m	m	m
	Korea	Most	a	a	a	a	Most	a	a	a	a	a	a	a	a	a
	Latvia	a	All	All	All	a	a	a	a	a	a	m	m	m	m	m
	Lithuania	Most	Most	Most	Some	m	a	a	a	a	a	Negl.	a	Negl.	Negl.	Negl.
	Luxembourg	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Mexico	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
	Netherlands	All	All	All	All	Some	a	a	a	a	a	a	a	a	a	a
	New Zealand	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Norway	All	a	a	a	a	a	a	a	a	a	m	m	m	m	m
	Poland	Most	a	a	All	All	Most	a	a	All	All	Most	a	a	All	All
	Portugal	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Slovak Republic	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Slovenia	a	Most	Most	Most	m	a	a	a	a	a	a	m	m	m	m
	Spain	Most	All	Most	Most	Some	Most	All	Most	Most	Some	Negl.	a	Most	Negl.	Negl.
	Sweden	Most	a	a	a	a	a	a	a	a	a	Most	a	a	a	a
	Switzerland	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
	Turkey	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
	United States	All	All	All	All	Negl.	Most	Most	Most	Most	Most	Most	Most	Most	Most	Some
	Economies															
	Flemish Comm. (Belgium)	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	French Comm. (Belgium)	a	All	All	All	Some	a	a	a	a	a	a	a	a	a	a
	England (UK)	All	a	a	All	Most	a	a	a	a	a	Most	a	a	All	Most
	Scotland (UK)	m	m	m	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	m	m	m
	Brazil	All	a	a	a	a	All	a	a	a	a	All	a	a	a	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	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	a	m	m	m	m	m	m	m	m	a	Most	a	a	a	a
	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

Note:
All: All of the public funding allocated to public educational institutions is allocated by funding formulas: all (or nearly all) of the funds allocated by this level of government depend on one or more funding formulas to decide the allocation to the lower level of government (or school).
Most: Most of the public funding allocated to public educational institutions is allocated by funding formulas: at least half (but not all) of the funds allocated by this level of government depend on one or more funding formulas to decide the allocation to the lower level of government (or school).
Some: Some of the general public funding allocated to public educational institutions is allocated by funding formulas: less than half of funds allocated by this level of government depend on one or more funding formulas to decide the allocation to the lower level of government (or school).
Negl.: A negligible amount of the general public funding allocated to public educational institutions is allocated by funding formulas: a very small (typically less than 5%) share of funds allocated by this level of government depend on one or more funding formulas to decide the allocation to the lower level of government (or school).
Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table D6.3. Equity criteria used in allocating central or state government funding for primary and lower secondary educational institutions (2019)

Extent of use of equity criteria for the allocation of public funding, and by central or state governments

		Use of criteria for the allocation of public funding										
		Student characteristics			School characteristics			Population characteristics				
		The number or proportion of low-income students	The number or proportion of students with disabilities	The number or proportion of students with an immigrant background	Schools (or most local level of governance) serving poor or disadvantaged communities	Schools (or most local level of governance) that are in remote or high cost locations/regions	Schools (or most local level of governance) with special subject offerings (i.e. minority language)	The number or proportion of low-income people in the state/region/province/municipality	The number or proportion of people with an immigrant background in the state/region/province/municipality	States/regions/provinces/municipalities in remote and/or rural locations	The number or proportion of people who belong to minority communities in the state/region/province/municipality	The number or proportion of people who belong to disadvantaged communities in the state/region /province/municipality
		(1)	(3)	(5)	(7)	(9)	(11)	(13)	(15)	(17)	(19)	(21)
OECD	**Countries**											
	Australia	Med	Med	a	No	Med	Sma	No	No	No	No	No
	Austria	No	Med	Med	No	No	Sma	a	a	No	a	a
	Canada	m	m	m	m	m	m	m	m	m	m	m
	Chile	Med	Med	a	a	Sma	a	a	a	a	a	a
	Colombia	No	Sma	No	No	No	No	No	No	Lar	No	No
	Costa Rica	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	No	No	No	No	No	No	No	No	No	No	No
	Denmark	No	No	No	No	No	No	Sma	No	Sma	No	No
	Estonia	No	Sma	No	No	Sma	Sma	No	No	Sma	Sma	No
	Finland	m	m	m	m	m	m	m	m	Sma	Sma	m
	France	Unk	Unk	Unk	Unk	Unk	Unk	m	m	m	m	m
	Germany	a	a	a	a	a	a	a	a	a	a	a
	Greece	m	m	m	m	m	m	m	m	m	m	m
	Hungary	Med	Lar	No	Med	Sma	Med	a	a	a	Lar	Sma
	Iceland	m	m	m	m	m	m	m	m	m	m	m
	Ireland	Med	a	Unk	Med	Sma	No	Med	No	Sma	Sma	m
	Israel	Sma	Med	Sma	Sma	Sma	Sma	Sma	No	Sma	Sma	Sma
	Italy	m	m	m	m	m	m	m	m	m	m	m
	Japan	Unk	Unk	No	Unk	Unk	Unk	m	m	Unk	m	m
	Korea	Unk	Unk	Unk	No	Unk	No	No	No	No	No	No
	Latvia	No	Lar	Sma	No	Lar	No	No	No	No	No	No
	Lithuania	No	Sma	Sma	No	No	Sma	No	No	No	No	No
	Luxembourg	m	m	m	m	m	m	m	m	m	m	m
	Mexico	No	No	No	No	No	No	No	No	No	No	No
	Netherlands	No	Sma	Med	No	No	Sma	No	Sma	No	Sma	Sma
	New Zealand	m	m	m	m	m	m	m	m	m	m	m
	Norway	No	No	Sma	No	No	No	No	No	No	No	No
	Poland	No	Med	Sma	Med	Sma	Sma	No	No	Sma	Sma	Med
	Portugal	m	m	m	m	m	m	m	m	m	m	m
	Slovak Republic	m	m	m	m	m	m	m	m	m	m	m
	Slovenia	Sma	Sma	Sma	No	No	Sma	No	No	No	No	No
	Spain	m	m	m	m	m	m	m	m	m	m	m
	Sweden	Unk	No	Unk	Unk	No	No	No	Unk	No	No	No
	Switzerland	No	Unk	Unk	Unk	Unk	Unk	Unk	No	Unk	No	No
	Turkey	Sma	Sma	Unk	Sma	No	No	Sma	Unk	Sma	No	No
	United States	Med	Med	Med	Med	Sma	Sma	No	No	No	No	No
	Economies											
	Flemish Comm. (Belgium)	m	m	m	m	m	m	m	m	m	m	m
	French Comm. (Belgium)	Sma	Lar	Med	Sma	a	No	a	a	a	a	a
	England (UK)	Med	No	No	No	Sma	No	Sma	No	No	No	Sma
	Scotland (UK)	m	m	m	m	m	m	m	m	m	m	m
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m
	Brazil	No	Med	No	No	Med	Med	No	No	No	No	No
	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	No	Sma	No	No	Unk	Unk	No	No	Unk	Unk	No
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m

Note: This table refers to criteria used with all basis for allocation (i.e. it is not limited to only those used in funding formulas). Information on the extent of use of criteria by central and state governments (i.e. Columns 2, 4 ,6 ,8, 10, 12, 14, 16, 18, 20 and 22) is available for consultation on line.

Extent of use for funding allocation

Lar: A large share of total funding allocated based on this criterion: this criteria has a substantial effect on the amount of funding allocated by this level of government. This is typically at least half of the funding provided by this level of government to schools (or the most local level of governance) depends on this criterion.

Med: A mid-sized share of total funding allocated based on this criterion: this criteria has a moderate effect on the amount of funding allocated by this level of government. This will mean that at least 10% (approximatively) but less than half of the funding provided by this level of government to schools (or the most local level of governance) depends on this criterion.

Sma: A small share of total funding allocated based on this criterion: this criteria has a minimal effect on the amount of funding allocated by this level of government. This is typically less than 10% of the funding provided by this level of government to schools (or the most local level of governance) depends on this criterion.

Unk.: An unknown share of funding allocated based on this criterion: this criteria is used to allocate funding but it is not known how much funding depends on it.

No: No funding allocated based on this criterion

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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

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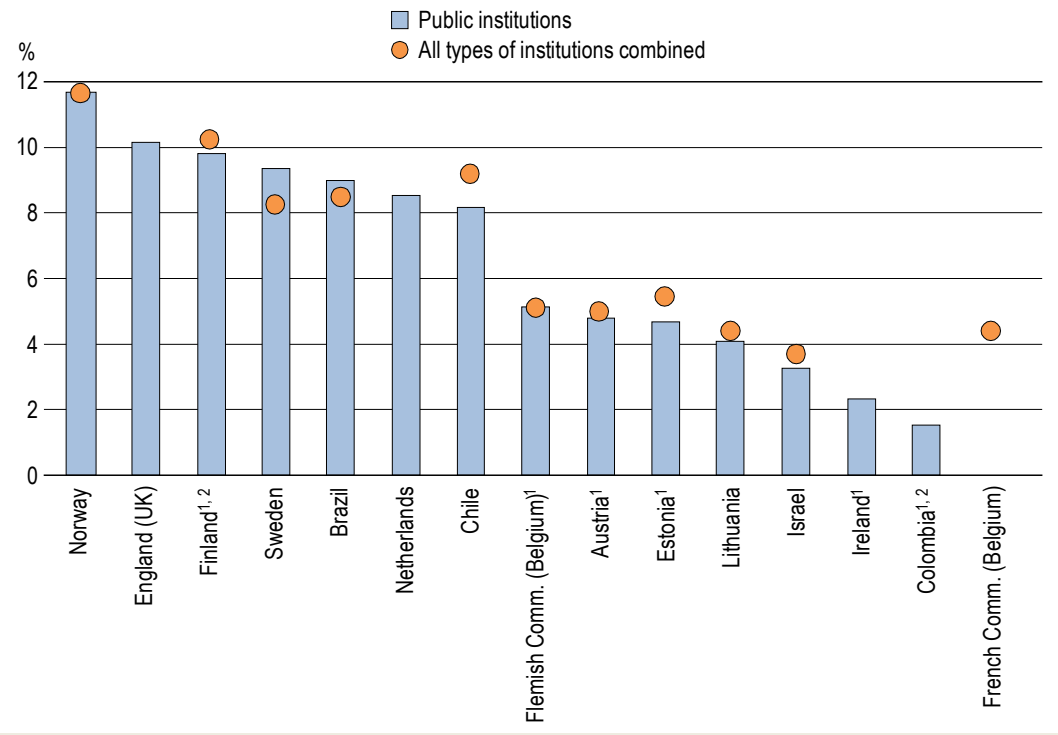
Indicator D7. What proportion of teachers leave the teaching profession?

Highlights

- In 2016, attrition rates in public institutions varied from 3.3% in Israel to 11.7% in Norway from pre-primary to upper secondary education (among comparable countries).
- Male teachers tend to show higher attrition rates than their female colleagues on average across countries with available data.
- Attrition rates are higher in the oldest age group (aged 55 or over) than for mid-career teachers (aged 35-54) due to retirement on average across countries with available data. Attrition rates of younger teachers (aged 34 or below) are also higher than those of mid-career teachers in some countries, suggesting some differences in the status of the teaching profession as entry-level professionals.

Figure D7.1. Teacher attrition rates by type of institution (2016)

For combined level of education from pre-primary to upper secondary, based on indirect measure of teachers leaving the teaching profession, in headcounts



1. The coverage differs from the indicated coverage. Refer to the source table for details.
2. Reference year differs from 2016. Refer to the source table for details.

Countries and economies are ranked in descending order of estimated attrition rates in public institutions.

Source: OECD (2021), Table D7.1. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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Context

Most of the current expenditure on education is devoted to teaching staff compensation. As teachers are the primary mode of instruction that students receive, the distribution of teachers by age is an important variable when planning for changes in the teaching population. However, ensuring that there will be enough skilled, experienced teachers to educate all children also depends on the proportion of young people who would like to enter the teaching profession, and the proportion of teaching staff who leave the teaching profession before retirement. Teacher attrition and the reasons for attrition can thus shed light on how to develop effective policies to maintain the required number of teachers in the teaching profession.

Teachers decide to leave the teaching profession for various reasons. Some factors relate to the teaching profession in general (e.g. benefits and working conditions, reduction in teacher demand) and/or to the external job market (e.g. relative salaries to other professions). Individual factors relate to objective characteristics (e.g. age, region) or more subjective factors (e.g. stress from work). As a teacher's decision to leave the profession is a result of numerous and complex factors, this indicator does not aim to explain the relationship between teacher attrition and the factors that may increase the likelihood that teachers will indeed leave the teaching profession.

Other findings

- In the majority of countries and economies with comparable data, the teacher attrition rate in public institutions is similar to or less than that in all types of institutions combined. However, in Brazil and Sweden, teachers in public institutions show higher attrition rates than teachers in private institutions.
- Higher attrition rates among male teachers than female teachers may not lead to high attrition rates for all teachers combined, due to the small proportion of male teachers in the teaching profession in some countries.
- Teacher attrition rates at pre-primary level are either similar to or higher than those at the primary level in all countries and economies with data, regardless of the type of educational institution. Moreover, in seven out of the ten countries with data for public institutions, attrition rates for secondary school teachers (lower and upper secondary combined) are higher than those for primary school teachers.

Note

This indicator contributes to the development of the Sustainable Development Goal (SDG) Thematic Indicator 4.c.6 proposed by UNESCO (UNESCO-UIS, 2019[1]) on teacher attrition rates by level of education.

As a limited number of OECD countries participated in the data collection on attrition used to develop this indicator, information is not representative of all OECD countries; therefore only an average of participating OECD and partner countries and economies is presented in the data tables.

Analysis

This indicator analyses teacher attrition; that is to say, the proportion of teachers (between pre-primary and upper secondary levels of education) leaving the teaching profession during their career. Several methods can be used to measure attrition, and this indicator focuses on an indirect measure of attrition, computing attrition based on the number of teachers in two successive reference years and the number of teachers who entered the teaching profession between these two reference years. This follows the method proposed by the Sustainable Development Goal (for comparability issues related to this method, see Box D7.1; for more information on other methods to estimate attrition, see Box D7.2).

Box D7.1. Comparability issues in teacher attrition rates

Teacher attrition rates estimated using the Sustainable Development Goal (SDG) method (see the *Methodology* section at the end of this indicator) may include some bias due to teachers on temporary leave and/or teachers moving between levels of education.

Bias from temporary leave

Over the course of a teaching career, teachers may take various forms of leave, such as annual leave, sick leave, maternity/paternity leave and study leave. These kinds of temporary leave cannot bias teacher attrition rates when the total number of teachers includes both teachers on duty and teachers on temporary leave.

However, data sources in some countries are designed to count only the teachers on duty at a given point in time, so the total number of teachers does not include teachers on temporary leave. In this case, teacher attrition rates could be either under- or overestimated depending on the difference between the number of teachers on temporary leave and the number of teachers returning from temporary leave during the reference period.

- Attrition rate is **underestimated** when the number of teachers leaving for temporary leave is greater than the number of teachers returning from temporary leave during the reference period.
- Attrition rate is **overestimated** when the number of teachers returning from temporary leave is greater than the number of teachers leaving for temporary leave during the reference period.

For countries that report the total number of teachers excluding teachers on temporary leave, the underlying assumption is that the number of teachers leaving for temporary leave is similar to the number of teachers returning from temporary leave during the reference period. However, this assumption may not be true in some circumstances, for example, where there is a one-time change in the regulations regarding temporary leaves (e.g. incentive for teachers to take shorter leave, increase in the maximum duration of certain types of temporary leave). The extent of this bias cannot be estimated with the current set of data.

Bias from teachers moving between levels of education

Teachers in some countries may be granted flexibility to move between different levels of education, without leaving the teaching profession. One possibility is that multiple levels of education are integrated into a single structure (e.g. basic education in Finland integrates primary and lower secondary levels). Another possibility is that the minimum qualification to teach in one level of education is the same in other levels of education (e.g. teachers in the French Community of Belgium who qualified to teach in lower secondary schools could teach in upper secondary schools in case of teacher shortage).

When attrition rates are computed by level of education, teachers moving between levels of education during the reference period may introduce additional bias in teacher attrition rates (if these teachers are considered as leaving or entering the profession). When there are more teachers moving into the specific level of education than teachers moving out to other levels of education (i.e. net inflow into the specific level of education), the SDG method overestimates the attrition rate of the specific level of education. In contrast, when there are fewer teachers moving into the specific level of education than teachers moving out to other levels of education (i.e. net outflow), the attrition rate is underestimated.

To minimise the extent of this bias, a revised methodology incorporates the number of teachers moving between levels of education in the calculation. Among the ten countries and economies with comparable results, the extent of bias corrected using the revised method is estimated to be as much as 4 percentage points.

Box D7.2. Direct estimation method to estimate teacher attrition rates

The SDG method used throughout this indicator estimates the teacher attrition rate based on an indirect measure of the number of teachers leaving the profession: teachers leaving the profession are deduced from the number of teachers in two consecutive reference years and the number of new teachers entering the teaching profession between these two reference years (see the *Methodology* section). This is a way to overcome technical limitations in many countries to track individual teachers (UNESCO, 2018[2]).

However, some OECD countries can obtain actual numbers of teachers who left the profession during the reference period by tracking the status of individual teachers over time. This allows a direct estimation of teacher attrition. The direct method is less influenced by biases resulting from teachers on temporary leave and from teachers moving between levels of education (see Box D7.1). It also allows other analyses on teacher attrition.

Among the 16 countries and economies that participated in the OECD survey on attrition gathering data to measure attrition based on both the indirect and direct methods, 13 countries and economies could use the direct method to estimate attrition rates.

Workload of teachers leaving the profession

As there are two types of counting methods for teachers (headcounts and full-time equivalents), attrition rates can be estimated in two ways. However, as the SDG method introduces another complexity to interpret teachers' changing workload between the two reference years, only the direct estimation method can be used to measure and compare attrition rates estimated under different teacher counting methods.

Attrition rates based on full-time equivalents are usually lower than or equal to attrition rates based on headcounts (Tables D7.3 and D7.4, available on line). This suggests that teachers who left the profession had teaching loads less than one full-time equivalent teacher on average, thus likely to include part-time teachers. In addition, the impact of teacher attrition on actual workload would be less than the attrition rates obtained from headcounts.

Impact of retiring teachers on teacher attrition

Teacher attrition can be higher when there are many teachers leaving the profession due to retirement. The direct estimation method can be revised to exclude the impact of teachers retiring, as they belong to a specific group of teachers leaving the profession. Across eight countries and economies with comparable data, teachers retiring from the profession explain an average of 2 percentage points of overall teacher attrition rates (Table D7.5, available on line).

Note: The direct method can overestimate the level of attrition when the number of teachers leaving the profession includes some teachers leaving for temporary leave. However, this type of bias can be minimised by excluding the number of teachers returning from temporary leave in the following years' data.

Across the OECD and partner countries and economies with comparable attrition rates estimated with the proposed method, attrition rates of all teachers from pre-primary to upper secondary public institutions range from 3.3% in Israel to 11.7% in Norway. In a half of these countries and economies, attrition rates exceed 8%: Brazil, Chile, England (United Kingdom), Finland, the Netherlands, Norway and Sweden (Figure D7.1).

Attrition rates of all teachers can also be expanded to analyse attrition by type of institution, gender, age and/or level of education. Except in the analysis by level of education, attrition rates in this analysis cover pre-primary to upper secondary levels of education combined.

Attrition rates by type of institution

Expanding the scope to all types of institutions combined (both public and private institutions combined) shows a similar range of attrition rates in public institutions for pre-primary to upper secondary education combined: from 3.8% in Israel to 11.7% in Norway. In eight out of the ten countries and economies with comparable data, differences in attrition rates between teachers in public institutions and teachers in all types of institutions combined do not exceed 1 percentage point (Figure D7.1). This may result from the fact that public institutions enrol most students, and then most teachers teach in public institutions,

resulting in a similar level of attrition rates in public institutions as the level of attrition for all types of institutions combined (Table D7.6, available on line).

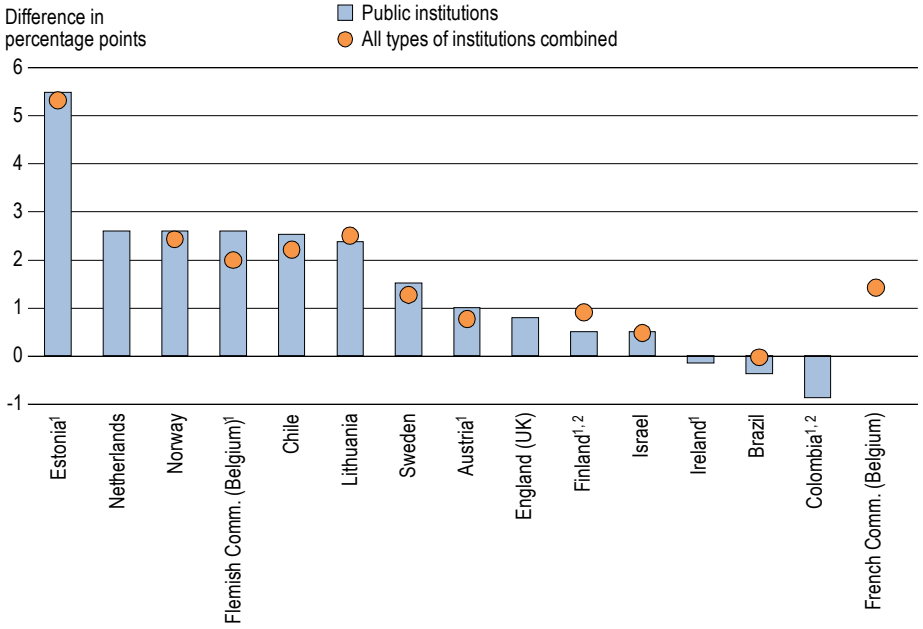
However, attrition may vary between types of institutions. In Sweden, teachers in private institutions show lower attrition than teachers in public institutions (because the attrition rate of teachers in all types of institutions combined is lower than that in public institutions) (Figure D7.1). Chile is an example of the opposite case. In Chile, where teachers in private institutions make up more than a half of all teachers, the attrition rate for teachers in private institutions is higher than that in public institutions (because the attrition rate of teachers in all types of institutions combined is higher than that in public institutions only) (Figure D7.1 and Table D7.6, available on line). Higher frequency of changes in the teaching population (due to recruitment and dismissal) in government-dependent private schools than in public (municipal) schools may explain this phenomenon (Ávalos and Valenzuela, 2016[3]).

Attrition by gender

In a majority of countries with available data, male teachers show higher attrition rates than their female colleagues, in both public institutions and in all types of institutions combined (Figure D7.2). However, this statement should not be generalised across all OECD countries considering the small number of countries with available data (for more information on the relationship between gender and the intention to leave teaching within five years among lower secondary teachers, see Box D7.3).

Figure D7.2. Gender difference in attrition rates by type of institution (2016)

For combined level of education from pre-primary to upper secondary, based on indirect measure of teachers leaving the teaching profession, in headcounts



Note: Positive values indicate that attrition rates are higher for males than for females. Negative values indicate that attrition rates are lower for males than for females.
1. The coverage differs from the indicated coverage. Refer to the source table for details.
2. Reference year differs from 2016. Refer to the source table for details.
Countries and economies are ranked in descending order of the difference of attrition rates between male and female teachers in public institutions.
Source: OECD (2021), Table D7.1. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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Box D7.3. Teachers' intention to leave the teaching profession – Insight from TALIS 2018

The OECD Teaching and Learning International Survey (TALIS) 2018 asked lower secondary teachers how many years they want to continue to work as teachers. The intention to stop teaching in the coming years cannot be directly interpreted as the actual level of teacher attrition (even if they are correlated; see Weiss (1999[4])). However, it can be a complementary indicator to analyse the characteristics of teachers who are more likely to leave teaching in the next few years.

To analyse the relationship between the intention to leave teaching within the next five years and various characteristics of teachers (such as gender, age, working hours and type of contract), a simple binary logistical regression model has been used, based on data from TALIS 2018 (OECD, 2020[5]). Subjective characteristics such as level of stress and satisfaction (including both satisfaction with the work environment and the profession) were also included, as these factors tend to play an important role in teachers' decision to leave teaching (OECD, 2020[5]). Indeed, a study showed that teachers in England (United Kingdom) with higher job satisfaction were less likely to actually leave teaching by the following academic year (Sims and Jerrim, 2020[6]).

Demographic characteristics: Age and gender

Not surprisingly, the results of the analysis clearly show that teachers who are closer to retirement (aged 55 or over) are also more likely to leave teaching in the next five years compared to teachers who are in the middle of their careers (aged 25-54), all other characteristics the same (and this follows for all of the following analyses). However, across OECD countries and economies with data, there are some differences in trends across age groups below age 55. For example, in about one-third of the countries (Austria, Belgium, Chile, Denmark, Finland, Hungary, the Netherlands, New Zealand, Slovenia and Sweden), the likelihood for a teacher to leave teaching in the next five years is statistically similar across the three age groups between 25 and 54 (25-34, 35-44 and 45-54 year-olds). In contrast, in Korea and Turkey, the likelihood is the lowest for the youngest teachers (25-34 year-olds) and increases for older age groups (Figure D7.3).

Gender differences in the intention to leave teaching are significant in 12 out of 31 countries and economies with available data, but patterns are different across countries. Female teachers are at least 20% less likely to express their intention to leave teaching within the next five years than male teachers in Estonia, Finland, Norway and Portugal. In contrast, the likelihood is 1.4 to 2.6 times higher for female teachers than for male teachers in Colombia, Hungary, Japan, Korea, Lithuania, Mexico, the Russian Federation and Turkey (Figure D7.3).

Other observable characteristics: Type of contract and working hours

The decision to stop teaching could also vary depending on the type of contract teachers have and/or teachers' total amount of working hours.

The likelihood of part-time teachers who expressed their intention to leave teaching within the next five years was higher than that of full-time teachers in 11 countries, while the opposite is observed in Mexico (Figure D7.3). Several reasons could explain why part-time teachers are more likely than full-time teachers to express their intention to leave teaching. For instance, soon-to-retire teachers could be reducing their workload or teachers choose to work part-time due to personal reasons that may eventually lead them to leave the profession.

Fixed-term contracts allow flexibility in managing teacher supply, for example to relieve bottlenecks in the recruitment processes or to fill vacancies due to a high number of retiring teachers (European Commission/EACEA/Eurydice, 2021[7]). Also, fixed-term contracts may be a usual type of contract for novice teachers until they eventually receive permanent contracts. Indeed, in many countries, there is no statistically significant relationship between the type of contract teachers have and their intention to leave teaching in the next five years. Nevertheless, the type of contract is significantly associated with teachers' intention to leave teaching within the next five years in five countries (Figure D7.3).

Figure D7.3. Relative likelihood of lower secondary teachers to leave teaching in the next five years, by age group, working hours, and type of contract

Computed based on teachers having expressed their intention to leave teaching in TALISS 2018



How to read this figure: A plus sign (+) indicates that, compared to the base group, the likelihood of teachers in the specific category expressing the intention to leave teaching in the next five years. For example, in nearly all countries and economies shown in the figure, teachers aged 55 or older are more likely to express their intention to leave teaching in the next five years than teachers aged 35-44, all other characteristics considered the same (i.e. gender, working hours, type of contract, level of stress and satisfaction with the work environment and the profession).

Note: Only the direction of statistically significant results are indicated, not their magnitude. Results are reported only when the share of teachers in the category is over 5% of the total teacher sample. Base group is teachers aged 35-44, male, working full time and with a permanent contract. The model already controls for level of stress and satisfaction with the work environment and the profession. Target population of TALIS 2018 is teachers who teach regular classes in ordinary schools. Some groups of teachers that are taken into account in the Teacher Attrition Survey (e.g. teachers on long-term leave, teachers who work as school principals and substitute teachers) are not included in TALIS 2018. In addition, TALIS data were collected in 2018 before the COVID-19 pandemic. Teachers may answer questions on their intention to stay in teaching differently in the current context than they did in 2018.

1. Proportion of sample is less than 5% of the total sample.

Countries and economies are listed in alphabetical order.

Source: Recalculated from TALIS 2018.

StatLink https://stat.link/4iz69s

Among the 14 countries and economies with available data, the extent of the gender difference in teacher attrition rates in public institutions varies across countries. Gender differences in attrition rates exceed 5 percentage points in Estonia, but are less than 3 percentage points in other countries and economies. In Brazil, Colombia and Ireland, the attrition rate of female teachers in public institutions is larger than that of their male colleagues, though the extent of the difference is less than 1 percentage point. In 11 countries and economies with data on all types of institutions combined, the pattern of gender difference is more consistent than that of public institutions: attrition rates of male teachers are equal to or higher than than those of female colleagues (Table D7.1).

Higher attrition rates among male teachers compared to female teachers may not lead to high attrition rates for all teachers combined, due to the smaller proportion of male teachers in the teaching profession. For example, in Estonia, while attrition rates of male teachers in public institutions are 9.3%, the attrition rate of all teachers is 4.8%, as only 17% of teachers are male at primary and secondary levels combined (Table D7.1 and *Education at a Glance Database* (OECD, 2021[8])).

The higher attrition rate of male teachers may increase the gender imbalance in the teaching profession that is already observed in many OECD countries. In fact, between 2005 and 2019, the share of female teachers in the teaching profession in primary and secondary levels combined increased from 69% to 72% on average for all OECD countries with data (see

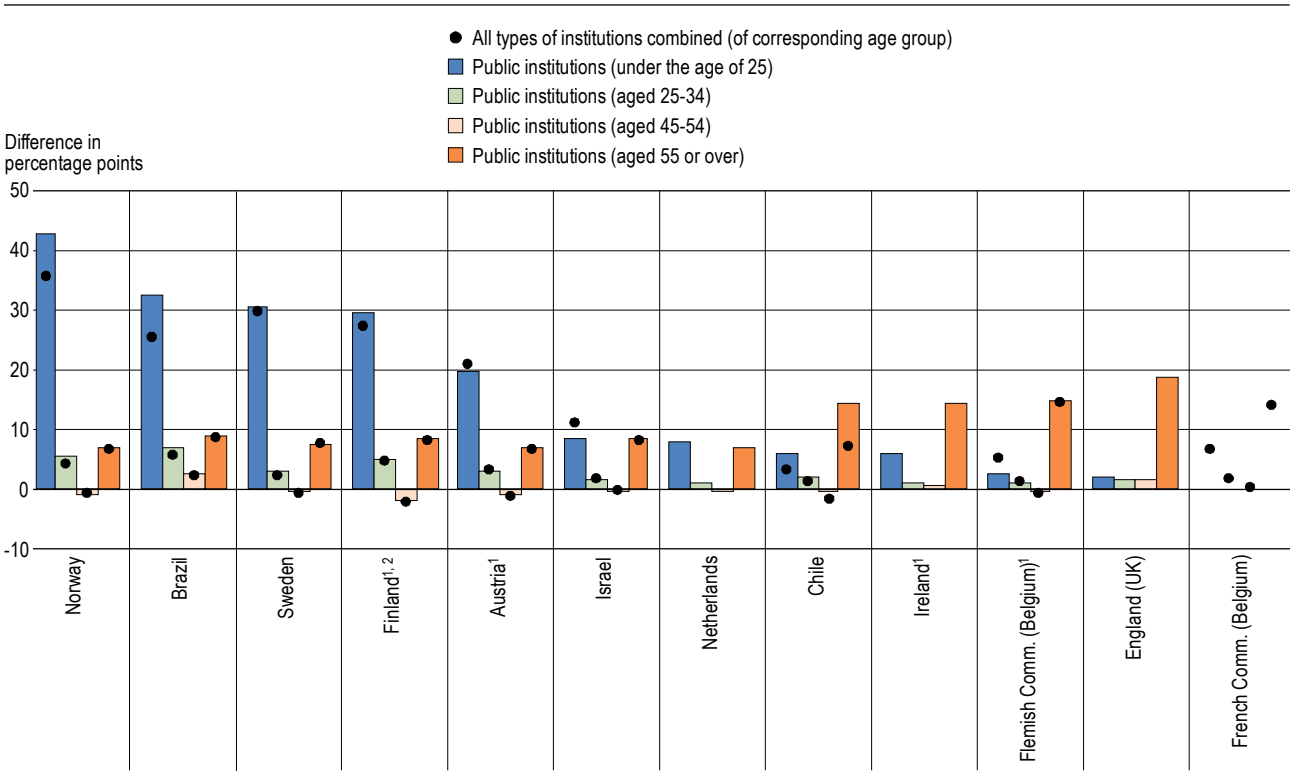
Indicator D5). A gender imbalance in itself may not be a critical problem, as its impact on students' performance is unclear (Cho, 2012[9]). Nevertheless, the higher attrition rate of male teachers may signal other reasons, which implicitly differ between gender (e.g. flexibility in working arrangements, social perceptions of teaching jobs, differences in relative salaries to similarly educated workers in the labour market), that better explain why certain groups of teachers leave the teaching profession (see Box D3.3 for teachers' actual salaries relative to earnings of tertiary-educated workers and Box D5.1 for potential sources and implications of gender imbalances in the teaching profession).

Attrition by age group

Regardless of the type of institution, teachers of different age groups show varying levels of attrition, which may reflect differences in expectations of staff from their jobs and also the situation of the job market. Among countries with available data, attrition rates are high for younger age groups (aged 24 or below and 25-34 year-olds), reach the lowest levels during the mid-career years (35-44 year-olds and 45-54 year-olds), then increase again when teachers approach legal retirement age (aged 55 or over). The general trend is similar across all countries with available data, though there are some differences due to differences in the education systems (Figure D7.4).

Figure D7.4. Difference in teacher attrition rates compared to teachers aged 35-44 by age group (2016)

For combined level of education from pre-primary to upper secondary in headcounts, based on indirect measure of teachers leaving the teaching profession, by type of institution



Note: Positive values indicate that attrition rates are higher for the selected age group than for teachers aged 35-44. Negative values indicate that attrition rates are lower for the selected age group than for teachers aged 35-44.

1. The coverage differs from the indicated coverage. Refer to the source table for details.

2. Reference year differs from 2016. Refer to the source table for details.

Countries and economies are ranked in descending order of the difference of attrition rates between teachers in the youngest age group (under the age of 25) and teachers aged 35-44 in public institutions.

Source: OECD (2021), Table D7.1. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf)

StatLink https://stat.link/ixw7eg

Among the countries and economies with available data, attrition rates of teachers in the youngest age group (aged 24 or below) are the highest among all the age groups in 5 out of the 12 countries and economies with data (Austria, Brazil, Finland, Norway and Sweden) (Figure D7.4). In these countries, attrition rates for the youngest age group are 20-40 percentage points higher than those of teachers aged 35-44 (Table D7.1). The prevalence of short-term contracts and lack of qualification as fully qualified teachers for teachers of younger ages may explain the high attrition rates of the youngest age group in some of these countries. For example, in Austria, teachers usually begin their teaching career under fixed-term contracts up to five years. In Sweden, a large proportion of young teachers have short-term contracts and/or are not yet qualified for the national teacher certification, which is required for a permanent contract. Other plausible reasons for high attrition among younger teachers could be that young teachers realise that the teaching profession does not meet their expectations or the fact that female teachers may leave the teaching profession to care for their young children.

However, the level of attrition among the youngest age group needs to be interpreted with caution in some countries, considering the small absolute number of teachers included in this group. For example, many teachers in Finland begin their teaching career beyond age 25, because the minimum qualification required for primary and secondary teachers is a master's qualification (ISCED 7) for most teachers. Consequently, teachers aged 24 or below make up only about 1% of all teachers in pre-primary to upper secondary levels combined and high levels of attrition will not translate into a large number of teachers leaving the profession.

In contrast, the attrition rate of teachers in the oldest age group (aged 55 or older) is the highest among all age groups in Chile, the Flemish and French Communities of Belgium, England (United Kingdom) and Ireland, regardless of the type of institution (Figure D7.4). In most countries, legal retirement ages are 60 or over, though there can be some differences between teachers (e.g. depending on gender or year of birth) and prerequisite conditions (see Annex 3 for more information). The younger legal retirement age (55 in Ireland) and existence of pre-retirement systems allowing teachers to prepare for retirement before they reach the legal retirement age (the Flemish and French Communities of Belgium and England (United Kingdom)) could contribute to explain high attrition rates in the oldest age group.

Attrition by level of education

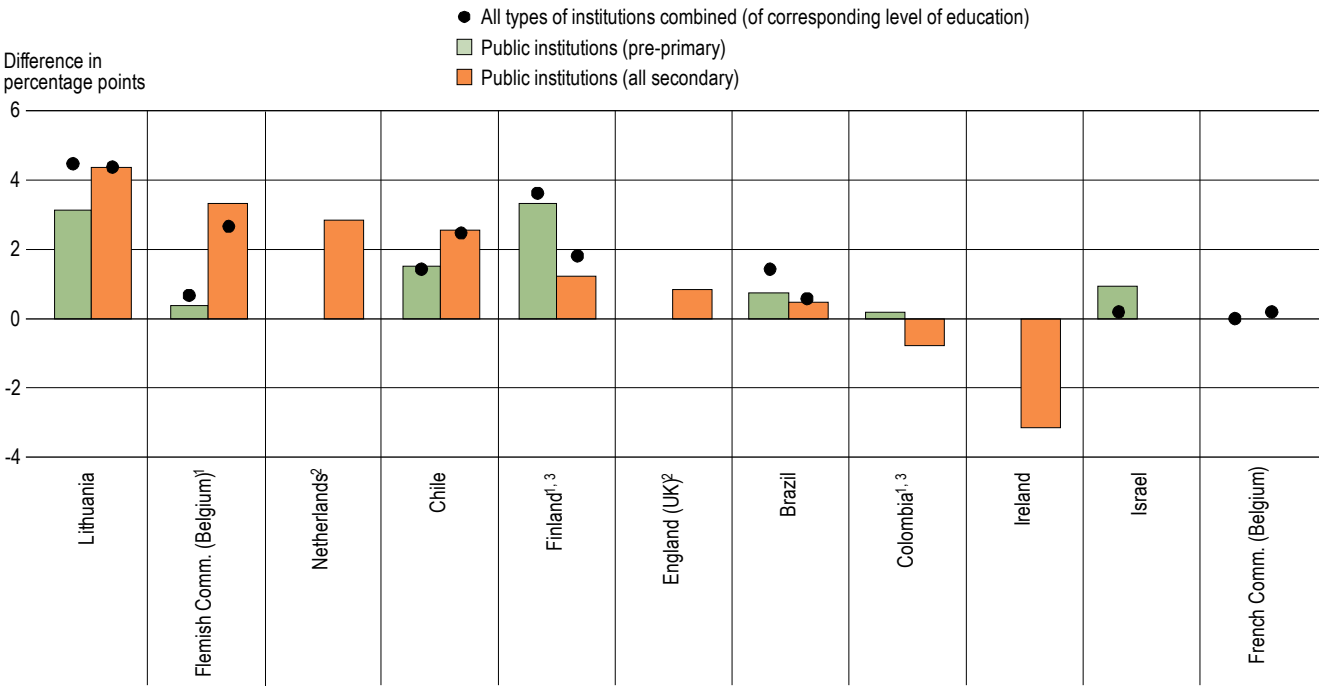
The variation of attrition rates by level of education differs across the countries and economies with available data. For example, for teachers in public institutions, differences in attrition rates between primary and secondary education is less than 1 percentage point in Brazil, whereas the difference exceeds 4 percentage points in Lithuania (Figure D7.5).

Among the 11 countries and economies with available data, no specific level of education shows a particularly high level of attrition compared to the other levels of education. However, regardless of the type of institution, attrition rates at pre-primary level are either similar (e.g. Colombia) or higher than those at the primary level (e.g. Finland, Lithuania) in all countries and economies with available data (Figure D7.5).

In seven out of the ten countries and economies with available data, attrition rates for teachers in lower and upper secondary education combined is higher than that of teachers in primary education (Figure D7.5). In these countries, statutory work requirements (e.g. number of annual statutory working hours, task requirements) do not vary greatly between primary and secondary levels (OECD, 2016[10]). However, differences in teaching load or difficulty, actual working conditions, and/or relative salary level between the two levels may help to explain why attrition rates are higher at the secondary level than the primary level.

Figure D7.5. Difference in teacher attrition rates compared to primary school teachers by level of education (2016)

In headcounts, based on indirect measure of teachers leaving the teaching profession, by type of institution



Note: Positive values indicate that attrition rates are higher for teachers at the selected level than at the primary level. Negative values indicate that attrition rates are lower for teachers at the selected level than at the primary level.

1. The coverage differs from the indicated coverage. Refer to the source table for details.
2. Primary level includes pre-primary level.
3. Reference year differs from 2016. Refer to the source table for details.

Countries and economies are ranked in descending order of the difference of attrition rates between primary school teachers and secondary school teachers (lower and upper secondary levels combined) in public institution.

Source: OECD (2021), Table D7.2. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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Definitions

Attrition rate is the percentage of teachers at a given level of education permanently leaving the teaching profession during the reference period.

Reference period in this indicator refers to a period between the consecutive time points when the number of teachers is counted for the school year.

Temporary leave in this indicator refers to any form of leave during which teachers are identified "temporarily not at work" as defined in the UNESCO-UIS/OECD/Eurostat data collection on education statistics when counting the number of teaching personnel.

Methodology

The indicator covers the most aggregated level of education from pre-primary to upper secondary education in headcount numbers. Most of the analysis is based on the method proposed in the Sustainable Development Goal project, unless stated otherwise.

$$\text{Attrition rate}_{(t-1,t)} = \frac{(Number\ of\ teachers_{t-1} - Number\ of\ teachers_{t}) + Entrants_{(t-1,t)}}{Number\ of\ teachers_{t-1}}$$

Please see Annex 3 for more information on other estimation methods used in this indicator and for country-specific notes.

Coverage

Sixteen OECD and partner countries and economies contributed to this indicator: Austria, the Flemish and French Communities of Belgium, Brazil, Chile, Colombia, England (United Kingdom), Estonia, Finland, Ireland, Israel, Lithuania, the Netherlands, Norway, Sweden, and the United States.

Source

Data are from the 2020 OECD-INES NESLI survey on teacher attrition, which refer to the school year 2015/16 (or 2016 for southern hemisphere countries).

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Indicator D7 tables

Tables Indicator D7. What proportion of teachers leave the teaching profession?

Table D7.1	Teacher attrition rates in pre-primary to upper secondary education, by gender and age group (2016)
Table D7.2	Teacher attrition rates by level of education (2016)
WEB Table D7.3	*Teacher attrition rates in pre-primary to upper secondary education, by gender, age group and level of education, in headcounts (2016)*
WEB Table D7.4	*Teacher attrition rates in pre-primary to upper secondary education, by gender, age group and level of education, in full-time equivalents (2016)*
WEB Table D7.5	*Teacher attrition rates in pre-primary to upper secondary education, including or excluding retiring teachers (2016)*
WEB Table D7.6	*Number of teachers used to compute teacher attrition rates in pre-primary to upper secondary education*

StatLink https://stat.link/ahzvmp

Cut-off date for the data: 17 June 2021. 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*.

Table D7.1. Teacher attrition rates in pre-primary to upper secondary education, by gender and age group (2016)

By type of institutions, based on indirect measure of teachers leaving the teaching profession, in headcounts

		All types of institutions combined								Public institutions							
		All teachers	Gender		Age group					All teachers	Gender		Age group				
			Male	Female	Aged 24 or below	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55 or over		Male	Female	Aged 24 or below	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55 or over
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
OECD	**Countries**																
	Austria[1]	5.0	5.6	4.8	23.5	5.9	2.5	1.5	9.2	4.8	5.6	4.6	22.1	5.3	2.5	1.4	9.1
	Brazil	8.5	8.5	8.5	30.3	10.3	4.6	6.9	13.2	9.0	8.7	9.1	37.2	11.8	4.7	7.2	13.7
	Chile	9.3	11.0	8.7	11.1	9.3	7.7	6.0	14.8	8.2	10.0	7.5	10.2	6.4	4.3	3.7	18.5
	Colombia[2, 3, 4]	m	m	m	m	m	m	m	m	1.5	1.0	1.8	m	m	m	m	m
	Estonia[1]	5.5	9.9	4.6	m	m	m	m	m	4.8	9.3	3.8	m	m	m	m	m
	Finland[4, 5]	10.3	11.1	10.1	35.7	12.7	8.0	6.0	16.4	9.9	10.3	9.8	37.2	12.3	7.6	5.6	16.0
	Ireland[1]	m	m	m	m	m	m	m	m	2.4	2.3	2.4	6.1	1.2	0.4	0.8	14.7
	Israel	3.8	4.1	3.6	12.9	3.5	1.9	1.6	10.0	3.3	3.7	3.2	9.8	2.7	1.5	1.3	10.0
	Lithuania	4.5	6.7	4.2	m	m	m	m	m	4.1	6.2	3.8	m	m	m	m	m
	Netherlands	m	m	m	m	m	m	m	m	8.5	10.4	7.8	14.0	7.1	6.1	6.0	13.1
	Norway	11.7	13.5	11.0	44.1	12.3	8.0	7.2	14.8	11.7	13.5	10.9	51.0	13.7	8.3	7.2	15.1
	Sweden	8.4	9.3	8.0	35.8	8.1	5.6	5.3	13.2	9.3	10.4	8.9	37.0	9.4	6.6	6.2	13.9
	United States	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Economies																
	Flemish Comm. (Belgium)[5]	5.1	6.6	4.6	8.4	4.4	3.0	2.7	17.9	5.2	7.1	4.5	5.9	4.3	3.5	3.0	18.4
	French Comm. (Belgium)	4.5	5.6	4.1	8.6	3.4	1.7	2.1	16.0	m	m	m	m	m	m	m	m
	England (UK)	m	m	m	m	m	m	m	m	10.2	10.8	10.0	9.1	8.9	7.4	9.0	25.8
	Country average[3]	7.0	8.4	6.6	23.4	7.8	4.8	4.4	13.9	7.0	8.3	6.6	21.8	7.5	4.8	4.7	15.3

Note: See *Definitions* and *Methodology* sections for more information.

1. Excludes pre-primary education.
2. Excludes teachers on temporary contracts.
3. Colombia excluded from the country average.
4. Year of reference 2017 for Finland and 2018 for Colombia.
5. Includes post-secondary non-tertiary education.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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

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Table D7.2. Teacher attrition rates by level of education (2016)

By type of institution, based on indirect measure of teachers leaving the teaching profession, in headcounts

		All types of institutions combined					Public institutions				
				Secondary					Secondary		
		Pre-primary	Primary	Lower secondary	Upper secondary	All secondary	Pre-primary	Primary	Lower secondary	Upper secondary	All secondary
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD	**Countries**										
	Austria	m	m	m	m	m	m	m	m	m	m
	Brazil	9.4	8.0	8.8	8.0	8.6	9.4	8.6	9.7	8.0	9.1
	Chile	9.5	8.1	10.2	10.7	10.5	9.7	8.2	10.4	10.8	10.7
	Colombia[1, 2, 3]	m	m	m	m	m	2.0	1.9	m	m	1.1
	Estonia	m	m	m	m	m	m	m	m	m	m
	Finland[3, 4]	12.3	8.7	8.3	12.6	10.5	11.9	8.6	8.4	11.4	9.8
	Ireland	m	m	m	m	m	m	3.5	m	m	0.3
	Israel	4.4	4.2	3.6	3.3	m	4.4	3.5	3.6	3.3	m
	Lithuania	5.2	0.8	4.1	7.9	5.1	3.8	0.7	4.4	7.1	5.1
	Netherlands	m	m	m	m	m	x(7)	7.2[d]	9.8	10.3	10.1
	Norway	m	m	m	m	m	m	m	m	m	m
	Sweden	m	m	m	m	m	m	m	m	m	m
	United States	m	m	m	m	m	m	m	m	m	m
	Economies										
	Flemish Comm. (Belgium)[4]	4.0	3.4	m	m	6.0	3.8	3.5	m	m	6.7
	French Comm. (Belgium)	3.6	3.6	5.5	6.2	3.8	m	m	m	m	m
	England (UK)	m	m	m	m	m	x(7)	9.6[d]	m	m	10.5
	Country average[2]	6.9	5.3	6.7	8.1	7.4	7.2	5.9	7.7	8.5	7.8

Note: Revised calculation method was used to minimise bias from teachers moving between different levels of education. See *Definitions* and *Methodology* sections for more information.

1. Excludes teachers on temporary contracts.
2. Colombia excluded from the country average.
3. Year of reference 2017 for Finland and 2018 for Colombia.
4. Upper secondary education includes post-secondary non-tertiary education.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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

Tables Annex 1. Characteristics of education systems

Table X1.1. Typical graduation ages, by level of education (2019)
Table X1.2. Typical age of entry, by level of education (2019)
Table X1.3. School year and financial year used for the calculation of indicators, OECD countries
Table X1.4. School year and financial year used for the calculation of indicators, partner countries
Table X1.5. Starting and ending age for students in compulsory education and by level of education (2019)

Note: All tables in Annex 1 are available on line, see the StatLink below

StatLink https://stat.link/svwp08

Table X1.1. Typical graduation ages, by level of education (2019)

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 or equivalent programme)	Long first degree (at least 5 years)	Second or further degree (following a bachelor's or equivalent programme)	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	19-31	a	18-19	21-24	a	a	24-27	24-28	a	28-32
	Belgium	18-18	18-19	a	20-22	a	21-24	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	22-26	24-29	24-29	29-34
	Chile	17-17	17-17	a	a	a	20-26	22-27	22-28	23-26	24-26	26-36	m	29-35
	Colombia	16-17	16-17	18-21	a	a	19-25	m	m	m	a	25-34	27-39	31-42
	Costa Rica	17-18	18-18	a	a	20-25	20-25	22-27	22-30	a	29-40	a	a	33-49
	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	a	a	24-26	25-30	28-33
	Estonia	18-18	18-18	a	20-30	a	a	21-24	a	a	23-25	23-28	a	29-35
	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	22-28	22-25	a	24-30	24-27	24-27	24-27	28-32
	Greece	17-18	17-18	a	20-23	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	m	m	m	m	m	m	m	m	m	m	m	m	m
	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	24-29	27-29	24-36	m	27-36	m	31-38
	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	21-28	22-24	23-25	24-39	25-29	24-27	a	28-36
	Lithuania	17-18	19-24	a	19-26	a	a	21-22	a	22-31	23-24	24-26	27-29	28-32
	Luxembourg	17-19	17-20	a	21-28	a	21-23	22-24	a	a	a	23-28	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		28-31
	New Zealand	17-18	17-33	18-25	18-29	18-38	18-24	20-22	22-23	21-27	a	23-29	a	27-35
	Norway	18-18	18-22	a	20-33	22-26	21-26	21-24	a	24-31	24-26	24-28	24-28	28-35
	Poland	19-19	19-20	a	21-26	a	22-35	22-23	a	22-34	24-25	24-25	a	29-32
	Portugal	17-17	17-18	a	19-25	a	20-22	21-22	a	33-39	23-24	23-26	a	28-37
	Slovak Republic	18-18	18-19	a	19-28	a	20-22	21-22	a	a	24-25	23-25	24-29	26-30
	Slovenia	18-18	17-19	a	a	a	21-25	21-23	a	a	24-25	24-26	a	27-33
	Spain	17-17	17-21	a	25-45	a	19-23	21-23	a	a	22-25	22-26	28-32	28-38
	Sweden	18-18	18-18	19-23	19-32	21-28	21-29	22-26	a	a	24-26	24-30	a	28-34
	Switzerland	18-22	18-24	21-23	a	a	23-37	23-28	a	28-38	24-29	25-32	27-33	28-34
	Turkey	17-17	17-17	a	a	a	20-23	22-24	a	a	24-25	25-30	a	30-35
	United Kingdom	15-17	16-19	a	a	19-25	18-30	20-22	22-24	20-28	a	23-28	22-33	25-32
	United States	17-17	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	16-17	a	18-26	m	18-20	21-27	a	m	a	25-32	a	29-36
	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[1]	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 contains at least 50% of the share of graduation rates.

1. Year of reference 2018.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3.pdf).

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

StatLink https://stat.link/cuve79

Table X1.2. Typical age of entry, by level of education (2019)

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	18-27	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[1]	18-19	18-19	21-27	25-30
	Chile	18-21	18-19	18-31	25-32
	Colombia	17-22	17-20	24-33	25-38
	Costa Rica	17-21	18-19	23-42	32-48
	Czech Republic	19-21	19-20	22-24	24-28
	Denmark	19-26	20-22	23-25	25-29
	Estonia	a	19-20	19-24	24-28
	Finland	a	19-21	22-31	26-32
	France	18-20	18-20	20-23	23-26
	Germany	20-26	18-21	19-24	25-28
	Greece	a	18-19	22-28	23-32
	Hungary	19-21	19-20	19-23	24-27
	Iceland	20-29	19-21	23-29	25-31
	Ireland	18-30	18-19	21-27	22-28
	Israel	18-24	20-24	24-33	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	22-28	23-32
	Latvia	19-24	19-22	19-25	24-31
	Lithuania	a	19-19	23-25	25-28
	Luxembourg	20-23	19-21	22-27	24-28
	Mexico	18-19	18-19	21-34	25-39
	Netherlands	19-23	18-20	22-24	23-27
	New Zealand	18-26	18-20	21-28	22-30
	Norway	20-24	19-20	19-24	25-31
	Poland	19-34	19-20	19-23	24-26
	Portugal	18-20	18-19	18-22	23-34
	Slovak Republic	19-21	19-20	22-23	24-27
	Slovenia	19-21	19-19	22-24	24-28
	Spain	18-20	18-18	18-24	23-30
	Sweden	19-27	19-22	19-24	24-30
	Switzerland	20-27	18-25	22-26	24-30
	Turkey	18-21	18-20	22-28	25-31
	United Kingdom	17-29	18-21	21-30	21-30
	United States	18-22	18-19	22-28	22-27
Partners	Argentina[2]	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[2]	19-21	19-21	23-25	25-27
	Russian Federation	17-18	17-20	21-24	23-26
	Saudi Arabia	18-20	18-20	22-24	25-27
	South Africa[2]	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.
2. Year of reference 2018.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3.pdf).

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

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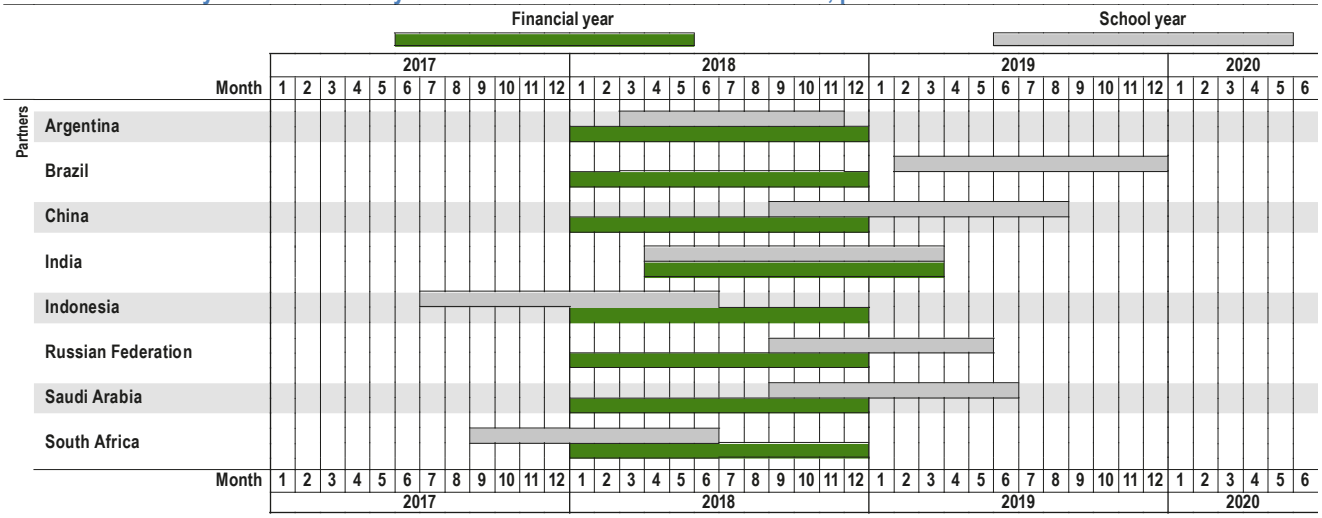
Table X1.3. School year and financial year used for the calculation of indicators, OECD countries



Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3.pdf).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

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Table X1.4. School year and financial year used for the calculation of indicators, partner countries



Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3.pdf).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://stat.link/m7y3sl

Table X1.5. Starting and ending age for students in compulsory education and by level of education (2019)

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	18	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[1, 2]	3	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
	Lithunia	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.

1. From September 2019, instruction is compulsory from the age of 3.

2. As of September 2020, 16-18-year-old students are required to train by several means: schooling, apprenticeship, training courses, civic service, and support or social and professional integration measures.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3.pdf).

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

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Annex 2. Reference statistics

Tables Annex 2. Reference statistics

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Note: All tables in Annex 2 are available on line, see the StatLink below

StatLink https://stat.link/un02t6

Table X2.1. Basic reference statistics in current prices (reference period: calendar year, 2012, 2015, 2018)

		Gross domestic product (GDP) (in millions of local currency, current prices)			Total government expenditure (in millions of local currency, current prices)		
		2012	2015	2018	2012	2015	2018
		(1)	(2)	(3)	(4)	(5)	(6)
OECD	Countries						
	Australia	1 517 883	1 642 658	1 900 620	558 203	620 804	713 961
	Austria	318 653	344 269	385 362	163 192	176 030	187 706
	Belgium	386 175	416 701	460 419	218 102	223 851	240 155
	Canada	1 787 348	1 993 784	2 163 273	762 378	812 749	929 363
	Chile	129 947 344	159 553 344	191 265 952	30 008 084	39 699 372	48 494 448
	Colombia	666 507 008	804 691 968	985 931 008	260 967 008	362 163 008	445 196 992
	Costa Rica	23 752 868	30 171 918	35 966 120	7 341 901	9 670 579	15 131 685
	Czech Republic	4 088 912	4 625 378	5 409 665	1 826 725	1 939 612	2 196 478
	Denmark	1 895 002	2 036 356	2 253 558	1 098 247	1 110 377	1 139 103
	Estonia	18 051	20 782	25 938	7 032	8 155	10 176
	Finland	201 037	211 385	233 591	111 456	119 415	124 678
	France	2 088 804	2 198 432	2 360 687	1 192 859	1 248 656	1 314 606
	Germany	2 745 310	3 026 180	3 356 410	1 233 138	1 335 789	1 492 201
	Greece	188 389	176 110	179 727	106 669	94 929	87 042
	Hungary	28 920 370	34 937 312	43 347 040	14 241 938	17 615 370	19 908 952
	Iceland	1 845 160	2 310 848	2 835 890	878 465	1 002 197	1 249 178
	Ireland	175 104	262 853	326 986	74 423	77 059	83 786
	Israel	991 640	1 166 527	1 330 143	408 364	449 305	537 414
	Italy	1 624 359	1 655 355	1 771 063	821 764	832 927	857 171
	Japan	492 295 680	518 236 960	546 204 416	201 021 600	208 973 200	212 429 792
	Korea	1 440 111 360	1 658 020 352	1 898 192 640	443 590 688	504 008 384	591 234 624
	Latvia	22 045	24 561	29 143	8 501	9 494	11 471
	Lithuania	33 410	37 346	45 491	12 072	13 105	15 394
	Luxembourg	44 112	52 066	60 053	19 440	21 606	25 188
	Mexico	15 817 755	18 572 110	23 523 248	4 512 039	5 237 531	6 459 366
	Netherlands	652 966	690 008	773 987	305 275	307 826	327 365
	New Zealand	214 361	245 270	291 953	91 439	99 047	116 134
	Norway[1]	2 294 241	2 614 084	2 935 378	1 283 758	1 533 194	1 735 106
	Poland	1 623 442	1 801 112	2 121 555	700 438	750 622	881 199
	Portugal	168 296	179 713	205 184	82 278	86 707	88 722
	Slovak Republic	73 576	79 768	89 506	30 276	36 508	37 343
	Slovenia	36 253	38 853	45 863	17 893	18 925	19 963
	Spain	1 031 099	1 077 590	1 204 241	501 688	472 962	501 630
	Sweden	3 743 086	4 260 470	4 828 306	1 904 646	2 102 113	2 406 126
	Switzerland	648 981	675 736	719 614	210 391	224 531	234 228
	Turkey	1 581 479	2 350 941	3 758 316	525 252	746 115	1 303 069
	United Kingdom	1 673 048	1 877 166	2 087 016	780 883	811 538	879 383
	United States	15 869 794	17 882 780	20 077 420	6 515 903	6 910 503	7 794 314
Partners	Argentina	2 637 914	5 954 511	14 605 790	971 317	2 463 163	5 742 987
	Brazil	4 814 760	5 995 787	7 004 141	1 792 427	2 307 301	2 623 979
	China	53 858 000	68 885 824	91 928 112	15 178 679	21 873 916	30 153 736
	India	99 440 128	137 640 368	189 712 368	27 210 644	37 262 268	50 290 200
	Indonesia	8 615 704 576	11 526 332 416	14 838 311 936	1 622 837 248	2 014 591 104	2 467 812 608
	Russian Federation	68 103 448	83 087 360	104 629 640	23 174 718	29 307 780	33 880 688
	Saudi Arabia	2 759 906	2 453 512	2 949 457	917 198	1 001 292	1 078 750
	South Africa	3 253 852	4 049 884	4 873 899	1 020 652	1 333 492	1 617 546

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 (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3.pdf).

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

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A corrigendum has been issued for this page.
See: https://www.oecd.org/about/publishing/Corrigendum_Education-at-a-Glance-2021.pdf

Table X2.2. Basic reference statistics (reference period: calendar year, 2012, 2015, 2018)

		Purchasing power parity for GDP (PPP) (USD = 1)			Population (in thousands on 1 January)			GDP deflator (2015 = 100)		
		2012	2015	2018	2012	2015	2018	2012	2015	2019
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD	Countries									
	Australia	1.5	1.5	1.5	22 734	23 816	24 993	99.6	100.0	109.3
	Austria	0.8	0.8	0.8	8 426	8 630	8 838	94.1	100.0	104.5
	Belgium	0.8	0.8	0.8	11 107	11 274	11 427	96.5	100.0	105.5
	Canada	1.2	1.2	1.2	34 714	35 703	37 058	97.3	100.0	105.2
	Chile	347.2	391.2	411.8	17 450	18 045	18 770	88.2	100.0	112.0
	Colombia	1 215.7	1 289.3	1 338.0	45 254	46 819	48 391	93.7	100.0	115.5
	Costa Rica	343.9	354.0	342.7	4 651	4 830	5 001	86.4	100.0	107.2
	Czech Republic	13.3	12.9	12.4	10 509	10 543	10 626	95.2	100.0	105.1
	Denmark	7.6	7.3	6.8	5 591	5 682	5 794	97.7	100.0	102.0
	Estonia	0.5	0.5	0.5	1 325	1 313	1 319	92.3	100.0	109.9
	Finland	0.9	0.9	0.9	5 414	5 481	5 516	94.4	100.0	102.9
	France	0.8	0.8	0.8	65 651	66 581	67 265	97.5	100.0	102.0
	Germany	0.8	0.8	0.7	80 426	81 687	82 906	94.5	100.0	104.4
	Greece	0.7	0.6	0.6	11 045	10 821	10 733	104.3	100.0	99.7
	Hungary	125.6	132.6	139.3	9 920	9 843	9 776	91.2	100.0	110.5
	Iceland	137.0	142.0	138.3	321	331	353	88.7	100.0	106.0
	Ireland	0.8	0.8	0.8	4 597	4 696	4 861	91.7	100.0	103.0
	Israel	4.0	3.9	3.7	7 907	8 377	8 881	94.2	100.0	102.5
	Italy	0.7	0.7	0.7	60 339	60 731	60 459	97.1	100.0	102.9
	Japan	104.3	103.5	103.7	127 552	127 110	126 443	96.5	100.0	99.9
	Korea	854.9	857.5	865.7	50 200	51 015	51 607	95.1	100.0	104.8
	Latvia	0.5	0.5	0.5	2 034	1 977	1 926	96.5	100.0	107.9
	Lithuania	0.5	0.4	0.4	2 988	2 905	2 802	97.9	100.0	109.6
	Luxembourg	0.9	0.9	0.8	532	569	609	95.5	100.0	105.1
	Mexico	7.9	8.3	9.2	116 885	120 846	124 582	91.7	100.0	118.3
	Netherlands	0.8	0.8	0.8	16 755	16 940	17 232	97.7	100.0	104.2
	New Zealand	1.5	1.5	1.4	4 418	4 611	4 863	94.2	100.0	106.4
	Norway[1]	9.0	9.9	9.6	5 019	5 190	5 312	93.0	100.0	106.7
	Poland	1.8	1.8	1.7	38 534	38 455	38 413	98.2	100.0	103.4
	Portugal	0.6	0.6	0.6	10 515	10 358	10 284	95.2	100.0	105.1
	Slovak Republic	0.5	0.5	0.5	5 406	5 422	5 446	99.9	100.0	102.7
	Slovenia	0.6	0.6	0.6	2 057	2 063	2 072	97.0	100.0	104.6
	Spain	0.7	0.7	0.6	46 766	46 410	46 729	99.3	100.0	102.8
	Sweden	8.7	8.9	8.9	9 519	9 799	10 175	95.4	100.0	106.2
	Switzerland	1.4	1.2	1.2	7 997	8 282	8 514	101.8	100.0	99.7
	Turkey	1.0	1.2	1.6	75 176	78 218	81 407	81.2	100.0	139.8
	United Kingdom	0.7	0.7	0.7	63 705	65 110	66 436	95.9	100.0	106.5
	United States	1.0	1.0	1.0	314 212	320 918	326 949	95.6	100.0	105.4
Partners	Argentina	3.2	6.9	14.0	41 733	43 132	44 495	45.4	100.0	250.2
	Brazil	1.6	2.0	2.2	198 315	203 476	208 495	80.2	100.0	120.7
	China	3.6	3.9	4.2	1 354 040	1 374 620	1 395 380	96.9	100.0	109.4
	India	16.2	19.2	21.1	1 235 000	1 283 000	1 334 221	89.3	100.0	112.0
	Indonesia	3 569.9	4 353.3	4 759.1	245 425	255 462	264 162	86.9	100.0	110.9
	Russian Federation	19.6	23.6	24.7	143 202	146 406	146 831	82.4	100.0	120.4
	Saudi Arabia	1.7	1.6	1.8	29 086	31 557	33 414	124.7	100.0	116.3
	South Africa	5.1	5.8	6.5	52 325	54 750	57 939	84.9	100.0	117.3

1. PPP and GDP deflator mainland figures are used for Norway.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3.pdf).

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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 (2020)

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	70 819	106 583	106 583	110 151	71 233	102 380	102 380	104 599
	Austria	m	m	m	m	38 414	41 580	46 156	67 287
	Canada	m	m	m	m	52 665	91 494	93 640	93 640
	Chile	11 654 016	14 385 330	17 528 510	21 612 960	11 654 016	14 385 330	17 528 510	21 612 960
	Colombia[1]	32 396 745	59 082 298	59 082 298	67 944 586	32 396 745	59 082 298	59 082 298	67 944 586
	Costa Rica	9 342 667	10 974 367	11 790 217	14 237 767	9 435 183	11 083 403	11 907 513	14 379 843
	Czech Republic	338 400	350 400	358 800	399 600	360 000	382 800	399 600	471 600
	Denmark	350 646	397 756	397 756	397 756	404 229	448 733	465 241	465 241
	Estonia	a	a	a	a	15 520	a	a	a
	Finland[2]	29 201	31 752	31 966	31 966	33 140	38 254	40 824	43 273
	France	26 537	30 467	32 583	46 735	26 537	30 467	32 583	46 735
	Germany	m	m	m	m	51 695	59 953	63 484	68 035
	Greece	13 104	15 936	17 352	25 848	13 104	15 936	17 352	25 848
	Hungary	2 527 200	2 959 740	3 178 980	4 494 420	2 527 200	2 959 740	3 178 980	4 494 420
	Iceland[1]	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	a	a	a	a	36 953	56 230	62 072	71 544
	Israel	108 318	141 590	158 912	277 596	95 287	124 670	138 394	232 258
	Italy	24 297	26 639	29 162	35 373	24 297	26 639	29 162	35 373
	Japan	m	m	m	m	3 394 000	4 808 000	5 619 000	6 952 000
	Korea	32 614 440	49 268 460	57 579 740	91 682 560	32 614 440	49 268 460	57 579 740	91 682 560
	Latvia	9 000	a	a	a	9 000	a	a	a
	Lithuania	10 476	11 637	13 158	14 784	14 573	15 037	16 727	19 050
	Luxembourg	67 391	87 159	98 391	119 057	67 391	87 159	98 391	119 057
	Mexico	230 295	290 446	364 137	458 622	230 295	290 446	364 137	458 622
	Netherlands	39 504	52 041	60 939	73 201	39 504	52 041	60 939	73 201
	New Zealand	m	m	m	m	54 318	83 000	83 000	83 000
	Norway	410 000	500 000	500 000	505 000	450 000	536 800	536 800	576 900
	Poland	35 880	47 884	58 441	60 915	35 880	47 884	58 441	60 915
	Portugal	22 351	27 198	28 857	48 245	22 351	27 198	28 857	48 245
	Slovak Republic	8 592	9 802	10 036	11 228	10 646	11 968	12 258	13 712
	Slovenia	19 529	23 222	28 275	32 683	19 529	24 078	29 333	35 202
	Spain	30 550	33 157	35 339	43 526	30 550	33 157	35 339	43 526
	Sweden[1,3,4]	385 824	405 600	408 000	450 000	390 132	434 400	453 600	518 400
	Switzerland	74 900	93 400	m	114 300	80 300	100 000	m	122 300
	Turkey	63 838	65 358	68 069	71 640	63 838	65 358	68 069	71 640
	United States[4]	41 427	54 047	62 193	77 690	41 762	55 309	62 102	72 545
	Economies								
	Flemish Comm. (Belgium)	33 061	41 457	46 673	57 105	33 061	41 457	46 673	57 105
	French Comm. (Belgium)	32 010	40 021	45 056	55 126	32 010	40 021	45 056	55 126
	England (UK)	25 305	a	41 687	41 687	25 305	a	41 687	41 687
	Scotland (UK)	32 034	40 206	40 206	40 206	32 034	40 206	40 206	40 206
Partners	Argentina	m	m	m	m	m	m	m	m
	Brazil[5]	32 738	m	m	m	32 738	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. Year of reference is 2019.
2. Data on pre-primary teachers include the salaries of kindergarten teachers, who are the majority.
3. Excludes the social security contributions and pension-scheme contributions paid by the employees.
4. Actual base salaries.
5. Year of reference is 2018.

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3.pdf).
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 (2020)

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	71 230	96 709	96 709	104 619	71 230	106 889	102 467	104 619
	Austria	38 224	43 408	48 325	71 846	38 325	46 780	52 635	76 420
	Canada	52 665	91 494	93 640	93 640	52 665	91 494	93 640	93 640
	Chile	11 654 016	14 385 330	17 528 510	21 612 960	12 051 072	14 915 003	18 137 514	22 407 072
	Colombia[1]	32 396 745	59 082 298	59 082 298	67 944 586	32 396 745	59 082 298	59 082 298	67 944 586
	Costa Rica	9 723 350	11 423 090	12 272 960	14 822 570	9 723 350	11 423 090	12 272 960	14 822 570
	Czech Republic	360 000	384 000	400 800	475 200	360 000	384 000	400 800	474 000
	Denmark	406 280	454 278	469 723	469 723	382 229	496 731	496 731	496 731
	Estonia	15 520	a	a	a	15 520	a	a	a
	Finland	35 792	41 315	44 090	46 735	37 954	45 447	47 584	50 439
	France[2]	29 065	32 995	35 111	49 514	29 065	32 995	35 111	49 514
	Germany	57 311	66 033	69 508	75 176	59 935	68 117	71 880	83 718
	Greece	13 104	15 936	17 352	25 848	13 104	15 936	17 352	25 848
	Hungary	2 527 200	2 959 740	3 178 980	4 494 420	2 527 200	3 288 600	3 532 200	4 993 800
	Iceland[1]	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	36 953	58 229	62 663	72 135	36 953	58 229	62 663	72 135
	Israel	95 764	129 018	153 229	242 987	115 820	134 082	149 269	233 785
	Italy	26 114	28 843	31 707	38 843	26 114	29 530	32 588	40 597
	Japan	3 394 000	4 808 000	5 619 000	6 952 000	3 394 000	4 808 000	5 619 000	7 135 000
	Korea	32 674 440	49 328 460	57 639 740	91 742 560	31 954 440	48 608 460	56 919 740	91 022 560
	Latvia	9 000	a	a	a	9 000	a	a	a
	Lithuania	14 573	15 037	16 727	19 050	14 573	15 037	16 727	19 050
	Luxembourg	76 376	96 060	106 005	133 579	76 376	96 060	106 005	133 579
	Mexico	292 733	369 625	465 340	581 983	563 277	649 131	692 596	692 596
	Netherlands	39 806	60 593	69 554	81 219	39 806	60 593	69 554	81 219
	New Zealand	54 318	83 000	83 000	83 000	54 318	83 000	83 000	83 000
	Norway	450 000	536 800	536 800	576 900	531 700	588 100	588 100	651 000
	Poland	35 880	47 884	58 441	60 915	35 880	47 884	58 441	60 915
	Portugal	22 351	27 198	28 857	48 245	22 351	27 198	28 857	48 245
	Slovak Republic[3]	10 646	11 968	12 258	13 712	10 646	11 968	12 258	13 712
	Slovenia[3]	19 529	24 078	29 333	35 202	19 529	24 078	29 333	35 202
	Spain	34 121	37 041	39 440	48 447	34 121	37 041	39 440	48 447
	Sweden[1, 3, 4, 5]	402 600	448 800	466 200	534 000	412 980	453 132	469 260	540 000
	Switzerland	89 500	114 100	m	137 200	100 800	130 000	m	155 100
	Turkey	66 390	67 910	70 621	74 192	66 390	67 910	70 621	74 192
	United States[5]	42 488	58 038	66 105	75 851	42 461	58 000	65 248	74 344
	Economies								
	Flemish Comm. (Belgium)	33 061	41 457	46 673	57 105	41 246	52 568	59 946	72 244
	French Comm. (Belgium)	32 010	40 021	45 056	55 126	39 817	50 747	57 869	69 740
	England (UK)	25 305	a	41 687	41 687	25 305	a	41 687	41 687
	Scotland (UK)	32 034	40 206	40 206	40 206	32 034	40 206	40 206	40 206
Partners	Argentina	m	m	m	m	m	m	m	m
	Brazil[6]	32 738	m	m	m	32 738	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.
5. Actual base salaries.
6. Year of reference is 2018.

Source: OECD (2020). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3.pdf).
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 2020)

Average annual salary (including bonuses and allowances) of teachers aged 25-64

		Pre-primary						Primary					
		2000	2005	2010	2015	2019	2020	2000	2005	2010	2015	2019	2020
		(1)	(2)	(3)	(8)	(12)	(13)	(14)	(15)	(16)	(21)	(25)	(26)
OECD	**Countries**												
	Australia	m	m	77 641	m	91 801	101 104	m	m	78 352	81 730	91 202	93 686
	Austria [1]	m	m	m	m	m	m	m	m	m	47 416	50 764	51 860
	Canada	m	m	m	m	m	m	m	m	m	m	m	m
	Chile	m	m	m	11 494 412	14 031 191	m	m	m	m	11 258 028	13 948 391	m
	Colombia	m	m	m	m	m	m	m	m	m	m	m	m
	Costa Rica	m	m	m	m	13 745 130	14 012 470	m	m	m	m	14 513 111	14 691 156
	Czech Republic	m	m	228 603	277 809	384 700	m	m	m	290 682	325 614	463 400	m
	Denmark [2]	m	m	372 336	396 252	383 356	393 200	m	m	452 337	480 636	463 886	477 308
	Estonia	m	m	m	8 807	13 876	14 814	m	m	m	13 254	18 655	19 387
	Finland [3]	m	m	29 759	32 637	34 406	m	28 723	35 654	40 458	44 085	45 301	m
	France	m	m	31 467	33 835	m	m	m	m	30 881	32 978	m	m
	Germany	m	m	m	m	m	m	m	m	m	53 610	58 847	60 792
	Greece [4]	m	m	m	16 085	17 512	17 328	m	m	m	16 085	17 512	17 328
	Hungary	m	m	2 217 300	3 238 584	3 759 324	3 939 026	m	m	2 473 800	3 373 500	4 112 280	4 111 792
	Iceland	m	m	m	5 261 000	6 627 000	6 772 000	m	m	m	5 966 000	7 399 000	7 450 000
	Ireland	m	m	m	m	m	m	m	m	m	m	57 682	58 975
	Israel	m	m	110 959	161 247	167 751	169 452	m	m	123 151	162 049	172 900	175 071
	Italy	m	m	25 774	28 672	29 494	29 157	m	m	25 774	28 672	29 494	29 157
	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	m	m	m	7 435	11 123	11 913	m	m	m	9 981	14 593	15 278
	Lithuania	m	m	m	9 732	16 920	18 576	m	m	m	9 732	16 920	18 576
	Luxembourg	m	m	88 315	93 705	m	m	m	m	88 315	93 705	m	m
	Mexico	m	m	m	m	m	m	m	m	m	m	m	m
	Netherlands	m	m	43 374	45 126	51 148	56 127	m	m	43 374	45 126	51 148	56 127
	New Zealand	m	m	m	m	m	m	m	m	m	68 833	74 013	m
	Norway	m	289 548	368 580	448 797	492 100	518 890	m	348 877	422 930	505 878	552 536	572 804
	Poland	m	m	40 626	49 856	m	m	m	m	46 862	57 738	m	m
	Portugal	m	m	m	31 234	32 467	m	m	m	m	28 561	29 488	m
	Slovak Republic	m	m	m	8 986	12 031	m	m	m	m	12 185	15 472	m
	Slovenia [5]	m	m	m	17 349	21 372	m	m	m	m	24 069	25 671	m
	Spain	m	m	m	m	m	m	m	m	m	m	m	m
	Sweden [6]	204 516	252 268	296 997	343 285	392 960	m	239 887	288 154	323 621	378 684	445 660	m
	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	38 028	40 268	48 103	50 946	54 088	54 934	38 746	41 059	49 133	52 516	55 118	55 980
	Economies												
	Flemish Comm. (Belgium)	m	m	41 046	44 357	47 040	47 024	m	m	41 543	44 848	46 164	46 582
	French Comm. (Belgium)	m	m	m	42 741	45 592	45 634	m	m	m	42 468	44 748	44 623
	England (UK)	22 968	29 418	33 680	33 422	34 740	35 707	22 968	29 418	33 680	33 422	34 740	35 707
	Scotland (UK) [7]	m	m	31 884	33 166	m	m	m	m	31 884	33 166	m	m
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	m	m	m	47 238	m	m	m	m	m	48 161	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 [8]	m	m	m	417 670	m	m	m	m	m	501 312	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

		Lower secondary						Upper secondary					
		2000	2005	2010	2015	2019	2020	2000	2005	2010	2015	2019	2020
		(27)	(28)	(29)	(34)	(38)	(39)	(40)	(41)	(42)	(47)	(51)	(52)
OECD	**Countries**												
	Australia	m	m	78 221	82 516	92 999	95 270	m	m	78 225	82 542	93 079	93 298
	Austria [1]	m	m	m	55 799	58 322	58 483	m	m	m	60 152	65 347	66 081
	Canada	m	m	m	m	m	m	m	m	m	m	m	m
	Chile	m	m	m	11 325 494	14 257 627	m	m	m	m	12 365 587	15 011 750	m
	Colombia	m	m	m	m	m	m	m	m	m	m	m	m
	Costa Rica	m	m	m	m	17 515 256	17 669 394	m	m	m	m	17 515 256	17 669 394
	Czech Republic	m	m	289 771	325 034	460 400	m	m	m	313 534	338 662	477 300	m
	Denmark [2]	m	m	457 728	486 492	467 042	480 476	m	m	m	553 880	556 070	566 438
	Estonia	m	m	m	13 254	18 655	19 387	m	m	m	13 254	18 655	19 387
	Finland [3]	32 919	39 519	44 421	48 497	50 398	m	37 728	44 051	49 808	54 378	56 929	m
	France	m	m	37 214	38 502	m	m	m	m	41 794	43 340	m	m
	Germany	m	m	m	59 153	64 599	67 007	m	m	m	62 760	69 457	70 913
	Greece [4]	m	m	m	17 103	18 530	18 522	m	m	m	17 103	18 530	18 522
	Hungary	m	m	2 473 800	3 373 500	4 112 280	4 111 792	m	m	2 814 100	3 588 180	4 357 128	4 471 546
	Iceland	m	m	m	5 966 000	7 399 000	7 450 000	m	m	5 172 300	7 931 000	9 777 000	9 988 000
	Ireland	m	m	m	m	60 134	61 414	m	m	m	m	60 134	61 414
	Israel	m	m	126 309	176 907	184 169	186 766	m	m	133 790	160 763	195 681	199 084
	Italy	m	m	27 170	28 581	31 631	31 269	m	m	28 986	30 991	33 796	33 261
	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	m	m	m	9 320	14 000	15 069	m	m	m	10 430	15 271	16 499
	Lithuania	m	m	m	9 732	16 920	18 576	m	m	m	9 732	16 920	18 576
	Luxembourg	m	m	101 471	106 650	m	m	m	m	101 471	106 650	m	m
	Mexico	m	m	m	m	m	m	m	m	m	m	m	m
	Netherlands	m	m	52 831	56 796	61 996	65 212	m	m	52 831	56 796	61 996	65 212
	New Zealand	m	m	m	70 223	74 783	m	m	m	m	74 624	80 369	m
	Norway	m	348 877	422 930	505 878	552 536	572 804	m	372 694	449 704	555 315	598 490	621 412
	Poland	m	m	47 410	58 907	m	m	m	m	46 147	57 837	m	m
	Portugal	m	m	m	27 903	29 224	m	m	m	m	30 431	31 484	m
	Slovak Republic	m	m	m	12 185	15 472	m	m	m	m	12 176	16 109	m
	Slovenia [5]	m	m	m	24 504	26 349	m	m	m	m	25 989	27 774	m
	Spain	m	m	m	m	m	m	m	m	m	m	m	m
	Sweden [6]	247 793	290 058	324 639	389 624	463 643	m	265 488	315 592	347 967	405 662	472 303	m
	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	39 500	41 873	50 158	53 548	57 722	58 625	41 124	43 588	52 188	55 328	60 220	61 162
	Economies												
	Flemish Comm. (Belgium)	m	m	41 277	43 718	45 724	46 590	m	m	54 381	56 594	53 358	55 965
	French Comm. (Belgium)	m	m	m	41 586	43 464	43 463	m	m	m	53 006	55 007	55 100
	England (UK)	25 347	32 355	36 173	36 016	38 796	39 846	25 347	32 355	36 173	36 016	38 796	39 846
	Scotland (UK) [7]	m	m	31 884	33 166	m	m	m	m	31 884	33 166	m	m
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	m	m	m	49 327	m	m	m	m	m	50 244	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 [8]	m	m	m	501 312	m	m	m	m	m	501 312	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: Years 2011 to 2014 and 2016 to 2018 (i.e. Columns 4-7, 9-11, 17-20, 22-24, 30-33, 35-37, 43-46 and 48-50) 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 2011-15.
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 (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3.pdf).

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 2020)

		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
		2018	2019	2020	Jan 2019	Jan 2020	Jan 2000	Jan 2005	Jan 2010	Jan 2015	Jan 2019	Jan 2020		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(12)	(17)	(21)	(22)	(23)	(24)
OECD	**Countries**													
	Australia	1.56	1.56	1.56	1.56	1.56	88	100	116	129	136	138	2020	2020
	Austria	0.83	0.84	0.84	0.83	0.84	92	100	109	122	131	132	2019/20	2019/20
	Canada	1.28	1.31	1.31	1.29	1.31	91	100	106	115	120	122	2019/20	2018/19
	Chile	487.67	463.43	463.43	475.55	463.43	84	100	123	150	169	174	2020	2019
	Colombia	1 473.64	1 483.36	1 483.36	1 478.50	1 483.36	72	100	125	151	180	186	2019	2019
	Costa Rica	361.25	359.27	359.27	360.26	359.27	56	100	159	190	205	208	2020	2020
	Czech Republic	13.97	14.18	14.18	14.07	14.18	90	100	111	118	126	130	2019/20	2018/19
	Denmark	7.79	7.73	7.73	7.76	7.73	92	100	111	119	122	123	2019/20	2019/20
	Estonia	0.61	0.63	0.63	0.62	0.63	83	100	126	145	159	161	2019/20	2019/20
	Finland	0.92	0.92	0.92	0.92	0.92	93	100	110	123	126	127	2019/20	2019/20
	France	0.84	0.83	0.83	0.84	0.83	92	100	107	112	116	117	2019/20	2018
	Germany	0.78	0.79	0.79	0.79	0.79	93	100	107	114	119	120	2019/20	2019/20
	Greece	0.64	0.63	0.63	0.64	0.63	90	100	114	113	112	111	2019/20	2019/20
	Hungary	154.96	159.82	159.82	157.39	159.82	73	100	126	144	159	166	2019/20	2019/20
	Iceland	155.33	160.23	160.23	157.78	160.23	81	100	153	182	190	196	2019/20	2019/20
	Ireland	0.99	1.00	1.00	0.99	1.00	85	100	100	104	109	111	2019/20	2019/20
	Israel	4.16	4.17	4.17	4.17	4.17	93	100	114	123	125	125	2019/20	2019/20
	Italy	0.76	0.75	0.75	0.75	0.75	88	100	110	118	121	122	2019/20	2019/20
	Japan	114.14	113.52	113.52	113.83	113.52	105	100	97	97	98	98	2019/20	2018/19
	Korea	979.21	974.22	974.22	976.72	974.22	85	100	113	124	130	131	2020	2020
	Latvia	0.56	0.56	0.56	0.56	0.56	77	100	139	152	167	170	2019/20	2019/20
	Lithuania	0.50	0.50	0.50	0.50	0.50	100	100	131	142	153	155	2019/20	2019/20
	Luxembourg	0.96	0.97	0.97	0.96	0.97	90	100	110	119	125	127	2019/20	2019/20
	Mexico	10.48	10.74	10.74	10.61	10.74	78	100	128	159	188	195	2020	2020
	Netherlands	0.84	0.86	0.86	0.85	0.86	88	100	107	115	122	124	2019/20	2019/20
	New Zealand	1.55	1.56	1.56	1.56	1.56	92	100	113	120	126	128	2020	2019
	Norway	10.31	10.45	10.45	10.38	10.45	91	100	111	121	133	136	2019/20	2019/20
	Poland	1.87	1.90	1.90	1.88	1.90	84	100	113	124	129	133	2019/20	2019/20
	Portugal	0.65	0.64	0.64	0.65	0.64	85	100	111	118	124	125	2019/20	2018/19
	Slovak Republic	0.62	0.64	0.64	0.63	0.64	76	100	115	125	131	134	2019/20	2018/19
	Slovenia	0.64	0.64	0.64	0.64	0.64	76	100	116	122	127	128	2019/20	2018/19
	Spain	0.71	0.71	0.71	0.71	0.71	85	100	113	120	125	125	2019/20	2019/20
	Sweden	9.45	9.58	9.58	9.52	9.58	93	100	108	114	121	123	2019	2019
	Switzerland	1.35	1.35	1.35	1.35	1.35	97	100	105	103	104	104	2020	2019/20
	Turkey	1.93	2.21	2.21	2.07	2.21	28	100	146	207	313	353	2019/20	2019/20
	United States	1.00	1.00	1.00	1.00	1.00	90	100	111	120	127	129	2019/20	2019/20
	Economies													
	Flemish Comm. (Belgium)[2]	0.84	0.85	0.85	0.85	0.85	90	100	111	120	128	129	2019/20	2019/20
	French Comm. (Belgium)[2]	0.84	0.85	0.85	0.85	0.85	90	100	111	120	128	129	2019/20	2019/20
	England (UK)[3]	0.78	0.78	0.78	0.78	0.78	95	100	112	123	131	133	2019/20	2019/20
	Scotland (UK)[3]	0.78	0.78	0.78	0.78	0.78	95	100	112	123	131	133	2019/20	2018/19
Partners	Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	2.36	2.40	2.40	2.38	2.40	65	100	135	197	243	249	2018	2018
	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	m	m	m	m	m	m	m	m	m	m	m	m
	Russian Federation	25.76	26.52	26.52	26.14	26.52	48	100	159	231	285	295	2019/20	2019/20
	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

Note: Private consumption deflators for years 2006 to 2009, 2011 to 2014 and 2016 to 2018 (i.e. Columns 8-11, 13-16 and 18-20) 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 (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3.pdf).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://stat.link/xvrn2h

Table X2.7. Distribution of teachers by minimum or most prevalent qualifications and level of education (2020)

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 2020	Percentage of teachers in a salary range based on a higher than minimum qualification (and most prevalent) to enter the teaching profession in 2020	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 2020	Percentage of teachers in a salary range based on a higher than minimum qualification (and most prevalent) to enter the teaching profession in 2020	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 2020	Percentage of teachers in a salary range based on a higher than minimum qualification (and most prevalent) to enter the teaching profession in 2020	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 2020	Percentage of teachers in a salary range based on a higher than minimum qualification (and most prevalent) to enter the teaching profession in 2020
		(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	m	m	No	100	a	No	100	a	No	100	a
	Canada	a	a	a	Yes	m	m	Yes	m	m	Yes	m	m
	Chile	No	m	a	No	m	a	No	m	a	No	m	a
	Colombia [1]	Yes	9	80	Yes	22	67	No	m	m	No	m	m
	Costa Rica	Yes	0	94	Yes	0	77	Yes	0	55	Yes	0	55
	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	65	a
	Germany	m	m	m	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	m	m	m	No	m	a	No	m	a	No	m	a
	Israel	No	67	a	No	56	a	No	44	a	No	45	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	a	No	m	a	No	m	a	No	m	a
	Luxembourg	No	90	a	No	83	a	No	71	a	No	85	a
	Mexico	No	m	a	No	m	a	No	m	a	No	m	a
	Netherlands	No	100	a	No	100	a	No	100	a	No	100	a
	New Zealand	m	m	m	Yes	m	m	Yes	m	m	Yes	m	a
	Norway	No	m	a	Yes	38	49	Yes	38	49	Yes	12	49
	Poland	Yes	0	93	Yes	0	98	Yes	0	97	Yes	99	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	92	a	Yes	25	72
	French Comm. (Belgium)	No	99	a	No	92	a	No	84	a	Yes	7	81
	England (UK)	No	99	a	No	99	a	No	97	a	No	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 2019

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3.pdf).

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

StatLink https://stat.link/0wkn6z

Table X2.8. Distribution of teachers aged 25-64 by educational attainment and level of education (2020)

		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	a	a	a	a	100	a	a	100	a	a	100	a
	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]	72	19	9	7	4	89	5	5	89	2	3	95
	Denmark	m	m	m	m	m	m	m	m	m	0	0	100
	Estonia	29	49	22	9	27	64	6	21	74	3	14	82
	Finland	27	65	8	2	2	96	2	3	95	0	1	99
	France [2,3]	12	60	28	12	60	28	4	59	37	4	59	37
	Germany	m	m	m	0	0	100	0	0	100	0	0	100
	Greece	x(4)	x(5)	x(6)	0	85	15	x(10)	x(11)	x(12)	1	74	25
	Hungary	5	93	2	x(7)	x(8)	x(9)	0	77	23	1	17	83
	Iceland	21	63	15	8	67	25	8	67	25	17	36	47
	Ireland	m	m	m	m	m	m	m	m	m	m	m	m
	Israel	3	67	30	2	56	42	2	44	54	6	45	48
	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	61	23	0	73	27	0	67	33	0	62	38
	Latvia	18	82	x(2)	6	94	x(5)	5	95	x(8)	3	97	x(11)
	Lithuania	m	m	x(2)	m	m	x(5)	m	m	x(8)	m	m	x(11)
	Luxembourg	m	m	m	m	m	m	m	m	m	m	m	m
	Mexico	20	70	9	10	80	11	17	68	15	m	m	m
	Netherlands	0	79	21	0	79	21	0	63	37	0	63	37
	New Zealand [1]	m	m	m	9	88	3	10	86	4	3	85	12
	Norway	5	94	1	4	86	10	4	86	10	3	51	47
	Poland	0	7	93	0	2	98	a	3	97	a	1	99
	Portugal [1]	a	13	87	a	8	92	a	3	97	a	3	97
	Slovak Republic	m	m	m	m	m	m	m	m	m	m	m	m
	Slovenia [1]	19	59	22	18	4	77	22	2	76	1	2	97
	Spain	x(2)	100	x(2)	0	100	0	0	0	100	0	0	100
	Sweden [1]	36	60	4	5	67	27	3	24	73	2	13	85
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m
	Turkey	2	95	3	6	90	4	1	93	6	0	79	21
	United States	2	45	53	2	41	57	3	37	61	4	33	63
	Economies												
	Flemish Comm. (Belgium)	1	98	1	2	96	2	13	78	9	5	22	73
	French Comm. (Belgium)	0	99	1	1	94	5	1	82	16	1	9	90
	England (UK)	1	45	53	1	45	53	1	23	75	1	23	75
	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]	22	78	1	18	81	1	10	87	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 2019.
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 2018.
Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3.pdf).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://stat.link/zr0jd9

Table X2.9. Distribution of school heads aged 25-64 by educational attainment and level of education (2020)

		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	a	a	a	a	a	a	a	a	a	a	a	a
	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]	0	100	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]	59	22	19	2	2	97	2	2	97	2	2	97
	Denmark	0	100	0	0	100	0	0	100	0	0	0	100
	Estonia	1	28	71	1	11	89	1	10	89	2	3	95
	Finland	30	53	17	0	5	95	2	2	96	0	0	100
	France [2]	12	60	28	12	60	28	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	1	95	4	x(7)	x(8)	x(9)	0	71	29	0	40	60
	Iceland	23	47	30	2	52	46	2	52	46	9	32	59
	Ireland	m	m	m	m	m	m	m	m	m	m	m	m
	Israel	a	a	a	0	7	93	0	2	98	3	21	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	10	90	0	13	87	0	10	90	0	10	90
	Latvia	0	100	x(2)	0	100	x(5)	0	100	x(8)	0	100	x(11)
	Lithuania	m	m	x(2)	m	m	x(5)	m	m	x(8)	m	m	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	0	61	39	0	61	39	0	65	35	0	65	35
	New Zealand [1]	m	m	m	56	44	0	55	45	0	75	25	0
	Norway	4	96	1	2	87	11	2	87	11	2	52	46
	Poland [1]	a	1	99	a	1	99	a	1	99	a	0	100
	Portugal [1]	a	6	95	a	6	95	a	6	95	a	6	95
	Slovak Republic	m	m	m	m	m	m	m	m	m	m	m	m
	Slovenia	0	81	19	0	0	100	0	0	100	0	0	100
	Spain	0	100	x(2)	0	100	x(5)	0	0	100	0	0	100
	Sweden [1]	43	45	10	12	44	42	12	44	42	7	24	64
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m
	Turkey	2	71	27	11	67	23	3	73	24	1	64	35
	United States	0	1	99	0	2	98	0	2	98	0	2	98
	Economies												
	Flemish Comm. (Belgium)	0	96	4	0	96	4	0	63	37	0	5	95
	French Comm. (Belgium)	0	97	3	0	95	5	0	81	19	0	19	81
	England (UK)	0	54	46	0	54	46	0	17	83	0	17	83
	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	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 2019.
2. Year of reference 2018.
Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3.pdf).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink https://stat.link/t6sb7v

Table X2.10. Trends in teachers' statutory salaries, for teachers with the most prevalent qualification and 15 years of experience (2000, 2005 to 2020)[1]

Annual statutory teachers' salaries in public institutions for teachers with 15 years of experience and the most prevalent qualifications, by level of education, in national currency

		Pre-primary						Primary					
		2000	2005	2010	2015	2019	2020	2000	2005	2010	2015	2019	2020
		(1)	(2)	(7)	(12)	(16)	(17)	(18)	(19)	(24)	(29)	(33)	(34)
OECD	**Countries**												
	Australia	m	62 240	74 125	91 291	99 777	106 583	m	62 240	75 382	91 805	99 777	102 380
	Austria[2]	m	31 050	35 526	m	m	m	25 826	31 050	35 526	38 225	44 730	46 156
	Canada	m	m	m	m	m	m	m	m	m	87 202	91 930	93 640
	Chile	m	m	9 154 829	11 449 961	17 075 690	17 528 510	m	m	9 154 829	11 449 961	17 075 690	17 528 510
	Colombia	m	m	m	41 239 431	59 082 298	m	m	m	m	41 239 431	59 082 298	m
	Costa Rica	m	m	m	12 359 313	11 672 675	11 790 217	m	m	m	12 359 313	11 789 972	11 907 513
	Czech Republic	m	m	m	251 160	330 000	358 800	m	m	m	272 200	368 400	399 600
	Denmark[3]	269 948	334 577	375 122	397 571	386 381[b]	397 756	315 530	367 323	428 628	459 819	451 937[b]	465 241
	Estonia	m	m	m	m	a	a	3 068	4 379	7 728	m	a	a
	Finland	19 956	23 333	28 331	30 900	31 755	31 966	24 961	30 791	37 769	39 769	40 423	40 824
	France	27 151	28 290	29 610	30 140	32 111	32 583	27 151	28 290	29 610	30 140	32 111	32 583
	Germany	m	m	m	m	m	m	m	43 320	47 647	56 267	61 403	63 484
	Greece	16 292	21 237	25 001	17 592	17 156	17 352	16 292	21 237	25 001	17 592	17 156	17 352
	Hungary	751 668	1 739 076	1 780 884	2 884 041	3 178 980	3 178 980	897 168	1 944 576	1 916 568	2 884 041	3 178 980	3 178 980
	Iceland	m	2 821 586	3 901 395	m	6 676 644	6 676 644	m	3 100 440	4 264 973	m	6 630 444	6 630 444
	Ireland	m	m	m	m	m	a	33 370	48 206	57 390	57 390	61 089	62 072
	Israel	72 174	82 076	99 707	145 012	154 555	158 912	75 912	82 179	115 299	130 922	134 795	138 394
	Italy	m	25 234	27 645	27 845	28 914	29 162	20 849	25 234	27 645	27 845	28 914	29 162
	Japan	m	m	m	m	m	m	6 645 000	6 236 000	5 555 000	5 535 000	5 601 000	5 619 000
	Korea	m	38 608 000	42 003 257	50 422 920	56 002 120	57 579 740	m	39 712 000	42 003 257	50 422 920	56 002 120	57 579 740
	Latvia	1 321	2 321	4 069	5 040	a	a	1 321	2 321	4 069	5 040	a	a
	Lithuania	m	m	m	6 220	12 477	13 158	m	m	m	9 031	16 151	16 727
	Luxembourg	m	62 139	93 182	106 536	98 391[b]	98 391	m	62 139	93 182	106 536	98 391[b]	98 391
	Mexico	110 833	159 128	208 871	272 901	351 772	364 137	110 833	159 128	208 871	272 901	351 772	364 137
	Netherlands	m	m	m	49 002	55 469	60 939	m	m	m	49 002	55 469	60 939
	New Zealand	m	m	m	m	m	m	m	m	m	69 099	80 500	83 000
	Norway	m	287 000	353 700	419 500	446 800	500 000	m	327 500	386 000	460 850	520 300	536 800
	Poland	m	31 216	40 120	47 645	52 373	58 441	m	31 216	40 120	47 645	52 373	58 441
	Portugal	m	24 759	27 038	26 321	28 803	28 857	m	24 759	27 038	26 321	28 803	28 857
	Slovak Republic	m	m	6 136	7 160	9 080	10 036	m	m	7 492	9 794	12 414	12 258
	Slovenia	m	m	26 635	24 607	27 013	28 275	14 123	21 465	27 164	25 550	28 024	29 333
	Spain	m	28 122	33 889	32 389	34 557	35 339	m	28 122	33 889	32 389	34 557	35 339
	Sweden[4]	m	261 000	m	354 600	408 000	m	m	283 200	m	379 200	453 600	m
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m
	Turkey	4 560	16 464	27 701	43 300	60 873	68 069	4 560	16 464	27 701	43 300	60 873	68 069
	United States[4, 5]	36 758	41 500	m	m	61 235	62 193	38 046	51 413	52 742	60 705	61 145	62 102
	Economies												
	Flemish Comm. (Belgium)	29 586	35 417	40 042	43 842	46 659	46 673	29 586	35 417	40 042	43 842	46 659	46 673
	French Comm. (Belgium)	28 485	33 427	38 610	42 425	45 026	45 056	28 485	33 427	38 610	42 425	45 026	45 056
	England (UK)[3]	30 018	33 978	35 929	37 496	40 532[b]	41 687	30 018	33 978	35 929	37 496	40 532[b]	41 687
	Scotland (UK)	14 022	29 827	33 666	34 887	37 575	40 206	22 743	29 827	33 666	34 887	37 575	40 206
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

		Lower secondary, general programmes						Upper secondary, general programmes					
		2000	2005	2010	2015	2019	2020	2000	2005	2010	2015	2019	2020
		(35)	(36)	(41)	(46)	(50)	(51)	(52)	(53)	(58)	(63)	(67)	(68)
OECD	**Countries**												
	Australia	m	62 384	75 382	91 903	99 932	96 709	m	62 384	75 382	91 903	99 932	102 467
	Austria [2]	26 916	33 635	38 451	41 334	46 945	48 325	29 728	34 265	41 381	44 500	51 341	52 635
	Canada	m	m	m	87 202	91 930	93 640	m	m	m	87 202	91 930	93 640
	Chile	m	m	9 154 829	11 449 961	17 075 690	17 528 510	m	m	9 700 782	11 694 832	17 667 688	18 137 514
	Colombia	m	m	m	41 239 431	59 082 298	m	m	m	m	41 239 431	59 082 298	m
	Costa Rica	m	m	m	17 117 566	12 155 418	12 272 960	m	m	m	17 117 566	12 155 418	12 272 960
	Czech Republic	m	m	m	272 200	368 400	400 800	m	m	m	272 200	368 400	400 800
	Denmark [3]	315 530	367 323	434 802	467 714	456 291 [b]	469 723	395 558	402 580	459 745	509 119	488 480 [b]	496 731
	Estonia	3 068	4 379	7 728	m	a	a	3 068	4 379	7 728	m	a	a
	Finland	28 293	34 677	40 791	42 951	43 658	44 090	31 115	36 550	43 168	46 363	46 651	47 584
	France	29 426	30 661	32 089	32 231	33 492	35 111	29 426	30 661	32 089	32 231	33 492	35 111
	Germany	m	46 842	52 784	61 058	66 827	69 508	m	53 096	57 150	64 767	70 304	71 880
	Greece	16 292	21 237	25 001	17 592	17 156	17 352	16 292	21 237	25 001	17 592	17 156	17 352
	Hungary	897 168	1 944 576	1 916 568	2 884 041	3 178 980	3 178 980	1 128 996	2 432 388	2 262 636	3 171 916	3 532 200	3 532 200
	Iceland	m	3 100 440	4 264 973	m	6 630 444	6 630 444	m	3 198 000	4 104 000	m	7 187 328	7 187 328
	Ireland	33 729	48 725	57 981	57 981	61 680	62 663	33 729	48 725	57 981	57 981	61 680	62 663
	Israel	76 995	83 744	104 947	143 219	149 065	153 229	75 873	81 353	95 187	119 107	146 381	149 269
	Italy	22 836	27 487	30 121	30 340	31 480	31 707	23 518	28 259	30 966	31 189	32 356	32 588
	Japan	6 645 000	6 236 000	5 555 000	5 535 000	5 601 000	5 619 000	6 649 000	6 237 000	5 555 000	5 535 000	5 601 000	5 619 000
	Korea	m	39 616 000	41 907 257	50 482 920	56 062 120	57 639 740	m	39 616 000	41 907 257	49 762 920	55 342 120	56 919 740
	Latvia	1 321	2 321	4 069	5 040	a	a	1 321	2 321	4 069	5 040	a	a
	Lithuania	m	m	m	9 031	16 151	16 727	m	m	m	9 031	16 151	16 727
	Luxembourg	m	81 258	99 782	111 118	106 005 [b]	106 005	m	81 258	99 782	111 118	106 005 [b]	106 005
	Mexico	141 093	203 399	268 456	350 283	449 773	465 340	m	m	m	514 509	660 355	692 596
	Netherlands	m	m	m	61 556	66 644	69 554	m	m	m	61 556	66 644	69 554
	New Zealand	m	m	m	71 780	80 500	83 000	m	m	m	74 460	80 500	83 000
	Norway	m	327 500	386 000	460 850	520 300	536 800	m	364 000	434 700	524 400	569 100	588 100
	Poland	m	31 216	40 120	47 645	52 373	58 441	m	31 216	40 120	47 645	52 373	58 441
	Portugal	m	24 759	27 038	26 321	28 803	28 857	m	24 759	27 038	26 321	28 803	28 857
	Slovak Republic	m	m	7 492	9 794	12 414	12 258	m	m	7 492	9 794	12 414	12 258
	Slovenia	14 123	21 465	27 164	25 550	28 024	29 333	14 123	21 465	27 164	25 550	28 024	29 333
	Spain	m	32 293	38 613	36 153	38 559	39 440	m	32 293	38 613	36 153	38 559	39 440
	Sweden [4]	m	290 400	m	387 018	466 200	m	m	313 600	m	401 400	469 260	m
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m
	Turkey	4 813	17 402	28 883	44 527	60 873	70 621	4 813	17 402	28 883	44 527	60 873	70 621
	United States [4,5]	43 834	47 215	55 919	62 369	65 086	66 105	43 918	49 467	55 724	61 327	64 244	65 248
	Economies												
	Flemish Comm. (Belgium)	31 191	35 417	40 042	43 842	46 659	46 673	39 886	45 301	51 454	56 311	59 932	59 946
	French Comm. (Belgium)	30 327	33 802	38 610	42 425	45 026	45 056	39 040	43 519	49 764	54 499	57 839	57 869
	England (UK) [3]	30 018	33 978	35 929	37 496	40 532 [b]	41 687	30 018	33 978	35 929	37 496	40 532 [b]	41 687
	Scotland (UK)	22 743	29 827	33 666	34 887	37 575	40 206	22 743	29 827	33 666	34 887	37 575	40 206
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

Note: Years 2006 to 2009, 2011 to 2014 and 2016 to 2018 (i.e. Columns 3-6, 8-11, 13-15, 20-23, 25-28, 30-32, 37-40, 42-45, 47-49, 54-57, 59-62 and 64-66) are available for consultation on line. The definition of teachers' most prevalent qualifications is based on a broad concept, including the typical ISCED level of attainment and other criteria. 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 salaries for countries now in the Euro area are shown in euros.
2. Figures for the pre-primary level refer to primary teachers (in primary schools only) teaching pre-primary classes.
3. Break in time series following methodological changes in 2018 and 2019.
4. Actual base salaries.
5. The most prevalent qualification for pre-primary and primary teachers in 2000 was a bachelor's degree or equivalent (ISCED level 6) while the most prevalent qualification for later years was a master's degree or equivalent (ISCED level 7).

Source: OECD (2021). See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterD.pdf).

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

StatLink https://stat.link/d1ipk0

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://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3.pdf

Tables Annex 3. Sources, methods and technical notes

Table X3.A1.a. Precise standard errors for educational attainment of 25-64 year-olds, by gender and age group (2020)
Table X3.A2.a. Precise standard errors for percentage of 18-24 and 15-29 year-olds in education/not in education, by work status, gender and age group (2020)
Table X3.A3.a. Precise standard errors for employment rates of 25-64 year-olds, by educational attainment, age group and gender (2020)
Table X3.A3.b. Precise standard errors for unemployment rates of 25-64 year-olds, by educational attainment, age group and gender (2020)
Table X3.A4.a. Actual earnings of full- and part-time workers, by educational attainment, age group and gender (2019)
Table X3.A4.b. Actual earnings of full-time workers, by educational attainment, age group and gender (2019)

Note: All tables in Annex 3 are available on line, see the StatLink below

StatLink https://stat.link/c21gi6

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Many people have contributed to the development of this publication.

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Education at a Glance 2021

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The 2021 edition includes a focus on equity, investigating how progress through education and the associated learning and labour market outcomes are impacted by dimensions such as gender, socio-economic status, country of birth and regional location. A specific chapter is dedicated to Target 4.5 of the Sustainable Development Goal 4 on equity in education, providing an assessment of where OECD and partner countries stand in providing equal access to quality education at all levels. Two new indicators on the mechanisms and formulas used to allocate public funding to schools and on teacher attrition rate complement this year's edition.



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