



Education at a Glance 2023

OECD INDICATORS



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Please cite this publication as:

OECD (2023), *Education at a Glance 2023: OECD Indicators*, OECD Publishing, Paris, <https://doi.org/10.1787/e13bef63-en>.

ISBN 978-92-64-55819-9 (print)
ISBN 978-92-64-66689-4 (pdf)
ISBN 978-92-64-98399-1 (HTML)
ISBN 978-92-64-43778-4 (epub)

Education at a Glance
ISSN 1563-051X (print)
ISSN 1999-1487 (online)

Revised version, January 2024

Details of revisions available at: https://www.oecd.org/about/publishing/Corrigendum_Education-at-a-Glance-2023.pdf

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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 and 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.

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. It was prepared within the Innovation and Measuring Progress Division of the OECD Directorate for Education and Skills under the responsibility of Tia Loukkola. The production of *Education at a Glance 2023* was led by Abel Schumann. It contains statistical and analytical contributions from Étienne Albiser, Hannah Borhan, Alison Burke, Éric Charbonnier, Minne Chu, Umberto Damiani, Eugénie de Laubier, Elisa Duarte, Bruce Golding, Jaione González Yubero, Yanjun Guo, Corinne Heckmann, Lucie Huang, Viktoria Kis, Bernardo Mayorga, Simon Normandeau, Christopher Olivares, Eloïse Passaga, Giannina Rech, Gara Rojas González, Özge Özcan Sahin, Giovanni Maria Semeraro, Lou Turroques, Palwacha Watanyar, Choyi Whang and Hajar Sabrina Yassine. Marieke Vandeweyer provided feedback and advice on vocational education and training. Administrative support was provided by Eda Cabbar. Rachel Linden supported 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 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 and develop indicators in areas where it is feasible and promising to develop data, but also to advance in areas where considerable investment is still needed 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

Vocational education and training (VET) is vital. It offers an alternative to academic education, equips learners with practice-oriented and employability skills, eases the school-to-work transition, and meets economies' demand for skilled workers.

Across the OECD, 44% of all upper secondary students are enrolled in vocational education and training; in some countries, such as the Czech Republic and the Netherlands, this rises to over two-thirds. Despite this high share, vocational programmes in many countries are still seen as a last resort. Too often, VET is seen as a fallback option for students who struggle with school or lack motivation, rather than as a first choice that leads to attractive career paths.

To meet labour-market challenges and to guide all learners into the right programmes for their talents and aspirations, we need to make VET more attractive and accessible. Our latest edition of *Education at a Glance* provides a range of new cross-national data on vocational programmes that will help policy makers understand the effectiveness of their VET systems to foster opportunity, inclusion and sustainable growth.

Facilitating the school-to-work transition

Profound and ongoing transformations are reshaping how we live, learn, and work. It reinforces the importance of skills such as problem solving, teamwork and communication, which are key to employability and complement both academic and practical skills. Vocational education and training will become increasingly important to equip learners with a mix of such skills, facilitating the school-to-work transition.

VET is also key to addressing the accelerating pace of change in demand for skills. Throughout their careers, workers will need to upskill and reskill more frequently, and VET programmes can help bridge this gap. They will need however to remain flexible to meet the needs and preferences of adult learners that often face time constraints due to work and family responsibilities. Online learning and part-time provision can help make VET more accessible.

Ensuring that vocational programmes are steppingstones to further learning also requires stronger pathways between VET and other levels of education. On average across OECD countries, a quarter of VET students are enrolled in upper secondary programmes that do not provide direct access to tertiary education. Even where there is good access, often, we only see a small proportion of graduates of these programmes taking advantage of it during their careers, while students who do continue find they do not always have the tools they need to succeed.

Making VET a first choice

To make it an equally valuable alternative to academic education, we need to continue enhancing the quality and perception of VET, and students need to be guided into programmes that match their talents and aspirations.

Close partnerships with employers will be key. These partnerships can ensure VET remains relevant to labour-market needs through industry-validated curricula, enable the integration of valuable work-based learning components into VET programmes and facilitate the school-to-work transition. Presently, there are still too many VET programmes that operate without the close involvement of employers. For example, less than half of all upper secondary VET students are enrolled in programmes that include elements of work-based learning, and there are several countries where such programmes are almost non-existent.

Strengthening the involvement of industry in VET should therefore be a priority. In recent years, many countries have taken steps to work more closely with employers. These reforms include helping employers – especially small and medium-sized enterprises – to provide work-based learning, creating platforms to enable VET providers and industry to exchange knowledge, and involving industry professionals in VET teaching and career guidance.


Providing policy makers with the evidence they need

We can also do more to measure the full range of skills that VET students acquire, to capture the areas where VET students can excel beyond just academic skills. Better data on students' practice-oriented, technical, and employability skills could help make VET programmes more attractive. Towards this, the OECD launched the International VET Assessment initiative, which will provide internationally comparable data on the skills of VET students. In the medium-term, we are also examining ways to measure the quality of vocational outcomes directly, as learners complete their programmes.

For young people to make positive choices about whether to pursue a VET programme, they need access to effective careers guidance to encourage them to explore the full breadth of employment opportunities from an early age. Students should also have opportunities to visit workplaces and interact with a range of workers well before they have to make any final decisions. Such first-hand experiences are powerful learning opportunities and associated with better employment outcomes in adult life.

These efforts will be most effective when supported by good data and evidence. In contrast to general schooling though, which has benefited in recent decades from considerable coverage in international large-scale assessments, there is comparatively little data available for VET. At tertiary level, the data is almost entirely absent, with no established definitions of academically and professionally oriented programmes. Data that does exist is hard to interpret due to differences in countries' VET and training arrangements.

At the OECD, we continue working to fill data gaps to provide the evidence policy makers need to build better VET systems, balance skills demand and supply, foster greater participation in lifelong learning, and ultimately provide the enabling conditions for strong economic performance and improvements in well-being.



Mathias Cormann,
OECD Secretary-General

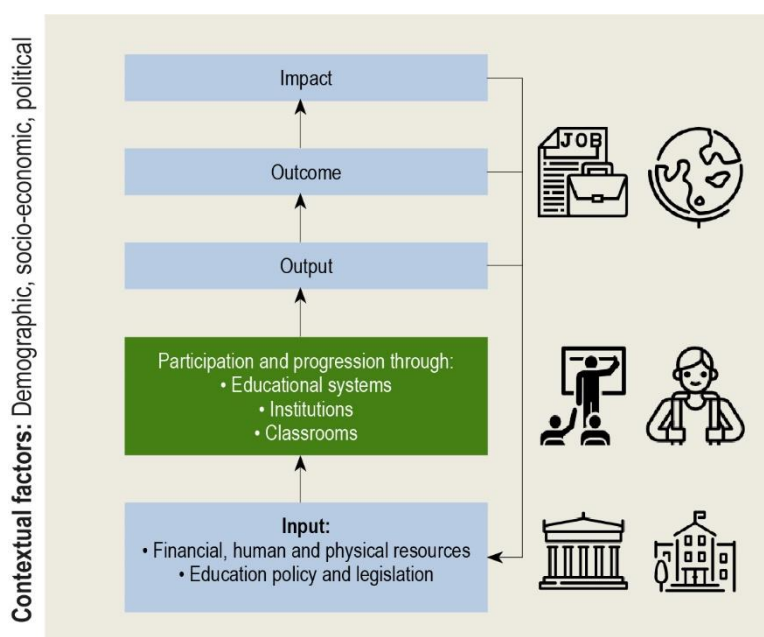
Reader's guide

The organising framework

Education at a Glance 2023: 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 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.

The structure and content of *Education at a Glance*

The indicators published in *Education at a Glance 2023* 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.

The theme of vocational education and training in Education at a Glance 2023

Every edition of *Education at a Glance* focuses on a specific theme. As the selected theme for this year's publication, vocational education and training (VET) is at the centre of *Education at a Glance 2023*. Table A summarises the indicators and chapters that contribute to the analysis of VET in this year's *Education at a Glance*.

Table A. Indicators relating to vocational education and training in *Education at a Glance 2023*

Chapter	Indicator number	Indicator
Chapter A: The output of educational institutions and the impact of learning	A1	To what level have adults studied?
	A2	Transition from education to work: Where are today's youth?
	A3	How does educational attainment affect participation in the labour market?
	A4	What are the earnings advantages from education?
	A6	How are social outcomes related to education?
	A7	To what extent do adults participate equally in education and learning?
Chapter B: Access to education, participation and progression	B1	Who participates in education?
	B3	Who completes upper secondary education?
Chapter C: Financial resources invested in education	C1	How much is spent per student on educational institutions?
	C2	What proportion of national wealth is spent on educational institutions?

Chapter	Indicator number	Indicator
Chapter D: Teachers, the learning environment and the organisation of schools	C3	How much public and private investment in educational institutions is there?
	C4	What is the total public spending on education?
	D1	How much time do students spend in the classroom?
	D3	How much are teachers and school heads paid?
	D7	What is the profile of teaching staff at upper secondary level and what is the student-staff ratio?

Statistical coverage

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 distance learning, in special education programmes or in education programmes organised by ministries other than the ministry of education, provided that the main aim of the programme is to broaden or deepen an individual's knowledge. Vocational and technical training in the workplace is not included in the basic education expenditure and enrolment data, with the exception of combined school- and work-based programmes that are explicitly deemed to be part of the education system.

Educational activities classified as “adult” or “non-regular” are covered, provided that the activities involve the same or similar content as “regular” education studies, or that the programmes of which they are a part lead to qualifications similar to those awarded in regular education programmes. Courses for adults that are primarily for general interest, personal enrichment, leisure or recreation are excluded.

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

Comparability over time

The indicators in *Education at a Glance* are the result of a continuous process of methodological improvement aimed at improving the robustness and international comparability of the indicators. As a result, when analysing indicators over time, it is strongly advised to do so within the most recent edition only, rather than comparing data across different editions. All comparisons over time presented in this report 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 and Brazil, a partner country that participates in the INES programme, as well as other G20 and OECD accession countries that are not INES members (Argentina, Bulgaria, Croatia, the People's Republic of China, India, Indonesia, Peru, Romania, 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 39 403 in 2021 and the territory covers 1.9 million

square kilometres, while the population of the province of Ontario is 14.8 million and the territory covers 909 000 square kilometres (OECD, 2021^[2]). Large countries tend to be more diverse than smaller ones. Moreover, the measured subnational variation is influenced by the definition of subnational entities. The smaller the subnational entities, the larger the measured variation. For example, for a country that has defined two levels of subnational regions (e.g. states and districts), the measured subnational variation for the smaller subnational entities will be larger than for the larger subnational entities. The analyses presented in *Education at a Glance* are based on large regions (OECD TL2 level), representing the first administrative tier of subnational government.

Note on terminology: “partner countries” and “other participants”

Education at a Glance reports data on non-OECD countries. In particular, data on Brazil, which is a member of the Indicators of Educational System (INES) programme, are reported throughout the publication. Data on other G20 countries are reported when available. These countries are referred to as “partner countries”.

In some instances, data on some subnational entities, such as England (United Kingdom), are included in country-level data. In line with the agreed upon OECD terminology, these subnational entities are referred to as “other participants” 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.

If data from subnational entities are reported for some countries in an indicator, the subnational data are included in the calculation of the OECD average. If data from only one subnational region of a country are available, the data point will be used in the calculation of the OECD average as if the subnational region represents the entire country. If data for more than one subnational region from a country are reported in an indicator, the unweighted average of all subnational regions from the country is calculated. This unweighted average is then treated as the corresponding country value for the calculation of the OECD average.

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 EU25 average is also presented. It is calculated as the unweighted mean of the data values of the 25 countries that are members or accession countries of both the European Union and the OECD for which data are available or can be estimated. The 25 countries are Austria, Belgium, Bulgaria, Croatia, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Poland, Portugal, Romania, the Slovak Republic, Slovenia, Spain and Sweden.

The EU25 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, the Republic of Türkiye, 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, EU25 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/EU25/G20 average” refers to the OECD, EU25 or G20 countries included in the respective comparisons. OECD, EU25 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 2023* (OECD/Eurostat/UNESCO Institute for Statistics, 2015^[3]).

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.	ISCED 7

Terms used in this publication	ISCED classification
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 8
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 to as "doctoral" in the publication.	

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^[4]) in November 2013 at its 37th session. The broad ISCED-F fields considered in this publication are: education; arts and humanities; social sciences, journalism and information; business, administration and law; natural sciences, mathematics and statistics; information and communication technologies; 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 a 95% confidence interval of approximately twice (1.96) the standard error of 2.6. Thus, the true percentage would probably (error risk of 5%) be somewhere between 5% and 15% ("confidence interval"). The confidence interval is calculated as: $\% \pm 1.96 * S.E.$, 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>) provides 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 online through the StatLink at the bottom of the table.

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

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Executive Summary

Education at a Glance is the definitive guide to the state of education around the world. It analyses all levels of education and provides data on topics such as attainment, enrolment, finance and the organisation of education systems. The 2023 edition focuses on vocational education and training (VET) - a vital part of a country's education system that offers students an alternative to academic-focused education. Readers interested in a summary of the main findings on VET are referred to the accompanying Spotlight on VET (OECD, 2023).

Early childhood education and care enrolment common at age 2 or 3

High-quality early childhood education and care helps to give all children an equitable start in life and is especially vital for the most disadvantaged children. It is also a key tool for enabling both parents to work and for increasing women's participation in the labour market. Across the OECD, on average, 18% of children under the age of 2 are enrolled in early childhood education and care. Among 2-year-olds, the average rate rises to 43%, but the situation varies widely. Although enrolment at this age exceeds 90% in Iceland, Korea, Norway and Sweden, it remains in the single digits in nine other OECD countries. Once children reach the age of 3, early childhood education and care is the norm in the vast majority of OECD countries, with an average enrolment rate of 74%. Nevertheless, in four countries the proportion of children enrolled remains in the single digits, with potentially negative impacts on equity.

More young adults completing upper secondary education

Upper secondary attainment is often considered the minimum requirement for successful participation in the labour market. However, on average, 14% of all 25-34 year-olds across the OECD had not completed upper secondary education in 2022. While this share is still too high, it represents a significant improvement compared with 2015, when it was 18%. The share of young adults without upper secondary attainment fell in all but two OECD countries and some countries have made especially significant progress. For instance Portugal has reduced the share of young adults without upper secondary education by 17 percentage points while Türkiye has reduced it by 15 percentage points.

Higher upper secondary completion rates help create a more educated workforce, with better careers, pay and prospects. Currently, 77% of those entering general upper secondary education complete it on time, and a further 10% complete it within the following two years. The rate is lower for those entering vocational upper secondary education. Only 62% per cent complete their programme on time and another 11% within the following two years. Of the remaining 27%, many are unlikely to successfully complete their programme at all.

Less than half of VET students enrol in combined school- and work-based programmes

VET is an important and popular element of most education systems in OECD countries, with on average 44% of upper secondary students enrolled in vocational programmes. These programmes vary considerably from country to country, but there are common features that contribute to high-quality vocational education. One of the most important is the inclusion of work-based learning. This provides many advantages, including allowing students to apply their skills in a practical setting and easing the transition from school to work. However, combined school- and work-based programmes remain a rarity in many countries. On average only 45% of all upper secondary VET students are enrolled in such schemes across the OECD.

Effective pathways from upper secondary vocational education to higher education are another characteristic of high-quality programmes. While most upper secondary VET students have access to tertiary education upon successful completion of their programmes, a quarter of them are enrolled in programmes that do not provide access to tertiary education upon completion.

Spending per student varies greatly across OECD countries

Adequate funding is a precondition for providing high-quality education. Most OECD countries invest 3-4% of their GDP in primary and secondary education, rising to at least 5% of GDP in Colombia and Israel. In contrast, six OECD countries invest less than 3% of GDP in primary and secondary education.

Investment in education as a share of GDP is a measure of the priority that countries give to education, but it does not reflect the resources available within education systems as GDP levels vary between countries. Expenditure per student varies greatly across OECD countries. Colombia, Mexico and Türkiye spend less than USD 5 000 per student annually, while Luxembourg spends almost USD 25 000. There are also significant differences in expenditure per student by type of programme. On average across the OECD, annual spending per student is USD 11 400 in general upper secondary education, while it is USD 13 200 in vocational upper secondary education. This often reflects the costs of specialised equipment and infrastructure that are needed in VET programmes.

Low wages reduce the attractiveness of the teaching profession

Many OECD countries are facing teacher shortages. Competitive salaries are crucial to retaining teachers and attracting more individuals to the profession, although other factors are also important. In many OECD countries teaching is not a financially attractive career choice. On average, lower secondary teachers' actual salaries are 10% below those of tertiary-educated workers, but in some countries the gap is over 30%.

Low wage growth for teachers partly explains the gap between teachers' salaries and those of other tertiary-educated workers. In all but six OECD countries, statutory wages for lower secondary teachers have grown by less than 1% per year in real terms since 2015. Even worse, real statutory wages have actually fallen in almost half of all OECD countries for which data are available. This follows a period of low or even negative wage growth in many countries in the aftermath of the 2008-09 financial crisis.

Ensuring continued learning for Ukrainian refugees

Russia's large-scale war of aggression against Ukraine has forced the displacement of millions of Ukrainians across the world, many of whom have been received by OECD countries. As of June 2023, the number of Ukrainian refugees across the OECD stands at approximately 4.7 million, with around 3.7 million registered in European Union (EU) OECD countries. In absolute terms, Germany, Poland, and the United States accommodate the largest number of Ukrainian refugees, while Estonia, the Czech Republic, and Lithuania have received the highest proportion of refugees relative to their population (OECD, forthcoming^[1]). An estimated 40% of these refugees are children, whose futures and education have been disrupted.

OECD countries have taken many measures in order to effectively receive and manage the influx of Ukrainian arrivals. In European countries, Ukrainians benefit from the European Union's (EU) temporary protection scheme launched on 4 March 2022 (European Union, 2022^[2]). The EU temporary protection scheme allows those fleeing the war and devastation in Ukraine to benefit from harmonised rights across the EU. This includes residency rights, access to the labour market, medical assistance and freedom of movement within the EU. In particular, it allowed Ukrainians under 18 to benefit from the same education policies as nationals and EU citizens and to continue their education during the school year 2021/22. This situation has been challenging for countries and has created capacity problems in schools, higher education institutions and other educational institutions.

In May 2022, the OECD Secretariat launched its first data collection on the emergency policies OECD countries had put in place to accommodate Ukrainian refugee students in their education systems at the onset of the war. As the war continued beyond the 2021/22 academic year, OECD host countries had to change their policy responses from emergency measures to measures which ensure the lasting inclusion of Ukrainian refugees in education. Considering this, the OECD Secretariat launched a new data collection in February 2023, in which 26 countries and other participants took part.

Analysis

Enrolment in education systems is important for refugees not only for their academic performance and future labour-market prospects, but also for their social and emotional well-being (Cerna, 2019^[3]). Integrating refugee children into school systems can also improve the employment prospects of their parents and guardians, making it easier for them to take up employment while their children are in education (OECD, 2023^[4]).

The 2023 OECD [Survey on Ensuring Continued Learning of Ukrainian Refugee Students](#) collected data on the barriers countries faced and the measures they took in integrating Ukrainian refugees into their education systems, from pre-primary to tertiary level. The survey also covered vocational education and training (VET) and remote learning opportunities. The OECD survey covered policies and challenges at both the national level, and at institutional level where education institutions operate independently (see *Definitions* section). Although language was the main barrier countries reported across all levels and types

of education, other barriers and measures varied depending on the age of the refugees and their educational attainment.

Early childhood education and care

One-third of the children who were displaced from their homes in Ukraine are estimated to be under 6 years-old (UNICEF, 2023^[5]). Adverse life experience in the early years, when children experience rapid brain growth and development, can have long-lasting negative effects (Center on the Developing Child, 2007^[6]). High-quality early childhood education and care (ECEC) services which are inclusive of refugees and their needs can be a valuable tool for offsetting the effects of trauma and displacement (UNICEF, 2023^[5]).

ECEC is considered extremely important for laying down the foundations for future learning, skills development and well-being. High-quality ECEC can be a powerful means of ensuring equity and inclusion in society, and an effective tool for increasing children's socio-emotional skills and school readiness. These skills can be particularly valuable for refugee children. However, statistics show that only 1 in 3 refugee children under the age of 6 are registered for ECEC in their host societies (UNICEF, 2023^[5]). In most OECD countries, over 80% of children aged 3 to 5 years-old are enrolled in some form of ECEC (Education at a Glance Database).

As well as being beneficial for children, ECEC also plays an important role in allowing carers of young children to take up employment. Around 70% of arrivals from Ukraine are women with children, often without their partners, making the availability of adequate and affordable childcare essential for women's socio-economic integration (OECD, 2023^[4]). A survey by the European Agency for Fundamental Rights found that 3 in 10 Ukrainian refugees could not work because of care obligations, which affected women (33%) more frequently than men (9%) (European Union Agency for Fundamental Rights, 2023^[7]).

Ukrainian refugees face many barriers in accessing ECEC. These include language barriers, teacher and staff shortages, financial barriers, lack of information on how to enrol, and lack of places for children. For many European countries, demand for ECEC has outstripped supply for several years (UNICEF, 2023^[5]). Language was the most reported barrier identified by countries responding to the OECD 2023 survey, followed by the 'relatively low integration of Ukrainian families in the (educational) system', teacher and staff shortages, and financial barriers.

There are several aspects of the work of ECEC staff which are considered important for the effective early childhood education of refugee children. These include providing psychological support, ensuring socio-emotional well-being, working with diverse children and families, and trauma-informed care (UNICEF, 2023^[5]). While most of the countries taking part in the OECD survey reported that these formed part of the initial training of all ECEC teaching staff, some introduced specific training measures after the arrival of Ukrainian children. In the Slovak Republic, for example, the Ministry of Education arranged the provision of specific materials and voluntary training for teachers on the psychological support and integration of children from Ukraine. Estonia has organised additional support and funding for pre-school childcare institutions in regional counselling centres, which include speech therapists, special education teachers, and psychological and social-pedagogical counselling. Additional funds were also allocated to support the training and hiring of specialist support teachers. In France, specific training has been created to help teachers deal with pupils arriving from Ukraine and other countries facing war. Teachers benefit from this training regardless of the level of school they teach.

Recruiting Ukrainian-speaking staff can improve communication between the refugee children and their families and the education system. It can also be a highly effective measure in ECEC, since research shows that mother-tongue education can result in increased cognitive development and greater second language literacy. A host country's support for a refugee's native language can lead to improved self-esteem and the retention of identity among refugee students and their families (Cerna, 2019^[3]). Spain

reports that it has recruited around 200 Ukrainian language assistants so far into Spanish schools, with 90 of them assigned to pre-primary and primary schools. The goal of these assistants is to provide educational support and assist with integration.

Several countries also report expanding their ECEC sector in response to the influx of Ukrainian children. This has been achieved through measures such as recruiting new staff, opening new ECEC settings and financial support. Financial support was most frequently reported to be a high priority measure in the survey. Spain, for example, has created a specific funding programme to help education settings at ECEC, primary and secondary levels cope with the influx of refugees. This includes transport subsidies for Ukrainian school assistants, school transport for students and school meal subsidies. Financial support was also provided in Slovenia, where parents under temporary protection are entitled to reduced kindergarten fees, which they can apply for through their local Social Work Centre. Under certain circumstances, their kindergarten fees are paid in full. In New Zealand, access to ECEC remains free for all resident children between 3 and 5 for up to 20 hours a week, regardless of their status as a refugee or otherwise.

From primary to upper secondary education (general education)

Several structural and familial barriers make it difficult for Ukrainian refugee students to enrol in schools in their host countries. Structural barriers include language, lack of learning spaces/resources and teacher shortages, and the fact that school is not compulsory for refugee children in some countries. Personal and familial barriers include the intention to return to Ukraine in the short to medium term, concerns about the future recognition of skills or competencies in Ukraine, and lack of information on how to enrol. Students' academic aspirations, social and emotional well-being, and future labour-market potential may be affected by these barriers. It is important for countries to continue to monitor whether these barriers are causing issues and apply their policies accordingly.

Language was the most frequently reported barrier identified by the countries and other participants taking part in the survey. Language is one of the key factors that can promote or hinder the integration of refugee children. Not only is it important for academic achievement, but it is essential for developing a sense of belonging at school (Cerna, 2019^[3]). For refugees, achieving a successful education relies greatly on the linguistic environment of their host country and its level of acceptance of multilingualism and intercultural education (UNESCO, 2019, p. 13^[8]). The countries responding to the OECD survey reported that many Ukrainians do not speak the language of their host country, which can make it difficult for students, parents and guardians to understand enrolment processes and requirements, and hinder students' ability to understand their course and connect with teachers and peers. Furthermore, many do not hold the formal language certificates they need to enrol in some programmes and courses.

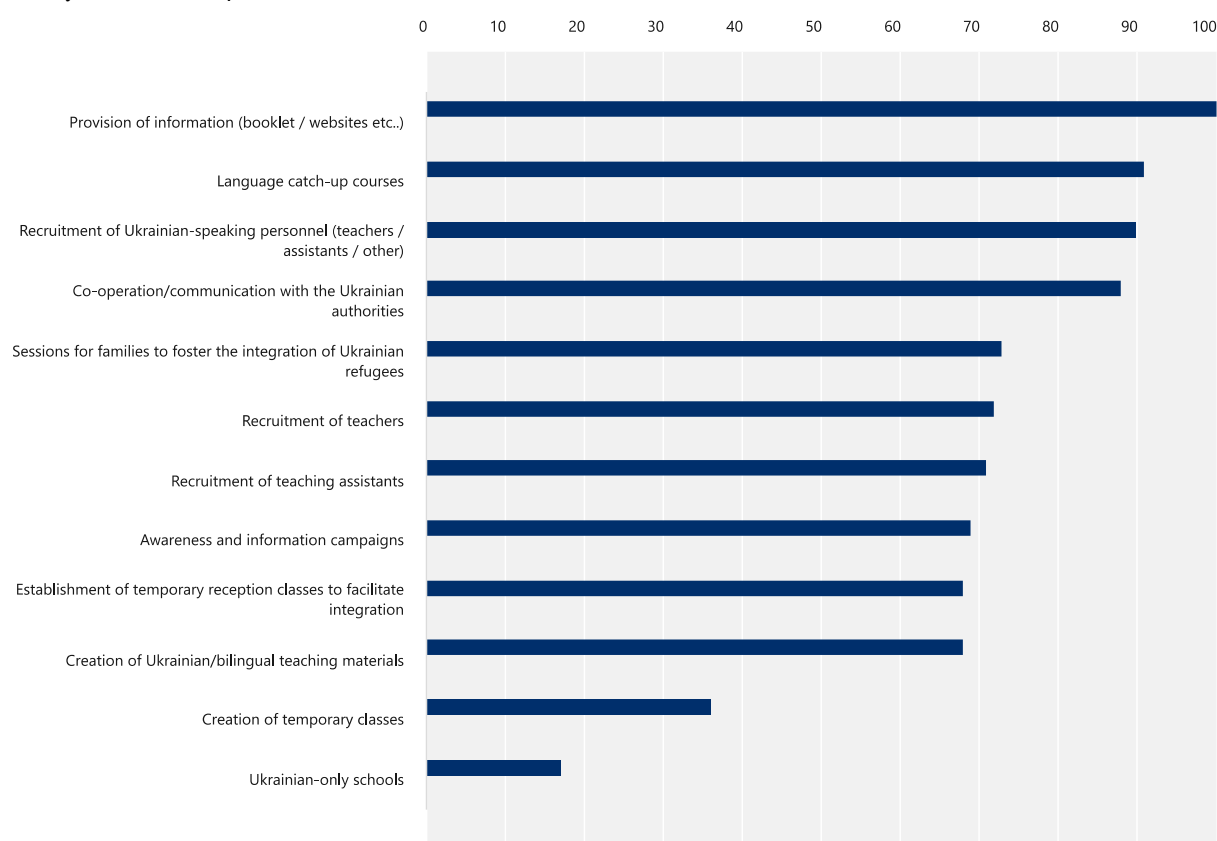
Another barrier to enrolment is students' and their family's intention to return to Ukraine as soon as possible. For instance, if they are hoping to return in the short or medium term, they may not be able to complete an educational programme in their host country or may be less motivated to integrate into a new education system. Relatedly, countries report that many students choose to follow the online curriculum offered by the Ukrainian government, instead of enrolling in their host country's education system (see below). Lack of capacity to accept new students is another barrier. For instance, England (United Kingdom) reported that, in some cases, schools have had to create additional capacity, exceeding their usual capacity limits.

Countries and systems have taken numerous measures to support the enrolment of Ukrainian students in their education systems from primary to upper secondary level. The provision of information mediums (booklets, websites etc.) was the most frequently reported measure in the survey, followed by language catch-up courses, recruitment of Ukrainian-speaking personnel, and co-operation/communication with the Ukrainian authorities (Figure 1). Other measures included information sessions for families, awareness information campaigns, and the establishment of temporary reception classes to facilitate integration.

Language catch-up courses can take different forms, such as online courses, preparatory classes and the creation of additional language classes in universities, schools and community centres. Some countries offer school-age children language catch-up courses as part of the curriculum, while others offer them outside of school or as part of a preparatory class. In Austria, students who lack proficiency in German are often taught in separate temporary classes, whereas in some cases, exclusive classes for Ukrainian students have been set up. In Croatia, students from Ukraine are enrolled in preparatory classes where they learn Croatian and are monitored and evaluated according to their abilities. In Switzerland, most refugees from Ukraine at upper secondary level are placed in bridge-year programmes to prepare them for later enrolment in regular programmes. These bridge-year programmes largely focus on language learning. In Hungary, if children are having difficulty continuing their studies due to a lack of knowledge of Hungarian, or because of differences in the requirements of Hungarian schools and their home country school, they may, with the permission of the school leader, repeat the grade already completed by attending catch-up courses and language classes. Ukrainian children are provided with 5 hours per week of individual preparation (in the afternoon) in addition to the regular timetable. To facilitate language learning among non-Hungarian students, a free Hungarian-as-a-foreign-language textbook for grades 3-8 has also been made available to the institutions concerned.

Figure 1. Measures to support the enrolment of Ukrainian refugee students in schools in OECD countries (2023)

Primary education, in per cent of countries



Note: The figure only includes instances where countries answer "Yes" and then excludes "No", "Not applicable" and "Missing" answers. 3 out of 28 countries have not answered this question. Readers are kindly invited to consult the database on "Ensuring a continued learning for Ukrainian refugees" for further information.

Measures are ranked in descending order of the share of countries and other participants adopting them at the national level.

Source: OECD (2023) [Survey on Ensuring Continued Learning of Ukrainian Refugee Students](https://www.oecd.org/skills/education/ensuring-a-continued-learning-for-ukrainian-refugees/)

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Estonia has set up two Ukrainian-only schools, the Vabaduse School for lower and upper secondary education and the Räägu school for primary education. The country also set up an online language learning platform for all levels of education, with games, videos and presentations. In Latvia, the Riga Ukrainian Secondary School, which provides in-depth opportunities to learn the Ukrainian language and about its history and culture, had already been established for 20 years. During the summer holidays, the school set up summer camps for students and teachers to learn the Latvian language, and also camps for Ukrainian children and Latvian children together.

The French Community of Belgium has installed the *Dispositif d'Accueil et de Scolarisation des élèves Primo-Arrivants et Assimilés* programme (Reception and Schooling System for New Arrivals and Assimilated Pupils, DASPA) which aims to facilitate the reception, education and integration of all newly arrived children. Schools with at least eight new migrant or refugee students can benefit from the programme, which can last up to 18 months. The programme follows a specific framework which gives newly arrived children additional supervision, and time to adapt and integrate into the Belgian socio-cultural and school system.

In Finland, many Ukrainian upper secondary students participate in *tutkintokoulutukseen valmistava koulutus* (preparatory education for degree training, TUVA), a bridging programme designed for learners under 18 and for adults who have not completed upper secondary education. The goal is to find a direction for further studies and to improve the skills needed to continue to upper secondary level, such as suitable study skills, life management skills or language skills.

In the United States, states and local education entities are required to provide language assistance programmes to all English learners, regardless of national or domestic origin. Services include age-appropriate English language literacy; tutoring, newcomer, or transitional programmes; after-school and summer programmes; mentoring; mental health support; and programming that supports integration. The Additional Ukraine Supplemental Appropriations Act, 2022 (AUSAA) gave the Office of Refugee Resettlement specific appropriations to provide these benefits and services.

Many of the countries and other participants hosting Ukrainian refugees have provided dedicated information through campaigns or other means, which can be vital for newly arrived refugees who are not familiar with the host country's education system and processes (Figure 1). Information has been provided in a variety of forms such as online information platforms, conferences in schools and community centres, and information on social media. In Poland, for example, the Ministry of Education and Science launched an information campaign including a chatbot, a helpline and an email inbox, partially available in Ukrainian, to provide information on admission to schools to the parents and guardians. Since mid-August 2022, the helpline has been operated by the Polish Centre for International Aid in co-operation with the ministry and the United Nations Children's Fund (UNICEF). Information about Poland's education system and enrolment procedures for Ukrainians was also published online, on the Ministry of Education website as well as on all local government websites.

Other common measures to ensure enrolment include the creation of teaching materials in Ukrainian and co-operation with Ukrainian authorities. These measures can help children to retain their identity and language skills from their home country, which forms an important part of their social and emotional well-being (Figure 1). Enabling refugees to continue some of their education in their own language can also enable them to support the recovery and rebuilding of their own country once peace returns (Debating Europe, 2017^[9]). Some countries have also taken measures to recruit Ukrainian-speaking staff, such as France, who have hired Ukrainian-speaking staff for all levels of pre-school and school education. The newly hired Ukrainian-speaking staff work in dedicated centres for newly arrived non-French speaking students (CASNAV), who are in charge of welcoming, academically assessing and guiding new arrivals from Ukraine through the school enrolment process.

Measures to make it easier for children with disabilities to enrol, such as adapted curricula for individualised learning or recruitment of teaching assistants who specialise in disability issues, vary among countries.

Most countries that took part in the survey reported that the standard measures for children with disabilities apply to all children enrolled in school, regardless of whether they have refugee status or not. A few countries have applied specific measures for Ukrainian students with special education needs, however. In Romania, for example, one of the Ministry of Education's main priorities was to adapt its legislative and administrative measures in order to ensure that disabled children with special education needs can have access to kindergartens and schools under the same conditions as Romanian children.

Vocational education and training

Vocational education and training (VET) can play a valuable role in boosting young people's skillsets and employability and can have long-lasting positive effects on their labour-market potential. Countries across the OECD place increasing emphasis on the positive effects of VET programmes for both individuals and the labour market (Semeraro, 2019^[10]). Around 1 in 9 Ukrainian refugees reported holding VET qualifications in a survey conducted by the European Union Agency for Asylum (EUAA) and the OECD across several EU countries in October 2022 (European Union Agency for Asylum and OECD, 2022^[11]).

Vocational education and training is an important educational sector in Ukraine, with one-third of upper secondary students enrolled in vocationally-orientated programmes in 2020. However, many Ukrainian students have had to interrupt their VET programmes following the war. In addition to existing students whose studies have been interrupted, some refugees may want to enrol in VET programmes in their host countries since practical orientated training might help overcome any language barriers they could be facing (Cedefop, 2022^[12]). For host countries, helping Ukrainian students to access VET is key not only to allowing students to continue their education, but also to supporting their own labour markets and to help with the future rebuilding of Ukraine (OECD, 2022^[13]).

However, Ukrainian refugee students face barriers to accessing VET programmes in their host societies. The recognition of skills and prior qualifications can be a particular challenge. Many countries are making efforts to scale up, adapt and reinvent their VET programmes in the face of these barriers.

As with many of the educational sectors accommodating refugee students, language is the most common barrier in accessing VET programmes. In most of the countries taking part in the OECD survey, VET is conducted in the host country's language, and very few offer VET programmes in additional languages such as English. For example, Norway reports that a prerequisite for attaining an apprenticeship is sufficient skills in the Norwegian language.

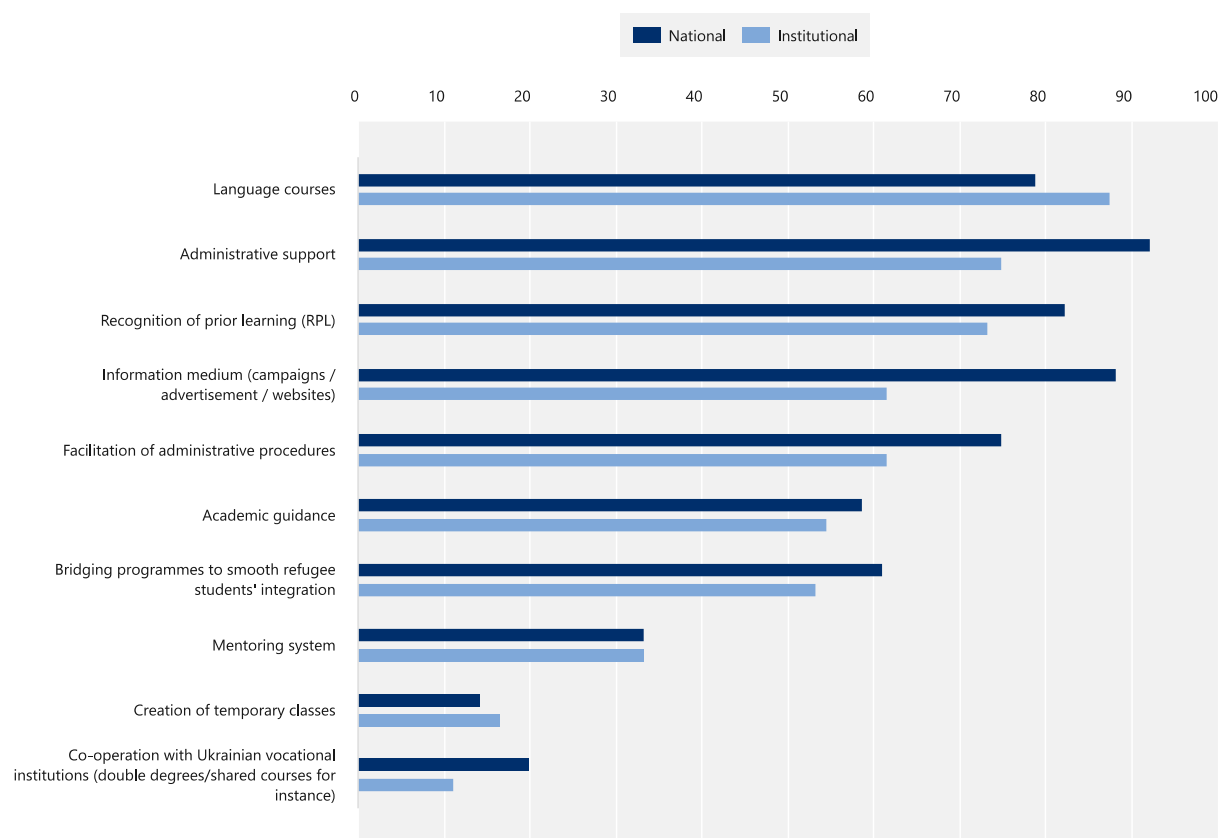
Lack of available information and lack of knowledge about local labour markets are also common barriers. Host countries reported that Ukrainian refugees, in most cases, do not have knowledge of the VET and labour-market opportunities that exist. One of the key reasons for this is a lack of accessible information. VET programmes and labour-market opportunities tend to be country specific, and knowledge about how they work and the kinds of opportunities available is not generally widespread at international level.

Recognition of prior learning (RPL) plays a key role in the integration of highly skilled refugees. Prior learning, either from education or from informal learning, needs to be recognised to support the inclusion and integration of refugees into their new society, labour market or workplace. The process of recognising previous learning can also have positive effects on refugees' self-esteem and well-being (Andersson, 2021^[14]). Countries and other participants taking part in the OECD survey reported that they had updated both national and institutional-level policies regarding RPL (Figure 2). In England (United Kingdom), the European Network Information Centre (ENIC) has researched how courses, levels and years of study in Ukraine compared to the English education system and has created a service to allow Ukrainians to apply for a "Statement of Comparability" proving their educational attainment, without having to take additional exams. Lithuania has adjusted its policy on admissions to VET institutions in order to ensure that Ukrainian VET students can continue their education and training in the same or similar programmes. Estonia enlisted both national and institutional-level policies with regard to RPL, through the national Estonian

Academic Recognition Information Centre, and an institutional RPL system called VÖTA, which takes into consideration previous studies and work experience.

Figure 2. Measures to help Ukrainian upper secondary students attain vocational qualifications (2023)

In per cent of countries



Note: The figure only includes instances where countries answer "Yes" and then excludes "No", "Not applicable" and "Missing" answers. 1 out of 28 countries have not answered this question. Readers are kindly invited to consult the database on "Ensuring a continued learning for Ukrainian refugees" for further information.

See the Definitions section for more information on National and Institutional levels.

Measures are ranked in descending order of the share of countries and other participants adopting them at the institutional level.

Source: OECD (2023), [Survey on Ensuring Continued Learning of Ukrainian Refugee Students](#).

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Countries also reported the provision of bridging programmes to smooth refugee students' integration into VET. Estonia, for example, allows students to choose a "vocational selection programme", which allows them to build up key competencies and language skills, while familiarising themselves with different subjects. In the United States, while a distinct upper secondary VET programme does not exist, some measures related to vocational courses or vocationally-orientated trainings are available for refugees. For instance, the Refugee Career Pathways programme provides Vocational English language training. At subnational level, the Miami-Dade County Public Schools Technical Colleges Skills for Academic, Vocational, and English Studies (SAVES) Program, sponsored by the Florida Department of Children and Families' Refugee Services Program, offers free vocational/technical classes to refugee students. The

Maryland Office for Refugees and Asylees (MORA) provides the Refugee Youth Mentoring Program, which supports academic and vocational achievement for young refugees aged 15-24.

Similarly, administrative support and mentoring systems were also among the measures taken (Figure 2). Ireland, for example, aims to support all Ukrainian VET (or further education and training, as it is referred to in Ireland) students throughout all phases of the learning process. This includes staff support in Regional Education and Language Teams placed around the country. Resources for students include tutors who can offer academic guidance, among other localised forms of support. Furthermore, the Irish Universities Association is in the process of establishing a Central Irish Higher Education Helpdesk with the aim of providing support to those who wish to enter VET programmes.

The Republic of Türkiye has created a weekly course schedule in the Vocational Training Centre for people under temporary protection to increase their access to education and their employability levels but also to strengthen social integration. To increase the visibility of their national vocational and technical education system, information about over 50 educational programmes has been translated into English and published online. The website also publicises the fields/branches and professions taught in vocational and technical education institutions, digital education materials, and career and employment opportunities for students.

Tertiary education

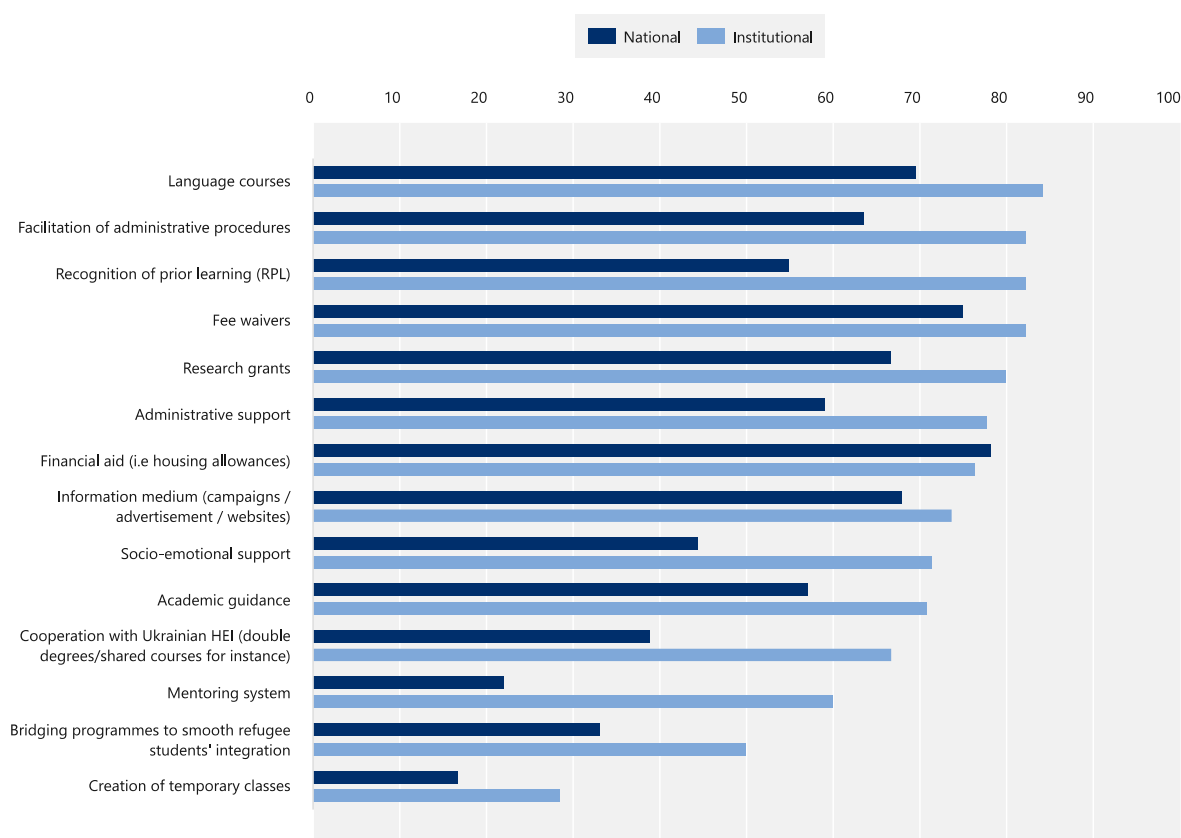
Recent data show that the population of refugees from Ukraine are highly educated and many have had their higher education degrees disrupted. 76% of women and 71% of men who have fled Ukraine since 2022 have completed higher education qualifications of BA/BSc and above, and 5.9% of women and 8% of men have report having incomplete higher education (Perelli-Harris et al., 2023^[15]). This has led to new demand for access to tertiary education and a new set of challenges for host countries and their tertiary education policies.

There are several personal and structural barriers that can make it difficult for Ukrainian students to enrol in tertiary education in host countries and systems. These include financial barriers, language barriers, problems regarding recognition of prior learning and administrative difficulties. Language was the most frequent barrier reported in the OECD survey, followed by equivalence with diplomas/qualifications and financial barriers. Capacity issues in higher education systems, lack of information about the host country's higher education system and 'relatively low integration of Ukrainian families in the (educational) system' were reported less frequently. These challenges were reported at both institutional and national levels.

As mentioned above, recognition of prior learning plays a key role in the integration of highly skilled refugees and migrants into the education system (Andersson, 2021^[14]). Not only does it offer clear economic benefits for individuals and their employment prospects to have their prior qualifications recognised, but it can increase their self-esteem and confidence on a personal level (Global Education Monitoring Report, 2018^[16]). Furthermore, data collected from European Network of Information Centres across Europe indicate that many Ukrainian refugees hold qualifications in fields where there are skill shortages in their host countries, such as health care and education (Norris, Duffy and Krasnoshchok, 2023^[17]). These qualifications and skills could be harnessed to benefit both host countries and the refugees themselves.

Figure 3. Measures to ease the integration of students at tertiary level (2023)

In per cent of countries



Note: The figure only includes instances where countries answer "Yes" and then excludes "No", "Not applicable" and "Missing" answers. 3 out of 28 countries have not answered this question. The question asked for measures taken after the war began, and therefore it must be noted that while some countries answered "No", it may not indicate that they do not take this measure, but rather that they implicated this measure prior to the war. Readers are kindly invited to consult the database on "Ensuring a continued learning for Ukrainian refugees" for further information.

See the Definitions section for more information on National and Institutional levels.

Measures are ranked in descending order of the share of countries and other participants adopting them at the institutional level.

Source: OECD (2023), [Survey on Ensuring Continued Learning of Ukrainian Refugee Students](https://www.oecd.org/skills/ukraine-project/survey-on-ensuring-continued-learning-for-ukrainian-refugee-students/).

StatLink  <https://stat.link/x23s8b>

Countries and other participants across the OECD have put in place exceptional measures at national and institutional level in order to include Ukrainian refugees in their higher education institutions (Figure 3). Systems have been adapted and made more flexible in numerous ways, such as offering financial aid, language courses, administrative and academic guidance, and procedures for recognition of prior learning. Financial aid was the top national measure reported in the OECD survey, followed by fee waivers and language courses. At institutional level, the top four actions taken were language courses, the facilitation of administrative procedures, recognition of prior learning, and fee waivers. Several countries have formed collaborations with Ukrainian universities and researchers; for example, over 100 partnerships between Ukrainian and English universities have been created.

In May 2022, Ireland established the National Student and Researcher Helpdesk to assist displaced students and researchers from Ukraine to apply to the higher education system or to be matched with a principal investigator to continue their research. Over 1 126 students applied via the helpdesk. To further support these students, a Temporary Tuition Fee Support Scheme was implemented through which the

government paid tuition fees for students studying a full-time course in a publicly funded higher education institution. They were also provided with a financial stipend of EUR 1 150 from the Erasmus national grant. These measures were for the 2022/23 academic year only.

Spain has undertaken numerous measures at national and institutional level in order to include Ukrainian refugees in their higher education systems, as part of the University-Refugee Action Plan undertaken by the Ministry of Universities in collaboration with Spanish universities. At national level, online government platforms provide relevant information to the refugees and the universities hosting them, available in both Ukrainian and Spanish. For instance, instructions on how to certify previous academic diplomas and qualifications are available on the website of the Ministry of Inclusion, Social Security and Migration. Ukrainian refugees also benefit from a faster processing time for the recognition and declaration of equivalent foreign university qualifications. At the institutional level, many universities in Spain offer additional free Spanish lessons to the refugees during the semester. Several universities have implemented research grants to researchers and students, as well as administrative support. Spanish universities also offer various kinds of socio-emotional support systems. The University of Valencia, for example, has established a psychological care service for recent arrivals, in collaboration with Psychologists Without Borders.

France has also taken several measures to ease the enrolment of Ukrainian students in their higher education systems at both institutional and national level. *Cité Universitaire* of Paris has organised the Virtual House of Ukraine, for example, which is a website dedicated to Ukrainian arrivals at the university. It aims to help them with administrative procedures, access to medical and sports facilities, and to connect them with their new peers. France has also eased the registration and RPL procedures among establishments, and implemented additional French language courses, scholarships, and emergency financial aid schemes. Campus France, a public institution in charge of promoting French higher education abroad and welcoming foreign students and researchers, has set up several initiatives for Ukrainian students at national level, such as a frequently asked questions (FAQ) information site, psychological support services and an academic guidance and professional orientation centre.

Many host countries offer financial aid to Ukrainian refugees who wish to enter higher education systems. In Germany, Ukrainian students with refugee status are eligible to apply for German state educational support. There is also special funding for research on the war, and/or collaboration with Ukrainian scientists and students. This is provided by the Foundation Innovation in Higher Education Teaching (*Stiftung Innovation in der Hochschullehre*), who have offered around EUR 2 million so far for selected projects during the academic year 2022/23. The special funding aims to create university teaching, learning and support services for students who would like to continue their studies temporarily, digitally or in person, at a university in Germany, as well as to help Ukrainian scientists and university members. In the United States, several universities, such as the University of Chicago, are providing full tuition scholarships to students affected by the war in Ukraine as well as additional mentoring support.

Remote learning

Many Ukrainian families opted to follow the All-Ukrainian Online School programme in place of attending local schools during the early stages of Russia's large-scale aggression. As the war continues, however, the importance of registering in national education systems has grown. In cases where children and young people cannot register in national education systems quickly, organisations such as UNICEF have called for the provision of multiple pathways to learning, including providing access to online learning opportunities (UNICEF, 2023^[18]).

The Ukrainian Ministry of Education and Science created an online distance and blended-learning platform in response to COVID restrictions in 2020, the All-Ukrainian Online School. It has since been mobilised in response to the forced displacement and the disruption of Ukrainian children's education and is now considered as a tool to encourage students to continue their link with the Ukrainian education system

(Ministry of Education and Science of Ukraine, 2023^[19]). The All-Ukrainian Online School offers distance and blended-learning for children in primary and secondary school, as well as methodological support for teachers. The platform is available online and through mobile applications, and includes video lessons, tests and materials for independent work in a range of subjects, including Ukrainian literature and language, biology, history, maths, and English. In collaboration with UNICEF, information on the organisation of the All-Ukrainian Online School has been translated into 12 European languages (Ministry of Education and Science of Ukraine, 2023^[19]).

Access to digital technologies can be very valuable for refugees and can help them to overcome feelings of isolation, find peer support and stay connected with family. It can also provide access to valuable education opportunities, particularly in the tertiary education sector (UNHCR, n.d.^[20]). These may be additional positive side effects for host countries providing remote learning opportunities to Ukrainian refugees.

Only 15 countries responded to the section on remote learning in the OECD Survey on Ensuring Continued Learning of Ukrainian Refugee Students. This is possibly because remote learning is a complex topic to track and measure, and because most countries have focused on enrolling these children in their national systems. Among those countries which did respond to this section of the survey, the most common way in which children were following the Ukrainian curriculum remotely was through individual access to the All-Ukraine virtual platform in formal school settings and institutions. In contrast, countries rarely reported arranging separate collective classes or organised facilities to follow the online curriculum outside of formal schools or other settings. Most countries reported that children were partially following the curriculum, with only Lithuania reporting that upper secondary students were following the curriculum in full.

Luxembourg strongly advises parents that children should follow remote learning on an extra-curricular basis, and they should encourage them to maintain their ties and links to their language and culture. In the summer of 2022, the Education Ministry organised online national secondary leaving exams for Ukrainian students in their last year of secondary education. Students were provided with extra equipment such as keyboards with Cyrillic characters. In Hungary, public institutions provided digital infrastructure, as well as a learning environment and teaching aids for families who have not applied for temporary protection and requested short-term help to continue their children's education.

In Romania, local authorities have supported the creation of “educational hubs” in several schools across the country, allowing Ukrainian children to benefit from the educational platforms provided by the Ukrainian Ministry of Education. Teachers have also had the opportunity to follow Teaching and Learning in Difficult Times, an online programme offered by the British Council in collaboration with UNICEF and the International Organisation for Migration, to support children affected by emotional trauma caused by war.

Some countries, such as Switzerland, reported that many Ukrainian students who were beyond compulsory education age – corresponding to upper secondary education – choose to follow the online Ukrainian curriculum rather than integrate into the national school system. Some countries also expressed concerns about children following the online curriculum in parallel with formal education, resulting in a double workload. Although Lithuania is supportive in providing measures and adjustments to accommodate remote learning, it highlights that full remote learning is not recommended by health specialists for younger learners, and so online learning is only partly integrated for primary and lower secondary school students.

Other common measures to support Ukrainian students in following the Ukrainian curriculum include the recruitment of Ukrainian-speaking teachers or assistants, the provision of computers and equipment, online resources in Ukrainian, and timetable adjustments. These measures were almost equally applied across primary, lower secondary and upper secondary education according to the survey. Some measures were not reported at upper secondary level, but this may be because upper secondary is not compulsory for those countries.

Lithuania reported taking all of the measures identified in the survey. All equipment needed to follow the online courses is provided for free of charge. Schools have been advised to be flexible over timetable adjustments, and they have enlisted teaching assistants who can support students throughout the process. Equipment provision was the second most popular measure reported among countries responding to the survey.

In the United States, the Ukrainian Refugee Education Initiative at Citizen's High School (a partnership between Citizens High School (USA), Ukraine's Ministry of Education and Science, the Embassy of Ukraine in the United States, and the Florida Department of Education), offers complimentary online courses for Ukrainian refugees and displaced persons, taught with Ukrainian translation in Ukrainian grade levels 9-11. This initiative also offers virtual classrooms with dedicated teachers in side-by-side format that allows students to learn in Ukrainian and English simultaneously.

Definitions

National level refers to policies implemented nationwide and decided by the country authorities.

Institutional level refers to policies implemented by educational institutions themselves, with or without receiving any national guidelines.

Learning space refers to a physical setting for a learning environment, a place in which teaching and learning occur.

Teacher shortage refers to the inability to fill vacancies with individuals qualified to teach in the fields needed.

Vocational education and training refers to VET at upper secondary level only. This may be received in public and private institutions (independent private institutions or government-dependent private institutions).

Remote learning refers to the process of teaching and learning performed at a distance. Rather than having students and teachers coming together in person, remote learning means that students are distanced from their teacher and their peers. In the context of this survey, it relates to the arrangements put in place by the Ukrainian authorities to allow children to follow the Ukrainian curriculum in full or in part.

Methodology

Figures presented in this chapter only include instances where countries answer "Yes", which means that answers "No", "Not applicable" and "Missing" are excluded. Readers are kindly invited to consult the database on "[Ensuring a continued learning for Ukrainian refugees](#)" for further information.

Source

The data underlying this report was produced through the [Survey on Ensuring Continued Learning of Ukrainian Refugee Students](#), conducted by the OECD in February 2023. Designed for government officials responsible for education, the survey collected information on the education policy responses of host countries

Ukraine database

Database	Main findings from the Survey on Ensuring Continued Learning for Ukrainian Refugee Students
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Chapter A. The output of educational institutions and the impact of learning

Indicator A1. To what level have adults studied?

Highlights

- Despite the educational expansion experienced on average across OECD countries in recent decades, 20% of adults (25-64 year-olds) still do not have an upper secondary qualification in 2022. Forty percent have an upper secondary or post-secondary non-tertiary qualification as their highest level of education, the same share as those with a tertiary degree.
- Among 25-34 year-olds with upper secondary or post-secondary non-tertiary attainment, vocational qualifications (attained by 23% for this age group) are more common than general qualification (18% with that level of attainment for this age group). Men are over-represented among those with vocational attainment, accounting for about 60% of the total.
- A large majority of 20-34 year-olds with vocational upper secondary or post-secondary non-tertiary attainment had very little or no work experience as part of their curriculum during their vocational studies: 44% had none or less than one month, while 29% had one to six months of work experience (paid or unpaid) and 28% had seven months or more.

Context

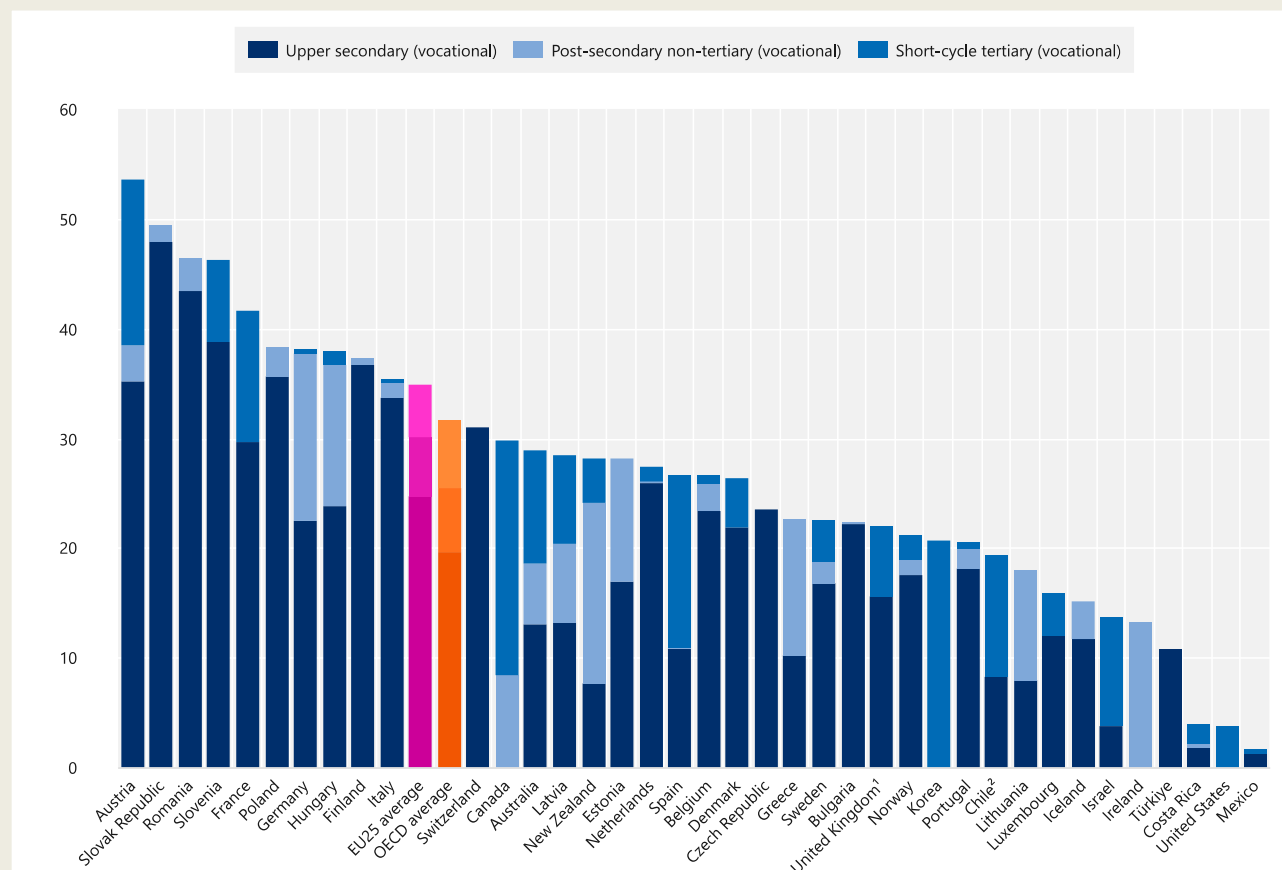
Educational attainment measures the percentage of the population holding a formal qualification at a given level as their highest level of education. It is frequently used as a proxy measure for human capital, even if formal qualifications do not necessarily mean the holders have acquired the relevant skills in demand from employers. In many professions with nationally or professionally regulated admission (e.g. medical doctors), the achievement of certain formal qualifications is an essential entry requirement. But even in occupations where formal qualifications are not mandated, employers tend to perceive formal qualifications as the most important signals of the type of knowledge and skills that potential employees have acquired. They are especially important for recent graduates, but they often affect individuals' careers throughout their working lives.

Higher levels of educational attainment are associated with positive economic, labour-market and social outcomes for individuals (see Indicators A3, A4 and A6). Highly educated individuals tend to be more socially engaged and have higher employment rates and relative earnings. While educational attainment measures formal educational achievements and not learning outcomes, higher attainment is strongly correlated with greater proficiency in literacy and numeracy (OECD, 2016^[1]). Highly educated adults are also more likely to participate in lifelong learning (see Indicator A7).

The benefits of higher attainment offer strong incentives for individuals to pursue their education. At the same time, many governments have adopted policies to expand access to education because of the societal and economic benefits. Together, these have resulted in strong increases in educational attainment in OECD and partner countries in recent decades.

Figure A1.1. Share of 25-34 year-olds whose highest level of education has a vocational orientation, by level of educational attainment (2022)

In per cent



1. Data for upper secondary attainment include completion of a sufficient volume and standard of programmes that would be classified individually as completion of intermediate upper secondary programmes (9% of adults aged 25-34 are in this group).

2. Year of reference differs from 2022. Refer to the source table for more details.

Countries are ranked in descending order of the share of 25-34 year-olds who attained vocational upper secondary, vocational post-secondary non-tertiary or vocational short-cycle tertiary education.

Source: OECD (2023), Table A1.3. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[2]).

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Other findings

- Among younger adults (25-34 year-olds), women are more likely to have a tertiary education than men in all OECD, partner and accession countries except India. On average across OECD countries, 54% of younger women have a tertiary degree in 2022, 13 percentage points higher than the share for younger men.
- In most countries where short-cycle tertiary education exists, it is exclusively vocationally oriented. However, in some countries, such as Canada, Norway and the United States, short-cycle tertiary degrees include both general and vocational programmes. Argentina and the Republic of Türkiye (hereafter “Türkiye”) only have general short-cycle tertiary programmes.
- Among younger adults whose highest level of education has a vocational orientation, 20% have an upper secondary vocational qualification compared with 6% each attaining a post-secondary non-tertiary vocational or short-cycle tertiary vocational qualification.

Analysis

Education is an asset not only because of its intrinsic value, but also because it provides individuals with skills and 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. On average across OECD countries, 40% of adults (25-64 year-olds) have a tertiary credential as their highest level of education, another 40% have attained upper secondary or post-secondary non-tertiary education, while 20% have not obtained an upper secondary education (Table A1.1.). However, differences among OECD countries are large: more than 50% of adults in Costa Rica, Mexico and Türkiye lack an upper secondary qualification, while more than 60% of adults in Canada have a tertiary credential (Figure A1.2).

Below upper secondary attainment

As upper secondary or post-secondary non-tertiary education has become more important for participation in modern economies, the share of those with below upper secondary education has declined, albeit unevenly. Among younger adults (25-34 year-olds), it has fallen by 4 percentage points for men and 4 percentage points for women from 2015 to 2022 on average across OECD countries. However, 16% of younger men and 12% of young women still did not have an upper secondary education in 2022. Among OECD countries, these percentages are highest in Costa Rica (46% of young men and 37% of young women) and Mexico (43% of young men and 43% of young women). Portugal has seen the largest decrease in the share of young men without an upper secondary qualification, from 40% in 2015 to 20% in 2022, while for young women, the biggest fall over that period has been in Türkiye, from 52% to 34% (Table A1.2).

Some countries have achieved near universal upper secondary attainment among younger adults. In Korea, only 2% of 25-34 year-olds have not attained an upper secondary education. Similarly, in both Canada and Slovenia, the shares are 6% for young men and 3% for young women, 7% and 5% in the United States, and 5% for both young men and women in Ireland (Table A1.2).

Upper secondary or post-secondary non-tertiary attainment, by programme orientation

As tertiary attainment has become more common across OECD countries, the share of the population with upper secondary or post-secondary non-tertiary education as their highest level of attainment has declined. However, this decline has been less pronounced than the increase in tertiary attainment because of a parallel shift from below upper secondary education to upper secondary attainment. In 2022, on average 44% of men and 35% of women aged 25-34 had an upper secondary or post-secondary non-tertiary qualification as their highest level of education, which is only 2 percentage points less than in 2015 for men and 3 percentage points less for women (Table A1.2).

Upper secondary education programmes can be divided into two categories by their orientation: general programmes aim to prepare students for tertiary education, while vocational ones focus mainly on preparing them for labour-market entry (although some vocational programmes also commonly act as a route to tertiary education). Some countries do not have a distinct vocational track at upper secondary level, or have upper secondary vocational programmes that mostly target those who have completed initial education (Box A1.1). In most countries, post-secondary non-tertiary education is mainly vocationally oriented (Table A1.3).

Progression through education is not always linear. Some students with a tertiary degree may go on to pursue an additional qualification at the same or lower level as their highest qualification. For example, according to a recent study in Canada, pathways from a bachelor's or equivalent degree to a lower level of education frequently involve upper secondary or post-secondary non-tertiary or short-cycle tertiary education that are related to the bachelor's or equivalent degree but are more specific and focused. For example, they might go from social sciences or psychology to human resources management, from English to public relations and advertising, or from natural science to specific health fields. In some cases, these college programmes are taken by people with bachelor's or equivalent degrees that typically have very strong labour-market outcomes: for example, a registered nursing specialisation college programme (e.g. neonatal nursing) following a bachelor's or equivalent degree in registered nursing (Table A2.5 and (Wall, 2021^[4])).

Box A1.1. Different structures of upper secondary vocational education

Upper secondary education is the most common level at which vocational education and training (VET) programmes are offered across OECD countries (see Chapter B). However, the structure of vocational education and training at the secondary level can differ widely from one country to another.

Differentiated programmes: single versus multiple tracks

Some countries offer vocational education and training through a single main vocational upper secondary track in initial education, offered alongside a general education track. In these countries (e.g. Costa Rica, Estonia, Finland), this single vocational upper secondary track always yields direct access to tertiary education.

Another group of countries offer multiple vocational tracks, some of which lead to tertiary education, and some that do not. The vocational tracks with direct access to tertiary education will have a stronger element of general education (and thus help prepare students for further studies) while others will focus more on preparation for an occupation. For example, France and Mexico have one major programme with access to tertiary education, and another one without. In Germany, there are two main vocational streams at upper secondary level: apprenticeships and vocational programmes at full-time vocational schools.

Differentiated programmes: continuing upper secondary vocational study after initial schooling

Unlike the “tracks” described in the previous paragraphs, in some anglophone countries such as Ireland, New Zealand and the United Kingdom, vocational programmes are offered after initial schooling.

For example, New Zealand has a generally oriented school system with one predominant programme at the upper secondary level. Students can leave school after their 16th birthday (which typically occurs in their first year of upper secondary), but most stay for a second or third year of upper secondary schooling, typically leaving at age 17 or 18, respectively.

With some exceptions, most formal VET in New Zealand occurs after this initial schooling. School leavers have access to many VET programmes, spanning a large range of fields, at upper secondary or post-secondary non-tertiary or short-cycle tertiary levels. These occur in post-secondary vocational institutions, or in workplaces. They provide formally recognised qualifications and credentialled pathways for entry to the labour market.

Undifferentiated programmes

Finally, in Canada (outside of Quebec) and the United States, VET at the upper secondary level is not offered as a separate programme. Instead, vocational learning is available in the form of individual optional courses. In undifferentiated upper secondary (high school) programmes, there is no single decision point where students choose between a vocational or general programme, as students continue to take other courses in their curriculum with a general focus at the same time as pursuing vocational courses. However, if students wish to pursue a special vocational certification or endorsement, they are encouraged to make this decision early in their secondary school career, to ensure that they have the time to acquire enough credits towards the endorsement.

As with differentiated VET programmes, these upper secondary vocational courses are intended to prepare students' transition from school to the labour market or to further post-secondary vocational studies. However, as all students still receive the same upper secondary qualification, regardless of whether they chose to take any vocational courses as part of their secondary studies, they also have direct access to tertiary education should they prefer to take that pathway.

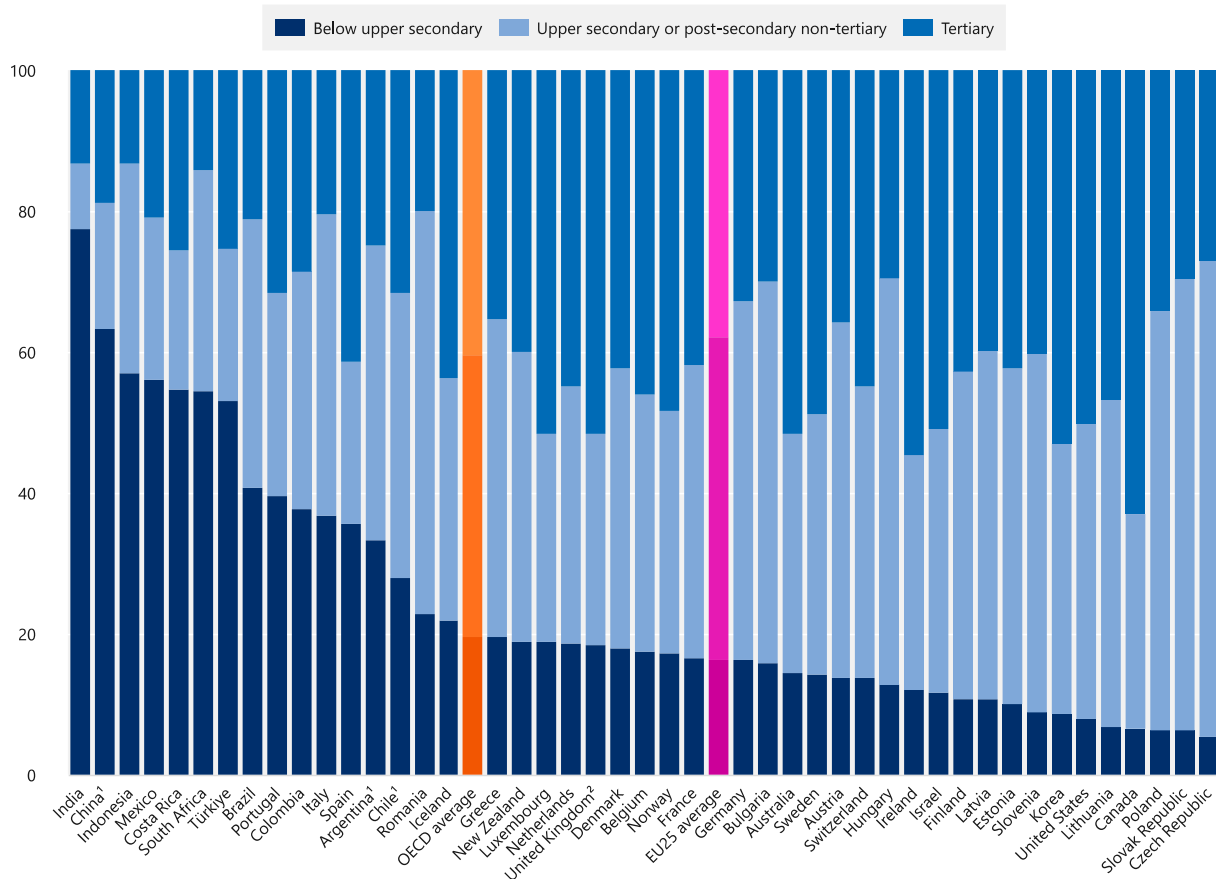
Among OECD countries where the qualification exists, the share of younger adults with vocational upper secondary attainment varies widely across OECD countries. On average across OECD countries, 20% of 25-34 year-olds have vocational upper secondary education as their highest level of education. In Mexico, 1% of younger adults have this level of educational attainment, while in Finland and Slovenia the share is almost 40%, and it reaches 48% in the Slovak Republic (Figure A1.1).

Vocational post-secondary non-tertiary attainment also varies widely. The share of 25-34 year-olds who have a vocational post-secondary non-tertiary education as their highest qualification averages 6% across OECD countries. In Costa Rica, Finland, the Netherlands and Spain, less than 1% of younger adults have this level of educational attainment while the figure is 15% or more in Germany and New Zealand (Figure A1.1).

On average, among 25-34 year-olds, vocational upper secondary or post-secondary non-tertiary qualifications are more common than general qualifications at this level (23 versus 18%). However, there are a few exceptions: general upper secondary or post-secondary non-tertiary attainment exceeds vocational attainment among younger adults by 30 percentage points or more in Chile and Israel, by about 25 percentage points in Costa Rica and Mexico, and by about 10 percentage points in Canada (Table A1.3).

Figure A1.2. Educational attainment among 25-64 year-olds (2022)

In per cent



1. Year of reference differs from 2022. 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 (11% of adults aged 25-64 are in this group).

Countries are ranked in descending order of the share of 25-64 year-olds with below upper secondary attainment.

Source: OECD (2023), Table A1.1. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[2]).

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Men aged 25-34 are over-represented among those with vocational attainment compared with women, accounting for 60% of the population with upper secondary or post-secondary non-tertiary vocational attainment (Figure A1.4). However, in Chile, Costa Rica and Mexico, women account for more than 50% of 25-34 year-olds with this educational attainment, while their share is less than 30% in Canada (Figure A1.4).

Students in vocational education may have the opportunity to gain experience in the labour market as part of the curriculum during their studies, and thus to acquire relevant skills and knowledge alongside their studies. As shown in Box A1.2, among the 20-34 year-olds with vocational upper secondary or post-secondary non-tertiary attainment, only 28% gained 7 months or more of work experience (paid or unpaid) while studying on average across the OECD countries participating in the European Labour Force Survey (EU-LFS). Again, the differences among countries are large: the rate exceeds 80% in

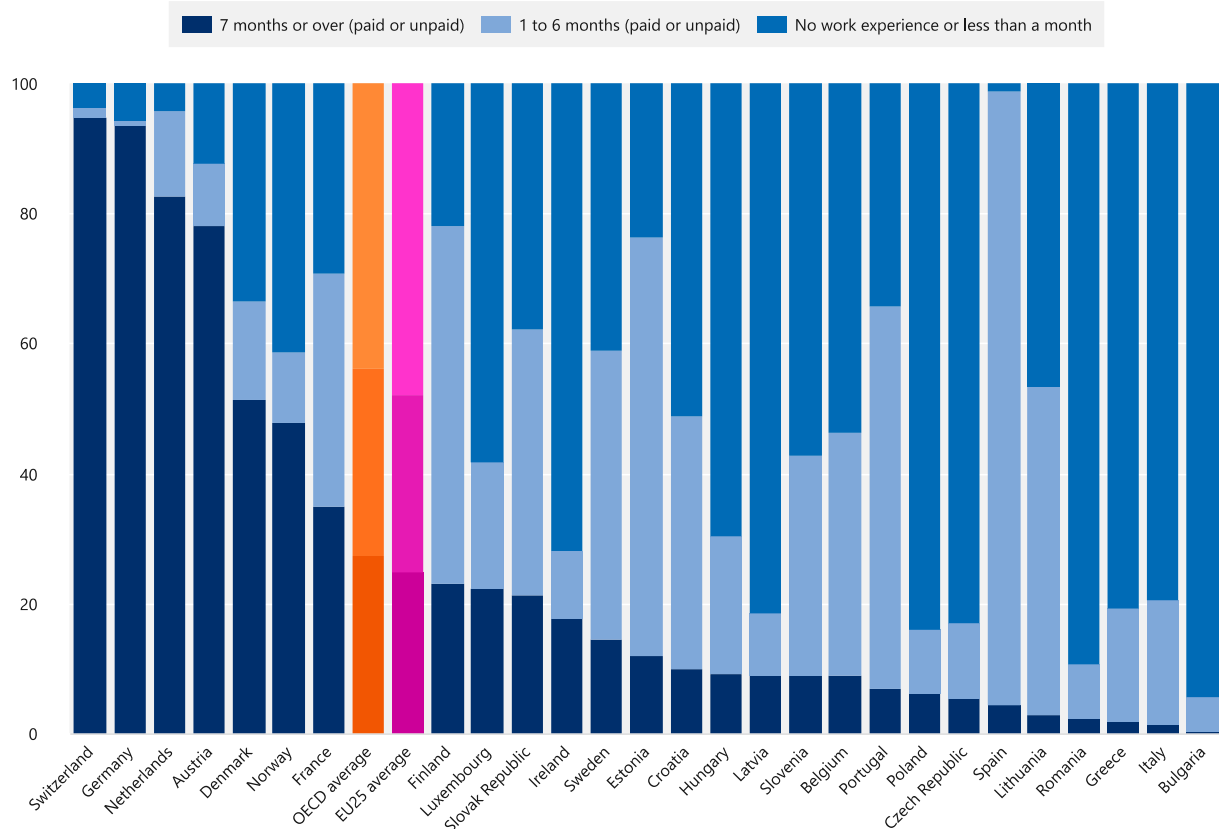
Germany, the Netherlands and Switzerland, but does not reach 20% in most of the other OECD and accession countries taking part in EU- LFS (Figure A1.3).

Box A1.2. Work experience of adults with vocational attainment

The EU-LFS includes a question about the work experience as part of the curriculum adults had during their studies (at the highest level of education they have completed). Figure A1.3 shows data on the work experience gained during their studies by 20-34 year-olds with vocational upper secondary or post-secondary non-tertiary attainment. Its focus on individuals' highest qualification means the figure does not capture vocational education and training (VET) graduates who progressed to tertiary education, or completed a vocational programme after a tertiary qualification (see Indicator A2). These data complement the information in Box A1.1 as they offer a recent historical perspective (many survey respondents completed their programme several years ago), they reflect actual participation in work experience rather than design features of the programme and they also include work experience that may not be connected to the programme itself.


Figure A1.3. Distribution of 20-34 year-olds with vocational upper secondary or post-secondary non-tertiary attainment, by type of work experience while studying (2022)

In per cent



Countries are ranked in descending order of the share of 20-34 year-olds with 7 months or over of work experience, paid or unpaid.

Source: OECD (2023), Table A1.4, available on line. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[2]).

StatLink  <https://stat.link/y4azxf>

Among OECD and accession countries participating in EU-LFS, in Austria, Germany, the Netherlands and Switzerland a large share (78% or more) of these young adults report having at least seven months' work experience during their studies (paid or unpaid). These countries have a strong tradition of apprenticeships, mostly at upper secondary level (in Austria, the Netherlands and Switzerland post-secondary non-tertiary VET sector is small, and in Germany it includes apprenticeships for upper secondary graduates). Longer periods of work experience tend to be paid – only in the Netherlands and the Slovak Republic do more than 15% of 20-34 year-olds with vocational upper secondary or post-secondary non-tertiary attainment report unpaid work experience of seven months or more (Table A1.4, available on line).

Shorter periods of work experience are more common. At least half of 20-34 year-olds with VET as their highest qualification report having had work experience of one to six months in Estonia, Finland, Lithuania, Portugal and Spain. In these countries, VET students tend to work for defined periods of time while they are in education. In just a few countries both shorter and longer periods of work experience are equally common – examples include France, Ireland and Luxembourg. These results might be driven by the co-existence of school-based vocational programmes and apprenticeships (as in France), as well as work experience that young people may pursue outside their education programme (Figure A1.3).

On average, about 44% of 20-34 year-olds with vocational upper secondary or post-secondary non-tertiary attainment report not having had any work experience, or only very short periods (less than a month) during their programme. In 9 OECD and accession countries taking part in EU-LFS this is the case for over two-thirds of respondents (Figure A1.3). In some cases, these low figures might conceal earlier work experience – such as learners who gained work experience during upper secondary VET and progressed to post-secondary non-tertiary VET but did not have any work experience at that stage. But a more common explanation is likely to be that a large share of students leave VET with very little or no work experience.

Tertiary attainment, with a focus on short-cycle tertiary

Rising educational attainment is strongly reflected in the increases in tertiary attainment rates over the past few decades. On average across OECD countries, the share of 25-34 year-old men with a tertiary degree (i.e. short-cycle tertiary, bachelor's, master's or doctoral or equivalent) has increased from 36% in 2015 to 41% in 2022. Among women of that age, the share has risen from 47% to 54%. In seven OECD countries, more than half of all 25-34 year-old men have a tertiary degree in 2022, and this is the case for women in all but twelve OECD countries. There are eight OECD countries where tertiary attainment among younger men is below 30% and the rate is lower than 30% for younger women only in Mexico (Table A1.2).

Some countries are expanding their VET provision at tertiary level. In Germany, for example, the Excellence initiative for VET aims to increase the attractiveness of VET programmes at tertiary level. In addition, some vocational qualifications in Germany are now equivalent to bachelor's and master's degrees. As there is no internationally agreed definition of the orientation of educational programmes at tertiary level (see Textbox in Indicator B5), the following analysis focuses exclusively on short-cycle tertiary programmes.

Short-cycle tertiary

On average across OECD countries, 8% of 25-34 year-olds have a short-cycle tertiary degree as their highest attainment, but the share varies widely across countries. In seven OECD countries, the share is less than 1% of younger adults, while it exceeds 20% in Canada and Korea. In Austria, it is the most common attainment level among tertiary-educated 25-34 year-olds (Table A1.3).

There is no clear pattern by gender on short-cycle tertiary attainment among 25-34 year-olds. On average there is not a large gender gap across OECD and partner countries with data for this level of education, but this conceals wider differences in some countries. In Japan, Indonesia and the Netherlands, women make up 65% or more of younger adults with this level of education as their highest qualification, while in Italy and New Zealand it is men who account for 60% or more. As for any category of tertiary education, the gender ratio depends on the fields that are offered (Figure A1.4 and see Indicator A3 in (OECD, 2022^[5])).

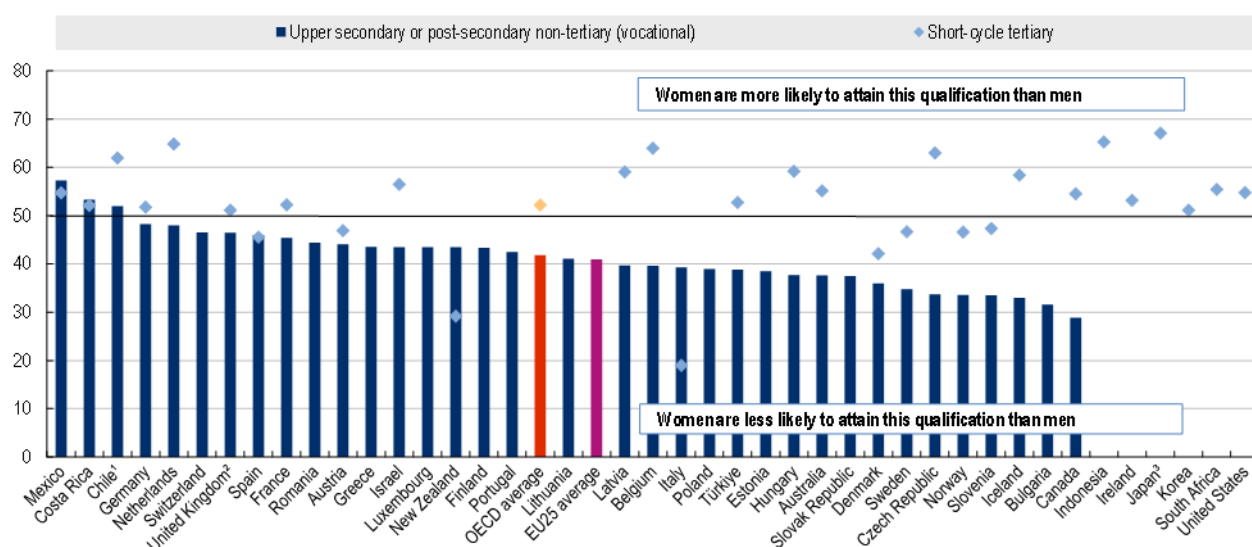
In most countries where short-cycle tertiary education exists, it is exclusively vocationally oriented. However, in some countries, such as Canada, Norway and the United States, short-cycle tertiary degrees combine or offer both general and vocational programmes. Argentina and Türkiye only have general short-cycle tertiary programmes (Table A1.3). On average

across OECD countries, 6% of 25-34 year-olds have a vocational short-cycle tertiary degree as their highest attainment. In nearly one-third of OECD countries, less than 2% of younger adults have this level of educational attainment but it exceeds 10% in a similar proportion of countries and exceeds 20% in Canada and Korea (Figure A1.1).

The nature and sectoral coverage of programmes offered at this level varies considerably across countries and is reflected in attainment data. For example, in the Czech Republic short-cycle tertiary education is limited to a specific programme in the performing arts (conservatoire programmes in music, singing and drama). In Germany short-cycle tertiary education only covers short master craftsman programmes, while longer master craftsman programmes are offered at bachelor's or equivalent level. In contrast, in Austria short-cycle tertiary level includes both master craftsman programmes and years 4-5 in higher technical and vocational colleges, which follow-up on three-year upper secondary vocational programmes in the same colleges. They target a wide range of fields, from technology to business administration and artistic design. Canada also has a large short-cycle tertiary sector, which plays an important role in developing occupational skills, as upper secondary education is predominantly general and, with the exception of Quebec, there are no distinct vocational tracks at that level. Short-cycle tertiary education includes a wide range of programmes, such as undergraduate certificates, college diplomas and applied certificates in a variety of fields including business, health and technology (OECD, 2022^[6]). In Canada, community colleges provide short-cycle tertiary education. Among the qualifications individuals can obtain are: wilderness first-aid, baking and pastry, electronic systems engineering technology, and child and youth care (Skolnik, 2021^[7]).

Figure A1.4 Share of women among those with vocational upper secondary or post-secondary non-tertiary or short-cycle tertiary attainment (2022)

In per cent; 25-34 year-olds



1. Year of reference differs from 2022. 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 (9% of adults aged 25-34 are in this group).

3. 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 share of women among 25-34 year-olds with vocational upper secondary or post-secondary non-tertiary attainment and in alphabetical order for countries for which data on this level of education are not available.

Source: OECD (2023), Education at a Glance Database, <http://stats.oecd.org/>. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[2]).

StatLink  <https://stat.link/fyn2ca>

Variations in educational attainment by subnational regions

National level data often hide significant regional inequalities. For instance, in Colombia, the share of 25-64 year-olds with below upper secondary attainment varies from 6% in Nariño to 57% in Cauca, a difference of more than 50 percentage points.

In Canada, Portugal and Türkiye, the difference between the regions with the largest and the smallest shares of adults with below upper secondary attainment is 30 percentage points or higher (OECD, 2023^[8]).

The region containing the capital city tends to have a smaller share of adults with lower educational attainment than other regions in a country. This is the case for both upper secondary or post-secondary non-tertiary attainment and below upper secondary attainment. The capital region has the smallest share of adults in both these categories in 20 out of 34 countries with available data. In contrast, in Belgium, the Brussels Capital Region has the highest share (22%) of adults with below upper secondary attainment. In Ankara region in Türkiye, about one in four adults (23%) have upper secondary or post-secondary non-tertiary attainment, which is the highest share across regions (OECD, 2023^[8]).

In most OECD countries, overall tertiary attainment rates vary widely across subnational regions. Among countries with available data, the share of 25-64 year-olds with tertiary degrees frequently varies by a factor of two across regions. For example, in Spain, the shares range from 23% to 56%, while similar-sized differences exist in many other countries.

In contrast, short-cycle tertiary attainment is relatively homogeneous across subnational regions. Among countries with available data, the United States has the largest difference in the share of the 25-64 year-olds with short-cycle tertiary attainment between two regions, with a 14 percentage point difference between the District of Columbia (3%) and North Dakota (17%). In Australia, Chile, Costa Rica, Israel, New Zealand and the United Kingdom, the difference does not exceed 5 percentage points (OECD, 2023^[8]).

Diversity in attainment within countries has important policy implications. For example, some regions within a country might face shortages of skilled workers, while in others, workers with the same qualifications are unemployed. It is therefore important to look beyond national averages and develop policies that can be adapted to regional contexts (OECD, 2023^[8]).

Just as they tend to have smaller shares of adults with lower attainment, in many countries the capital region has exceptionally high tertiary attainment levels. Partly, this is due to the high number of tertiary-educated workers employed in national administrations, which have their seat in the capital regions. More importantly, however, the capital region is often home to the country's largest city. Urban areas are also more likely to host universities and tend to have higher rates of tertiary attainment than rural areas.

When interpreting the results for subnational entities, readers should take into account that their population size can vary widely within countries. For example, in 2022, in Canada, the population of Nunavut is 40 526 people, while the population for the province of Ontario it is 15 109 400 people (OECD, 2023^[8]).

Definitions

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.

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

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

Methodology

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

In OECD statistics, recognised qualifications from ISCED 2011 level 3 programmes that are not of sufficient duration for ISCED 2011 level 3 completion are classified at ISCED 2011 level 2 (see the *Reader's Guide*). Where countries have been able to demonstrate equivalencies in the labour-market value of attainment formally classified as the "completion of

intermediate upper secondary programmes” – such as achieving five good General Certificates of Secondary Education (GCSEs) or equivalent in the United Kingdom (note that each GCSE is offered in a specific school subject) – 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-UIS, 2012^[9]).

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.

For more information see the [OECD Handbook for Internationally Comparative Education Statistics](#) (OECD, 2018^[10]) and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[2]).

Source

Data on population and educational attainment for most countries are taken from OECD 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 Argentina, the People’s Republic of China, India, Indonesia and South Africa are taken from the International Labour Organization (ILO) database.

Data on the distribution of young adults with vocational upper secondary or post-secondary non-tertiary attainment, by type of work experience while studying are from EU-LFS for all countries participating in this survey.

Data on subnational regions for selected indicators are available in the OECD *Regional Statistics Database* (OECD, 2023^[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 (2022)
Table A1.2.	Trends in educational attainment of 25-34 year-olds, by programme orientation and gender (2015 and 2022)
Table A1.3.	Educational attainment of 25-34 year-olds, by programme orientation (2022)
WEB Table A1.4.	<i>Distribution of young adults with vocational upper secondary or post-secondary non-tertiary attainment, by type of work experience while studying (2022)</i>

StatLink  <https://stat.link/yoj1u8>

Cut-off date for the data: 15 June 2023. 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 (2022)

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	Total	Upper secondary	Postsecondary non-tertiary	Total	Shortcycle tertiary	Bachelor's or equivalent	Master's or equivalent	Doctoral or equivalent	Total	
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Australia	0	3	a	11	a	15	28	6	34	12	29	9	2	51	100
Austria	x(2)	1 ^d	a	13	a	14	47	3	50	15	6	14	1	36	100
Belgium	3	4	a	11	a	18	35	2	37	1	25	19	1	46	100
Canada	x(2)	2 ^d	a	5	a	7	21	10	30	26	24	12 ^d	x(12)	63	100
Chile ¹	6	4	a	19	a	28	41	a	41	10	19	2 ^d	x(12)	31	100
Colombia	x(4)	x(4)	a	37 ^d	1	38	34 ^d	x(7)	34	x(11)	28 ^d	x(11)	x(11)	28	100
Costa Rica	10	26	8	8	3	55	20	0	20	7	16	3	c	25	100
Czech Republic	0	0	a	5	a	6	68 ^d	x(7)	68	0	7	19	1	27	100
Denmark	x(2)	2 ^d	a	17	a	18	39	0	40	5	21	15	2	42	100
Estonia	0	0	a	10	a	10	38	10	48	6	15	21	1	42	100
Finland	x(2)	1 ^d	a	10	a	11	45	2	46	8	18	16	1	43	100
France	2	3	a	12	a	17	41	0	42	14	12	14	1	42	100
Germany	x(2)	5 ^d	a	11	a	16	38	13	51	1	18	12	2	33	100
Greece	1	10	a	9	1	20	36	9	45	0	25	8	1	35	100
Hungary	0	1	a	12	a	13	51	6	58	1	15	13	0	29	100
Iceland	x(2)	0 ^d	a	22	a	22	27	7	34	4	21	17	1	44	100
Ireland	0	3	a	9	a	12	18	15	33	10	28	15	2	54	100
Israel	3	3	a	6	a	12	38	a	38	11	24	14	1	51	100
Italy	1	4	a	32	a	37	41	2	43	0	6	14	1	20	100
Japan	x(7)	x(7)	a	x(7)	a	m	44 ^d	x(10)	m	21 ^d	35 ^d	x(11)	x(11)	56 ^d	100
Korea	x(2)	3 ^d	a	6	a	9	38	a	38	15	34	4 ^d	x(12)	53	100
Latvia	0	0	a	8	3	11	37	13	50	4	17	18	0	39	100
Lithuania	1	0	0	4	2	7	27	19	46	a	30	16	1	47	100
Luxembourg	1	6	a	12	a	19	28	2	30	5	15	29	3	51	100
Mexico	9	15	2	27	4	56	23	a	23	1	18	2	0	21	100
Netherlands	2	4	a	13	a	19	36	0	37	2	24	17	1	45	100
New Zealand	x(4)	x(4)	a	19 ^d	a	19	26	15	41	4	30	5	1	40	100
Norway	c	0	0	17	a	17	33	1	35	12	21	14	1	48	100
Poland	0	1	a	6	a	7	56	3	60	0	8	25	1	34	100
Portugal	1	20	a	18	a	40	28	1	29	0	10	21	1	31	100
Slovak Republic	0	1	0	5	0	7	62	2	64	0	4	24	1	29	100
Slovenia	0	0	a	8	a	9	51	a	51	8	12	16	4	40	100
Spain	2	5	a	29	a	36	23	0	23	13	11	16	1	41	100
Sweden	x(2)	3 ^d	a	9	3	14	29	8	37	10	20	17	2	49	100
Switzerland	0	1	a	12	a	14	41 ^d	x(7)	41	x(11,12,13)	25 ^d	17 ^d	3 ^d	45	100
Türkiye	4	33	a	16	a	53	22	a	22	7	16	2	0	25	100
United Kingdom ²	0	0	c	18	11	19	19	a	30	9	26	14	2	51	100
United States	1	2	a	5	a	8	42 ^d	x(7)	42	11	25	12	2	50	100
OECD average	2	5	m	13	m	20	36	6	40	7	19	14	1	40	100
Partner and/or accession countries															
Argentina ¹	3	14	m	16	m	33	42	a	42	x(11)	23 ^d	x(11)	1	25	100
Brazil	11	17	a	13	a	41	x(9)	x(9)	38	x(11)	20 ^d	1	0	21	100
Bulgaria	1	2	a	13	a	16	54	0	54	a	9	20	0	30	100
China ¹	2	17	a	44	a	63	18	0	18	10	8	1 ^d	x(12)	19	100
Croatia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
India	34	13	a	30	a	78	8	1	9	x(11)	10 ^d	x(11)	3	13	100
Indonesia	13	26	a	18	a	57	30	a	30	3	10	1	0	13	100
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	1	2	a	15	5	23	54	3	57	x(14)	x(14)	x(14)	x(14)	20	100
Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
South Africa	9	9	a	37	a	55	30	1	31	2	11	1 ^d	x(12)	14	100
EU25 average	1	3	m	12	m	17	41	5	46	5	15	17	1	38	100
G20 average	7	10	m	18	m	33	30	m	33	10	18	9	1	35	100

Note: See StatLink and Box A1.3 for the notes related to this Table.

Source: OECD/IL0/UIS (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023_[2]).StatLink  <https://stat.link/ji2qlh>

Table A1.2. Trends in educational attainment of 25-34 year-olds, by programme orientation and gender (2015 and 2022)

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			
					By programme orientation								Total							
					General				Vocational											
	2015		2022		2015		2022		2015		2022		2015		2022		2015		2022	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
OECD countries	(1)	(2)	(4)	(5)	(7)	(8)	(10)	(11)	(13)	(14)	(16)	(17)	(19)	(20)	(22)	(23)	(25)	(26)	(28)	(29)
Australia	12	11	10	7	18	18	18	16	27	16	24	14	45	34	41	30	42	54	49	63
Austria	9	11	12	9	7	9	7	9	48	39	42	35	55	48	50	43	36	41	39	48
Belgium	19	16	14	11	11	11	11	10	33	24	31	21	43	35	42	30	37	49	44	59
Canada	8	5	6	3	27	20	24	16	15	6	12	5	42	27	36	21	50	68	58	76
Chile ¹	17	16	14	11	44	42	40	37	11	11	9	8	55	52	49	45	28	31	37	44
Colombia	35	30	26	19	x(19)	x(20)	x(22)	x(23)	x(19)	x(20)	x(22)	x(23)	41	39	45	41	24	32	29	39
Costa Rica	54	49	46	37	19	18	24	26	2	3	2	3	20	20	26	29	26	31	28	34
Czech Republic	6	6	7	7	x(19)	x(20)	36	33	x(19)	x(20)	30	16	69	56	66	50	24	38	27	43
Denmark	21	15	20	15	11	10	12	11	33	23	28	16	44	33	40	27	35	52	40	58
Estonia	14	10	12	8	22	19	21	15	33	20	33	23	55	39	54	37	31	51	34	55
Finland	12	8	10 ^b	8 ^b	14	10	14 ^b	12 ^b	41	33	41 ^b	34 ^b	55	43	55 ^b	45 ^b	33	49	35 ^b	47 ^b
France	15	12	12	10	9	11	8	10	35	28	33	26	45	39	41	36	40	49	47	54
Germany	13	12	17	15	8	6	10	8	51	51	38	38	59	57	48	46	29	31	35	40
Greece	20	12	9	7	25	23	27	21	20	18	25	20	46	41	52	42	34	46	39	52
Hungary	15	13	13	14	12	16	16	21	47	32	45	29	59	48	60	49	26	38	27	37
Iceland	32	21	31	14	17	21	21	20	21	12	19	11	38	33	40	31	30	46	29	55
Ireland	11	8	5	5	29	23	22	15	14	11	13	14	43	35	35	29	46	58	60	66
Israel	10	7	10	7	47	34	50	33	6	3	4	3	53	37	54	36	36	56	36	57
Italy	29	22	25	19	9	16	10	17	43	30	42	28	52	47	52	45	19	31	23	35
Japan ²	m	m	m	m	x(25)	x(26)	x(28)	x(29)	x(25)	x(26)	x(28)	x(29)	x(25)	x(26)	x(28)	x(29)	58 ^d	61 ^d	62 ^d	69 ^d
Korea	1	2	2	2	34 ^d	25 ^d	35 ^d	22 ^d	x(7)	x(8)	x(10)	x(11)	34	25	35	22	65	73	63	77
Latvia	20	10	14	7	28	20	27	19	26	16	24	17	54	36	51	36	26	54	35	57
Lithuania	14	6	9	4	21	17	21	14	19	12	21	15	41	29	42	29	45	65	49	67
Luxembourg	18	13	13	9	1	1	15	15	28	25	15	12	37	32	31	28	45	55	57	63
Mexico	56	55	43	43	22	21	29	28	2	3	1	1	24	24	30	29	20	21	27	28
Netherlands	16	12	11	8	10	6	9	6	33	31	27	25	43	37	36	31	41	51	52	61
New Zealand	19	19	14	11	15	15	19	19	32	23	27	21	46	38	47	40	35	43	39	49
Norway	20	17	19	13	14	11	9	8	25	15	25	13	40	26	34	21	40	57	47	66
Poland	8	4	8	5	12	12	15	14	46	31	46	31	58	43	61	45	34	53	31	50
Portugal	40	27	20	14	20	20	20	18	15	13	23	17	35	32	43	35	25	41	37	52
Slovak Republic	7	7	7	7	4	4	4	5	66	49	61	38	69	53	65	43	23	40	28	51
Slovenia	7	4	6	3	12	12	10	8	50	32	48	28	62	43	58	36	30	53	36	60
Spain	40	29	32	21	14	13	12	11	11	11	12	10	25	24	24	22	35	47	44	57
Sweden	20	15	17	12	15	14	15	13	26	17	24	13	41	31	39	27	39	54	44	61
Switzerland	9	9	9	9	10	11	8	8	37	32	33	30	46	43	41	38	45	48	50	53
Türkiye	44	52	32	34	15	12	16	14	14	9	13	9	28	21	29	22	28	27	39	44
United Kingdom ³	14	13	14	11	22	21	14	13	16	14	17	15	38	35	31	28	48	52	55	61
United States	10	9	7	5	47 ^d	41 ^d	47 ^d	38 ^d	x(7)	x(8)	x(10)	x(11)	47	41	47	38	42	51	46	56
OECD average	19	16	16	12	18	17	19	17	28	21	26	19	46	37	44	35	36	47	41	54
Partner and/or accession countries																				
Argentina ^{1,4}	37	28	30	24	x(19)	x(20)	x(22)	x(23)	x(19)	x(20)	x(22)	x(23)	49	49	54	54	15	23	16	22
Brazil	41 ^b	32 ^b	32	24	45 ^b	49 ^b	x(22)	x(23)	x(19)	x(20)	x(22)	x(23)	45 ^b	49 ^b	48	49	14 ^b	20 ^b	19	27
Bulgaria	17	18	16	17	21	24	27	28	37	18	30	15	58	42	57	43	25	40	28	40
China ⁴	63	66	m	m	x(19)	x(20)	m	m	x(19)	x(20)	m	m	19	16	m	m	18	18	m	m
Croatia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
India ⁴	83	77	62	69	x(19)	x(20)	x(22)	x(23)	x(19)	x(20)	x(22)	x(23)	8	13	16	12	8	11	22	19
Indonesia	51	56	42	43	x(19)	x(20)	x(22)	x(23)	x(19)	x(20)	x(22)	x(23)	36	29	43	36	13	15	15	21
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	26 ^b	27 ^b	22	21	7 ^b	8 ^b	7	8	44 ^b	37 ^b	50	43	51 ^b	45 ^b	57	50	23 ^b	28 ^b	21	28
Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
South Africa	54	49	53	47	x(19)	x(20)	x(22)	x(23)	x(19)	x(20)	x(22)	x(23)	37	40	36	38	9	11	11	15
EU25 average	17	13	14	11	14	13	16	14	35	26	33	23	50	40	48	38	33	46	38	52
G20 average	33	31	26	24	m	m	m	m	m	m	m	m	38	34	39	34	30	36	37	44

Note: See StatLink and Box A1.3 for the notes related to this Table.

Source: OECD/ILO/UIS (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[2]).


StatLink  <https://stat.link/uzs3ly>

Table A1.3. Educational attainment of 25-34 year-olds, by programme orientation (2022)

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						
		By level of education				Total			By level of education						Total
		Upper secondary		Post-secondary non-tertiary					Short-cycle tertiary			Bachelor's or equivalent	Master's or equivalent	Doctoral or equivalent	
		By programme orientation							By programme orientation		Total				
		General	Vocational	General	Vocational	General	Vocational	General				Vocational			
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Australia	9	17	13	a	6	17	19	36	0	10	10	34	11	1	56
Austria	10	8	35	a	3	8	39	47	a	15	15	13	14	1	43
Belgium	12	10	24	a	2	10	26	36	x(11)	1	1	27	23	1	51
Canada	5	20	a	a	9	20	9	28	3	21	24	30	12 ^a	x(13)	67
Chile ¹	12	39	8	a	a	39	8	47	a	11	11	28	2 ^a	x(13)	41
Colombia	23	x(8)	x(8)	x(8)	x(8)	x(8)	x(8)	43	x(12)	x(12)	x(12)	34 ^d	x(12)	x(12)	34
Costa Rica	42	25	2	a	0	25	2	27	a	2	10	20	1	c	31
Czech Republic	7	35 ^d	24 ^d	x(2)	x(3)	35	24	58	x(11)	x(11)	0	13	21	0	35
Denmark	17	12	22	a	a	12	22	34	a	4	4	23	20	1	49
Estonia	10	18	17	a	11	18	28	46	a	a	a	25	18	0	44
Finland	9	13	37	a	1	13	37	50	a	c	c	25	15	c	41
France	11	9	30	0	a	9	30	39	0	12	12	14	23	1	50
Germany	16	9	23	a	15	9	38	47	a	0	0	21	14	1	37
Greece	8	24	10	a	12	24	23	47	a	0	0	34	11	0	45
Hungary	13	18	24	a	13	18	37	55	a	1	1	12	18	0	32
Iceland	23	20	12	0	3	21	15	36	x(11)	x(11)	3	23	15	0	41
Ireland	5	18 ^d	x(2)	a	13	18 ^d	13	32	2	0	8	36	18	1	63
Israel	9	41	4	a	a	41	4	45	a	10	10	28	8	0	46
Italy	22	14	34	0 ^r	1	14	35	49	c	0	0	12	16	0	29
Japan ²	m	m	m	x(11)	x(11)	x(11)	x(11)	x(11)	x(11)	x(11)	18 ^d	48 ^a	x(12)	x(12)	66 ^d
Korea	2	29 ^d	x(2)	a	a	29 ^d	x(6)	29	a	21	21	46	3 ^a	x(13)	70
Latvia	11	23	13	a	7	23	20	43	a	8	8	25	13	0	46
Lithuania	6	17	8	a	10	17	18	35	a	a	a	42	15	0	58
Luxembourg	11	15	12	a	c	15	14	29	a	4	4	19	35	c	60
Mexico	43	28	1	a	a	28	1	30	a	1	1	25	1	0	27
Netherlands	10	7	26	a	0	7	26	34	a	1	1	32	22	1	56
New Zealand	13	19	8	a	16	19	24	43	a	4	4	34	5	1	44
Norway	16	9	18	a	1	9	19	27	12	2	14	26	16	1	56
Poland	6	15	36	a	3	15	38	53	a	a	a	13	27	0	40
Portugal	17	19	18	a	2	19	20	39	a	1 ^r	1 ^r	27	17	0 ^r	44
Slovak Republic	7	5	48	a	2	5	50	54	a	c	c	8	30	1	39
Slovenia	5	9	39	a	a	9	39	48	a	8	8	23	15	1	47
Spain	27	12	11	a	0	12	11	23	a	16	16	17	17	0	51
Sweden	15	8	17	6	2	14	19	33	a	4	10	25	16	1	52
Switzerland	9	8 ^d	31 ^d	x(2)	x(3)	8	31	40	a	x(12, 13, 14)	x(12, 13, 14)	30 ^d	19 ^d	2 ^d	51
Türkiye	33	15	11	a	a	15	11	26	12	a	12	27	3	0	41
United Kingdom ³	13	14	16	a	a	14	16	30	a	6	6	34	15	2	58
United States	6	43 ^d	a	a	x(2)	43 ^d	x(6)	43	6	4	10	29	11	2	51
OECD average	14	18	20	m	6	18	23	39	m	6	8	26	15	1	47
Partner and/or accession countries															
Argentina ¹	27	x(8)	a	x(8)	x(8)	x(8)	x(8)	54	x(12)	a	x(12)	19 ^d	x(12)	0	19
Brazil	28	48	x(8)	x(8)	x(8)	x(8)	x(8)	48	x(12)	x(12)	x(12)	22 ^d	1	0	23
Bulgaria	16	27	22	a	0	27	22	50	a	a	a	16	18	0	34
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
India	66	x(8)	x(8)	x(8)	x(8)	x(8)	x(8)	14	x(12)	x(12)	x(12)	16 ^d	x(12)	5	20
Indonesia	42	x(8)	x(8)	a	a	x(8)	x(8)	40	x(11)	x(11)	4	14	1	0	18
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	22	7	44	a	3	7	47	54	a	x(15)	x(15)	x(15)	x(15)	x(15)	25
Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
South Africa	50	x(8)	x(8)	x(8)	x(8)	x(8)	x(8)	37	x(11)	x(11)	3	10	1 ^d	x(13)	13
EU25 average	12	15	25	m	5	15	28	43	m	5	5	22	19	1	45
G20 average	24	m	m	m	m	m	m	36	m	m	m	24	m	1	42

Note: See StatLink and Box A1.3 for the notes related to this Table.

Source: OECD/ILO/UIS (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023_[2]).StatLink  <https://stat.link/5dnhgq>

Box A1.3. Notes for Indicator A1 Tables

Table A1.1. Educational attainment of 25-64 year-olds (2022)

In most countries data refer to ISCED 2011. For Argentina and India data refer to ISCED-97. 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 2022: 2021 for Argentina and 2020 for Chile and China.
2. Data on the completion of intermediate upper secondary programmes are included in the total of upper secondary attainment.

Table A1.2. Trends in educational attainment of 25-34 year-olds, by programme orientation and gender (2015 and 2022)

In most countries data refer to ISCED 2011. For Argentina and India data refer to ISCED-97. Totals for men and women are available for consultation on line (see StatLink).

1. Year of reference differs from 2022: 2021 for Argentina and 2020 for Chile.
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 (9% of adults aged 25-34 are in this group).
4. Year of reference differs from 2015: 2014 for Argentina; 2012 for India and 2010 for China.

Table A1.3. Educational attainment of 25-34 year-olds, by programme orientation (2022)

In most countries data refer to ISCED 2011. For Argentina and India data refer to ISCED-97.

1. Year of reference differs from 2022: 2021 for Argentina and 2020 for Chile.
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 (9% of adults aged 25-34 are in this group).

For more information see *Definitions, Methodology and Source* sections and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[2]).

Data and more breakdowns are available in the *Education at a Glance Database* (<http://stats.oecd.org/>).

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

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

Highlights

- In 2022, more than 50% of young adults aged 18-24 were in formal education or training, either full time or part-time. Luxembourg and the Netherlands had the largest share of 18-24 year-olds in education while Colombia and New Zealand show the highest rates of young adults in this cohort not in education.
- The employment rates of 25-29 year-olds not in formal education or training vary considerably depending on their educational attainment and programme orientation. On average across OECD countries, 55% of those not in formal education or training with general upper secondary or post-secondary non-tertiary attainment are employed compared to 75% of those not in formal education or training with vocational upper secondary or post-secondary non-tertiary attainment and 72% of those with tertiary attainment.
- In most countries, the percentage of young people who are not in employment nor in formal education or training (NEET) in the one to three years after completing an upper secondary or post-secondary non-tertiary degree is higher for vocational programmes than for general programmes. However, there are some exceptions such as Denmark, Germany and the Netherlands. The share of NEETs is considerably lower in most countries among recent tertiary graduates. In most countries, it is also lower for those with a master's, doctoral or equivalent degree than for those with a bachelor's or equivalent degree.

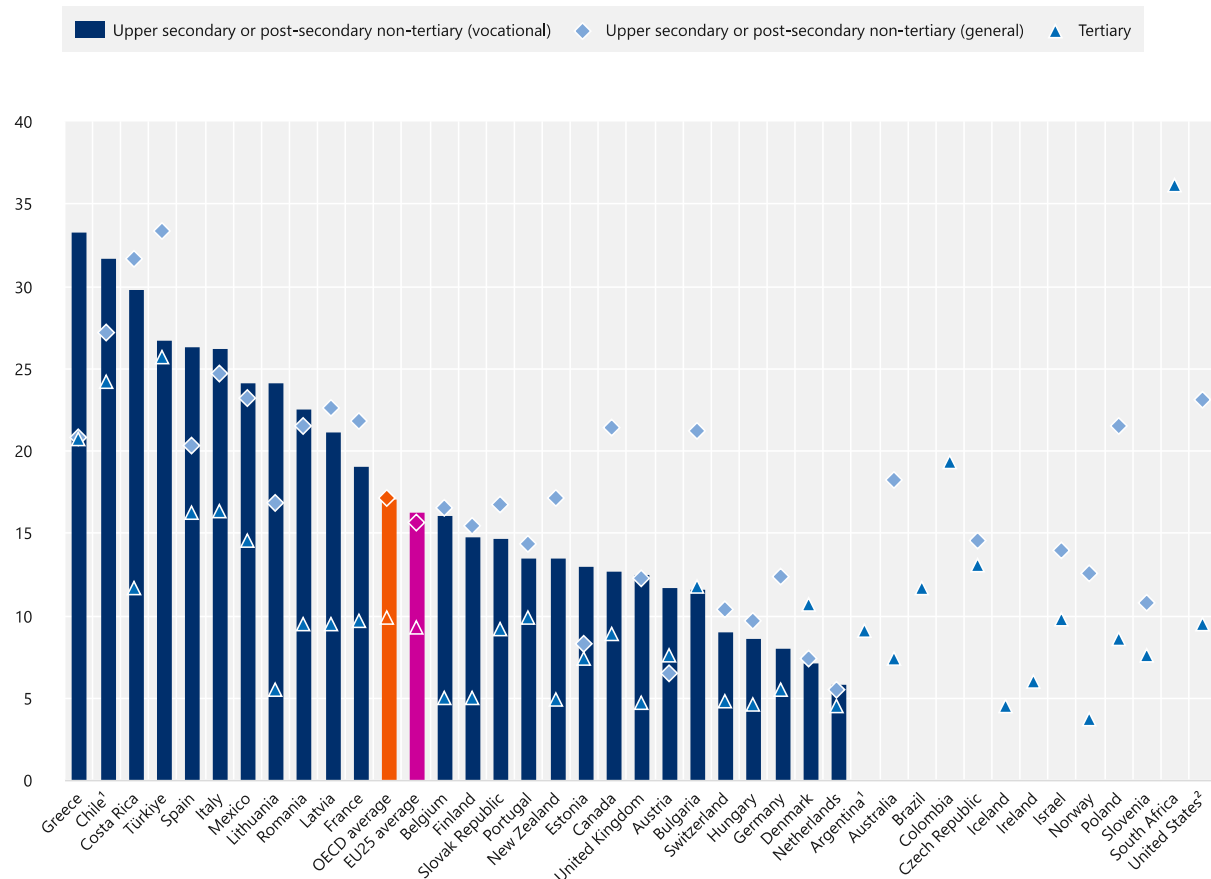
Context

The smoothness of the transition from education to the labour market depends on a range of factors: the length and type of schooling pursued, labour-market conditions, the economic environment and the cultural context. Labour-market conditions can shape the outcomes of those who leave the education system, but also their educational choices. When they are unfavourable, young people have an incentive 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. Even when unemployment is low, young people can access the labour market faster if they have acquired the skills needed for a smooth transition into work. The transition from education to the labour market happens in different ways in different countries. In some countries, young people traditionally complete education before they look for work, while in others, it is common to pursue education and employment at the same time, including through programmes with a work-based component.

Vocational education and training (VET) is designed to prepare students for entry into the labour market, as well as for higher level studies in some countries. Employment outcomes can shed light on how successfully young people transition into jobs after completing their studies. Particular attention must be paid to young people who are NEET. Not having a job early on in one's working life can have long-lasting consequences (see for example (Ralston et al., 2021^[1]) (Helbling and Sacchi, 2014^[2])), especially when young people experience long spells of unemployment or inactivity and become discouraged from looking for work. It is therefore essential to have policy measures to prevent young people becoming NEET in the first place, and to help those who are to find a way back into education or work.

Figure A2.1. Share of NEETs among 25-29 year-olds, by educational attainment (2022)

In per cent




Note: NEET refers to young people neither in employment nor in formal education or training.

1. Year of reference differs from 2022. Refer to the source table for more details.

2. Data for general upper secondary or post-secondary non-tertiary education include vocational upper secondary or post-secondary non-tertiary education.

Countries are ranked in descending order of the percentage of 25-29 year-old NEETs who attained vocational upper secondary or post-secondary non-tertiary education and in alphabetical order for countries for which data on this level of education is not available.

Source: OECD (2023), Table A2.2. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3]).

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Other findings

- The share of 18-24 year-old NEETs varies across countries. On average among OECD countries, it is about 15%, while in Chile, Colombia, the Czech Republic, the Republic of Türkiye (hereafter “Türkiye”) and South Africa, the share is over 25%. Among 25-29 year-olds with upper secondary or post-secondary non-tertiary vocational attainment, the Netherlands has the lowest share of NEET individuals (5.9%) while Chile (31.8%), Costa Rica (29.8%) and Greece (33.3%) have the highest.
- Some 18-24 year-olds work and study at the same time. In some cases, these jobs are connected to their study programme and therefore allow them to gain relevant work experience. These work-study programmes are common in France, Germany and Switzerland and facilitate the transition from study to work.

- Employment rates for recent tertiary graduates increase during the first years after graduation, reaching their highest three to four years after graduation, but then start to decline after five years.

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 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). The analysis distinguishes between 18-24 year-olds and 25-29 year-olds, as a significant proportion of those in the younger age group will still be continuing their studies even though they are no longer in compulsory education.

Analysis

Educational and labour-market status of 18-24 year-olds

Analysing the status of 18-24 year-olds is particularly important, as young people usually complete upper secondary education around the ages of 17 to 19 (see Indicator B1). Across OECD countries, a little over half of 18-24 year-olds are still in formal education or training (54%), either full time or part-time. In Belgium, Greece, Luxembourg, the Netherlands and Slovenia, over two-thirds of young people in this age group are enrolled in education (Table A2.1). However, a significant share of young children at the age of upper secondary education, may be out-of-school. The Sustainable Development Goal (SDG) 4 agenda captures through SDG Indicator 4.1.4 the *percentage of young people in the official age range for upper secondary education who are not enrolled in school* (Box A2.1).

The extent to which education is combined with employment in early adulthood varies considerably across countries. Overall, 34% 18-24 year-olds who are in education tend to be inactive in the labour market, while 18% combine some form of employment with education, on average across OECD countries. The share of adults in education and employed for 18-24 year-olds in education is over 35% in Australia, Iceland, the Netherlands and Norway. Some of these students' jobs are connected to their study programme, allowing them to gain relevant work experience, develop technical skills and connect with potential employers, although many countries do not collect information on the type of work students are doing. Work-study programmes, which combine inter-related periods of study and paid work, are relatively common in some countries. In both France and Switzerland, for example, half of those who are both in education and employed, are pursuing such programmes. This includes those in apprenticeships, which in France are also available at tertiary level. In Germany nearly half of those who are in education and employment are pursuing a work-study programme. In other countries it is common to combine studying with holding a job, but not through an integrated education programme. It may involve a variety of types of employment, including student jobs. For example, in Australia 36% of 18-24 year-olds are employed and in education – 5% pursuing work-study programmes and 30% holding another type of job – while only 10% are in education and inactive in the workforce. Even where it is not part of the curriculum, employment may still help students develop broad employability skills, like team work and conflict management, thereby facilitating the transition into employment (Table A2.1). At the same time, student employment may have adverse effects (e.g. stress, drop-out), especially when it involves intensive working to cover subsistence costs (e.g. (Choi, 2018^[4])).

Over two-thirds of 18-24 year-olds are not in education in Colombia, Israel New Zealand and Türkiye. In New Zealand 57% of young people in this age group are not in education and employed and 14.3% are NEET, while in Israel 49% are not in education and employed and 17.5% NEET. On average across countries, around one-third of young people in this age group are employed and not in education and the share exceeds 40% in Australia, Austria, Mexico, Israel New Zealand and the United Kingdom, suggesting that young people can find jobs relatively easily (Figure A2.3). Cross-country differences may not be only due to labour-market conditions; they can also be explained by looking at typical graduation ages. In countries where students complete their education earlier, more 18-24 year-olds are employed and not in education than in countries where they graduate at an older age.

Box A2.1. Upper secondary out-of-school rates and benchmark coverage among OECD, partner and/or accession countries

One way the Sustainable Development Goals (SDGs) agenda monitors participation in education is through the upper secondary out-of-school rate, which is defined as the percentage of young people in the official age range for upper secondary education who are not enrolled in school (SDG Indicator 4.1.4). On average across OECD countries, the upper secondary out-of-school rate is lower than 7% (Figure A2.2). While the majority of countries have managed to limit the proportion of out-of-school youth to less than 5% by 2021, in about one-quarter of OECD, partner and/or accession countries, more than 10% of youth are out-of-school. Mexico has the highest out-of-school rate among all OECD and partner countries, with around 29% of upper secondary-aged youth not enrolled in 2021 (Figure A2.2).

To correctly interpret figures on out-of-school rates, it is important to consider the characteristics that set youth at the age of upper secondary education apart. One important consideration is the varying length of upper secondary programmes across countries. In some countries, students might complete their upper secondary education before the theoretical age range ends, and are counted as out-of-school, not because they have left the schooling system intentionally but simply because they have graduated earlier. This is the case in Switzerland, for instance, where some apprenticeship programmes take two or three years to complete, allowing young people to graduate before the official upper secondary age range (16-19 years).

Gaining an accurate picture on the state of out-of-school youth in a given country means considering the upper secondary out-of-school rate alongside labour-market data and information on compulsory education ages. In some OECD countries, compulsory education ends before the age for starting upper secondary education begins (Table X1.5). Youth of upper secondary age are often of legal working age and thus have both a right to employment and a right to education. This may then give young people of upper secondary education age a positive incentive to leave the education system before they have completed their upper secondary education. Some may combine upper secondary academic study with working, when the legislation allows, but empirical research has found that this may significantly crowd out study time and motivation for schoolwork. A study into the effects of part-time work during compulsory education in England (United Kingdom) on educational performance at age 16 has found that the total effect of each additional hour of part-time work per week when they were 15 reduced educational performance in school-leaving qualifications among males by 2.5% and among females by 6.7% (Holford, 2020^[5]).

In terms of gender parity, out-of-school rates at upper secondary level tend to be higher for boys than girls, with 0.8 out-of-school girls for every out-of-school boy on average. Among countries with available data, the out-of-school rate at this level is higher for boys than for girls except in Belgium, Chile, Germany, Korea and Türkiye. In contrast, there is only one out-of-school girl for every three out-of-school boys in Australia and around one for every five in Japan, Israel and the United States (Figure A2.2).

Between 2005 and 2021, among the 20 countries with data available for both years, some achieved large decreases in out-of-school rates at upper secondary level. This is the case in Australia (where the rate fell by 6 percentage points), Denmark (7 percentage points), Mexico (16 percentage points), New Zealand (8 percentage points), Portugal (16 percentage points) and United States (7 percentage points), (Figure A2.2). These large reductions may reflect continuing policy efforts to retain students of upper secondary education age in school. Government initiatives to tackle this issue have included implementing school-based mechanisms to track vulnerable groups of students not returning to school and waiving school fees to encourage vulnerable students to return to school. This has been implemented for instance in Costa Rica, Estonia, Hungary, Poland, Portugal, Spain and Türkiye (OECD, 2021^[6]).

Benchmarks in the SDG4 process

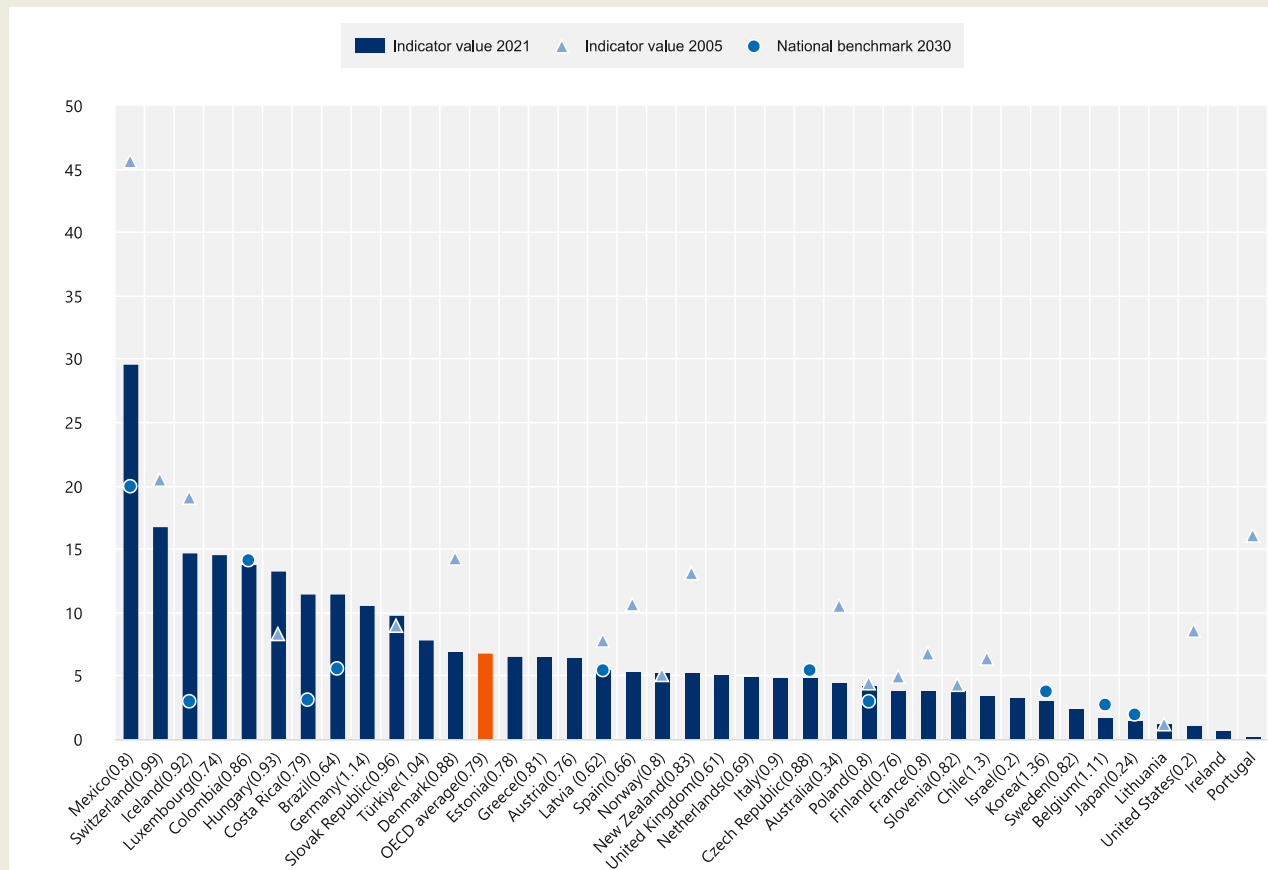
In the 2015 Education 2030 Framework for Action, countries agreed to set intermediate benchmarks for selected indicators building on existing reporting mechanisms, to address the accountability deficit associated with longer-term targets. Work began in 2017 after the SDG 4 monitoring framework was set. In 2019, the SDG 4 Technical Cooperation Group selected seven SDG 4 indicators to be benchmarked. Given the prominence of the measure, Indicator 4.1.4 on upper secondary out-of-school rates has been defined as one of these benchmark indicators. Countries have been asked to set national SDG 4 benchmarks that correspond to the targets they have set in their national education sector plans. Countries which are members of regional organisations have also been invited to align their benchmarks to any regional targets to which they are committed. The purpose is to ensure coherence and mutual understanding between these three levels to reduce

duplication, improve transparency and facilitate policy dialogue (UIS/GEMR, 2022^[7]). For instance, in Europe, co-ordination between the UNESCO Institute for Statistics (UIS), the Global Education Monitoring (GEM) Report Team and the European Commission led to an agreement that three of the seven European Education Area benchmark indicators for 2030 would closely, though not fully, coincide with the SDG 4 benchmark indicators. As a result, Indicator 4.2.2 on early childhood education participation rates, Indicator 4.1.2 on completion rates and Indicator 4.1.1 on minimum proficiency levels all benefit from a relatively good benchmarking coverage among OECD countries.

Although defined as a benchmark indicator, only a few OECD countries have set themselves benchmarks for Indicator 4.1.4 on upper secondary out-of-school rates: 11 OECD and partner countries have defined benchmarks to be achieved by 2030. Six countries have already reached or surpassed their targeted 2030 national benchmarks, while in countries including Brazil, Costa Rica, Iceland, Mexico and Poland, progress still needs to be made (Figure A2.2).

Figure A2.2. SDG Indicator 4.1.4: Out-of-school rates at upper secondary level (2005 and 2021) against 2030 national benchmarks

In per cent




Note: The official age range for upper secondary education may be found in Annex 1. Characteristics of education systems.. The number in parentheses corresponds to the gender parity index for Indicator 4.1.4, where the numerator is the out-of-school rate for women and the denominator the one for men.

Countries are ranked in descending order of the out-of-school rate at upper secondary level in 2021.

Methodology: The out-of-school rate at upper secondary is defined as the proportion of children and young people in the official age range for upper secondary education who are not enrolled at any level of education. To calculate this indicator, the number of students of the official age for upper secondary enrolled in any level of education is subtracted from the total population of the same age. The result is expressed as a percentage of the population of the official age for upper secondary. See related metadata on the UIS website at (UNESCO/UIS, 2021^[8]) <https://tcq.uis.unesco.org/wp-content/uploads/sites/4/2021/09/Metadata-4.1.4.pdf>, (accessed on 10 July 2023)."

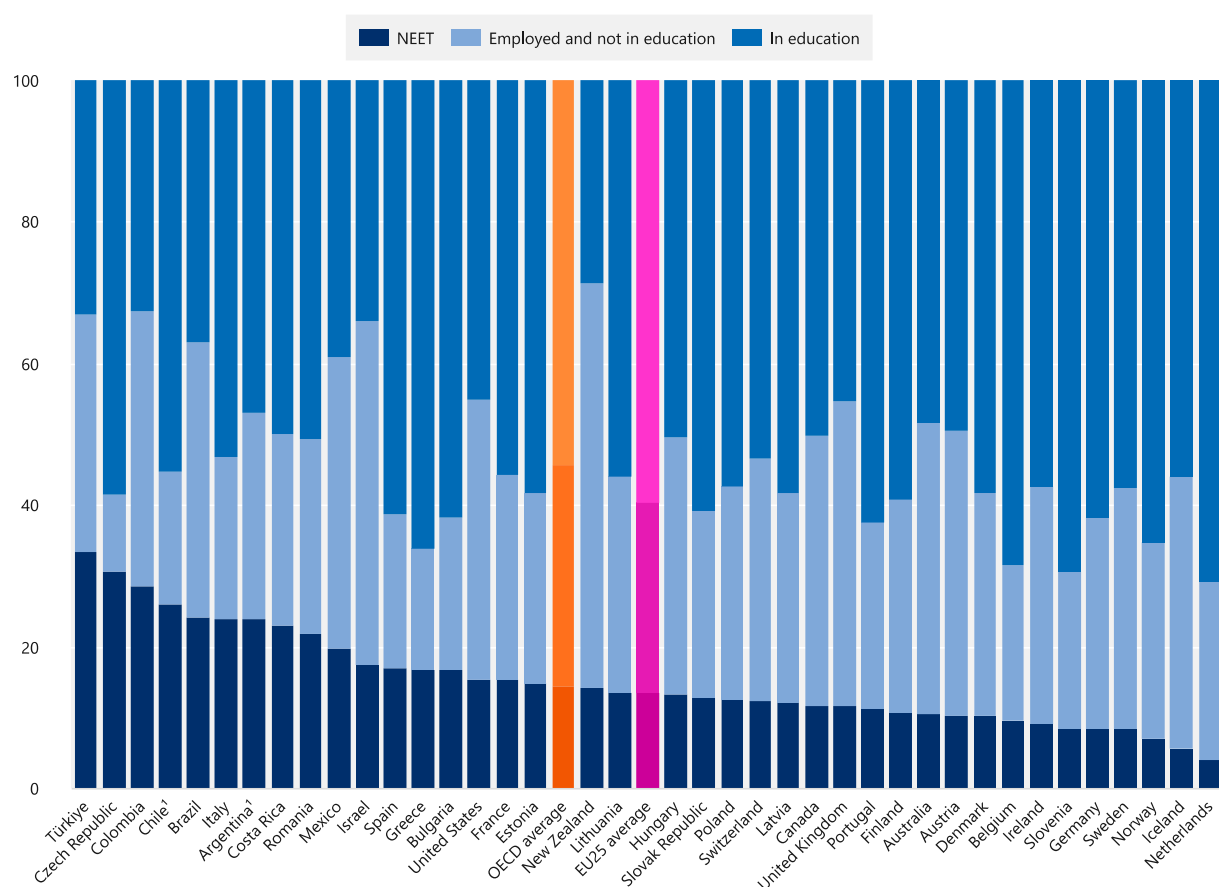
Source: OECD/UIS/Eurostat (2023) and SDG 4 benchmarks/UIS database (<https://geo.uis.unesco.org/sdg-benchmarks/>). For more information see *Source* section and *Education at a Glance 2023 Sources, Methodologies and Technical Notes* (OECD, 2023^[3]).

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The share of young people who are NEET is a key indicator of the ease of transition from education to the labour market. Across OECD countries about 14.7% of 18-24 year-olds are NEET, while in Chile, Colombia, the Czech Republic, Türkiye and South Africa, the share is over 25% (Figure A2.3.3). In Chile, data is from 2020 and it was collected in the context of the COVID-19 pandemic. This could explain the high rates of NEETs. Preventing youth from becoming NEET or minimising how long they are NEET for is essential. Youth who are NEET not only miss out on immediate learning and employment opportunities, they also suffer from long-term effects. NEET status has been associated with various adverse outcomes, such as lower employment rates and lower earnings later in life (Helbling and Sacchi, 2014^[2]; Möller and Umkehrer, 2014^[9]; Ralston et al., 2021^[1]), poor mental health (Basta et al., 2019^[10]) and social exclusion (Bäckman and Nilsson, 2016^[11]).

Figure A2.3. Distribution of 18-24 year-olds by education and work status (2022)

In per cent




Note: NEET refers to young people neither in employment nor in formal education or training.

1. Year of reference differs from 2022. Refer to the source table for more details.

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

Source: OECD (2023), Table A2.1. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](https://www.oecd.org/education-at-a-glance/2023-sources-methodologies-and-technical-notes/) (OECD, 2023^[12]).

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Transition from education to work among 25-29 year-olds, by educational attainment and programme orientation

Data on the labour force status of 25-29 year-olds help to explore the labour-market transition among young people who will have mostly completed their initial education.

The education and employment status of 25-29 year-olds varies considerably with educational attainment. On average across OECD countries, 29% of this age group with general upper secondary or post-secondary non-tertiary attainment are still in education, the rest are either employed (55%) or NEET (around 17%). Those with vocational upper secondary or post-secondary non-tertiary attainment are much less likely to be enrolled in education (only 9% on average) while 75% are employed and around 17% are NEET. Among those who have tertiary education as their highest attainment, 19% are in education (presumably studying a master's or doctoral or equivalent degree), while 72% are employed and around 10% are NEET (Table A2.2).

Overall, there is no difference in NEET rates between those holding a vocational or a general upper secondary or post-secondary non-tertiary qualification. Austria (6.5%) and the Netherlands (5.4%) have the lowest share of 25-29 year-old NEETs with general upper secondary or post-secondary non-tertiary attainment while Costa Rica (31.7%) and Türkiye (33.3%) have the highest. NEET rates among VET graduates at this level are particularly low in Denmark (7.1%) and the Netherlands (5.9%), while Chile (31.8%), Costa Rica (29.8%) and Greece (33.3%) have the highest share of NEETs among those with vocational upper secondary or post-secondary non-tertiary attainment (Figure A2.1). The higher rates in Chile may be due to the fact that data was collected during the COVID-19 pandemic in 2020.

Across the OECD, NEET rates among 25-29 year-olds tend to be lowest for those with tertiary attainment. The difference is most notable in Costa Rica and Lithuania, where the difference between tertiary graduates and those with general and vocational upper secondary non-tertiary attainment is more than 15 percentage points in favour of those with tertiary attainment. In some countries, however, tertiary graduates are more likely to be NEET. In Denmark, for example, the NEET rate is 10.7% among tertiary-educated individuals and less than 8% among those with general and vocational upper secondary or post-secondary non-tertiary attainment. Similarly, in Austria, those with a general upper secondary or post-secondary non-tertiary education have lower NEET rates than those with a tertiary qualification (Figure A2.1). In Denmark, over the last decades (the last 15 years) fewer students have enrolled in VET, which has led to the interpretation of a loss in prestige for VET. Hence, fewer individuals with vocational skills and a continuous demand in the labour market makes it easier for workers with skills to find work. In addition, upper secondary vocational education in Denmark is based on apprenticeships, which can ease entrance to the labour market (Jørgensen, 2017[7]). Austria's dual vocational education system may have helped smooth the entrance of these graduates into the labour market (Bauer and Gessler, 2017[13]).

Within individual countries, there is often much regional variation in the share of young people who are NEET. In some regions a very high share of young adults are NEET. Regional disparities in the share of NEET youth are strongest in Greece, Italy and Türkiye. In these countries the gap between the region with the highest share of 18-24 year-old NEETs and the region with the lowest share is higher than 25 percentage points. Regional disparities are smallest in Denmark, Ireland and Norway where the gap between the highest and lowest regions is below 2 percentage points (OECD, 2023[14]).

It should be noted that in the dataset the number of regions per country varies. In general, the countries with more regions in the dataset have larger gaps between the regions with the highest and lowest shares of NEET youth.

Transition from education to work among recent graduates, by educational attainment and years since graduation

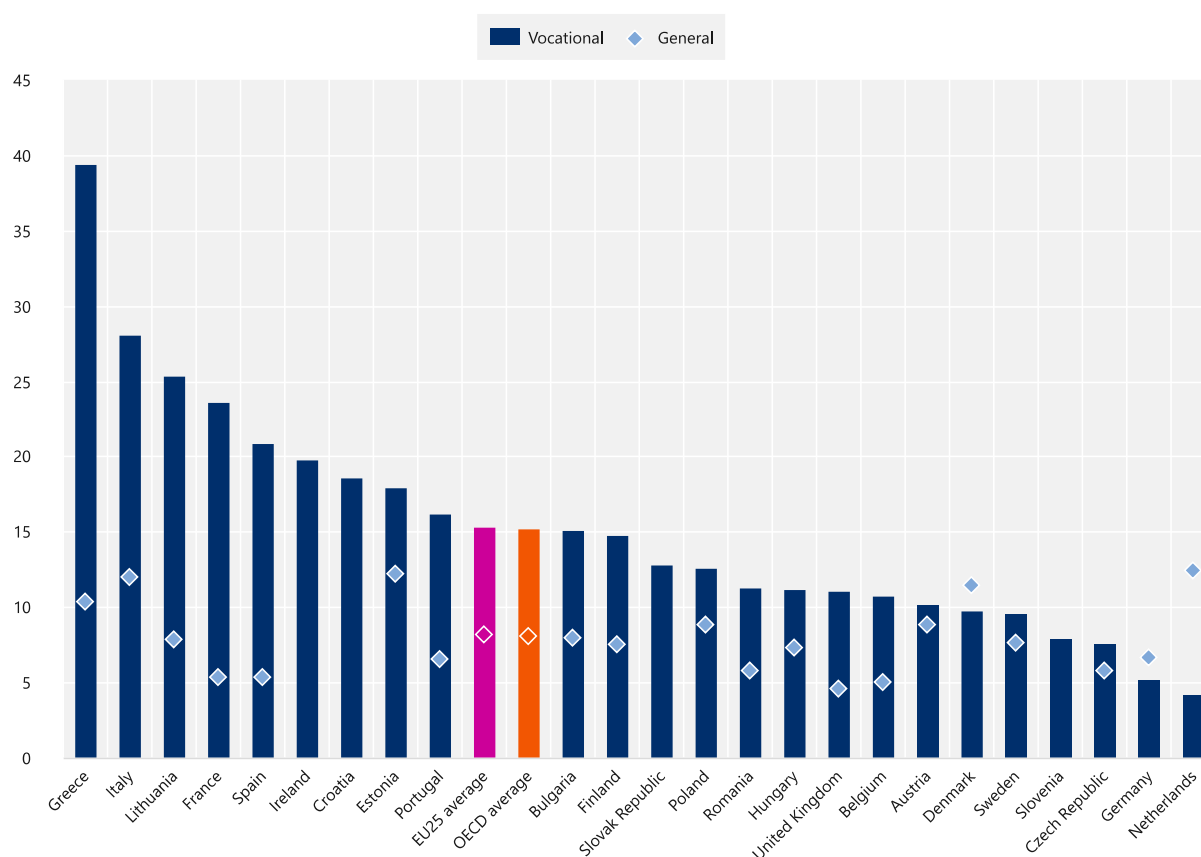
Most young people who graduate from vocational upper secondary or post-secondary non-tertiary education do so between the ages of 15 and 34. From there, they can pursue different pathways, further studies or joining the labour market. Data on their employment status reveals how successful this transition is for young people with different educational backgrounds. In this section, data from the European Labour Force Survey (EU-LFS) are complemented by data from national Labour Force Survey for the United Kingdom, to allow for a more in-depth analysis of the transition from school to work.

Figure A2.4 shows the share of young people (who were aged 15-34 at graduation) who are NEET one to three years after having completed their upper secondary or post-secondary non-tertiary education. In most countries, in the first three years after graduation, NEET rates are higher for those who pursued a vocational programme than a general one. One reason for this could be that general upper secondary graduates tend to go on to tertiary education after their studies and therefore stay

in education longer than their peers in VET who are less likely to pursue a tertiary education. However, there are some exceptions, particularly among countries with low NEET rates for VET graduates. For example, in Denmark, Germany and the Netherlands NEET rates among recent VET graduates do not exceed 10% and are below NEET rates for general upper secondary or post-secondary non-tertiary graduates. The transition from VET to employment or further studies also appears to be smooth in Austria, Belgium, and Sweden where no more than 11% of VET graduates are NEET one to three years after graduation. There are five countries (France, Greece, Italy, Lithuania and Spain) where more than one in five recent VET graduates are NEET, suggesting difficulties in the transition from VET to the labour market.

Figure A2.4. NEET rates among young adults one to three years after completion of upper secondary or post-secondary non-tertiary education, by programme orientation (2022)


Adults aged 15-34 at graduation; in per cent



Note: NEET refers to young people neither in employment nor in formal education or training.

Countries are ranked in descending order of the percentage of adults who are NEET and have graduated within one to three years from vocational upper secondary or post-secondary non-tertiary education.

Source: OECD (2023), Table A2.3. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[12]).

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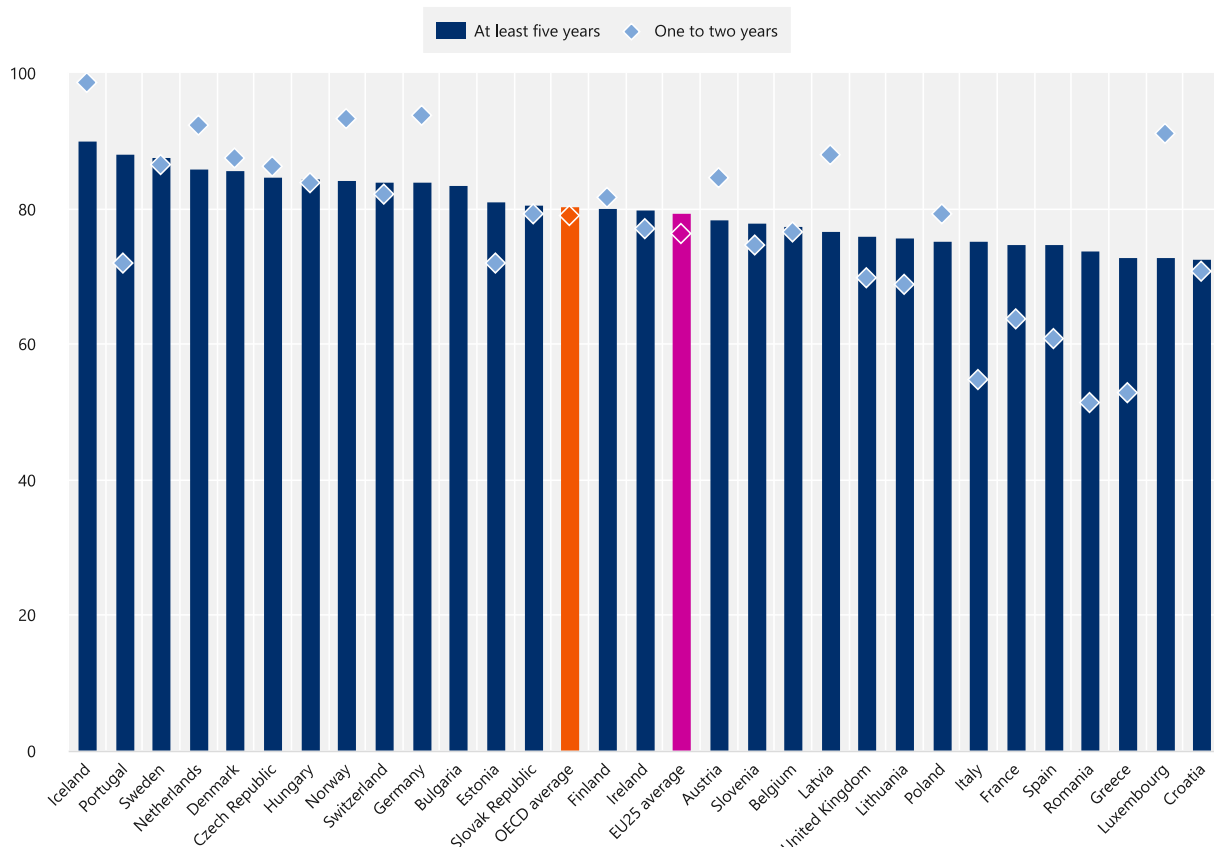
NEET rates for young adults with tertiary education (aged 15-34 at graduation) are considerably lower one to three years after graduating than for those with lower educational attainment. In most countries, the share of NEETs among young recent graduates is lower for those with a master's, doctoral or equivalent degree than for those with a bachelor's or equivalent degree. There are some exceptions such as Croatia, the Czech Republic, Denmark, Germany, Greece and Italy (Table A2.3). This may depend on the country's labour-market needs and the ability of the education system to respond to these. In Germany, low NEET rates at tertiary level might be related to the relatively high number of vocational programmes at

bachelor's and equivalent level with a close link to the labour market. In some countries, there may be an urgent need for certain skills or professionals, so bachelor's graduates with those skills or who can perform specific jobs can join the labour market faster without needing a master's or equivalent degree.

For upper secondary or post-secondary non-tertiary VET graduates, the data showed in Figure A2.5 are only available for 28 OECD and accession countries. In most of these, employment rates are higher three to four years after graduation than one to two years after, suggesting that transition into jobs may take some time. Employment rates after at least five years are variable for VET graduates. In more than half OECD and accession countries with available data, employment rates are lower five years after graduation than three to four years after graduation but the opposite is the case in several other countries (e.g. Greece (8 percentage points), Romania (8 percentage points) and Spain (7 percentage points) (Figure A2.5 and Table A2.4)). One reason for this may be the labour market's inability to absorb recent graduates. Another may be the education system's failure to transfer the skills graduates need to enter the labour market (OECD, 2022^[15]).

Figure A2.5. Employment rates of recent graduates from vocational upper secondary or post-secondary non-tertiary education, by years since graduation (2022)

Among adults aged 15-34 at graduation and not in formal education or training; in per cent



Countries are ranked in descending order of the employment rate of young adults at least five years after completing vocational upper secondary or post-secondary non-tertiary education.

Source: OECD (2023), Table A2.4. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[12]).

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Among young tertiary graduates, there is a similar pattern of employment rates being higher three to four years after graduation than one to two years after, perhaps because they have already acquired some work experience or engaged in non-formal learning, but then falling back somewhat in the next few years. The average employment rate among tertiary

graduates is 88% one to two years after graduation, climbing to 91% in the three to four years following graduation, then 89% after five years or more. This pattern holds for bachelor's and master's or doctoral graduates. However, employment rates continue to increase with time even after five years for bachelor's graduates in some countries (the Bulgaria, Croatia, Estonia, Finland, France, Italy, Portugal and Spain, for instance). For graduates of master's, doctoral or equivalent programmes, the pattern is similar. In Greece and Italy the increases in employment rates after three to four years are particularly marked. In Greece, the employment rate among master's or doctoral graduates increases from 66% one to two years after graduation to 91% after three to four years, while in Italy the increase is from 73% to 89% (Table A2.4). These patterns may reflect the labour market's ability to integrate graduates in certain sectors. Some jobs may require constant upskilling and reskilling, or work experience may be essential. This would hinder individuals' ability to join the labour market in later years.

Transition to tertiary education by educational attainment

Although vocational programmes are designed to prepare their graduates for the labour market, they may also serve as a route to higher levels of education (see Chapter B1). The extent to which graduates of upper secondary VET programmes pursue tertiary programmes varies considerably across countries. Box A2.2 explores the educational background of students in bachelor's or equivalent programmes. In some countries, short-cycle tertiary programmes largely serve VET graduates (e.g. Austria, Belgium Portugal and Slovenia). In contrast, in Canada, where there are no differentiated vocational tracks in upper secondary education (except in Quebec), short-cycle tertiary programmes most commonly enrol general upper secondary graduates, but also serve students who already hold a tertiary qualification (25% of students). In Denmark, too, more than half of students in short-cycle tertiary programmes are general upper secondary graduates and 16% hold a prior tertiary qualification (Table A2.5, available on line).

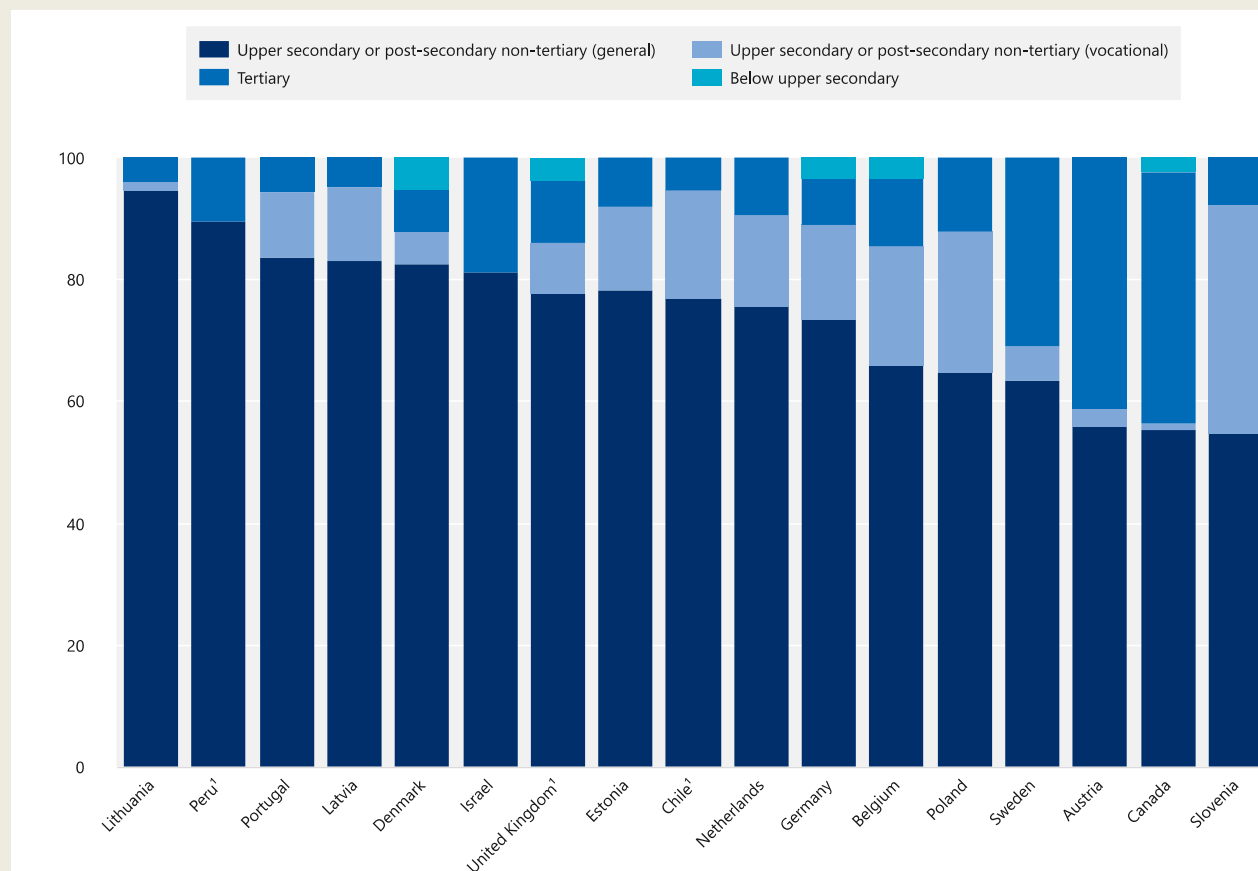
Box A2.2. The prior education of bachelor's level students

Data on the educational background of students shed light on the use of progression pathways in different countries. Figure A2.6 shows the highest level of education previously completed by current students in bachelor's or equivalent programmes. Although a general upper secondary or post-secondary non-tertiary background is the most common prior qualification, the qualifications held by the remaining students vary across countries.

Slovenia has the highest share of students with a vocational background, with 38% of bachelor's students holding a vocational qualification as their highest prior qualification. VET graduates make up 20% of bachelor's students in Belgium, and nearly 15% in Chile, Estonia, Germany and the Netherlands. In the case of Germany, this percentage is due to the direct pathways from vocational studies to bachelor's and equivalent ones. It is important to keep in mind that this figure focuses on the highest qualification of individuals. If progression from VET to a bachelor's programme involves an intermediary step in a programme not classified as VET (see Box B1.1 for more information on bridging options), those students would not be recorded as VET graduates so the data here represent a lower bound estimate of the share of VET graduates (see Indicator B1). For example, Austria has a high share of tertiary graduates among bachelor's students (41%). This is mostly driven by the common pathway from one of the main upper secondary VET programmes (years 1-3 in higher technical colleges) to short-cycle tertiary education (years 4-5 within the same colleges) and subsequently to universities of applied sciences or universities. But progression from short-cycle tertiary to bachelor's level is also common in several other countries. In Sweden nearly one-third of bachelor's students already hold a tertiary qualification, with 24% holding a short-cycle tertiary qualification. In Canada also a high share of bachelor's students (41%) hold a prior tertiary degree, with 19% holding a short-cycle tertiary qualification.

Figure A2.6. Distribution of 15-29 year-olds in bachelor's or equivalent education, by their highest previous level of education completed (2022)


In per cent



1. Year of reference differs from 2022. Refer to the source table for more details.

Countries are ranked in descending order of the share of 15-29 year-olds in bachelor's or equivalent education who previously completed general upper secondary or post-secondary non-tertiary education.

Source: OECD (2023), Table A2.5, available on line. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3]).

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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 are receiving formal education and/or training.

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

NEET refers to young people neither employed nor in formal education or training. However, the definition of NEET is different for subnational data collection for countries taking part in the EU-LFS, where young adults who are in non-formal education or training are not considered to be NEET.

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

Work-study programmes are formal education/training programmes combining inter-related study and work periods, for which the student/trainee receives pay.

Methodology

Data from the national labour force surveys usually refer to the second quarter of studies in a school year, 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 (i.e. January, February and March), but in some countries to the second three months (i.e. April, May and June).

Education or training corresponds to formal education or training; therefore, someone not working but following non-formal studies is considered NEET. However, the definition of NEET is different for subnational data collection for countries taking part in the EU-LFS, where young adults who are in non-formal education or training are not considered to be NEET. For OECD EU countries, NEET rates by subnational region are therefore not comparable to the rates at national level presented in this indicator.

Data on the education and labour-market status of recent graduates by years since graduates are from the EU-LFS for OECD and accession countries taking part in this survey and the national Labour Force Survey for the United Kingdom. The recent graduate cohorts have been restricted to adults who were 15-34 years old at the time of graduation.

For more information see the [OECD Handbook for Internationally Comparative Education Statistics](#) (OECD, 2018^[16]) and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[17]).

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, 2023^[14]).

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Annex 1.A. 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 (2022)
Table A2.2	Percentage of 25-29 year-olds with at least upper secondary attainment in education/not in education, by educational attainment, programme orientation and work status (2022)
Table A2.3	NEET rates among young adults one to three years after completion of selected education levels, by programme orientation and gender (2022)
Table A2.4	Employment rates of recent graduates, by educational attainment, programme orientation and years since graduation (2022)
WEB Table A2.5	<i>Percentage of 15-29 year-olds in education, by level of education currently studying, highest previous level of education completed, and programme orientation (2022)</i>

StatLink  <https://stat.link/ykoic8>

Cut-off date for the data: 15 June 2023. 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 (2022)

	In education						Not in education					Total
	Employed			Unemployed	Inactive	Total	Employed	NEET			Total	
	Students in work-study programmes	Other employed	Total					Unemployed	Inactive	Total		
OECD countries	(1)	(2)	(3) = (1) + (2)	(4)	(5)	(6) = (3) + (4) + (5)	(7)	(8)	(9)	(10) = (8) + (9)	(11) = (7) + (10)	(12) = (6) + (11)
Australia	5	30	36	2.2	10	48	41	3.9	6.7	10.6	52	100
Austria	8	14	22	1.2	26	49	40	4.5	6.0	10.5	51	100
Belgium	1 ¹	8	10	1.2 ¹	58	68	22	4.0	5.7	9.6	32	100
Canada	x(2)	25 ^d	25	2.2	23	50	38	5.3	6.6	11.9	50	100
Chile ¹	x(2)	8 ^d	8	3.0	45	55	19	8.0	18.2	26.1	45	100
Colombia	a	7	7	2.2	23	32	39	11.2	17.4	28.7	68	100
Costa Rica	a	14	14	9.1	27	50	27	11.2	11.9	23.1	50	100
Czech Republic	0	m	0	m	58	58	11	0.5	30.4	30.9	42	100
Denmark	x(2)	33 ^d	33	3.7	22	58	32	3.4	7.1	10.4	42	100
Estonia	c	25	25	4.5	29	58	27	6.2	8.8	15.0	42	100
Finland	x(2)	23 ^d	23	4.3	32	59	30	3.3	7.6	10.9	41	100
France	9	9	18	1.7	36	56	29	7.3	8.1	15.4	44	100
Germany	15	19	34	1.3	26	62	30	2.3	6.3	8.6	38	100
Greece	a	5	5	1.7	59	66	17	10.0	7.0	17.0	34	100
Hungary	0	3	3	0.2	47	50	36	4.2	9.3	13.5	50	100
Iceland	a	38	38	2.8	14	56	38	2.5	3.3	5.9	44	100
Ireland	a	29	29	3.0	26	57	33	4.0	5.4	9.3	43	100
Israel	x(2)	11 ^d	11	0.9	22	34	49	2.8	14.7	17.5	66	100
Italy	m	3	3	0.5	49	53	23	8.5	15.6	24.1	47	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	14	14	c	44	58	30	5.0	7.3	12.3	42	100
Lithuania	c	14	14	c	42	56	30	6.1	7.6	13.8	44	100
Luxembourg	a	c	c	c	59	72	19	c	c	c	28	100
Mexico	a	10	10	0.7	28	39	41	3.1	16.9	20.0	61	100
Netherlands	x(2)	53 ^d	53	3.8	14	71	25	1.4	2.7	4.1	29	100
New Zealand	a	16	16	1.1	11	28	57	5.4	8.8	14.3	72	100
Norway	2	35	37	3.3	24	65	28	1.8	5.3	7.1	35	100
Poland	a	9	9	0.9	47	57	30	3.7	9.0	12.6	43	100
Portugal	a	6	6	1.7	55	62	26	6.7	4.7	11.4	38	100
Slovak Republic	c	4	4	c	57	61	26	7.1	5.9	13.0	39	100
Slovenia	x(2)	18 ^d	18	1.9	49	69	22	2.7	6.0	8.7	31	100
Spain	x(2)	9 ^d	9	3.5	48	61	22	9.4	7.8	17.2	39	100
Sweden	a	18	18	7.8	32	57	34	4.7	3.9	8.5	43	100
Switzerland	17	17	34	1.7	17	53	34	3.4	9.0	12.4	47	100
Türkiye	a	10	10	2.7	20	33	34	9.4	24.1	33.5	67	100
United Kingdom	6	15	21	1.3	23	45	43	3.9	7.9	11.8	55	100
United States	x(2)	18 ^d	18	1.1	26	45	40	4.2	11.2	15.5	55	100
OECD average	m	17	18	2.5	34	54	31	5.2	9.5	14.7	46	100
Partner and/or accession countries												
Argentina ¹	a	12	12	4.3	31	47	29.1	8.8	15.3	24.1	53	100
Brazil	a	18	18	4.7	14	37	38.9	9	15.4	24.4	63	100
Bulgaria	x(2)	4 ^d	4	c	58	62	21.5	3.5	13.4	16.9	38	100
China	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	m	m	m	m	m	m	m	m	m	m	m	m
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
Peru	m	m	m	m	m	m	m	m	m	m	m	m
Romania	x(2)	1 ^d	1	0.4	49	50	27.5	7.8	14.2	22	50	100
Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m
South Africa	a	1	1	1.0	36	38	13.7	21.8	27.0	48.8	62	100
EU25 average	m	15	15	2.4	42	60	27	5.1	8.7	13.7	40	100
G20 average	m	m	m	m	m	m	m	m	m	m	m	m

Note: See StatLink and Box A2.3 for the notes related to this Table.

Source: OECD (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[12]).


StatLink  <https://stat.link/na9q5m>

Table A2.2. Percentage of 25-29 year-olds with at least upper secondary attainment in education/not in education, by educational attainment, programme orientation and work status (2022)

	Upper secondary or post-secondary non-tertiary												Tertiary					
	General						Vocational											
	In education	Not in education					In education	Not in education					In education	Not in education				
		Employed	NEET			Total		Employed	NEET			Total		Employed	NEET			Total
			Unemployed	Inactive					Unemployed	Inactive					Unemployed	Inactive		
OECD countries	(1)	(2)	(3)	(4)	(5) = (3) + (4)	(6) = (2) + (5)	(7)	(8)	(9)	(10)	(11) = (9) + (10)	(12) = (6) + (11)	(13)	(14)	(15)	(16)	(17) = (15) + (16)	(18) = (14) - (17)
Australia	20	62	2.4	15.8	18.2	80	14	71	2.1	12.5	14.6	86	17	75	1.8	5.6	7.4	83
Austria	51	43	c	5.2	6.5	49	3	85	3.6	8.2	11.8	97	28	64	2.5	5.0	7.5	72
Belgium	25	59	5.7 ^r	10.8 ^r	16.5 ^r	75	4 ^r	79	11.2	5.0 ^r	16.1	96	16	79	1.8 ^r	3.2 ^r	5.0	84
Canada	13	66	7.6	13.9	21.4	87	5	82	5.9	6.9	12.7	95	15	76	4.2	4.7	8.9	85
Chile ¹	31	42	9.6	17.6	27.2	69	m	68	8.9	22.8	31.8	100	2	74	11.1	13.1	24.2	98
Colombia	m	m	m	m	m	m	m	m	m	m	m	m	11	70	11.2	8.1	19.3	89
Costa Rica	17	51	16.3	15.4	31.7	83	27	43	7.0	22.8	29.8	73	42	47	6.9	4.8	11.7	58
Czech Republic	23	62	1.7	12.8	14.5	77	4	78	2.4	16.0	18.3	96	16	71	1.2	11.8	13.0	84
Denmark	55	38	0.9	6.5	7.4	45	13	80	1.9	5.2	7.1	87	22	67	5.9	4.8	10.7	78
Estonia	17	75	2.2	6.1	8.3	83	7	80	5.9	7.2	13.0	93	18	75	1.8	5.5	7.4	82
Finland	54	31	5.8	9.6	15.4	46	19	66	4.9	9.9	14.8	81	29	66	2.5	2.5	5.0	71
France	22	56	9.7	12.2	21.8	78	4	77	7.6	11.5	19.1	96	12	78	6.0	3.7	9.6	88
Germany	57	30	3.1	9.2	12.3	43	11	81	2.4	5.7	8.1	89	25	69	1.7	3.8	5.5	75
Greece	35	44	9.1	11.8	20.8	65	1	65	19.7	13.6	33.3	99	16	63	15.1	5.6	20.7	84
Hungary	18	73	3.7	6.0	9.6	82	2	89	2.7	5.9	8.7	98	12	83	2.3	2.3	4.6	88
Iceland	m	m	m	m	m	m	m	m	m	m	m	m	34	62	c	3.7	4.5	66
Ireland	m	m	m	m	m	m	m	m	m	m	m	m	14	80	3.2	2.8	6.0	86
Israel	38	48	2.9	11.1	13.9	62	m	86	4.0	10.1	14.2	100	20	70	3.3	6.5	9.8	80
Italy	35	41	7.2	17.4	24.7	65	7	67	10.8	15.4	26.2	93	29	55	6.4	9.9	16.3	71
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	6	71	c	15.8	22.6	94	c	73	15.3	c	21.2	95	10	81	c	5.8	9.4	90
Lithuania	13	70	c	10.6	16.8	87	c	76	3.2	20.9	24.2	100	8	86	4.1	c	5.5	92
Luxembourg	c	c	m	c	c	c	c	c	m	c	c	c	28	66	c	c	c	72
Mexico	13	64	3.0	20.1	23.1	87	5	71	5.7	18.4	24.2	95	12	74	4.8	9.7	14.5	88
Netherlands	55	39	c	3.9	5.4	45	18	76	1.6	4.3	5.9	82	23	73	2.7	1.8	4.5	77
New Zealand	13	70	3.2	13.9	17.1	87	12	75	4.0	9.5	13.5	88	14	81	2.1	2.8	4.9	86
Norway	43	45	0.0	12.5	12.5	58	11	84	c	c	c	89	28	69	c	c	3.6	72
Poland	13	66	3.4	18.1	21.5	87	2	81	3.4	12.8	16.3	98	9	83	2.6	6.0	8.6	91
Portugal	19	66	5.6 ^r	8.8 ^r	14.4	81	9	78	5.5 ^r	8.1	13.6	91	15	75	7.3	2.6 ^r	9.8	85
Slovak Republic	14	69	7.9	8.8	16.7	86	2	83	5.5	9.3	14.8	98	13	78	3.2	5.9	9.2	87
Slovenia	43 ^r	46 ^r	6.6 ^r	4.2 ^r	10.8 ^r	57 ^r	10	80	3.4	5.9	9.3	90	25	68	3.7	3.8	7.5	75
Spain	32	48	9.5	10.8	20.3	68	8	65	18.7	7.7	26.3	92	19	64	9.5	6.8	16.3	81
Sweden	44	47	c	c	c	56	15	77	c	c	c	85	29	67	c	c	c	71
Switzerland	53	37	4.8	5.6	10.3	47	14	77	3.5	5.5	9.0	86	22	74	2.5	2.3	4.7	78
Türkiye	21	46	10.2	23.1	33.3	79	14	59	7.2	19.6	26.8	86	18	57	11.7	13.9	25.6	82
United Kingdom	12	75	3.0	9.2	12.2	88	9	78	2.2	10.4	12.6	91	16	79	1.7	3.0	4.7	84
United States	9 ^d	68 ^d	4.9 ^d	18.2 ^d	23.1 ^d	91 ^d	x(1)	x(2)	x(3)	x(4)	x(5)	x(6)	14	76	2.4	7.1	9.4	86
OECD average	29	55	5.5	11.8	17.1	71	9	75	6.2	11.1	17.1	92	19	72	4.7	5.6	9.9	81
Partner and/or accession countries																		
Argentina ¹	m	m	m	m	m	m	m	m	m	m	m	m	51	40	2.4	6.6	9.0	49
Brazil	m	m	m	m	m	m	m	m	m	m	m	m	23	66	5.8	5.9	11.7	77
Bulgaria	14	64	6.4	14.9	21.2	86	6	83	2.4	9.3	11.7	94	13	76	1.9	9.9	11.8	87
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	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
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	8	71	10.8	10.6	21.5	92	4	74	5.0	17.7	22.6	96	7	84	4.0	5.5	9.5	93
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	10.5	53	26.4	9.7	36.1	89
EU25 average	30	55	5.8	10.2	15.7	70	8	77	6.5	10.0	16.3	93	18	73	4.2	5.2	9.2	82
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See StatLink and Box A2.3 for the notes related to this Table.

Source: OECD (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[12]).

Table A2.3. NEET rates among young adults one to three years after completion of selected education levels, by programme orientation and gender (2022)

Adults aged 15-34 year-old at graduation

	Upper secondary or post-secondary non-tertiary									Bachelor's or equivalent		
	By programme orientation						Total					
	General			Vocational								
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(13)	(14)	(15)
Australia	m	m	m	m	m	m	m	m	m	m	m	m
Austria	c	c	8.8 ^r	9.5 ^r	11.0 ^r	10.2	10.1 ^r	9.6 ^r	9.8	c	c	c
Belgium	6.2 ^r	4.1 ^r	5.1	11.5	9.8 ^r	10.8	8.7	6.1	7.4	10.3	5.3 ^r	7.5
Canada	m	m	m	m	m	m	m	m	m	m	m	m
Chile	m	m	m	m	m	m	m	m	m	m	m	m
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	7.9 ^r	4.4 ^r	5.8 ^r	3.6 ^r	12.9	7.7	4.8 ^r	9.2	7.0	8.6 ^r	10.8 ^r	9.9 ^r
Denmark	10.5	12.3	11.5	7.9 ^r	13.4	9.8	9.6	12.5	11.1	6.7 ^r	6.1 ^r	6.3
Estonia	16.9 ^r	9.0 ^r	12.1	21.8 ^r	c	17.9	18.9	9.7 ^r	13.9	14.6 ^r	c	10.8 ^r
Finland	7.7 ^r	7.5 ^r	7.6	15.1	14.4	14.8	12.2	11.1	11.6	5.4 ^r	9.2	7.6
France	6.1 ^r	4.7 ^r	5.4	24.2	23.0	23.7	13.6	10.6	12.1	10.4 ^r	9.0 ^r	9.6
Germany	7.5 ^r	5.8 ^r	6.6	5.2 ^r	5.3 ^r	5.3	6.1	5.6	5.9	c	c	3.7 ^r
Greece	12.5	8.3	10.3	35.6	45.0	39.4	19.0	15.5	17.3	23.9	24.7	24.4
Hungary	6.6 ^r	7.9	7.3	9.9	13.3	11.2	8.4	9.8	9.0	c	c	5.2 ^r
Iceland	c	c	c	c	c	c	c	c	3.7	c	c	c
Ireland	c	c	c	c	c	19.8 ^r	7.9 ^r	7.6 ^r	7.8	c	c	c
Israel	m	m	m	m	m	m	m	m	m	m	m	m
Italy	13.1	11.3	12.0	27.9	28.4	28.1	22.4	18.4	20.5	9.0	12.0	10.7
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	c	c	c	c	c	c	c	c	12.6 ^r	c	c	c
Lithuania	9.2 ^r	6.6 ^r	7.8	24.7 ^r	26.6 ^r	25.3	13.6	9.6 ^r	11.6	7.9 ^r	8.9 ^r	8.5 ^r
Luxembourg	c	c	c	c	c	c	c	c	c	c	c	c
Mexico	m	m	m	m	m	m	m	m	m	m	m	m
Netherlands	10.0 ^r	15.5 ^r	12.5	3.7 ^r	4.9	4.3	5.2	7.1	6.1	6.0	4.2 ^r	5.1
New Zealand	m	m	m	m	m	m	m	m	m	m	m	m
Norway	c	c	c	c	c	c	c	c	4.6	c	c	5.8 ^r
Poland	9.5 ^r	8.4	8.8	10.7	15.5	12.7	10.2	11.4	10.8	c	c	6.7 ^r
Portugal	6.6 ^r	6.4 ^r	6.5	15.5 ^r	17.2 ^r	16.3	9.7	9.3	9.5	12.8	10.6	11.7
Slovak Republic	c	c	c	14.6 ^r	c	12.8	10.5 ^r	c	8.1	c	c	c
Slovenia	c	c	c	c	c	8.0 ^r	c	c	5.4	c	c	c
Spain	6.3	4.5	5.4	21.6	20.6	20.9	11.0	8.1	9.6	17.2	17.2	17.3
Sweden	8.1	7.1	7.6	c	14.2 ^r	9.6	7.7	8.5	8.0	c	3.6 ^r	3.5 ^r
Switzerland	m	m	m	m	m	m	m	m	m	m	m	m
Türkiye	m	m	m	m	m	m	m	m	m	m	m	m
United Kingdom	5.6 ^r	3.6 ^r	4.6	8.3 ^r	14.0 ^r	11.1	6.3	6.4	6.4	6.8 ^r	7.0 ^r	6.9
United States	m	m	m	m	m	m	m	m	m	m	m	m
OECD average	m	m	8.1	m	m	15.2	m	m	9.6	m	m	m
Partner and/or accession countries												
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
Bulgaria	c	9.1 ^r	8.0 ^r	c	c	15.1 ^r	8.6 ^r	11.1 ^r	9.8	c	c	c
China	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	c	c	c	17.4 ^r	20.4 ^r	18.6	13.9 ^r	12.9 ^r	13.4	16.0 ^r	11.4 ^r	12.7 ^r
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
Peru	m	m	m	m	m	m	m	m	m	m	m	m
Romania	c	c	5.8 ^r	9.8	12.9	11.4	8.6	11.5	10.0	c	12.0 ^r	10.6
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
EU25 average	9.0	7.8	8.1	15.3	17.2	15.4	10.9	10.2	9.9	m	m	9.3
G20 average	m	m	m	m	m	m	m	m	m	m	m	m

Note: See StatLink and Box A2.3 for the notes related to this Table.

Source: OECD (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[12]).


StatLink  <https://stat.link/807ta3>

Table A2.4. Employment rates of recent graduates, by educational attainment, programme orientation and years since graduation (2022)

Percentage of employed recent graduates as a share of all recent graduates not in formal education or training; adults aged 15-34 at graduation

	Upper secondary or post-secondary non-tertiary						Tertiary							
	By programme orientation				Total		Short-cycle tertiary		Bachelor's or equivalent		Master's, doctoral or equivalent		Total	
	General		Vocational											
	One to two years	At least five years	One to two years	At least five years	One to two years	At least five years	One to two years	At least five years	One to two years	At least five years	One to two years	At least five years	One to two years	At least five years
OECD countries	(1)	(3)	(4)	(6)	(7)	(9)	(10)	(12)	(13)	(15)	(16)	(18)	(19)	(21)
Australia	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Austria	57 ^r	78	85	78	81	78	88	87	92	83	91	90	90	88
Belgium	46	70	77	78	70	75	87 ^r	84	81	89	91	91	86	90
Canada	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Chile	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Colombia	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Costa Rica	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Czech Republic	50 ^r	88	86	85	82	85	100	87	75	87	88	89	86	89
Denmark	78	80	87	86	81	85	80	89	89	89	87	93	87	91
Estonia	64	83	72	81	68	82	c	81	84	90	96	89	91	88
Finland	68	81	82	80	78	80	c	84	86	93	94	90	89	89
France	56	75	64	75	62	75	79	85	80	86	86	91	83	87
Germany	65	74	94	84	89	83	c	88	94	89	95	90	94	89
Greece	27 ^r	63	53	73	43	67	c	54	61	79	66	91	63	81
Hungary	60	85	84	85	78	85	c	94	95	91	97	95	97	93
Iceland	90	82	99	90	93	86	c	87	93	92	95	97	94	94
Ireland	81	75	77	80	78	76	97 ^r	85	91	88	92	91	92	88
Israel	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Italy	33	68	55	75	50	73	83 ^r	77	69	86	73	89	72	88
Japan	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
Latvia	c	72	88 ^r	77	71	75	c	89	92	87	c	86	94	87
Lithuania	65	75	69	76	67	76	a	a	88	89	91	92	89	90
Luxembourg	c	c	91	73	91	73	90 ^r	80	95	83	96	91	95	88
Mexico	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Netherlands	75	80	92	86	89	85	96	87	94	89	96	92	95	90
New Zealand	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Norway	85	78	93	84	89	82	91	84	91	91	93	94	91	91
Poland	68	76	79	75	76	75	c	c	86	91	91	93	89	92
Portugal	56	86	72	88	66	87	c	81 ^r	75	93	88	93	80	93
Slovak Republic	c	82	79	81	79	81	c	c	c	88	90	91	90	91
Slovenia	c	79	75 ^r	78	74 ^r	78	82 ^r	86	90 ^r	93	90 ^r	94	88	92
Spain	55	73	61	75	59	74	76	83	73	83	79	87	76	84
Sweden	80	88	86	88	83	88	87	91	95	94	97	95	93	94
Switzerland	55	80	82	84	73	83	c	c	88	87	91	90	90	89
Türkiye	m	m	m	m	m	m	m	m	m	m	m	m	m	m
United Kingdom	39	74	70	76	47	75	89 ^r	74	87	84	91 ^r	87	89	83
United States	m	m	m	m	m	m	m	m	m	m	m	m	m	m
OECD average	m	78	79	80	75	79	m	m	86	88	90	91	88	89
Partner and/or accession countries														
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
Bulgaria	62	80	c	83	56	82	a	a	90	93	87	91	89	91
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	c	73	71	73	70	73	86 ^r	77	68 ^r	88	81	91	79	89
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
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	52 ^r	70	51	74	52	73	c	89	81	92	89	92	83	92
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
EU25 average	60	77	76	79	72	79	m	84	84	88	89	91	87	89
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See StatLink and Box A2.3 for the notes related to this Table.

Source: OECD (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[12]).

Box A2.3. Notes for Indicator A2 Tables

Table A2.1. Percentage of 18-24 year-olds in education/not in education, by work status (2022)

Data usually refer to the second quarter of studies, which corresponds in most countries to the first three months of the calendar year, but in some countries, to the second three months.

1. Reference year differs from 2022: 2020 for Chile; 2018 for Argentina.

Table A2.2. Percentage of 25-29 year-olds with at least upper secondary attainment in education/not in education, by educational attainment, programme orientation and work status (2022)

Data usually refer to the second quarter of studies, which corresponds in most countries to the first three months of the calendar year, but in some countries, to the second three months.

1. Reference year differs from 2022: 2020 for Chile; 2018 for Argentina.

Table A2.3. NEET rates among young adults one to three years after completion of selected education levels, by programme orientation and gender (2022)

Data are from the EU-Labour Force Survey (EU-LFS) for all countries participating in this survey and national Labour Force Survey for the United Kingdom. Data for short-cycle tertiary and master's, doctoral or equivalent attainment are available for consultation on line (see StatLink).

Table A2.4. Employment rates of recent graduates, by educational attainment, programme orientation and years since graduation (2022)

Data are from the EU-Labour Force Survey (EU-LFS) for all countries participating in this survey and national Labour Force Survey for the United Kingdom. Data for employment rates of recent graduates three to four years after completion of selected education levels are available for consultation on line (see StatLink).

For more information see *Definitions, Methodology and Source* sections and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3]).

Data and more breakdowns are available in the *Education at a Glance Database* (<http://stats.oecd.org/>).

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

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

Highlights

- On average across OECD countries, the employment rate increases as educational attainment increases. Among 25-64 year-olds, the employment rate is 59% for those with below upper secondary attainment. This rises to 77% for adults with upper secondary or post-secondary non-tertiary attainment and 86% for those with tertiary attainment.
- High-quality vocational education can facilitate the transition from school to work. On average in OECD countries, the employment rate for younger adults (25-34 year-olds) with upper secondary or post-secondary non-tertiary education as their highest attainment is 83% for those with a vocational qualification and 73% for those with a general one.
- In the vast majority of OECD countries, employment rates among 25-34 year-old women are lower than for men of this age group, regardless of educational attainment. However, the difference falls as educational attainment increases. On average across OECD countries, only 47% of 25-34 year-old women without upper secondary education are employed, 24 percentage points below their male peers. The gap narrows to 14 percentage points for those with upper secondary or post-secondary non-tertiary attainment and to 6 percentage points for those with a tertiary degree.

Context

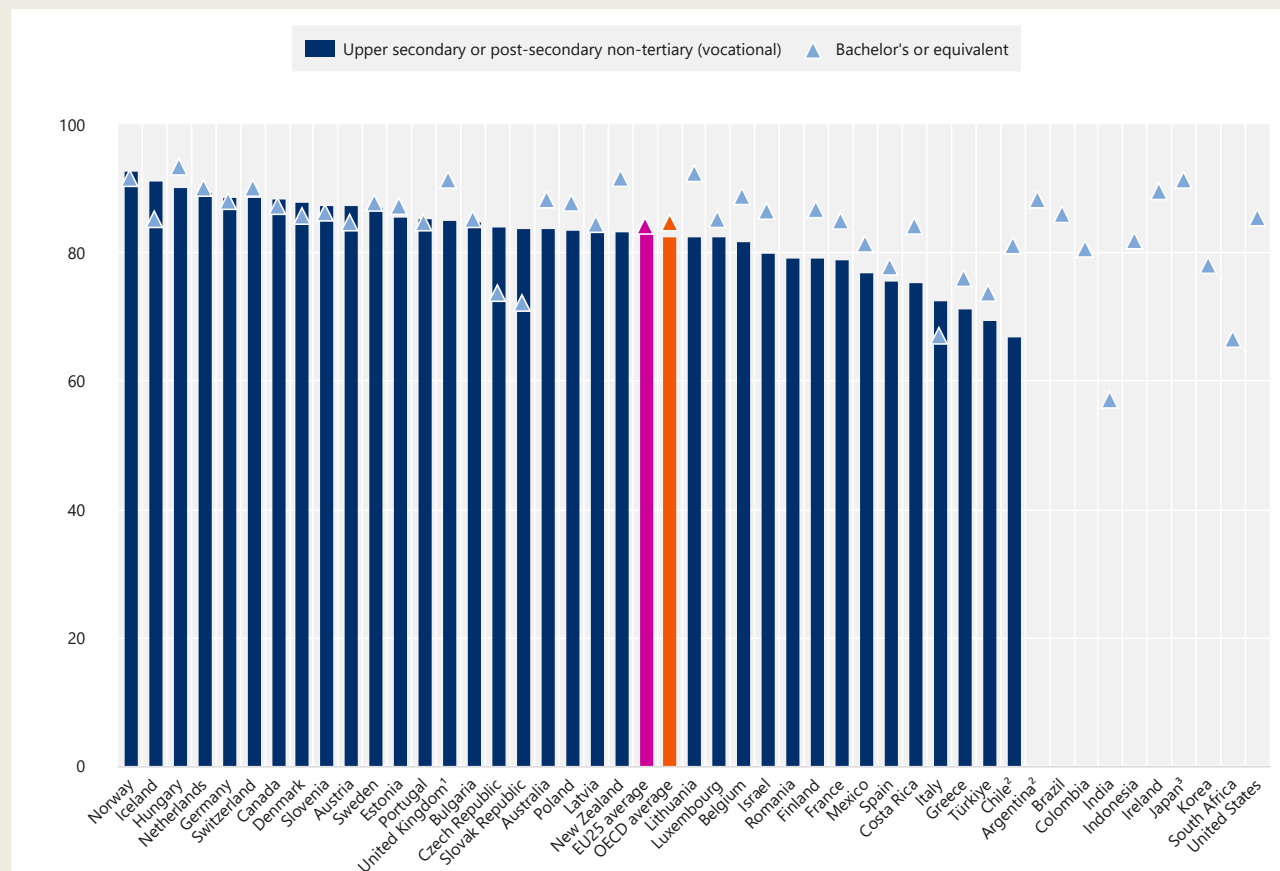
Modern economies depend on a supply of highly skilled workers and these workers in turn reap labour-market benefits. These advantages, combined with expanded education opportunities, have encouraged individuals across the OECD to acquire more skills via attaining higher levels of education. As demand for skills has increased, labour markets have absorbed the growing number of highly skilled workers and continue to provide them with better employment prospects. In contrast, the labour-market prospects for adults with lower levels of qualifications are more challenging. Those with lower educational qualifications earn less (see Indicator A4) and are at greater risk of unemployment. Automation could mean the disappearance of 14% of existing jobs, an estimate that varies significantly across countries (from 7% in Norway to 35% in the Slovak Republic) (Georgieff and Milanez, 2021^[1]). New technologies, such as generative artificial intelligence, are increasing the range of jobs that could potentially be automated.

Education systems need to respond to the labour-market challenges of today and prepare students for the labour markets of the future. Labour-market outcomes by level of educational attainment are among the most important headline measures of the links between education and economic opportunities for individuals. They show the types of qualifications that are in demand by employers and can help governments to better understand global trends and anticipate how their economies may evolve in the coming years.

Vocational programmes are often seen as a tool to facilitate the transition from school to work. In most OECD countries vocational programmes are part of the upper secondary offer, while in some countries occupational preparation is postponed to post-secondary and tertiary levels. A key question is how graduates of vocational programmes succeed in the labour market, both when they start their working life and later on, as their career progresses and they are faced with changing demands for skills and need to adapt.

Figure A3.1. Employment rates of 25-34 year-olds, by level of educational attainment and programme orientation (2022)

In per cent




1. Data for upper secondary attainment include completion of a sufficient volume and standard of programmes that would be classified individually as completion of intermediate upper secondary programmes (9% of adults aged 25-34 are in this group).

2. Year of reference differs from 2022. Refer to the source table for more details.

3. 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 employment rates of 25-34 year-olds with vocational upper secondary or post-secondary non-tertiary attainment and in alphabetical order for countries for which data on this level of education are not available.

Source: OECD (2023), Table A3.2 and Education at a Glance Database, <http://stats.oecd.org/>. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023_[2]).

StatLink  <https://stat.link/5octjy>

Other findings

- Unemployment rates among younger adults with a tertiary degree are around 2 percentage points lower than for those with upper secondary or post-secondary non-tertiary attainment and 8 percentage points lower than for young adults with below upper secondary attainment on average across OECD countries.
- Women aged 25 to 34 with a vocational upper secondary or post-secondary non-tertiary as their highest level of educational attainment also have lower employment rates than similarly educated men of this age group. On average across OECD countries, 74% of 25-34 year-old women who attained a vocational upper secondary or post-secondary non-tertiary programme are employed, compared to 89% of their male peers. This is a similar sized gender gap in employment rates as among those with general upper secondary or post-secondary non-tertiary attainment: 66% for younger women compared to 80% for younger men.
- Vocational qualifications are associated with lower inactivity rates than general qualifications. Across OECD countries, 12% of 24-35 year-old adults with vocational upper secondary or post-secondary non-tertiary education as their highest attainment are inactive, while the share reaches 21% for those with a general qualification.

Analysis

There continues to be a strong relationship between labour-market participation and educational attainment that holds whether participation is measured by employment, unemployment, or inactivity rates. This relationship exists in nearly all OECD and partner countries with available data. It is very rare to find a country where a subpopulation with lower educational attainment has higher labour-market participation rates than a subpopulation with higher educational attainment. On average across OECD countries, employment rates rise from about 60% for 25-34 year-olds without an upper secondary attainment to 86% for those with a tertiary qualification, while unemployment rates fall from 13% to 5% and inactivity rates from 31% to 9% (Table A3.2, Table A3.3 and Table A3.4).

This positive relationship between education and the labour market holds for both men and women (Table A3.2) and has been stable over the decades, despite the strong increase in attainment levels across the OECD (OECD, 2022^[3]).

The analysis in this Indicator focuses on educational attainment. It should be noted that in some cases a person might have achieved one level of educational attainment but still be in education and therefore their educational attainment is likely to increase at a later stage. This is particularly important when analysing labour-market outcomes for 25-34 year-olds, who may still be in education or may return to education and change their employability.

Educational attainment and employment

Educational attainment and employment rates are strongly correlated. Upper secondary or post-secondary non-tertiary education is often seen as the minimum educational attainment for successful labour-market participation for most individuals (OECD, 2021^[4]). Employment rates among adults (25-64 year-olds) with upper secondary or post-secondary non-tertiary attainment are much higher than for those with below upper secondary attainment. On average, only 59% of 25-64 year-olds with below upper secondary attainment are employed in OECD countries, rising to 77% of those with upper secondary or post-secondary non-tertiary attainment. The employment rate among adults with tertiary attainment is even higher, at 87%. However, the employment premium (i.e. difference in employment rates) moving from below upper secondary attainment to upper secondary or post-secondary non-tertiary attainment varies markedly across OECD and partner countries, ranging from 5 percentage points or less in Colombia, India and Indonesia to 47 percentage points in the Slovak Republic (Table A3.1).

By programme orientation

The type of programme pursued also affects employment rates. In the majority of OECD and partner countries, upper secondary and post-secondary non-tertiary education consists of both general and vocational programmes. Across OECD countries, 22% of younger adults attained a vocational upper secondary or post-secondary non-tertiary education and 18% attained a general one (see Indicator A1). Vocational attainment can be associated with strong employability in the labour market. On average in OECD countries, the employment rate among younger adults who achieved upper secondary or post-secondary non-tertiary education as their highest attainment is 83% for those with a vocational qualification and 73% for those with a general one (Table A3.2). Lower employment rates for younger adults with general qualifications can be linked to the fact that general programmes are often designed to prepare students for tertiary studies, while vocational programmes focus on developing job-specific skills, preparing students to enter the labour market. Some countries have vocational programmes with a strong and integrated work-based learning component at upper secondary or post-secondary non-tertiary level. For example, in France, Germany, the Netherlands and Switzerland, above 70% of 20-34 year-olds with a vocational qualification obtained work experience longer than a month while completing their programme (see Box A1.1 in Indicator A1).

On average across OECD countries, adults who have a bachelor's or equivalent degree as their highest level of education have an employment rate of 85%. In many OECD countries, this may underestimate eventual employment rates as some of this age group will still be enrolled in education. However, getting a bachelor's or equivalent degree does not improve employment rates in all OECD and partner countries. Indeed, in most countries where the employment rate for adults with upper secondary or post-secondary non-tertiary vocational attainment reaches 85% or more, attaining a bachelor's or equivalent degree does not increase employment rates by more than 2 percentage points (Figure A3.1).

Vocational short-cycle tertiary programmes are more common than general ones in most countries where this level of education exists (see Indicator A1). On average across the OECD, 25-64 year-olds with short-cycle tertiary attainment have almost the same employment rates as those with a bachelor's or equivalent degree. However, this average hides large variations across countries. In the Czech Republic and New Zealand, short-cycle tertiary graduates that have this educational

level as their highest level of attainment have higher employment rates than those with a bachelor's or master's or equivalent degree, while in other countries they have lower rates. In a few countries, the employment rates of short-cycle tertiary graduates that have this educational level as their highest level of attainment are barely higher than those with upper secondary attainment (Table A3.1). However, there is still a benefit to pursuing a short-cycle tertiary qualification in terms of wage gains (see Indicator A4).

By gender and programme orientation

While the link between educational attainment and employment rates holds for both men and women, it is particularly strong for women, for every additional level of education. In 2022, among younger adults, only 47% of women with below upper secondary attainment were employed, compared to 70% for those whose highest level of attainment is upper secondary or post-secondary non-tertiary and 84% of those with tertiary attainment. For younger men the biggest employment gain comes from getting an upper secondary education: from an employment rate of 70% for those with below upper secondary attainment to 85% for those with upper secondary or post-secondary non-tertiary attainment and 90% with a tertiary education (Table A3.2). The large gender difference among younger adults with below upper secondary attainment is unlikely to be solely due to employability. The persistence of traditional gender roles may also shape these results. Women who expect to stay home to take care of a family instead of pursuing a career have less incentive to obtain a formal education and are therefore more likely to have low educational attainment. Across the OECD, this is reflected in inactivity rates for younger women with below upper secondary attainment that are on average more than twice as high as for men and resulting low employment rates (Table A3.2 and Table A3.4).

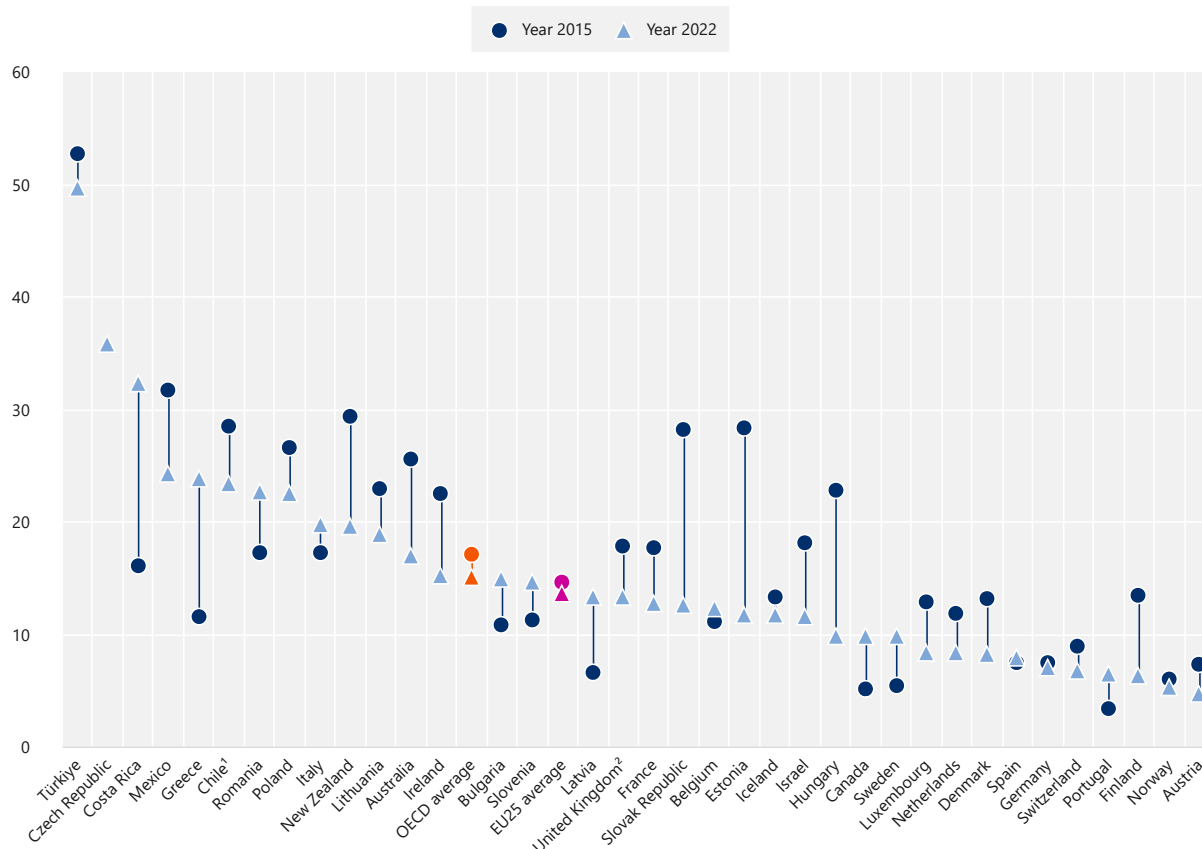
On average across OECD and partner countries, 25-34 year-old women have lower employment rates than their male peers, regardless of educational attainment but these gender disparities narrow as educational attainment increases. On average across OECD countries, the gender difference in employment rates among 25-34 year-olds without upper secondary education is 25 percentage points. The difference shrinks to 15 percentage points among those with upper secondary or post-secondary non-tertiary education as their highest attainment and 6 percentage points among those with tertiary attainment. In the Czech Republic and the Slovak Republic, gender differences in employment rates by educational attainment are significant, varying by more than 5 percentage points across educational attainment levels (Table A3.2).

On average across OECD countries, the gender gap in employment rates among younger adults with vocational upper secondary or post-secondary non-tertiary attainment has hardly changed between 2015 and 2022. In all OECD and partner countries, younger men with this level of educational attainment had higher employment rates than younger women with the same level of education, in both 2015 and 2022. In 2015, 66% of women and 84% of men with this level of education as their highest attainment were employed and in 2022, it was 70% for women and 85% for men. Since 2015, the gap has widened in 10 OECD countries. This was most marked in Canada, Costa Rica, Greece and Latvia where the difference in employment rates between men and women increased by between 5 and 16 percentage points. Australia, Estonia, Finland, Hungary, Ireland, Israel and the Slovak Republic saw the largest reduction in this gap, by between 7 and 16 percentage points (Figure A3.2)

Among younger adults with below upper secondary education as their highest level of attainment, the gender gap in employment rates narrowed by 2 percentage points on average across OECD countries between 2015 and 2022. About 20 OECD countries registered a decrease in the gender gap, with Lithuania and Luxembourg seeing the largest fall, of 20 percentage points. This trend is also apparent among younger adults with tertiary education, who saw the average gender gap narrow by 3 percentage points over the same period (Table A3.2).

Figure A3.2. Trends in the gender gap in employment rates among 25-34 year-olds with vocational upper secondary or post-secondary non-tertiary attainment (2015 and 2022)

Employment rates of men minus employment rates of women; in percentage points




1. Year of reference differs from 2022. 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 (9% of adults aged 25-34 are in this group).

Countries are ranked in descending order of the gender gap in employment rates of 25-34 year-olds with vocational upper secondary or post-secondary non-tertiary attainment in 2022.

Source: OECD (2023), Table A3.2. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[2]).

StatLink  <https://stat.link/qpd3iw>

Educational attainment and unemployment rates

In the large majority of countries, unemployment rates decrease as educational attainment increases. In many OECD and partner countries, unemployment rates (i.e. adults without work, actively seeking employment and currently available to start work, as a percentage of the labour force) are especially high among younger adults with lower educational attainment levels. Measuring unemployment rates for young people can be challenging because many of them are still in education or training programmes and may not be actively seeking employment. To address this challenge, *Education at a Glance* uses alternative measures such as the percentage of young people who are neither employed nor in education or training (NEET) in Indicator A2 in addition to the comparison of unemployment rates that follows.

On average across OECD countries, the unemployment rate for 25-34 year-olds lacking upper secondary education is 12.8%, almost twice as high as for those with upper secondary or post-secondary non-tertiary attainment (7.3%). The situation is especially severe for younger adults without upper secondary education in the Slovak Republic and South Africa, where more

than 35% of this group are unemployed. The rate is also high in Belgium, Greece, and Spain, where more than 20% of younger adults without upper secondary attainment are unemployed (Table A3.3).

Having upper secondary education or post-secondary non-tertiary education as the highest level of education attained reduces the risk of unemployment in most OECD and partner countries. In Austria, the Czech Republic, Hungary, the Slovak Republic, Sweden and Switzerland, the unemployment rate for younger adults with upper secondary or post-secondary non-tertiary attainment is one-third or less than the rate for younger adults with below upper secondary attainment (Table A3.3).

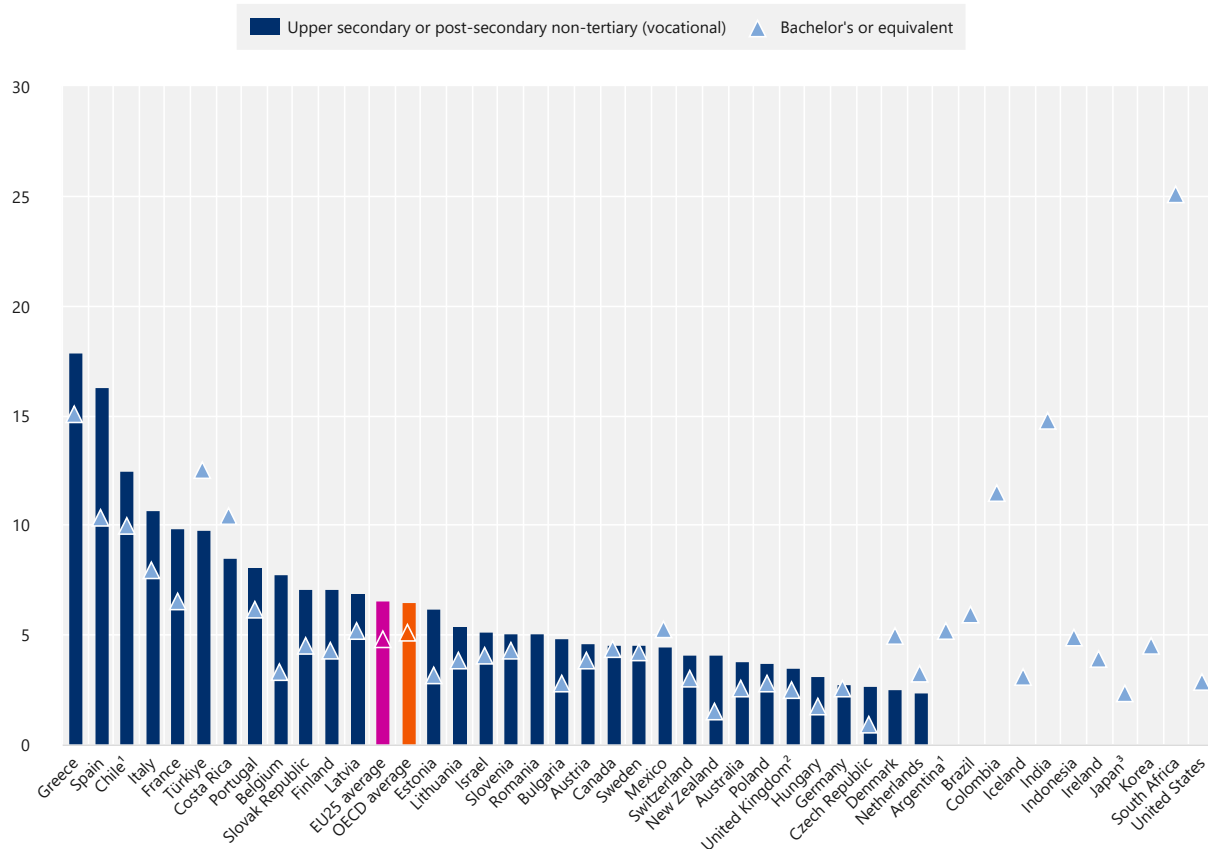
In most OECD and partner countries, among younger adults with upper secondary or post-secondary non-tertiary attainment, those with a vocational qualification have lower risk of unemployment than those with a general one, even though the difference on average across OECD remains small (less than 2 percentage-point). The difference in unemployment rates is most pronounced in Costa Rica, Finland and the Netherlands, where it reaches 5-7 percentage points (Table A3.3).

On average in OECD countries, 25-34 year-olds with a tertiary degree have an unemployment rate of 4.9%. The positive effect of tertiary education on unemployment rates is particularly high in Argentina, Belgium, the Czech Republic, Finland, New Zealand, Poland, Romania, the Slovak Republic, and the United States. In these countries, unemployment rates among tertiary-educated younger adults are less than half of those of younger adults which have upper secondary or post-secondary non-tertiary attainment (Table A3.3).

However, in some countries there are exceptions to the relationship between greater educational attainment and lower unemployment, especially for those with vocational education as their highest level of education. In Costa Rica, Denmark, Mexico, the Netherlands and the Republic of Türkiye (hereafter “Türkiye”), young adults with vocational upper secondary or post-secondary non-tertiary attainment have lower unemployment rates than their peers with a bachelor’s or equivalent degree (Figure A3.3).

Figure A3.3. Unemployment rates of 25-34 year-olds, by educational attainment and programme orientation (2022)

Percentage of unemployed 25-34 year-olds among all 25-34 year-olds in the labour force




1. Year of reference differs from 2022. 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 (9% of adults aged 25-34 are in this group).

3. 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 unemployment rates of 25-34 year-olds with vocational upper secondary or post-secondary non-tertiary attainment and in alphabetical order for countries for which data on this level of education are not available.

Source: OECD (2023), Table A3.3. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[2]).

StatLink  <https://stat.link/49afsi>

Educational attainment and labour-market inactivity

While unemployment receives most public attention, the economic inactivity rate – the share of people who are neither working nor actively looking for a job – is another important measure of labour-market participation. On average across OECD countries, 31% of 25-34 year-olds who have not completed upper secondary education are inactive. The share falls to 16% for those with an upper secondary or post-secondary non-tertiary attainment and 9% for those with tertiary attainment (Table A3.4).

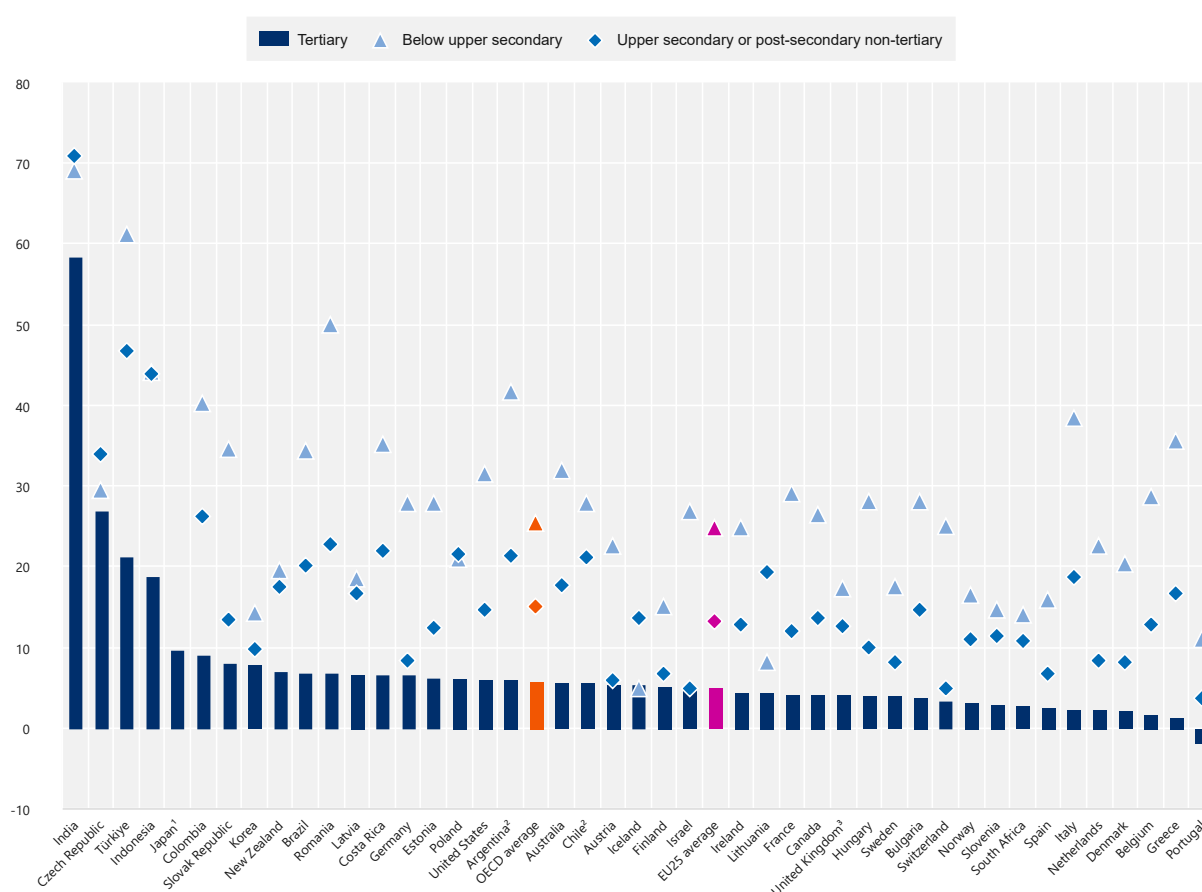
Across OECD countries, among younger adults with upper secondary or post-secondary non-tertiary education as their highest attainment, 12% of those with a vocational qualification are inactive, compared to 21% of those with a general qualification. This rate falls to 11% for those with a bachelor's or equivalent degree. In Austria, the Czech Republic, Iceland, Italy, Portugal, the Slovak Republic, and Spain, younger adults who completed a vocational upper secondary or post-secondary non-tertiary programme as their highest level of attainment have lower inactivity rates than those with a bachelor's or equivalent degree (Table A3.4).

Younger women have consistently higher inactivity rates than younger men across all attainment levels except for tertiary-educated women in Portugal, but the rates are especially high among those who have not completed upper secondary education. On average across OECD countries, the gender difference in inactivity rates is about 25 percentage points for 25-34 year-olds with below upper secondary attainment, compared to 15 percentage points among those with upper secondary or post-secondary non-tertiary attainment and 6 percentage points for those with tertiary attainment (Figure A3.4).

Inactivity rates among women can be influenced by a variety of factors, such as the opportunity to work part-time. Part-time work can offer greater flexibility to balance work and other obligations, which may be especially important for women who have caregiving responsibilities, such as taking care of children or elderly relatives. However, part-time work often comes with lower wages, fewer benefits and limited opportunities for advancement, which can make it difficult for women to achieve economic security.

Figure A3.4. Gender gap in inactivity rates among 25-34 year-olds, by educational attainment (2022)

Inactivity rates of women minus inactivity rates of men; in percentage points




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

2. Year of reference differs from 2022. Refer to the source table for more details.

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 (9% of adults aged 25-34 are in this group).

Countries are ranked in descending order of the gender gap in inactivity rates among 25-34 year-olds with tertiary attainment.

Source: OECD (2023), *Education at a Glance Database*, <http://stats.oecd.org/>. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023_[2]).

StatLink  <https://stat.link/a0py7c>

Labour market outcomes by subnational regions

Adults with higher educational attainment tend to have more homogeneous employment rates across regions. In Australia for example, employment rates for 25-64 year-olds with below upper secondary attainment range from 54% in Canberra, to 63% in Western Australia, but for those with a tertiary education the range was only from 82% in Tasmania to 89% in Northern Territory in 2021 (OECD, 2023^[5]).

Despite the concentration of economic activity in the capital city regions, in most countries, these regions do not generally have the highest employment rates. However, for tertiary-educated adults, the employment rate in the capital city region does tend to be slightly higher than the unweighted average of all regions in a country. In Greece, for example, the employment rate for adults with tertiary attainment in the capital city region of Attica is about 5 percentage points higher than the unweighted average of all Greece's regions (OECD, 2023^[5]).

Regional variation in employment rates among adults with upper secondary or post-secondary non-tertiary attainment can be significant among OECD and partner countries with available data. In Italy, there is a difference of 30 percentage points between the lowest region, Calabria (53%) and the highest, the Province of Bolzano-Bozen (83%). Similarly, in Colombia, there was a 24 percentage-point difference between the region of Chocó (51%) and Nariño (75%) in 2020. However, in other countries like the Czech Republic, Germany or the United Kingdom, regional differences do not exceed 10 percentage points. For tertiary attainment, the country with the highest regional variation among adults is Chile, recording a 20 percentage-point difference between the region of O'Higgins (25%) and Santiago Metropolitan (45%) in 2020 (OECD, 2023^[5]).

Definitions

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.

Inactive individuals are those who, during the survey reference week, were outside the labour force and classified neither as employed nor as 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 the population of the same age group).

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

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. Note that the employment rates do not take into account the number of hours worked.

For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[2]).

Source

For information on sources, see Indicator A1.

Data on subnational regions for selected indicators are available in the *OECD Regional Statistics (database)* (OECD, 2023^[5])

References

- Georgieff, A. and A. Milanez (2021), “What happened to jobs at high risk of automation?”, *OECD Social, Employment and Migration Working Papers* 255. [1]
- OECD (2023), *Education at a Glance 2023 Sources, Methodologies and Technical Notes*, OECD Publishing, Paris, <https://doi.org/10.1787/d7f76adc-en>. [2]
- OECD (2023), *OECD Regional Database - Education*, https://stats.oecd.org/Index.aspx?DataSetCode=REGION_EDUCAT (accessed on 20 July 2022). [5]
- OECD (2022), *Education at a Glance Database - Educational attainment and labour-force status*, http://stats.oecd.org/Index.aspx?datasetcode=EAG_NEAC (accessed on 20 July 2022). [3]
- OECD (2021), *Education at a Glance 2021: OECD Indicators*, OECD Publishing, Paris, <https://doi.org/10.1787/b35a14e5-en>. [4]

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 (2022)
Table A3.2	Trends in employment rates of 25-34 year-olds, by educational attainment, programme orientation and gender (2015 and 2022)
Table A3.3	Unemployment rates of 25-34 year-olds, by educational attainment and programme orientation (2022)
Table A3.4	Inactivity rates of 25-34 year-olds, by educational attainment and programme orientation (2022)

StatLink  <https://stat.link/4ygz2o>

Cut-off date for the data: 15 June 2023. 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 (2022)

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	
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Australia	62	79	85	80	85	86	87	92	86	81
Austria	55	78	84	78	86	83	90	93	87	78
Belgium	47	73	87	74	85	86	90	91	88	75
Canada	58	73	82	76	81	84	87 ^d	x(7)	83	79
Chile ¹	52	63	a	63	73	83	91 ^d	x(7)	80	65
Colombia	64	69 ^d	x(2)	69	x(6)	79 ^d	x(6)	x(6)	79	70
Costa Rica	63	71	c	71	73	82	86	c	80	69
Czech Republic	58	85 ^d	x(2)	85	90	83	89	91	88	84
Denmark	63	83	91	83	87	87	90	95	89	82
Estonia	69	82	83	82	81	89	90	96	88	83
Finland	56	78	98	78	83	89	90	c	89	80
France	54	74	66	74	85	85	90	92	87	76
Germany	65	81	87	83	89	88	89	93	89	82
Greece	56	66	71	67	59	77	86	93	79	69
Hungary	60	83	92	84	91	90	94	98	92	83
Iceland	74	84	92	86	86	89	95	99	92	86
Ireland	54	74	79	76	84	87	90	92	88	80
Israel	52	73	a	73	86	88	91	94	89	79
Italy	53	72	77	72	76	77	86	92	83	68
Japan ²	x(2)	82 ^d	x(5)	m	82 ^d	90 ^d	x(6)	x(6)	87 ^d	85
Korea	62	72	a	72	77	79	87 ^d	x(7)	79	75
Latvia	64	75	76	75	84	86	88	92	87	79
Lithuania	55	75	77	76	a	89	92	97	90	81
Luxembourg	63	72	80	73	77	82	90	89	86	78
Mexico	65	71	a	71	73	80	87	88	80	70
Netherlands	68	84	87	84	88	88	92	94	90	83
New Zealand	73	82	87	84	91	90	90	91	90	84
Norway	64	82	94	83	84	90	95	98	90	83
Poland	49	75	76	75	c	89	92	96	91	79
Portugal	71	84	86	84	84	87	93	97	91	81
Slovak Republic	33	80	80	80	90	81	91	91	90	80
Slovenia	51	78	a	78	86	89	93	96	91	81
Spain	60	72	70	72	80	81	86	92	83	72
Sweden	65	84	84	84	84	90	94	96	90	84
Switzerland	66	83 ^d	x(2)	83	x(6, 7, 8)	88 ^d	89 ^d	92 ^d	89	83
Türkiye	52	62	a	62	65	76	83	93	74	60
United Kingdom ³	63	82	a	79	81	87	89	90	87	80
United States	56	71 ^d	x(2)	71	78	82	86	90	83	75
OECD average	59	77	83	77	82	85	90	93	86	78
Partner and/or accession countries										
Argentina ¹	66	73	a	73	x(6)	85 ^d	x(6)	93	86	74
Brazil	58	x(4)	x(4)	73	x(6)	84 ^d	86	92	84	69
Bulgaria	51	81	85	81	a	88	91	97	90	79
China	m	m	m	m	m	m	m	m	m	m
Croatia	m	m	m	m	m	m	m	m	m	m
India	62	64	83	66	x(6)	63 ^d	x(6)	65	64	63
Indonesia	75	73	a	73	75	82	90	97	81	75
Peru	m	m	m	m	m	m	m	m	m	m
Romania	48	74	84	75	x(9)	x(9)	x(9)	x(9)	91	72
Saudi Arabia	m	m	m	m	m	m	m	m	m	m
South Africa	45	55	61	55	66	76	84 ^d	x(7)	75	52
EU25 average	57	78	82	78	84	86	90	94	88	79
G20 average	60	72	m	72	m	82	m	88	82	73

Note: See StatLink and Box A3.1 for the notes related to this Table.

Source: OECD/ILO (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[2]).StatLink  <https://stat.link/rylf95>

Table A3.2. Trends in employment rates of 25-34 year-olds, by educational attainment, programme orientation and gender (2015 and 2022)

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

	Below upper secondary				Upper secondary or post-secondary non-tertiary												Tertiary			
					By programme orientation															
					General				Vocational				Total							
	2015		2022		2015		2022		2015		2022		2015		2022		2015		2022	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
OECD countries	(1)	(2)	(4)	(5)	(7)	(8)	(10)	(11)	(13)	(14)	(16)	(17)	(19)	(20)	(22)	(23)	(25)	(26)	(28)	(29)
Australia	74	43	79	48	80	69	83	67	92	66	90	73	87	68	87	70	92	80	91	86
Austria	65	51	68	48	74	69	76	73	89	82	89	85	87	79	87	82	87	84	91	85
Belgium	61	38	61	37	73	64	75	64	85	74	87	75	82	71	84	71	88	86	91	89
Canada	66	42	68	45	79	64	81	69	88	83	91	82	83	68	85	72	88	82	89	85
Chile ¹	79	43	68	44	77	56	69	49	92	63	79	56	80	57	71	51	89	83	83	77
Colombia	90	50	86	42	x(19)	x(20)	x(22)	x(23)	x(19)	x(20)	x(22)	x(23)	88	62	83	54	90	79	87	76
Costa Rica	87	46	85	47	88	59	83	59	84	68	93	60	87	60	84	59	84	78	85	77
Czech Republic	56	27	74	40	x(19)	x(20)	96	62	x(19)	x(20)	96	60	91	63	96	61	91	68	94	67
Denmark	62	47	65	47	72	64	74	70	90	77	91	83	85	73	86	77	85	80	89	86
Estonia	69	51	81	58	92	67	95	79	93	65	90	78	93	66	92	79	95	79	93	87
Finland	61	40	55	41	75	55	72	63	83	69	82	76	81	66	80	72	88	76	92	86
France	63	36	64	39	79	68	78	72	82	64	85	72	81	65	83	72	87	82	90	86
Germany	68	44	74	49	57	50	72	60	89	82	92	85	85	78	88	81	91	84	93	86
Greece	62	34	70	36	64	44	72	46	68	56	82	58	65	49	77	52	67	63	78	75
Hungary	65	36	74	48	80	64	83	77	89	66	94	84	87	66	91	81	94	74	96	92
Iceland	85	62	78	71	77	70	84	68	95	82	95	83	87	74	89	73	91	83	92	87
Ireland	52	33	50	32	72	61	78 ^d	65 ^d	81	58	87	72	75	60	81	68	85	83	92	89
Israel	72	38	64	39	75	65	70	65	88	69	85	73	76	65	71	66	90	83	91	85
Italy	63	36	70	33	56	45	64	48	75	58	80	61	72	53	77	56	66	60	75	71
Japan ²	m	m	m	m	x(25)	x(26)	x(28)	x(29)	x(25)	x(26)	x(28)	x(29)	x(25)	x(26)	x(28)	x(29)	91 ^d	76 ^d	94 ^d	85 ^d
Korea	63	45	73	60	73 ^d	54 ^d	69 ^d	60 ^d	x(7)	x(8)	x(10)	x(11)	73	54	69	60	85	67	82	75
Latvia	70	52	69	53	84	69	78	66	86	79	89	75	85	74	83	70	94	80	90	84
Lithuania	66	43	62	60	81	68	91	69	86	63	90	72	83	66	90	70	95	89	95	91
Luxembourg	86	64	79	76 ^r	c	c	83	88	93	80	86	78	87	75	84	84	91	84	91	88
Mexico	91	42	90	45	88	53	89	55	93	61	91	67	88	54	89	56	87	74	88	76
Netherlands	79	55	77	54	78	72	81	69	90	78	94	85	87	77	90	82	93	89	92	91
New Zealand	80	47	78	58	88	65	89	72	92	63	92	72	91	64	91	72	92	82	95	88
Norway	67	53	73	58	82	59	80	68	90	84	95	89	87	74	91	81	87	86	92	89
Poland	55	31	59	37	83	61	89	67	87	60	92	70	86	60	91	69	92	84	95	89
Portugal	77	71	73	63	77	78	80	78	81	78	88	82	79	78	84	80	78	81	85	88
Slovak Republic	45	32	46	16	85	55	83	65	88	60	89	76	88	59	88	75	90	66	91	83
Slovenia	69	49	63	53 ^r	73	57	79	72	85	74	92	78	83	69	90	77	88	79	91	87
Spain	63	47	71	51	66	59	69	60	75	67	79	71	70	63	74	65	77	74	83	80
Sweden	75	53	75	52	79	72	77	72	91	85	91	81	87	79	85	77	88	86	91	86
Switzerland	76	55	75	50	81	78	81	81	92	84	92	85	90	82	90	84	92	86	93	89
Türkiye	84	26	81	26	84	33	81	36	91	38	89	39	87	35	85	37	86	65	85	61
United Kingdom ³	77	43	69	51	89	71	90	77	91	73	91	78	90	72	91	77	92	84	93	89
United States	73	37	75	44	78 ^d	62 ^d	80 ^d	66 ^d	x(7)	x(8)	x(10)	x(11)	78	62	80	66	88	80	89	83
OECD average	70	44	71	47	78	62	80	66	87	70	89	74	84	66	85	70	88	79	90	84
Partner and/or accession countries																				
Argentina ^{1,4}	86	41	83	41	m	m	m	m	m	m	m	m	86	58	81	59	94	85	92	86
Brazil	83 ^b	50 ^b	79	42	86 ^b	64 ^b	x(22)	x(23)	x(19)	x(20)	x(22)	x(23)	86 ^b	64 ^b	86	63	91 ^b	83 ^b	90	83
Bulgaria	46	27	63	37	74	63	78	67	82	71	90	75	79	66	84	70	89	81	89	88
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
India ⁴	20	49	94	28	x(19)	x(20)	x(22)	x(23)	x(19)	x(20)	x(22)	x(23)	14	47	91	24	22	44	81	28
Indonesia	91	46	90	48	x(19)	x(20)	x(22)	x(23)	x(19)	x(20)	x(22)	x(23)	89	49	90	48	90	78	91	74
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	74 ^b	46 ^b	69	28	80 ^b	63 ^b	89	68	85 ^b	68 ^b	89	67	84 ^b	67 ^b	89	67	90 ^b	85 ^b	93	87
Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
South Africa	56	38	46	33	x(19)	x(20)	x(22)	x(23)	x(19)	x(20)	x(22)	x(23)	66	50	52	42	82	79	68	64
EU25 average	65	43	67	45	75	62	80	67	85	70	89	75	83	68	86	72	87	79	90	85
G20 average	70	41	76	42	m	m	m	m	m	m	m	m	78	59	82	59	83	75	87	76

Note: See StatLink and Box A3.1 for the notes related to this Table.

Source: OECD/ILO (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[2]).

Table A3.3. Unemployment rates of 25-34 year-olds, by educational attainment and programme orientation (2022)

Percentage of unemployed 25-34 year-olds among all 25-34 year-olds in the labour force

	Below upper secondary	Upper secondary or post-secondary non-tertiary			Tertiary					All levels of education
		By programme orientation		Total	By level of education				Total	
		General	Vocational		Short-cycle tertiary	Bachelor's or equivalent	Master's or equivalent	Doctoral or equivalent		
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Australia	5.5	6.1	3.8	4.8	3.2	2.6	3.2	c	2.8	3.7
Austria	15.5	6.2	4.7	4.9	3.3	3.8	4.0	c	3.7	5.2
Belgium	20.1	9.7	7.8	8.3	3.9 ^f	3.3	3.1	6.7 ^r	3.3	6.6
Canada	11.8	7.3	4.6	6.4	4.5	4.3	4.0 ^d	x(7)	4.3	5.2
Chile ¹	16.5	16.0	12.5	15.3	11.7	9.9	3.4 ^d	x(7)	10.1	13.0
Colombia	10.9	x(4)	x(4)	13.6	x(6)	11.5 ^d	x(6)	x(6)	11.5	12.2
Costa Rica	14.1	15.9	8.5	15.4	11.2	10.4	c	c	10.2	13.2
Czech Republic	13.1	1.6	2.7	2.1	c	0.9	1.5	c	1.2	2.5
Denmark	9.0	5.5	2.6	3.5	5.2	4.9	6.5	8.1	5.7	5.4
Estonia	8.0	3.6	6.2	5.2	a	3.1	2.8	c	2.9	4.4
Finland	13.5	11.6	7.1	8.1	c	4.3	3.0	c	3.7	6.5
France	20.0	9.4	9.9	9.8	5.4	6.5	4.7	4.9	5.4	8.2
Germany	8.7	5.6	2.8	3.2	c	2.5	2.5	c	2.5	3.6
Greece	22.6	18.6	17.8	18.2	c	15.1	11.9	c	14.3	16.7
Hungary	12.5	4.0	3.2	3.4	3.4	1.7	1.7	c	1.8	3.8
Iceland	6.8	7.4	c	4.6	10.4	3.1	2.4	c	3.4	4.6
Ireland	16.7	8.0 ^d	6.4	7.3	3.4	3.9	3.3	5.1	3.7	5.1
Israel	5.5	5.4	5.2	5.4	3.4	4.0	2.5	c	3.6	4.5
Italy	17.6	13.1	10.7	11.3	c	7.9	7.8	c	7.8	11.4
Japan ²	m	x(5)	x(5)	x(5)	3.1 ^d	2.3 ^d	x(6)	x(6)	2.5 ^d	3.4
Korea	3.0	5.3 ^d	x(2)	5.3	4.3	4.5	2.3 ^d	x(7)	4.4	4.6
Latvia	14.5	10.3	6.9	8.6	9.2	5.2	2.4	c	5.0	7.4
Lithuania	11.4	7.5	5.4	6.4	a	3.8	1.5	c	3.2	4.7
Luxembourg	c	c	c	c	c	c	c	c	c	3.7
Mexico	3.0	4.0	4.5	4.0	3.8	5.2	4.6	c	5.2	4.0
Netherlands	6.3	6.9	2.4	3.3	c	3.2	2.8	c	3.0	3.3
New Zealand	6.2	4.4	4.1	4.2	2.2	1.5	2.1	2.2	1.6	3.2
Norway	7.0	c	c	c	5.6	c	c	c	2.8	2.9
Poland	10.2	4.6	3.7	3.9	a	2.8	1.5	c	1.9	3.3
Portugal	13.8	8.4	8.1	8.2	c	6.2	5.8	c	6.0	8.0
Slovak Republic	37.2	8.3	7.1	7.2	c	4.5	2.8	c	3.4	6.8
Slovenia	14.3	9.4	5.1	5.9	6.4	4.3	3.7	c	4.3	5.4
Spain	22.2	15.9	16.3	16.1	12.9	10.3	7.8	c	10.2	14.5
Sweden	19.2	7.0	4.5	5.5	7.1	4.2	c	c	4.0	6.5
Switzerland	14.6	5.5	4.1	4.4	x(6, 7, 8)	3.0 ^d	3.2 ^d	2.7 ^d	3.1	4.5
Türkiye	12.8	14.0	9.8	12.1	13.7	12.5	11.6	5.9	12.7	12.6
United Kingdom ³	8.2	3.8	3.6	3.6	1.7	2.5	2.9	c	2.5	3.4
United States	9.7	6.2 ^d	x(2)	6.2	3.5	2.9	1.2	c	2.5	4.4
OECD average	12.8	8.1	6.5	7.3	5.9	5.1	3.9	m	4.9	6.4
Partner and/or accession countries										
Argentina ¹	12.7	x(4)	x(4)	11.0	x(6)	5.2 ^d	x(6)	c	5.0	10.1
Brazil	12.1	x(4)	x(4)	10.0	x(6)	5.9 ^d	4.0	c	5.9	9.4
Bulgaria	13.4	6.2	4.9	5.6	a	2.8	3.2	m	3.0	5.5
China	m	m	m	m	m	m	m	m	m	m
Croatia	m	m	m	m	m	m	m	m	m	m
India	2.6	x(4)	x(4)	5.0	x(6)	14.8 ^d	x(6)	18.9	15.8	5.8
Indonesia	2.6	x(4)	x(4)	4.0	4.0	4.8	2.5	m	4.6	3.6
Peru	m	m	m	m	m	m	m	m	m	m
Romania	17.3	6.0	5.1	5.2	x(9)	x(9)	x(9)	x(9)	2.6	6.4
Saudi Arabia	m	m	m	m	m	m	m	m	m	m
South Africa	40.7	x(4)	x(4)	37.5	30.8	25.1	8.3 ^d	x(7)	24.9	37.0
EU25 average	15.5	8.2	6.6	7.0	m	4.8	4.0	m	4.5	6.5
G20 average	11.4	m	m	8.9	m	6.8	m	m	6.8	8.1

Note: See StatLink and Box A3.1 for the notes related to this Table.

Source: OECD/ILO (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023_[2]).


StatLink  <https://stat.link/769yli>

Table A3.4. Inactivity rates of 25-34 year-olds, by educational attainment and programme orientation (2022)

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

	Below upper secondary	Upper secondary or post-secondary non-tertiary			Tertiary					All levels of education
		By programme orientation		Total	By level of education				Total	
		General	Vocational		Short-cycle tertiary	Bachelor's or equivalent	Master's or equivalent	Doctoral or equivalent		
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Australia	31	20	13	16	11	10	9	c	10	14
Austria	30	21	8	10	8	12	6	c	9	12
Belgium	37	23	11	15	7 ^r	8	6	8 ^r	7	14
Canada	32	17	7	14	10	9	8 ^d	x(7)	9	12
Chile ¹	33	30	24	29	17	10	4 ^d	x(7)	12	22
Colombia	25	x(4)	x(4)	20	x(6)	9 ^d	x(6)	x(6)	9	17
Costa Rica	19	15	18	16	19	6	c	c	10	15
Czech Republic	33	18	14	16	10 ^r	26	19	13	21	19
Denmark	36	24	10	15	9	10	4	3	7	15
Estonia	22	8	9	8	a	10	6	c	8	10
Finland	43	23	15	17	c	9	5	c	8	16
France	35	18	12	14	8	9	6	3	7	13
Germany	31	29	9	13	c	10	7	c	8	14
Greece	27	25	13	19	c	11	11	18	11	16
Hungary	30	17	7	10	3	5	5	c	5	11
Iceland	18	17	8	13	8	12	2	c	8	12
Ireland	50	21	16	19	9	7	4	3	6	12
Israel	42	28	16	27	11	10	8	11	10	20
Italy	35	37	19	24	c	27	17	10 ^r	21	25
Japan ²	m	x(5)	x(5)	x(5)	12 ^d	6 ^d	x(6)	x(6)	8 ^d	10
Korea	31	30 ^d	x(2)	30	19	18	10 ^d	x(7)	18	22
Latvia	26	19	10	15	9	11	5	c	9	13
Lithuania	30	11	13	12	a	4	6	c	4	9
Luxembourg	c	c	c	13	c	c	c	c	7	10
Mexico	31	25	19	25	18	14	7	c	14	25
Netherlands	28	18	8	10	c	7	4	c	6	9
New Zealand	27	15	13	14	6	7	9	2	7	13
Norway	28	24	6	12	14	7	c	c	7	12
Poland	44	18	13	15	a	10	5	c	7	13
Portugal	20	14	7	10	c	10	4 ^r	c	8	11
Slovak Republic	50	20	10	10	c	24	7	c	11	13
Slovenia	28	16	8	9	7	10	5	6 ^r	8	9
Spain	19	23	10	17	8	13	8	c	10	14
Sweden	19	20	9	13	14	8	4	c	8	11
Switzerland	26	14	7	9	x(6, 7, 8)	7 ^d	5 ^d	2 ^d	6	9
Türkiye	39	29	23	27	22	16	10	6	17	27
United Kingdom ³	33	13	12	12	11	6	6	c	7	12
United States	33	21 ^d	x(2)	21	16	12	9	8	12	17
OECD average	31	21	12	16	11	11	7	m	9	14
Partner and/or accession countries										
Argentina ¹	27	x(4)	x(4)	22	x(6)	7 ^d	x(6)	c	7	20
Brazil	28	x(4)	x(4)	18	x(6)	9 ^d	13	m	9	19
Bulgaria	43	22	11	17	a	12	6	c	9	19
China	m	m	m	m	m	m	m	m	m	m
Croatia	m	m	m	m	m	m	m	m	m	m
India	40	x(4)	x(4)	35	x(6)	33 ^d	x(6)	31	33	38
Indonesia	29	x(4)	x(4)	26	19	14	7	m	15	25
Peru	m	m	m	m	m	m	m	m	m	m
Romania	41	17	16	16	x(9)	x(9)	x(9)	x(9)	8	20
Saudi Arabia	m	m	m	m	m	m	m	m	m	m
South Africa	32	x(4)	x(4)	24	17	11	6 ^d	x(7)	12	27
EU25 average	33	20	11	14	m	12	7	m	9	14
G20 average	32	m	m	21	m	13	m	m	13	20

Note: See StatLink and Box A3.1 for the notes related to this Table.

Source: OECD/ILO (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023_[2]).

StatLink  <https://stat.link/57hoys>

Box A3.1. Notes for Indicators A3 Tables

Table A3.1. Employment rates of 25-64 year-olds, by educational attainment (2022)

In most countries data refer to ISCED 2011. For Argentina and India data refer to ISCED-97.

1. Year of reference differs from 2022: 2021 for Argentina and 2020 for Chile.
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).

Table A3.2. Trends in employment rates of 25-34 year-olds, by educational attainment, programme orientation and gender (2015 and 2022)

In most countries data refer to ISCED 2011. For Argentina and India data refer to ISCED-97. Totals for men and women are available for consultation on line (see StatLink).

1. Year of reference differs from 2022: 2021 for Argentina and 2020 for Chile.
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 (9% of adults aged 25-34 are in this group).
4. Year of reference differs from 2015: 2014 for Argentina and 2012 for India.

Table A3.3. Unemployment rates of 25-34 year-olds, by educational attainment and programme orientation (2022)

In most countries data refer to ISCED 2011. For Argentina and India data refer to ISCED-97.

1. Year of reference differs from 2022: 2021 for Argentina and 2020 for Chile.
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 (9% of adults aged 25-34 are in this group).

Table A3.4. Inactivity rates of 25-34 year-olds, by educational attainment and programme orientation (2022)

In most countries data refer to ISCED 2011. For Argentina and India data refer to ISCED-97.

1. Year of reference differs from 2022: 2021 for Argentina and 2020 for Chile.
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 (9% of adults aged 25-34 are in this group).

For more information see *Definitions, Methodology and Source* sections and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[2]).

Data and more breakdowns are available in the *Education at a Glance Database* (<http://stats.oecd.org/>).

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

Indicator A4. What are the earnings advantages from education?

Highlights

- On average, 25-34 year-olds with vocational upper secondary or post-secondary non-tertiary attainment working full-time and for the full year earn the same as their peers with a general qualification across OECD countries. But the gap widens among 45-54 year-olds, often in favour of those with a general qualification in most countries with available data.
- Although vocational programmes prepare students for their first job, better earnings prospects can be one of the incentives for them to continue their studies at tertiary level. On average across OECD countries, younger adults who attained bachelor's or equivalent education earn 29% more than those with vocational upper secondary or post-secondary non-tertiary attainment while those who attained short-cycle tertiary education earn on average 13% more.
- Among younger full-time full-year workers with upper secondary or post-secondary non-tertiary attainment, the gender pay gap is wider for those with a vocational qualification than a general one. On average across OECD countries, younger women with vocational qualification working full-time for the full year earn 80% of their male peers' earnings, while for younger women with a general qualification the figure is 84%.

Context

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

The earnings advantage from educational attainment can vary according to age, gender, programme orientation and field of study. Another important factor affecting income, besides education level, is participation in hours (e.g., part-time workers usually earn less not only in absolute terms but also relatively in terms of hourly earnings). Individuals with higher qualifications and more time in the labour force are more likely to have higher income. However, in all countries, gender gaps in earnings persist regardless of age, level of education, and programme orientation.

Other factors also affect individuals' earnings and contribute to differences in the distribution of earnings: the demand for skills in the labour market, the supply of workers and their skills, the minimum wage and other labour-market legislation, and countries' structures and practices (such as the strength of labour unions, the coverage of collective-bargaining agreements and the quality of working environments).

Other findings

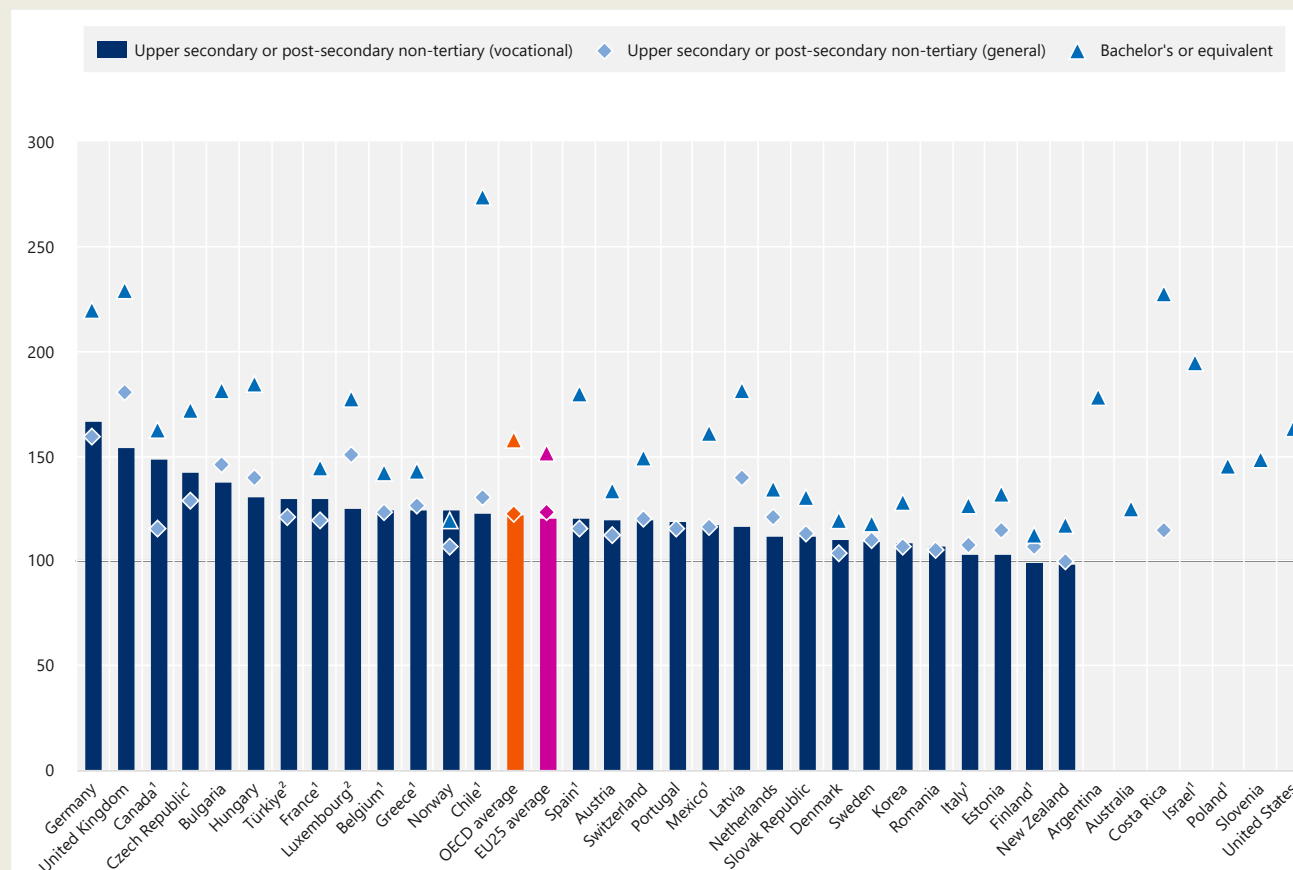
- Among tertiary-educated workers, the earnings advantages tend to increase with the level of tertiary attainment. In most OECD, partner and accession countries, full-time full-year workers with a master's or doctoral or equivalent degree earn more than those with a bachelor's or equivalent degree, who in turn earn more than those with a short-cycle tertiary degree.
- In almost all OECD, partner and accession countries, gender differences in earnings increase between 25-34 year-olds and 45-54 year-olds. Among full-time full-year 45-54 year-old workers, women earn

around three-quarters of men's earnings, regardless of educational attainment and programme orientation. And 25-34 years-old women earn around 20 percentage points less than men.

- Around one in four tertiary-educated adults working both full-time and part-time earn more than twice overall median earnings, on average across OECD countries. At the other extreme, one-third of workers with below upper secondary attainment do not receive half the median on average.

Figure A4.1. Relative earnings of workers compared to those with below upper secondary attainment, by educational attainment and programme orientation (2021)

Adults with income from employment (full-time full-year workers); 25-34 year-olds; below upper secondary attainment = 100




Note: There are cross-country differences in the inclusion/exclusion of zero and negative earners. See *Definitions* and *Methodology* sections for more information.

1. Year of reference differs from 2021. Refer to the source table for more details.

2. Earnings net of income tax.

Countries are ranked in descending order of the relative earnings of 25-34 year-olds who attained vocational upper secondary or post-secondary non-tertiary education and in alphabetical order for countries for which data on this level of education are not available.

Source: OECD (2023), Table A4.4. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/o5612y>

Note

The analysis presents three types of relative earnings: 1) using the earnings of workers with upper secondary education as the baseline; 2) using below upper secondary attainment as the baseline; and 3) using male workers' earnings as the baseline. Baselines 1 and 3 have been used in previous editions of *Education at a Glance* (EAG), and this edition uses baseline 2 to compare earnings outcomes by programme orientation at upper secondary or post-secondary non-tertiary level.

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). It is recommended readers consider actual earnings in Tables X3.A4.4 and X3.A4.5 from *Education at a Glance 2023 Sources, Methodologies and Technical Notes*,) when interpreting relative earnings.

Due to the difference in survey methods used to gather data from countries, the analysis of relative earnings is based on full-time full-year workers to ensure better comparability across countries. Refer to *Education at a Glance 2023 Sources, Methodologies and Technical Notes*, for more information on the survey methods. Data on relative earnings for all workers (full- and part-time) are available for consultation on line (OECD, 2023^[2]).

Analysis

Relative earnings compared to workers with below upper secondary attainment

Higher levels of educational attainment in general lead to greater earnings. Adults (25-64 year-olds) in OECD countries with upper secondary or post-secondary non-tertiary attainment working full-time and for the full year earn on average about one-quarter more than those without such qualifications. The difference is over 40% in Chile, Colombia, the Czech Republic and Germany whereas in Finland, workers with upper secondary or post-secondary non-tertiary attainment earn almost the same as those with below upper secondary attainment (Table A4.4).

The premium for completing a tertiary degree is much higher. Full-time full-year tertiary-educated adult workers earn almost twice as much as those with below upper secondary attainment on average across OECD countries. Country differences also widen when looking at the relative earnings associated with tertiary attainment. The earnings advantage for tertiary-educated workers is less than 40% in Denmark, Finland and New Zealand, but it can be over three times the earnings of workers with below upper secondary attainment in Brazil, Chile and Colombia (Table A4.4).

Among tertiary-educated workers, the earnings advantage tends to increase with the level of tertiary attainment. In most OECD, partner and accession countries, full-time full-year 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, adults with a short-cycle tertiary degree earn 51% more than those with below upper secondary attainment. The earnings advantage increases to 76% for those with a bachelor's or equivalent degree and more than doubles (133%) for those with a master's or doctoral or equivalent degree. Austria, Greece and Norway are the exceptions from the general pattern, with the earnings advantage for workers with a short-cycle tertiary degree more than 10 percentage points higher than for those with a bachelor's or equivalent degree (Table A4.4).

Earnings differences by programme orientation

Vocational programmes are often designed to prepare learners for entry into the labour market. Younger adults (25-34 year-olds) with vocational upper secondary or post-secondary non-tertiary attainment have higher employment rates than their peers with a general qualification in nearly all OECD, partner and accession

countries (see Indicator A3). But these higher employment rates are not usually associated with greater earnings advantages. In more than half of OECD, partner and accession countries with available data, younger adults with a general upper secondary or post-secondary non-tertiary attainment earn more than those with vocational attainment at the same level. Although the difference in earnings is small or even negligible in most cases, it is over 10% in Latvia, Luxembourg and the United Kingdom. In contrast, younger adults with a vocational upper secondary or post-secondary non-tertiary attainment earn at least 10% more than their peers with a general qualification in the Czech Republic and Norway and this difference reaches almost 30% in Canada (Figure A4.1). It should be noted that in Canada, with the exception of Quebec, there is no distinct vocational track at upper secondary level and so such occupational preparation starts at post-secondary non-tertiary level (see Indicator A1). The earnings advantage from vocational qualifications in Canada is therefore not fully comparable with any advantages in other countries where upper secondary vocational attainment is the common standard.

While vocational programmes prepare students for a first job, they also often provide progression opportunities to higher levels of education. Most upper secondary vocational education and training (VET) students pursue programmes that lead to full level completion with access to short-cycle tertiary or bachelor's or equivalent levels (see Indicator B1). The resulting higher earnings could be one of the incentives for VET students to continue their studies at tertiary level.

On average across OECD countries, younger adults who attained short-cycle tertiary education earn 13% more than those with vocational upper secondary or post-secondary non-tertiary attainment. The earnings advantage is greatest in Latvia (50%) and the United Kingdom (31%). Canada is the only country where younger adults with short-cycle tertiary attainment earn less than those with vocational upper secondary or post-secondary non-tertiary attainment (Table A4.4).

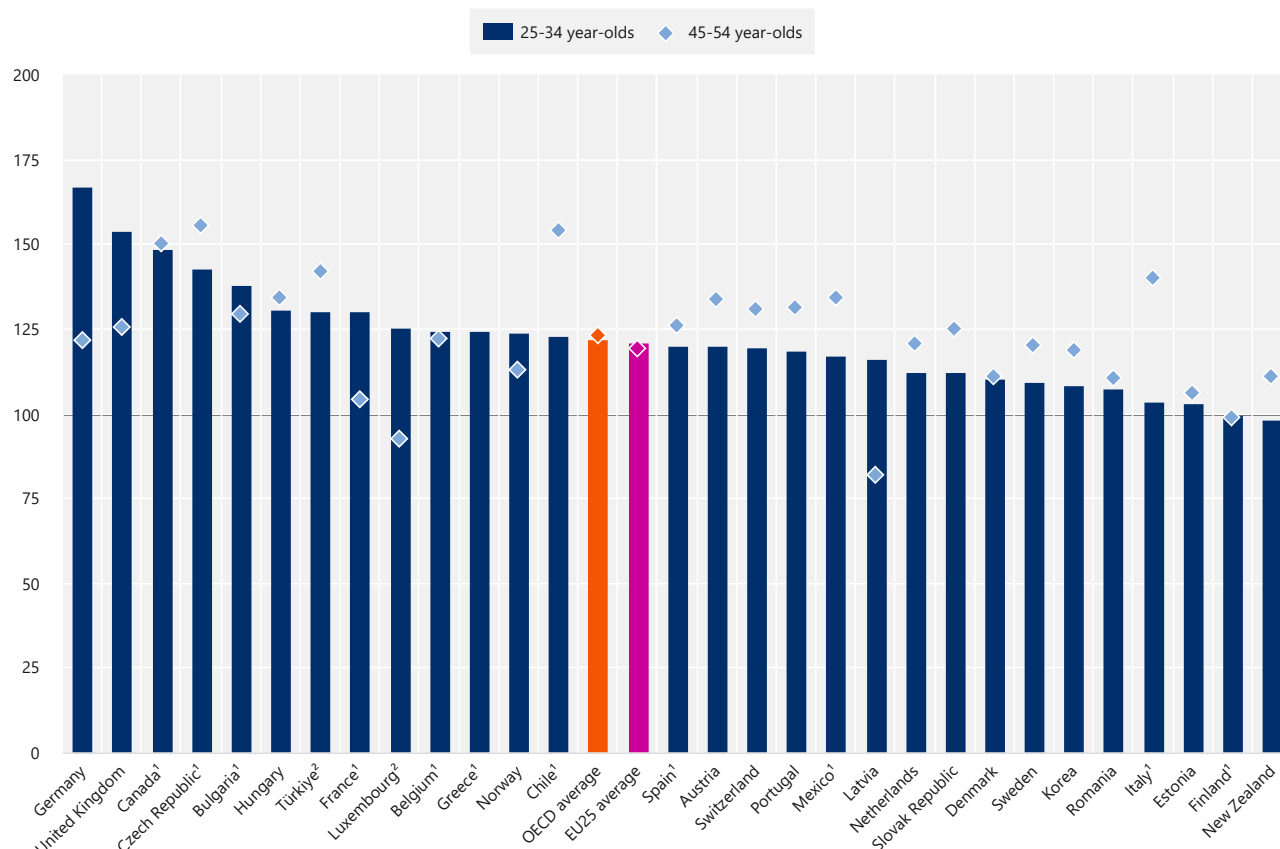
The earnings advantage from completing a bachelor's or equivalent degree is even higher. On average, younger adults with a bachelor's or equivalent degree earn 29% more than those with vocational upper secondary or post-secondary non-tertiary attainment across OECD countries. In Latvia, Spain and the United Kingdom, the earnings advantage is around 50%, while in Chile, younger adults with a bachelor's or equivalent degree earn more than twice the earnings of those vocational upper secondary or post-secondary non-tertiary attainment (Figure A4.1 and Table A4.4). Interpretation of these results needs to consider the size of the VET sector in the country but also the fields targeted by vocational programmes (see Indicators A1 and B5).

Earnings differences across age groups

Earnings differences by educational attainment tend to widen among older workers. On average across OECD countries, 25-34 year-olds with upper secondary or post-secondary non-tertiary education earn 21% more than their peers with below upper secondary attainment while 45-54 year-olds earn 26% more. Among tertiary-educated adults, 25-34 year-olds earn 66% more than those with below upper secondary attainment and the earnings advantage is more than twice as much among 45-54 year-olds (Table A4.4).

Figure A4.2. Relative earnings of workers with vocational upper secondary or post-secondary non-tertiary attainment compared to those with below upper secondary attainment, by age group (2021)

Adults with income from employment (full-time full-year workers); below upper secondary education for each age group = 100




Note: There are cross-country differences in the inclusion/exclusion of zero and negative earners. See *Definitions* and *Methodology* sections for more information.

1. Year of reference differs from 2021. Refer to the source table for more details.

2. Earnings net of income tax.

Countries are ranked in descending order of the relative earnings of 25-34 year-olds who attained vocational upper secondary or post-secondary non-tertiary education.

Source: OECD (2023), Table A4.4. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023_[1]).

StatLink  <https://stat.link/9ocnw3>

In about one-third of OECD, partner and accession countries with available data, the earnings advantage from attaining a vocational upper secondary or post-secondary non-tertiary education over those with below upper secondary attainment is higher for 25-34 year-olds than for 45-54 year-olds. This is particularly acute in Latvia and Luxembourg, where 45-54 year-olds with a vocational upper secondary or post-secondary non-tertiary attainment earn even considerably less than their peers without an upper secondary qualification. In the remaining two-third of countries, the earnings advantage of 45-54 year-olds with vocational upper secondary or post-secondary non-tertiary attainment is often no more than 40% higher than for those with below upper secondary attainment. Only in Canada, Chile and the Czech Republic do 45-54 year-olds with vocational upper

secondary or post-secondary non-tertiary attainment earn around 1.5 times the earnings of their peers with below upper secondary attainment (Figure A4.2).

While the earnings difference by programme orientation is small or even negligible among younger adults in most OECD, partner and accession countries, the gap widens among 45-54 year-olds, usually in favour of those with a general qualification. On average across OECD countries, 45-54 year-olds with vocational upper secondary or post-secondary non-tertiary attainment earn 6% less than those with a general qualification. This difference is about 40% in Finland and Luxembourg and is still above 10% in favour of those with a general qualification in Austria, Denmark, Germany, Latvia, the Netherlands and the United Kingdom (Table A4.4). However, adults with general upper secondary or post-secondary non-tertiary attainment represent a small part of the population (see Indicator A1), while vocational qualifications are more common at these levels. Also employment rates are higher among those with vocational upper secondary or post-secondary non-tertiary attainment than among their peers with a general qualification (see Indicator A3).

In contrast, in Brazil, Canada and the Czech Republic, 45-54 year-olds with a vocational qualification earn at least 10% more than those with a general qualification (Table A4.4). It should be noted that the design of vocational programmes has probably changed over time. Caution is needed when comparing earnings outcomes by programme orientation between age groups as they do not necessarily provide a good indication of the lifetime earnings prospects of today's young adults.

Gender disparities in earnings, by educational attainment, programme orientation and age group

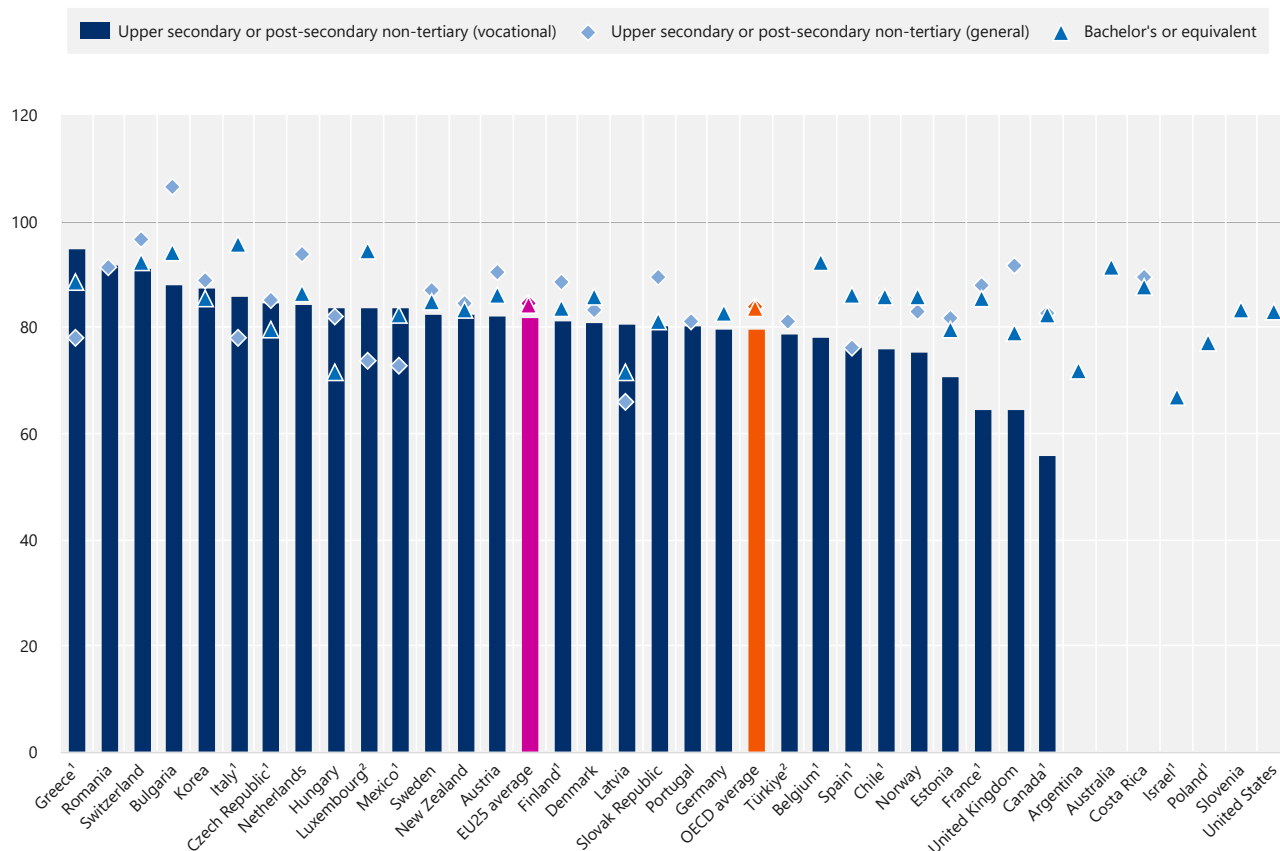
Although increasing educational attainment narrows gender differences in employment rates (see Indicator A3), the gender gap in earnings does not vary much across educational attainment levels. On average across OECD countries, tertiary-educated younger women working full-time and for the full year earn 84% of the earnings of their male peers, compared to 81% for those with upper secondary or post-secondary non-tertiary attainment and 82% for those with below upper secondary attainment (Table A4.3). As women are more likely to work part-time and/or part year than men, the gender differences in earnings are wider among all workers than among full-time full-year workers (OECD, 2023^[3]).

Among full-time full-year younger workers with upper secondary or post-secondary non-tertiary attainment, the gender pay gap is wider for those with a vocational qualification than a general one. On average across OECD countries, younger women with vocational upper secondary or post-secondary non-tertiary attainment earn 80% of what their male counterparts earn, while those with a general qualification earn 84%. In Canada, France and the United Kingdom, younger women with a vocational qualification earn less than two-thirds of their male counterparts' earnings, but the gender pay gap narrows by over 20 percentage points for those with a general qualification (Figure A4.3). Gender differences in the choice of field of study in VET are large. Recent research shows that women learners are heavily under-represented not only in engineering, manufacturing and construction, but also in information and communication technologies fields. These gender differences in field of study will translate into different occupational patterns and may explain the wider gender pay gap by programme orientation (OECD, 2023^[2]).

In almost all OECD, partner and accession countries, gender differences in earnings increase with age. Among 45-54 year-olds working full-time for the full year, women's earnings are around three-quarters of men's, regardless of educational attainment and programme orientation. Costa Rica is the only country where 45-54 year-old women with tertiary attainment earn more, about one-fifth more than their male counterparts (Table A4.3). Recent studies have found that the growing gender pay gap largely reflects differences in job mobility. Women are less likely than men to be promoted or to get considerable raises in wages when they change employers. Moreover, career breaks for women around the age of childbirth remains an important contributor to wage differences between men and women in many OECD countries (OECD, 2022^[4]).

Figure A4.3. Women's earnings as a percentage of men's earnings, by educational attainment and programme orientation (2021)

Adults with income from employment (full-time full-year workers), 25-34 year-olds; men's earnings = 100



Note: There are cross-country differences in the inclusion/exclusion of zero and negative earners. See *Definitions* and *Methodology* sections for more information.

1. Year of reference differs from 2021. Refer to the source table for more details.

2. Earnings net of income tax.

Countries are ranked in descending order of the relative earnings of 25-34 year-old women who attained vocational upper secondary or post-secondary non-tertiary education and in alphabetical order for countries for which data on this level of education are not available.

Source: OECD (2023), Table A4.3 and *Education at a Glance Database*, <http://stats.oecd.org/>. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/9zpefl>

Distribution of earnings among full- and part-time workers, by educational attainment

Another way to measure the earnings difference by educational attainment is to look at the distribution of earnings. These data show the degree to which earnings centre around a country's overall median earnings. Median earnings are calculated based on the earnings of all workers (including full-time and part-time workers), without adjusting for differences in hours worked. While the relative earnings data concentrate on full-time full-year workers for better comparability, the distribution of earnings among all adults with earnings from employment complements the findings above on relative earnings by providing a wider picture of earnings differences across countries.

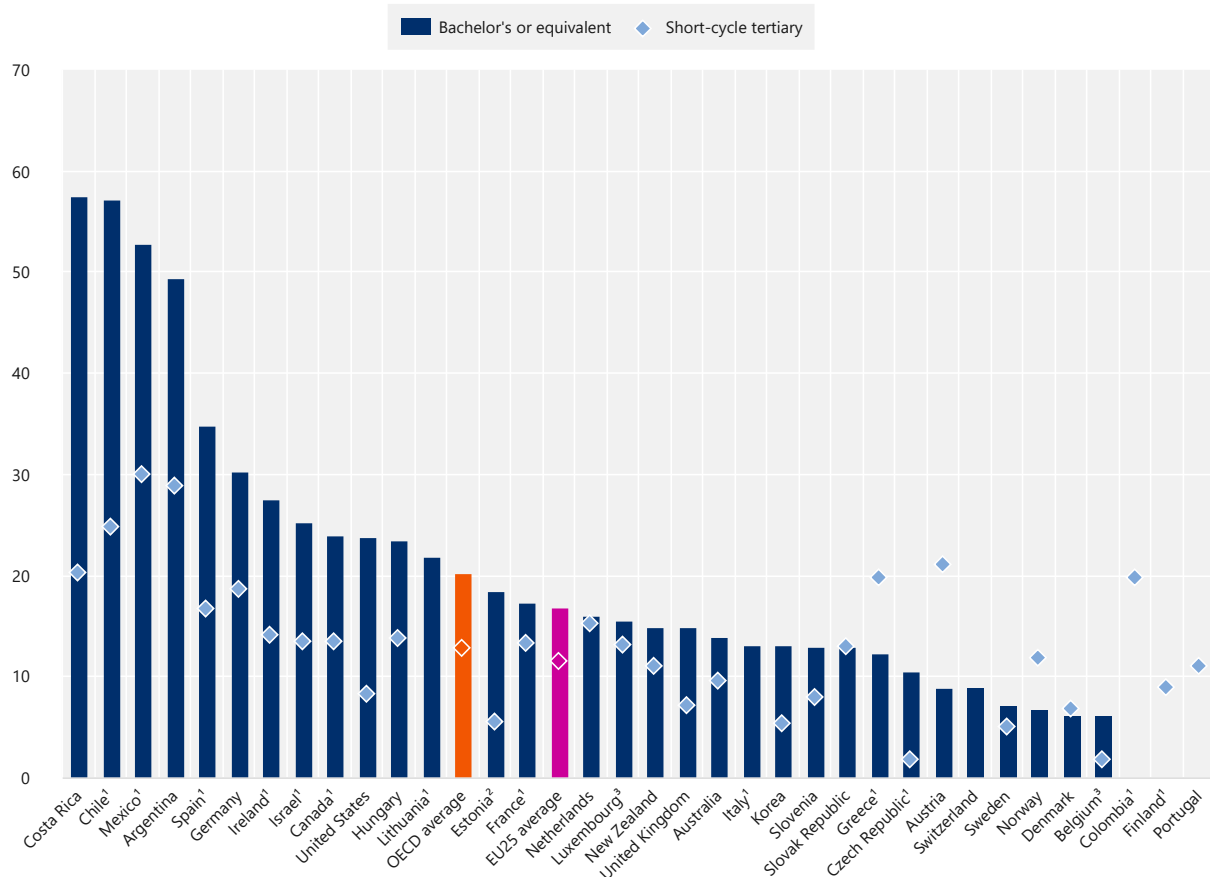
The likelihood of earning above the overall median increases with educational attainment. On average across OECD countries, 26% of full- and part-time workers with below upper secondary attainment earn more than the median, compared to 43% of those with upper secondary or post-secondary non-tertiary educational attainment. This share reaches 69% among workers with a tertiary degree (OECD, 2023^[3]).

The differences are greater when looking at the share of workers earning more than twice the median. Across OECD countries, an average of 24% of tertiary-educated workers earn more than twice the median, compared to only 7% of those with upper secondary or post-secondary non-tertiary attainment and 3% of those with below upper secondary attainment (Figure A4.4 and Table A4.2).

Among tertiary-educated workers, the distribution of earnings can vary considerably depending on the level of tertiary attainment. In nearly all OECD and partner countries, the share of workers earning more than twice the median increases at each level from short-cycle tertiary to bachelor's or equivalent and master's or doctoral or equivalent degrees. On average across OECD countries, 13% of workers with a short-cycle tertiary degree as their highest level of education earn more than twice the median. The share increases to 20% among those with bachelor's or equivalent attainment and to 34% among those with a master's or doctoral or equivalent degree. Austria, Denmark, Greece, Norway and the Slovak Republic are the only exceptions where adults who attained short-cycle tertiary qualification are more likely to earn twice above the median than those who attained a bachelor's or equivalent degree (Figure A4.4 and (OECD, 2023^[3])). For Austria and Norway, this is probably linked to the popularity of broad field of science, technology, engineering and mathematics (STEM) among new entrants to short-cycle tertiary education (see Indicator B4).

Figure A4.4. Percentage of adults earning more than twice the median, by level of tertiary attainment (2021)

Adults with income from employment (full- and part-time workers); 25-64 year-old



Note: Median refers to the median earnings from work for 25-64 year-olds with earnings (full- and part-time workers) for all levels of educational attainment. There are cross-country differences in the inclusion/exclusion of zero and negative earners. See *Definitions* and *Methodology* sections for more information.

1. Year of reference differs from 2021. Refer to the source table for more details.

2. Interpretation of the percentage associated with short-cycle tertiary education needs to be done with caution. There have been no graduates with this degree since 2013/14.

Countries are ranked in descending order of the percentage of workers who attained bachelor's or equivalent education earning more than twice the median and in alphabetical order for countries for which data on this level of education are not available.

Source: OECD (2023), *Education at a Glance Database*, <http://stats.oecd.org/>. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/yc2sul>

Less educated adults are more likely to earn less than half the country median than those with higher levels of educational attainment. The recent rise in the cost of living is undermining purchasing power for everyone but has a disproportionate impact on low-paid workers, who are often those with relatively low educational attainment. Workers situated at the lower end of the earnings distribution may struggle to keep up with inflation especially in countries where minimum wages are low relative to the median (OECD, 2022^[5]; Balestra, C., D. Hirsch and D. Vaughan-Whitehead, 2023^[6]). On average across OECD countries, about one-third of workers with below upper secondary attainment earn at or below half the median, compared to 18% of workers with upper secondary or post-secondary non-tertiary and 10% of tertiary-educated workers. The share of workers with below upper

secondary attainment earning less than half the median also varies substantially across OECD, partner and accession countries, ranging from highs of 61% in Brazil and 52% in Norway to less than 1% in Poland and Slovenia (Table A4.2).

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 International Standard Classification of Education (ISCED) 2011 levels.

Individuals with zero earnings refer to individuals who have earnings, but the result of their business activities is exactly zero.

Individuals with negative earnings refer to individuals who reported deficits in their business activities.

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

Methodology

The analysis of relative earnings of the population with specific educational attainment and of the distribution of earnings does not control for hours worked, although the number of hours worked is likely to influence earnings in general and the distribution in particular. 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. This Indicator presents annual data, and earnings data with a reference period shorter than a year are adjusted. Please refer to Table X3.A4.1 in (OECD, 2023^[1]) *Education at a Glance 2023 Sources, Methodologies and Technical Notes*, for more information on the adjustment methods. 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. 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.

In the earnings data, individuals with zero and/or negative earnings should be reported as earners. Individuals with negative earnings should also be taken into account in the calculation of the overall median earnings. However, data on individuals with zero and/or negative earnings are not available for all countries. Individuals with zero earnings are included for Belgium, Brazil, Canada, Germany, Ireland, New Zealand, Norway, Sweden, Switzerland, the Republic of Türkiye (hereafter Türkiye) and the United States. Individuals with negative earnings

are included for Belgium, Canada, Denmark, Italy, New Zealand, Norway, Spain, Sweden and the United States. Refer to the *Definitions* section for the definition of individuals with zero and negative earnings. Note that the share of both zero and negative earners are very low among full-time full-year workers in countries with available data, and this finding holds true when looking at the breakdown by educational attainment levels. The impact of the inclusion/exclusion of zero and/or negative earners is negligible on the relative earnings and the distribution of earnings.

For more information see the [OECD Handbook for Internationally Comparative Education Statistics](#) (OECD, 2018^[7]) and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

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 (OECD, 2023^[1]) [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), for country-specific notes on national sources.

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- OECD (2022), *Same skills, different pay: Tackling gender inequalities at firm level*, OECD, Paris, <https://www.oecd.org/gender/same-skills-different-pay-2022.pdf>. [4]
- OECD (2018), *OECD Handbook for Internationally Comparative Education Statistics: Concepts, Standards, Definitions and Classifications*, OECD Publishing, Paris, <https://doi.org/10.1787/9789264304444-en>. [7]

Indicator A4 tables

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

Table A4.1	Relative earnings of workers compared to those with upper secondary attainment, by educational attainment and age group (2021)
Table A4.2	Distribution of workers by educational attainment and level of earnings relative to the median (2021)
Table A4.3	Women's earnings as a percentage of men's earnings, by educational attainment, programme orientation and age group (2021)
Table A4.4	Relative earnings of workers compared to those with below upper secondary attainment, by educational attainment, programme orientation and age group (2021)

StatLink  <https://stat.link/7vfrs8>

Cut-off date for the data: 15 June 2023. 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 compared to those with upper secondary attainment, by educational attainment and age group (2021)

Adults with income from employment (full-time full-year workers); upper secondary attainment for each age group = 100

							Tertiary											
	Below upper secondary			Post-secondary non-tertiary			Short-cycle tertiary			Bachelor's or equivalent			Master's, doctoral or equivalent			Total		
	25-34 year-olds	45-54 year-olds	25-64 year-olds	25-34 year-olds	45-54 year-olds	25-64 year-olds	25-34 year-olds	45-54 year-olds	25-64 year-olds	25-34 year-olds	45-54 year-olds	25-64 year-olds	25-34 year-olds	45-54 year-olds	25-64 year-olds	25-34 year-olds	45-54 year-olds	25-64 year-olds
OECD countries	(1)	(2)	(3)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
Australia	93	91	89	102	104	99	93	118	106	116	139	127	116	168	148	112	140	127
Austria	85	74	77	116	112	114	117	135	127	113	133	104	142	186	171	125	159	144
Belgium ¹	80	85	86	c	c	112	c	c	c	114	138	127	137	187	158	126	158	142
Canada ¹	87	73	79	129	110	113	109	113	112	141	145	141	153	166	161	133	135	134
Chile ¹	78	68	71	a	a	a	123	154	138	214	342	279	345	496	457	190	277	241
Colombia ^{1,2}	72	69	71	m	m	m	x(19)	x(20)	x(21)	x(19)	x(20)	x(21)	x(19)	x(20)	x(21)	194	275	237
Costa Rica	82	69	77	c	c	c	130	150	138	185	203	210	c	330	339	177	218	212
Czech Republic ¹	71	66	67	m	m	m	124	118	117	122	143	131	142	180	167	135	174	159
Denmark	92	90	90	c	119	124	104	116	110	110	116	113	129	161	144	117	132	124
Estonia	93	91	92	99	89	93	m	100	89	122	129	132	152	154	148	135	137	135
Finland ¹	100	99	100	113	114	116	c	116	122	112	130	122	138	172	163	122	143	139
France ^{1,2}	78	95	89	m	m	m	102	133	129	112	185	151	149	229	189	127	177	157
Germany	63	84	72	113	116	113	117	138	132	138	153	152	139	201	184	135	165	158
Greece ¹	80	76	81	100	106	102	c	167	162	113	133	132	186	169	170	123	139	138
Hungary	77	76	76	115	126	123	119	129	128	141	159	156	171	234	216	154	185	179
Iceland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Ireland ¹	c	81	84	105	97	96	c	124	123	147	172	147	171	226	184	155	178	156
Israel ¹	83	70	75	a	a	a	115	120	117	162	173	157	187	202	206	158	171	164
Italy ^{1,2}	96	71	80	m	m	m	x(13)	x(14)	x(15)	121 ^d	101 ^d	102 ^d	128	130	148	125	125	138
Japan	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Korea	91	84	82	a	a	a	107	121	111	117	153	135	151	193	177	115	150	132
Latvia	73 ^b	110 ^b	82 ^b	59 ^b	91 ^b	82 ^b	127 ^b	166	157 ^b	132 ^b	167 ^b	156 ^b	202 ^b	166 ^b	170 ^b	152 ^b	166 ^b	163 ^b
Lithuania ¹	93	91	92	101	108	106	a	a	a	148	157	167	172	192	193	154	181	180
Luxembourg ³	73	90	84	c	92	100	113	128	134	129	147	140	136	166	158	133	157	151
Mexico ¹	86	75	80	a	a	a	109	116	117	139	180	153	209	323	308	139	185	158
Netherlands	88	82	86	104	109	105	128	129	131	118	141	132	139	210	177	127	166	149
New Zealand	102	89	92	102	103	102	110	122	115	119	137	125	122	166	150	118	140	128
Norway	83	87	85	104	94	99	103	124	119	99	115	107	117	150	134	106	128	119
Poland ¹	89	85	86	97	104	101	m	m	m	129	155	140	140	178	162	136	174	157
Portugal	86	75	83	115	120	113	116	105	106	x(19)	x(20)	x(21)	x(19)	x(20)	x(21)	153	193	171
Slovak Republic	89	80	82	m	m	m	106	126	122	116	135	126	126	170	156	124	165	153
Slovenia	87	82	84	a	a	a	110	135	131	129	159	142	149	201	183	135	178	163
Spain ¹	87	78	80	c	c	110	116	118	112	155	143	146	165	196	185	148	161	155
Sweden	91	83	86	97	123	116	105	112	108	107	122	116	124	154	145	112	133	126
Switzerland ^{d2}	84	76	80	m	m	m	x(13, 16)	x(14, 17)	x(15, 18)	125 ^d	140 ^d	130 ^d	142 ^d	183 ^d	162 ^d	132	161	145
Türkiye ³	80	74	77	a	a	a	x(19)	x(20)	x(21)	x(19)	x(20)	x(21)	x(19)	x(20)	x(21)	136	188	153
United Kingdom	60	75	73	a	a	a	121	117	122	137	146	139	152	164	160	140	145	143
United States	100	75	78	m	m	m	107	105	110	162	169	169	200	217	221	162	172	173
OECD average	84	81	82	m	m	m	113	126	122	132	153	143	157	201	188	138	168	156
Partner and/or accession countries																		
Argentina	84	77	78	a	a	a	108	118	112	148	164	158	c	236	c	136	151	143
Brazil ²	77	66	72	m	m	m	x(19)	x(20)	x(21)	x(19)	x(20)	x(21)	x(19)	x(20)	x(21)	217	263	253
Bulgaria ¹	71	79	74	c	c	c	a	a	a	129	131	138	170	179	188	151	170	173
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	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
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	95	92	94	120	130	127	x(19)	x(20)	x(21)	x(19)	x(20)	x(21)	x(19)	x(20)	x(21)	138	145	140
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
EU25 average	84	84	84	m	110	109	m	127	125	125	143	135	150	184	171	135	161	152
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See StatLink and Box A4.1 for the notes related to this Table.

Source: OECD/ILO/UIS (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

Table A4.2. Distribution of workers by educational attainment and level of earnings relative to the median (2021)

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

	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
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Australia	20	46	21	7	6	15	42	24	10	9	12	30	27	16	15
Austria	35	42	19	3	1	17	33	30	13	8	13	18	21	20	28
Belgium	29	54	14	2	1r	18	46	28	6	2	10	22	37	18	13
Canada ²	42	28	17	8	5	33	25	20	11	12	26	19	20	15	21
Chile ²	25	50	18	4	3	13	41	26	10	10	4	16	18	14	48
Colombia ²	42	32	20	4	2	25	25	33	10	7	9	11	22	13	45
Costa Rica	32	38	24	4	2	20	28	33	10	9	7	11	18	12	51
Czech Republic ²	22	64	13	1	0	4	51	34	8	3	2	19	39	19	21
Denmark	34	37	22	4	2	18	37	33	8	4	15	24	38	13	10
Estonia	27	36	19	10	7	22	37	22	10	9	14	25	26	16	19
Finland ²	31	36	23	6	4	22	39	28	7	3	13	22	33	17	15
France ²	34	41	19	4	2	22	40	27	7	4	11	19	30	17	23
Germany	37	37	17	7	3	15	30	34	14	7	9	15	25	21	31
Greece ²	33	38	21	5	3	18	34	34	10	5	10	21	35	19	14
Hungary	38	45	14	3	1	11	45	28	10	6	4	18	30	18	30
Iceland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Ireland ²	44	32	16	5	4	27	33	23	9	8	15	17	21	18	29
Israel ²	31	50	13	5	2	24	39	20	9	8	13	24	21	14	28
Italy ²	30	33	23	9	5	22	28	26	13	11	15	19	23	18	25
Japan	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Korea	22	58	16	4	1	12	50	25	10	3	6	33	29	19	13
Latvia	c	c	c	c	c	15 ^b	49 ^b	22 ^b	8 ^b	c	c	27 ^b	32 ^b	15 ^b	21 ^b
Lithuania ²	27	47	19	5	c	17	46	22	10	5	13	22	23	18	25
Luxembourg ¹	34	55	7	3	1	17	50	20	9	4	6	28	29	19	19
Mexico 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	20	43	24	7	5	19	38	26	10	8	13	27	29	15	16
Norway	52	26	16	4	2	24	29	31	10	5	16	18	38	15	13
Poland ²	0	75	20	4	1	0	61	27	7	4	0	29	35	17	19
Portugal	9	56	25	6	4	6	45	30	10	10	3	15	26	19	37
Slovak Republic	31	45	18	4	1	16	38	29	11	6	11	18	28	20	23
Slovenia	0	84	14	1	0	0	65	26	6	2	0	24	32	25	20
Spain ²	39	29	20	7	5	30	27	21	11	12	18	18	17	15	33
Sweden	27	45	24	4	1	16	36	35	9	4	14	24	36	15	10
Switzerland	29	53	16	1	1	20	42	30	6	2	10	23	34	19	14
Türkiye ¹	32	45	18	3	1	16	38	28	12	6	11	16	22	28	24
United Kingdom	21	55	18	4	2	14	50	24	8	4	6	33	30	16	15
United States	45	40	10	3	2	27	40	20	8	6	13	24	22	16	25
OECD average	30	45	18	5	3	18	39	27	9	7	10	21	27	17	24
Partner and/or accession countries															
Argentina	22	28	24	15	12	13	26	21	20	21	6	12	18	21	42
Brazil	61	23	9	4	3	41	25	17	8	10	23	11	12	11	43
Bulgaria ²	40	36	15	6	4	18	37	20	13	12	9	21	16	17	38
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
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
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	c	76	17	1	6	0	63	29	4	4	c	20	49	17	14
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
EU25 average	29	47	18	5	3	16	42	27	9	6	10	21	29	18	23
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See StatLink and Box A4.1 for the notes related to this Table.

Source: OECD/ILO/UIS (2023). For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/6rbw1q>

Table A4.3. Women's earnings as a percentage of men's earnings, by educational attainment, programme orientation and age group (2021)

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

	Below upper secondary			Upper secondary or post-secondary non-tertiary									Tertiary		
				By programme orientation						Total					
				General			Vocational								
	25-34 year-olds	45-54 year-olds	25-64 year-olds	25-34 year-olds	45-54 year-olds	25-64 year-olds	25-34 year-olds	45-54 year-olds	25-64 year-olds	25-34 year-olds	45-54 year-olds	25-64 year-olds	25-34 year-olds	45-54 year-olds	25-64 year-olds
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Australia	96	96	96	x(10)	x(11)	x(12)	x(10)	x(11)	x(12)	85	77	81	91	77	82
Austria	80	86	85	90	78	93	82	81	83	83	82	85	82	76	76
Belgium ¹	c	c	78	c	83	89	78	79	78	81	80	82	96	83	87
Canada ¹	70	76	73	83	75	79	56	67	63	71	72	73	87	79	80
Chile ¹	92	81	81	85	73	76	76	70	74	83	72	76	84	58	68
Colombia ¹	83	88	85	x(10)	x(11)	x(12)	x(10)	x(11)	x(12)	91	80	85	91	83	84
Costa Rica	88	86	87	89	70	82	c	c	c	96	79	89	91	119	101
Czech Republic ¹	93	84	89	85	86	85	85	82	84	84	83	84	78	70	75
Denmark	80	79	82	83	74	81	81	80	82	81	79	81	87	73	77
Estonia	54	63	62	82	68	76	71	71	73	77	70	74	81	81	78
Finland ¹	87	79	81	88	76	82	81	76	78	82	75	78	85	72	76
France ¹	90	68	72	88	76	82	65	75	73	69	76	76	82	75	74
Germany	c	97	95	c	c	71	80	82	80	79	81	80	86	65	71
Greece ¹	c	72	72	78	m	m	95	m	m	87	81	83	81	80	78
Hungary	90	87	87	82	80	81	84	86	85	85	86	85	76	66	70
Iceland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Ireland ¹	c	c	79	x(10)	x(11)	x(12)	x(10)	x(11)	x(12)	79	84	85	84	67	70
Israel ¹	c	65	68	x(10)	x(11)	x(12)	x(10)	x(11)	x(12)	70	65	69	72	66	69
Italy ¹	90	69	79	78	61	73	86	77	82	85	75	80	89	70	70
Japan	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Korea	c	73	75	89	65	70	87	68	72	90	67	72	85	66	73
Latvia	c	c	76 ^b	66 ^b	45 ^b	54 ^b	81 ^b	81 ^b	80 ^b	74 ^b	65 ^b	68 ^b	62 ^b	88 ^b	73 ^b
Lithuania ¹	c	89	85	x(10)	x(11)	x(12)	x(10)	x(11)	x(12)	77	82	80	77	76	76
Luxembourg ²	c	52	67		114	91	84	86	77	78	108	87	93	83	82
Mexico ¹	66	64	66	73	72	72	84	51	69	73	68	72	81	73	75
Netherlands	85	81	83	94	83	86	85	84	82	86	85	84	89	83	78
New Zealand	81	73	80	85	85	82	83	83	79	84	84	81	84	76	81
Norway	81	79	82	83	77	80	75	77	78	76	78	79	85	75	76
Poland ¹	79	76	78	x(10)	x(11)	x(12)	x(10)	x(11)	x(12)	80	80	82	75	70	74
Portugal	87	77	80	81	73	77	80	73	77	81	73	77	81	73	74
Slovak Republic	88	87	81	90	75	78	80	79	80	82	79	81	81	70	75
Slovenia	88	87	89	x(10)	x(11)	x(12)	x(10)	x(11)	x(12)	86	86	88	84	85	85
Spain ¹	79	77	78	76	87	78	76	65	71	76	78	75	92	86	84
Sweden	86	84	86	87	82	85	83	81	82	84	83	84	87	76	80
Switzerland	88	79	82	97	90	87	91	80	82	92	83	84	93	82	82
Türkiye ²	81	71	74	81	77	81	79	77	78	80	76	79	82	82	81
United Kingdom	74	73	77	92	75	78	65	64	66	78	70	73	80	75	77
United States	62	69	74	x(10)	x(11)	x(12)	x(10)	x(11)	x(12)	81	74	76	79	71	72
OECD average	82	78	79	84	77	80	80	76	77	81	78	80	84	76	77
Partner and/or accession countries															
Argentina	51	60	60	x(10)	x(11)	x(12)	x(10)	x(11)	x(12)	75	61	68	74	88	81
Brazil	80	72	76	x(10)	x(11)	x(12)	x(10)	x(11)	x(12)	77	65	71	74	68	68
Bulgaria ¹	c	82	88	106	85	86	88	77	80	98	79	82	66	93	75
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
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
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	87	87	91	91	95	92	92	94	94	92	94	94	92	94	93
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
EU25 average	84	79	81	84	79	81	82	79	80	82	81	82	83	77	77
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See StatLink and Box A4.1 for the notes related to this Table.

Source: OECD/ILO/UIS (2023). For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023[1]).

StatLink  <https://stat.link/ox418q>

Table A4.4. Relative earnings of workers compared to those with below upper secondary attainment, by educational attainment, programme orientation and age group (2021)

Adults with income from employment (full-time full-year workers); below upper secondary attainment for each age group = 100

	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
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Australia	20	46	21	7	6	15	42	24	10	9	12	30	27	16	15
Austria	35	42	19	3	1	17	33	30	13	8	13	18	21	20	28
Belgium	29	54	14	2	1r	18	46	28	6	2	10	22	37	18	13
Canada ²	42	28	17	8	5	33	25	20	11	12	26	19	20	15	21
Chile ²	25	50	18	4	3	13	41	26	10	10	4	16	18	14	48
Colombia ²	42	32	20	4	2	25	25	33	10	7	9	11	22	13	45
Costa Rica	32	38	24	4	2	20	28	33	10	9	7	11	18	12	51
Czech Republic ²	22	64	13	1	0	4	51	34	8	3	2	19	39	19	21
Denmark	34	37	22	4	2	18	37	33	8	4	15	24	38	13	10
Estonia	27	36	19	10	7	22	37	22	10	9	14	25	26	16	19
Finland ²	31	36	23	6	4	22	39	28	7	3	13	22	33	17	15
France ²	34	41	19	4	2	22	40	27	7	4	11	19	30	17	23
Germany	37	37	17	7	3	15	30	34	14	7	9	15	25	21	31
Greece ²	33	38	21	5	3	18	34	34	10	5	10	21	35	19	14
Hungary	38	45	14	3	1	11	45	28	10	6	4	18	30	18	30
Iceland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Ireland ²	44	32	16	5	4	27	33	23	9	8	15	17	21	18	29
Israel ²	31	50	13	5	2	24	39	20	9	8	13	24	21	14	28
Italy ²	30	33	23	9	5	22	28	26	13	11	15	19	23	18	25
Japan	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Korea	22	58	16	4	1	12	50	25	10	3	6	33	29	19	13
Latvia	c	c	c	c	c	15 ^b	49 ^b	22 ^b	8 ^b	c	c	27 ^b	32 ^b	15 ^b	21 ^b
Lithuania ²	27	47	19	5	c	17	46	22	10	5	13	22	23	18	25
Luxembourg ¹	34	55	7	3	1	17	50	20	9	4	6	28	29	19	19
Mexico 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	20	43	24	7	5	19	38	26	10	8	13	27	29	15	16
Norway	52	26	16	4	2	24	29	31	10	5	16	18	38	15	13
Poland ²	0	75	20	4	1	0	61	27	7	4	0	29	35	17	19
Portugal	9	56	25	6	4	6	45	30	10	10	3	15	26	19	37
Slovak Republic	31	45	18	4	1	16	38	29	11	6	11	18	28	20	23
Slovenia	0	84	14	1	0	0	65	26	6	2	0	24	32	25	20
Spain ²	39	29	20	7	5	30	27	21	11	12	18	18	17	15	33
Sweden	27	45	24	4	1	16	36	35	9	4	14	24	36	15	10
Switzerland	29	53	16	1	1	20	42	30	6	2	10	23	34	19	14
Türkiye ¹	32	45	18	3	1	16	38	28	12	6	11	16	22	28	24
United Kingdom	21	55	18	4	2	14	50	24	8	4	6	33	30	16	15
United States	45	40	10	3	2	27	40	20	8	6	13	24	22	16	25
OECD average	30	45	18	5	3	18	39	27	9	7	10	21	27	17	24
Partner and/or accession countries															
Argentina	22	28	24	15	12	13	26	21	20	21	6	12	18	21	42
Brazil	61	23	9	4	3	41	25	17	8	10	23	11	12	11	43
Bulgaria ²	40	36	15	6	4	18	37	20	13	12	9	21	16	17	38
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
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
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	c	76	17	1	6	0	63	29	4	4	c	20	49	17	14
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
EU25 average	29	47	18	5	3	16	42	27	9	6	10	21	29	18	23
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See StatLink and Box A4.1 for the notes related to this Table.

Source: OECD/ILO/UIS (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/j2kqbr>

Box A4 1. Notes for Indicator A4 Tables

Table A4.1. Relative earnings of workers compared to those with upper secondary attainment, by educational attainment and age group (2021)

There are cross-country differences in the inclusion/exclusion of zero and negative earners. Relative earnings for workers with upper secondary attainment are available for consultation on line (see StatLink).

1. Year of reference differs from 2021: 2020 for Belgium, Bulgaria, Canada, Colombia, the Czech Republic, Finland, Ireland, Israel, Italy, Poland and Spain; 2019 for France; 2018 for Greece, Mexico and Lithuania; 2017 for Chile.

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

Table A4.2. Distribution of workers by educational attainment and level of earnings relative to the median (2021)

There are cross-country differences in the inclusion/exclusion of zero and negative earners. For a given level of educational attainment, the figures by level of earnings relative to median earnings may not add up to 100% because of missing data.

1. Earnings net of income tax.

2. Year of reference differs from 2021: 2020 for Bulgaria, Canada, Colombia, the Czech Republic, Finland, Ireland, Israel, Italy, Poland and Spain; 2019 for France; 2018 for Greece, Mexico and Lithuania; 2017 for Chile.

Table A4.3. Women's earnings as a percentage of men's earnings, by educational attainment, programme orientation and age group (2021)

There are cross-country differences in the inclusion/exclusion of zero and negative earners.

1. Year of reference differs from 2021: 2020 for Belgium, Bulgaria, Canada, Colombia, the Czech Republic, Finland, Ireland, Israel, Italy, Poland and Spain; 2019 for France; 2018 for Greece, Mexico and Lithuania; 2017 for Chile.

2. Earnings net of income tax.

Table A4.4. Relative earnings of workers compared to those with below upper secondary attainment, by educational attainment, programme orientation and age group (2021)

There are cross-country differences in the inclusion/exclusion of zero and negative earners. Relative earnings for workers with below upper secondary attainment are available for consultation on line (see StatLink).

1. Year of reference differs from 2021: 2020 for Belgium, Bulgaria, Canada, Colombia, the Czech Republic, Finland, Ireland, Israel, Italy, Poland and Spain; 2019 for France; 2018 for Greece, Mexico and Lithuania; 2017 for Chile.

2. Earnings net of income tax.

For more information see *Definitions, Methodology and Source* sections and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

Data and more breakdowns are available in the *Education at a Glance Database* (<http://stats.oecd.org/>).

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

Indicator A6. How are social outcomes related to education?

Highlights

- Perceptions about the functioning of democracy do not change based on educational attainment. On average, 25-64 year-olds at all attainment levels have similar views on how the democratic process works.
- Civic engagement tends to increase as educational attainment increases. For example, highly educated adults are more likely to participate in a public demonstration or to volunteer for a charity. Across the OECD countries and accession countries participating in the European Social Survey (ESS) Round 10, around 10% of individuals with tertiary attainment have participated in a public demonstration in the previous 12 months, whereas 6% of individuals with upper secondary or post-secondary non-tertiary educational attainment have done so.
- Tertiary-educated adults are more likely to take steps to protect their privacy on line. On average across OECD and accession countries taking part in the EU Survey on ICT usage in households and by individuals (EU-ICT), 27% of 16-74 year-olds with tertiary attainment used software that limits the ability of others to track their activities on the Internet in the three months prior to the survey compared to just 16% of those without upper secondary attainment.

Context

Formal education aims to transfer the skills that students need to find work, but also to form future citizens in democratic societies. In some countries, schools provide compulsory classes on citizenship education to improve the transfer of democratic values and enhance students' active role in democratic life.

Several studies suggest that students on tertiary education tend to be more involved in their societies' democratic life (Nieuwelink, Dekker and ten Dam, 2019^[1]). The link between educational attainment and willingness to participate in democratic life (Campbell, 2006^[2]), as well as the importance given to democracy, are fundamental to improving democratic involvement. Greater attainment could also increase individuals' participation in decision-making processes (Michels and De Graaf, 2017^[3]).

Education promotes digital literacy (Burns Ed. and Gottschalk Ed., 2020^[4]) and this can influence individuals' views about their own personal safety on the Internet and awareness of online threats. As with civic engagement and democracy, improving educational attainment may help individuals to be more careful with their personal information on the Internet and reduce being affected by cyber crime.

Other findings

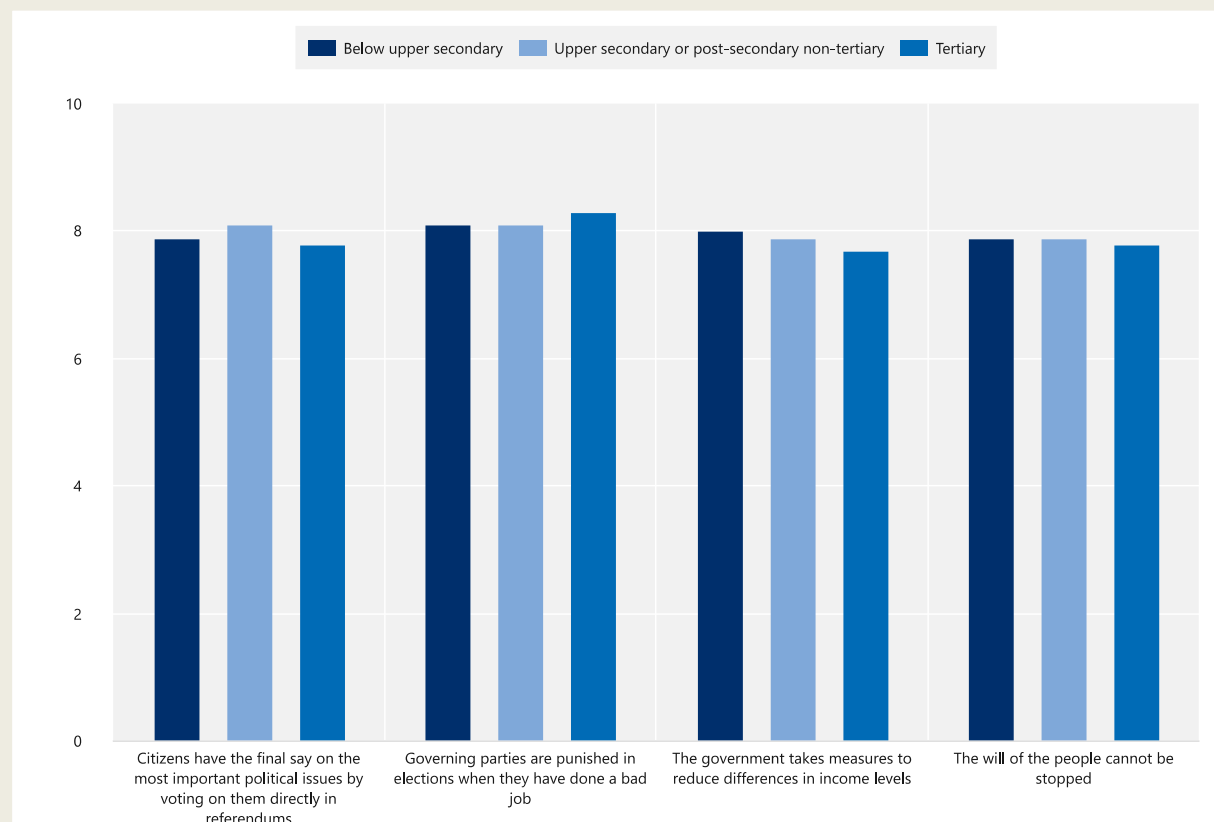
- Civic engagement in the form of participation in demonstrations varies according to the country's political situation, while in the case of volunteering for not-for-profit and charitable organisations it is related to societies' habits and traditions. In both cases, civic engagement is

positively related to educational attainment. Individuals with tertiary qualifications are more likely to volunteer for not-for-profit and charitable organisations

- Among individuals with upper secondary or post-secondary non-tertiary education as their highest level of attainment, there is not much difference in civic engagement between those who followed a general or a vocational programme.

Figure A6.1. Average score of the importance of the following statements indicating how democracy is working, by educational attainment (2020)

Average of OECD and accession countries participating in the ESS Round 10; 25-64 year-olds



Note: The score ranges from 0-10. The "importance of the statement" correspond to the view items in the ESS Round 10 questionnaire. A score of 0 means respondent do not think the statement is important at all and a score of 10 means respondent think it is essential.

Source: OECD (2023), Table A6.1. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[5]).

StatLink  <https://stat.link/pm9a16>

Analysis

Civic engagement and governance

Civic engagement is part of democratic societies and education is a determinant of participation in civic activities (Hauser, 2000^[6]). It is widely accepted that there is a positive relationship between educational attainment and civic engagement (Campbell, 2006^[2]). Education can also influence citizens' perceptions of democracy in their countries. It shapes their democratic values and their views on democratic processes. The relationship between educational attainment and civic engagement may be influenced by the fact that in some countries higher educational attainment may be associated with high socio-economic status, and therefore civic engagement is related to socio-economic status rather than educational attainment (Campbell, 2006^[2]). Increasing levels of education do not seem to affect individuals' perceptions and attitudes towards democracy but they do seem to influence civic engagement. This relationship appears to be strongly influenced by individuals' socio-economic status, particularly by income (Alemán and Kim, 2015^[7]).

Perceptions of democracy, by educational attainment

Individuals aged 25-64 were asked in the ESS Round 10 to rate a series of statements from 0-10 according to the importance they gave to the statement, where 0 means not important at all and 10 means that what the statement is saying is essential to them. To assess individuals' perception of democracy, several aspects were considered, such as the importance of referendums as a form of direct democracy, the fact that governing parties are punished in elections when they have done a bad job, the government's role in reducing differences in income levels, that the will of the people cannot be stopped and that the media is free to criticise the government.

There are no major differences in perceptions about democracy depending on educational attainment. On average, people aged 25-64 across the OECD countries and accession countries participating in ESS Round 10 rated these statements similarly regardless of their attainment levels. In particular, respondents stated it was highly important that governing parties are punished if they have done a bad job (an average score of around 8 out of 10) (Table A6.1, online columns). Similarly, the importance of citizens having the final say on major political issues by voting directly in referendums also scored around 8, regardless of respondents' attainment (Figure A6.1) Croatia, Poland, Slovenia and Switzerland have the highest rating for this statement, with individuals with all levels of attainment rating it almost 9. This is not surprising given the strong element of direct democracy in Switzerland. In some other countries, the score given to this aspect of democracy is lower; for instance in the Netherlands it scores around 6 for those with tertiary qualifications (Table A6.1). Support for referendums declined between 2012 and 2017 in the Netherlands, where the government has challenged this form of direct democracy (Rojon and Rijken, 2021^[8]).

On average across OECD and accession countries participating in the ESS Round 10, individuals at all attainment levels rated redistribution as important. In most countries the score is lower among tertiary-educated individuals (around 8.2) than for those with below upper secondary attainment (around 8.9). This may be linked to individuals' socio-economic status and income, as individuals with higher attainment have higher earnings (see Indicator A4) (Table A6.1, online columns).

Another important aspect of democracy is freedom of speech, evidenced by a free media (McNair, 2012^[9]). As with previous aspects of democracy, 25-64 year-olds in OECD countries and accession countries appear to place high importance on this aspect of democracy regardless of their education attainment, with a sightlier higher rate given by those with tertiary qualifications (Table A6.1, online columns). Individuals living in democratic societies are free to hold different political positions to those of their government and political parties and naturally tend to support the expression of different opinions in the political arena.

Behaviour indicating civic engagement, by educational attainment and programme orientation

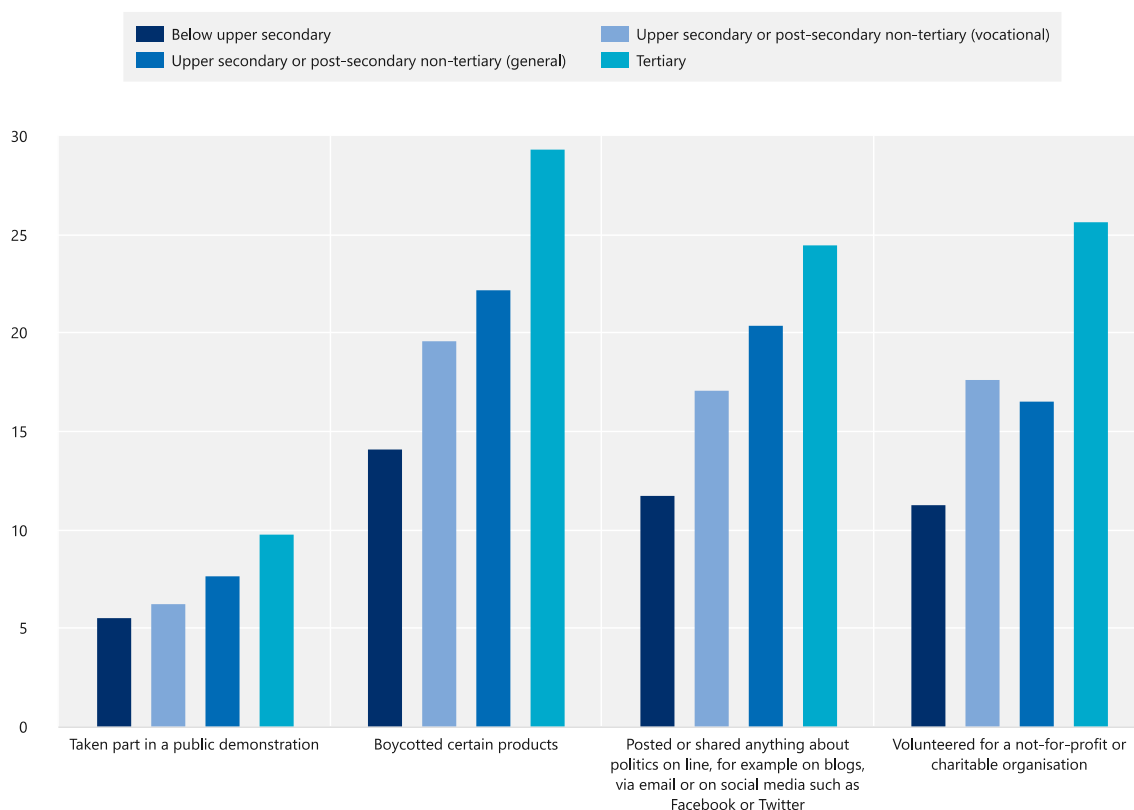
Civic engagement covers the various ways in which citizens participate in the life of their own community and improve the conditions of other members of the community. It can include political involvement and community service (Adler and Goggin, 2005^[10]). Civic engagement is important for the well-being of societies and trust between individuals in their own community. Along with social cohesion, civic engagement is part of a society's social capital (Prewitt, Mackie and Habermann, 2014^[11]). To measure civic engagement, 25-64 year-olds were asked in the ESS Round 10 if they participated in any of the following four activities in the last 12 months: taking part in a public demonstration, boycotting certain products, posting or sharing anything about politics on line and volunteering for a not-for-profit or charitable organisation. However, when analysing the results it should be noted that data are from 2021 reporting activities in the previous 12 months, so the results for attending a public demonstration and volunteering for a not-for-profit or charitable organisation may be biased compared to the other two behaviours (boycotting certain products and posting or sharing anything about politics on line) due to the COVID-19 pandemic).

There is a positive relation between educational attainment and the likelihood of participating in a public demonstration, on average across OECD and accession countries taking part in ESS Round 10 (Figure A6.2). In Canada, however, adults with upper secondary or post-secondary non-tertiary attainment are the least likely to participate in a public demonstration. This contrasts with the lack of a relationship between educational attainment and perceptions of democracy discussed above. In particular, individuals with lower attainment place similar importance on the will of the people as those with higher attainment but are less likely to have participated in a public demonstration when they feel that their views or political situation are being challenged (Table A6.1, online columns, and Table A6.2).

The relationship between educational attainment and political participation is also found by other studies (Mayer, 2011^[12]), but it may not necessarily be a causal relationship. Younger people are more likely to hold a tertiary qualification and are also more likely to participate in public demonstrations (Melo and Stockemer, 2014^[13]; Schofer and Meyer, 2005^[14]). The higher rates of participation in demonstrations among the more educated might therefore primarily be an age effect. Looking at individual countries, Israel and Spain displayed high rates of participation in public demonstrations in 2020 regardless of educational attainment, with 20% of surveyed individuals reporting they had taken part in Israel and 21% in Spain (Table A6.2, online columns). In Spain, there was an increase in public demonstrations in 2020. Many of these protests were led by working classes and individuals in precarious economic situations and some by health professionals (Khenkin, 2020^[15]) so they covered individuals with all levels of educational attainment. In Israel, 2020 also saw widespread public demonstrations (Hitman, 2021^[16]).

Figure A6.2. Share of adults who reported the following behaviour indicating civic engagement, by educational attainment and programme orientation (2020)

Average of OECD and accession countries participating in the ESS Round 10; 25-64 year-olds; in per cent



Source: OECD (2023), Table A6.2. For more information see *Definitions, Methodology and Source* sections and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[5]).

StatLink  <https://stat.link/m8ge64>

As with participation in demonstrations, there seems to be a positive relation between boycotting products and educational attainment. On average across the OECD and accession countries participating in the ESS Round 10, 23% of 25-64 year-olds report having boycotted certain products as a result of civic engagement in 2020. This association supported by the literature, establishes a direct relation between high educational attainment and consuming for political reasons (Yates, 2011^[17]). Only 14% of individuals whose highest level of educational attainment is below upper secondary education claim to have boycotted certain products compared to 20% of those whose highest level of attainment is upper secondary or post-secondary non-tertiary and 29% of individuals who have tertiary qualifications. Austria (45%), Finland (44%) Germany (50%) and Sweden (51%) are the countries where the highest share of individuals who have boycotted certain products, regardless of educational attainment, while Bulgaria (6%), Hungary (2%) and Portugal (6%) have the lowest (Figure A6.2 and Table A6.2). This supports the finding in the literature that people in Central and Northern European countries are more likely to boycott certain products (Yates, 2011^[17]).

Online engagement also seems related to attainment levels. On average across the OECD countries and accession countries participating in the ESS Round 10, 20% of individuals aged 25-64 report having posted or shared anything about politics on line in 2020, for example, on blogs, via email or on social media such

as Facebook or Twitter. As with other measures of civic engagement, there is a positive relation between posting about politics on line and educational attainment (Figure A6.2). Among young adults in tertiary education, digital media literacy fosters online political participation (Kahne, Lee and Feezell, 2012^[18]; Kahne and Bowyer, 2019^[19]). A more in-depth understanding of digital media therefore promotes political participation. Individuals with tertiary attainment are more likely to know more about digital media since they are more likely to have studied it (Kahne, Lee and Feezell, 2012^[18]) and thus be more politically active on it.

As with all the other activities related to civic engagement discussed above, the higher the educational attainment of individuals, the greater the level of participation in volunteering (Figure A6.2). Previous research has found that people in Nordic countries and people with higher educational attainments tend to be more active in charity work (McCloughan et al., 2011^[20]). On average among the OECD countries and accession countries participating in the ESS Round 10, 20% of 25-64 year-old individuals reported that they volunteered for a not-for-profit or charitable organisation in 2020. The highest participation rates are in Canada (40% in the national survey), Iceland (35%) and Norway (39%). The lowest rates are in Bulgaria (5%), the Czech Republic (6%) and Hungary (3%) (Table A6.2, online columns).

As these examples have shown, there is a positive relation between individuals' educational attainment and civic engagement. Individuals with tertiary education showed the highest rates of civic engagement and those with below upper secondary attainment the lowest rates. For individuals with upper secondary or post-secondary non-tertiary attainment, there is little difference on average between individuals who studied in general or vocational programmes, around 2 percentage points.

In the recent years, the world has seen an increase in threats to democracy. One of these threats is the spread of conspiracy theories. The COVID-19 pandemic saw an increase and spread of a number of conspiracy theories worldwide (De Coninck et al., 2021^[21]). These conspiracy theories were not only linked to the pandemic, but affected other topics discussed in public life. Box A6.1 offers an analysis of these conspiracy theories and how educational attainment relates to individuals' belief in them.

Box A6.1. The link between educational attainment and beliefs in conspiracy theories

Conspiracy theories are an important source of mis- and dis-information. They attribute events or situations to secret actions of powerful individuals or groups. In the public debate, conspiracy theories have been blamed as a factor behind rising political populism and the reluctance to follow recommendations to limit the spread of COVID-19. More generally, belief in conspiracy theories is linked to a range of socially and individually harmful behaviours, including a decline in pro-social behaviour, increased support for discriminatory policies, reduced support for democratic government and low trust in institutions, unwillingness to address climate change, and poor medical decisions (Jolley and Douglas, 2013^[22]; Lamberty and Leiser, 2019^[23]; Oleksy et al., 2021^[24]; UNESCO, 2022^[25]).

A large number of studies have found that higher educational attainment is associated with a lower likelihood of belief in conspiracy theories (see for example Douglas et al. (2015^[26]), Freeman and Bentall (2017^[27]), Goertzel (1994^[28]), (Mancosu, Vassallo and Vezzoni, 2017^[29]) and van Prooijen (2016^[30])). However, the estimated effects are often small and explain only a fraction of the variation in the belief in conspiracy theories within the overall population, which indicates that educational attainment is only one of many factors influencing belief in conspiracy theories.

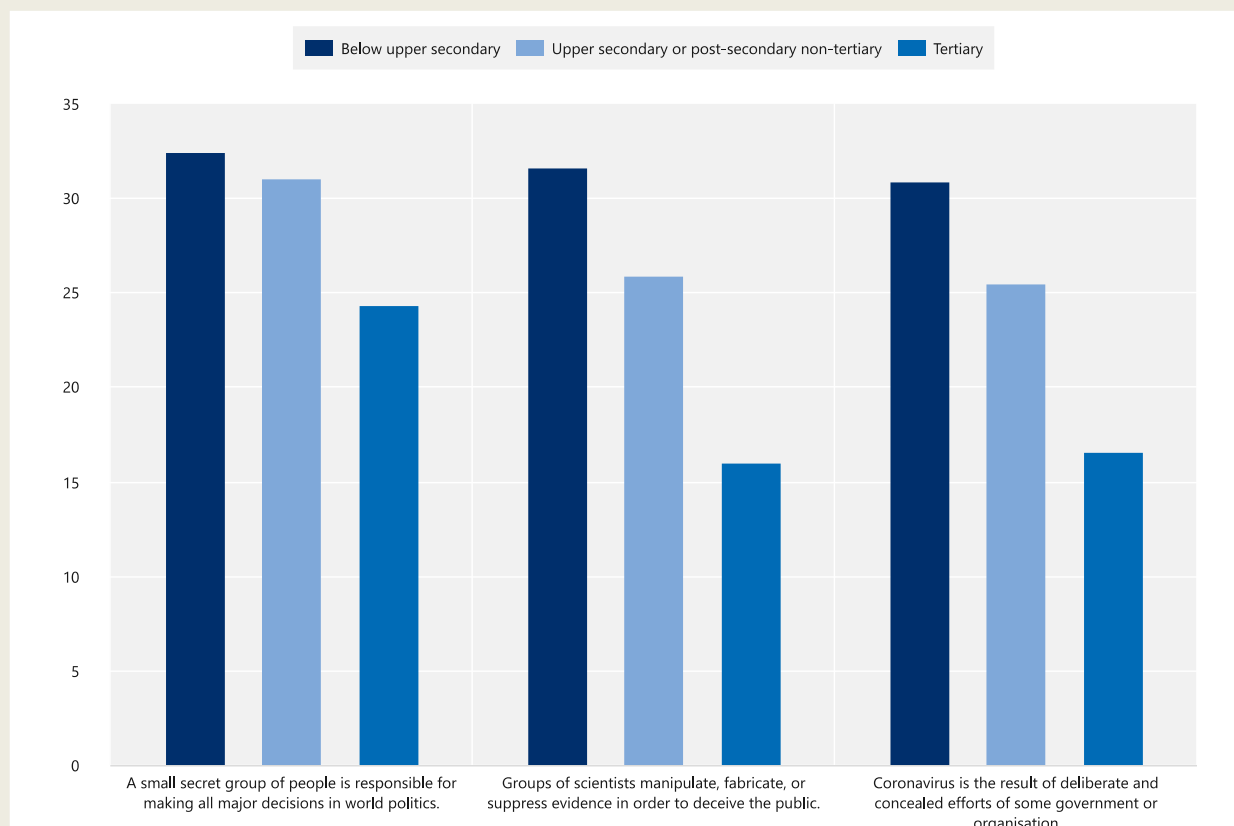
Figure A6.3 shows the share of individuals agreeing with three conspiracy theories presented to them in the ESS Round 10, broken down by educational attainment. The results confirm the pattern found in other research. There is a clear negative correlation between educational attainment and support for conspiracy theories, but even among tertiary-educated adults, a significant share still support them. Such misjudgements arise because individuals form beliefs based on familiarity with the message, cohesion with their worldview and social cues. Once beliefs are formed, individuals are reluctant to revise their beliefs even when presented with contradictory information (Ecker et al., 2022^[31]).

Unsurprisingly, there is no single mechanism determining how education affects belief in conspiracy theories (van Prooijen, 2016^[30]). Consequently, a variety of strategies are needed to fight conspiracy theories. Teachers can inoculate students against conspiracy theories by explaining their existence, teaching them how to recognise the flawed reasoning behind them and by creating empathy for the groups targeted by conspiracy theories (UNESCO, 2022^[25]). Moreover, it is important to strengthen related competencies, such as media and digital literacy to help learners to find and access diverse news sources and to think critically about information (Hill, 2022^[32]).

It should be noted that the patterns shown in Figure A6.3 are not reproduced in all the countries that have implemented the relevant questions in the ESS Round 10. This is a further indication that education alone is no panacea when it comes to tackling belief in conspiracy theories.

Figure A6.3. Belief in conspiracy theories, by educational attainment (2020)

Percentage of adults reporting they agree or strongly agree with the following statements, indicating belief in conspiracy theories; average of OECD and accession countries participating in the ESS Round 10; 25-64 years-olds.



Source: OECD (2023), Table A6.8, available on line. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[5]).

StatLink  <https://stat.link/x12te9>

Protection of personal data on the Internet

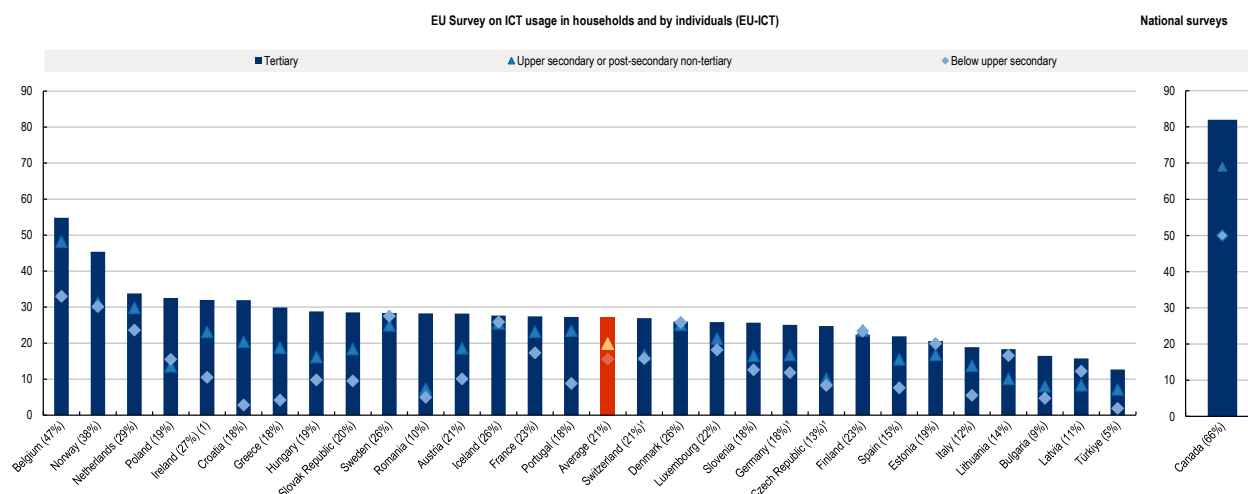
Privacy and Internet security measures are essential for protecting personal information and browsing the Internet safely. During the COVID-19 pandemic, most people in OECD countries conducted their education and work on line. Online attacks increased (Pranggono and Arabo, 2021^[33]) and personal security on the Internet became an important issue to consider on a daily basis. Information from the EU-ICT survey is used to assess individuals' personal security and willingness to protect their personal data. The survey found that as educational attainment increases, so do the measures individuals take to protect their personal data on line.

The survey asked individuals aged 16-74 about their use of software that limits the ability of others to track their activities on the Internet. Use of this type of software is a good indicator of the extent to which individuals perceive that they need protection on the Internet and are aware of the fact that there are risks when browsing the Internet.

On average across the OECD and accession countries taking part in the EU-ICT survey in 2021, 21% of 16-74 year-olds claim to have used software that limits the ability to track their activities on the Internet in the three months prior to completing the survey. There is a positive relationship between educational attainment and the share of individuals taking this precaution. On average, 16% of individuals with below upper secondary attainment report having used such software, rising to 20% of those upper secondary or post-secondary non-tertiary attainment and 27% of those with tertiary attainment. For tertiary-educated adults, across OECD countries taking part in the EU-ICT survey, Belgium (55%) and Norway (45%) had the highest share of tertiary-educated individuals using this type of software while Bulgaria (16%), Latvia (16%) and the Republic of Türkiye (13%), had the lowest shares. In Canada, 66% of individuals report using software that limits the ability to track their activities on the Internet regardless of their educational attainment according to the Canadian Internet Use Survey (CIUS) 2020. This is well above the OECD average. As with other countries, there is a positive relation between using software to limit the ability to track their activities on the Internet and educational attainment (Figure A6.4).

Figure A6.4. Share of adults who used software that limits the ability to track their activities on the Internet, by educational attainment (2021)

16-74 year-olds; in per cent



Note: The percentage in parentheses represents the share of adults who used software that limits the ability to track their activities on the Internet, regardless of educational attainment.

1. Break in the series compared with the previous year.

Countries are ranked in descending order of the share of adults with tertiary attainment who have used tracking-limiting software.

Source: OECD (2023), Table A6.3. For more information see *Definitions, Methodology and Source* sections and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[5]).

StatLink  <https://stat.link/jshwxc>

There are other aspects to consider when analysing privacy and the measures individuals take to protect personal data. More individuals report reading privacy policy statements than using software that limits the ability to track activities on the Internet. On average across OECD and accession countries taking part in the EU-ICT survey, 36% of individuals claim to read privacy policy statements before providing personal data regardless of educational attainment. This precaution is followed by 27% of those with below upper secondary attainment, 36% of those with upper secondary or post-secondary non-tertiary attainment and 44% of those with tertiary attainment. A similar pattern can be found with limiting access to a profile or content on social networking sites or shared online storage. Individuals with tertiary attainment are more likely to report taking this precaution than those with upper secondary or post-secondary non-tertiary

attainment, who in turn are more likely to do so than individuals with below upper secondary attainment (Table A6.3, online columns).

Definitions

Age group: Adults refer to 25-64 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.

Perception of democracy: the European Social Survey defines perception of democracy as citizens' attitudes to democracy and meaning that people attach to the word in different countries. It conveys the importance of free and fair elections, equality before the law, the delivery of social outcomes and opportunities for citizen participation. The meaning covers four dimensions of democracy: the electoral dimension, the liberal dimension, the social dimension and the direct democracy dimension. This definition of democracy is based on Morlino (2009^[34]) and Kisis (2015^[35]).

Civic engagement is any individual or group activity addressing issues of public concern.

Methodology

Table A6.4, Table A6.5, Table A6.6, Table A6.7 and Table A6.8, available on line, combine data from different sources which could compromise cross-country comparability in certain cases. Refer to table notes and (OECD, 2023^[5]) *Education at a Glance 2023 Sources, Methodologies and Technical Notes*, (<https://doi.org/10.1787/d7f76adc-en>) for country-specific information.

For more information see *Definitions*, *Methodology* and *Source* sections and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[5]).

Source

Data on civic engagement and governance, both for the perception of democracy and behaviour indicating civic engagement for all countries assessed are taken from the European Social Survey, Round 10 survey. These data have been compiled by the OECD Labour Market, Economic and Social Outcomes of Learning (LSO) Network. Data for Canada are drawn from the General Social Survey-Social Identity (GSS SI), Cycle 35, 2020 and the General Social Survey-Giving Volunteering and Participating (GSS SI), Cycle 33, 2018 for Tables A6.2 and A6.3.

Data on personal safety and individuals' measures to protect their personal data online are drawn from the EU-ICT survey, conducted by Eurostat. For Tables A6.3, A6.6 and A6.7, the Canadian Internet Use Survey (CIUS) 2020 was used.

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Indicator A6 Tables

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

Table A6.1	Average score for the perception of democracy; by educational attainment (2020)
Table A6.2	Share of adults who reported the following behaviour indicating civic engagement, by educational attainment and programme orientation (2020)
Table A6.3	Percentage of Internet users taking precautions to protect the privacy of their personal data, by type of precaution and educational attainment (2021)
WEB Table A6.4	<i>Average score for the perception of democracy; by gender, educational attainment and programme orientation (2020)</i>
WEB Table A6.5	<i>Average score for the perception of democracy, by age group, educational attainment and programme orientation (2020)</i>
WEB Table A6.6	<i>Share of Internet users taking precautions to protect their privacy of personal data, by type of precaution, gender and educational attainment (2021)</i>
WEB Table A6.7	<i>Share of Internet users taking precautions to protect the privacy of their personal data, by type of precaution, age group and educational attainment (2021)</i>
WEB Table A6.8	<i>Share of adults reporting they agree or strongly agree with the following statements, indicating belief in conspiracy theories (2020)</i>

StatLink  <https://stat.link/2d8ysb>

Cut-off date for the data: 15 June 2023. 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. Average score for the perception of democracy, by educational attainment (2020)

European Social Survey (ESS) Round 10; 25-64 year-olds

Reading column 1: in Austria, adults with below upper secondary attainment consider the importance of the statement “National elections are free and fair” with a score 8.4 out of 10.

Reading column 4: in Belgium, adults with below upper secondary attainment evaluate the statement “National elections are free and fair” with a score 6.2 out of 10.

	National elections are free and fair						Citizens have the final say on the most important political issues by voting on them directly in referendums					
	Importance of the statement			Evaluation of the extent to which the statement applies			Importance of the statement			Evaluation of the extent to which the statement applies		
	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	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD countries												
Austria	8.4	9.0	9.6	7.4	7.9	8.3	8.3	8.1	7.6	4.8	5.0	4.6
Belgium	7.8	8.3	9.3	6.2	6.9	7.9	7.3	7.5	7.0	4.1	4.1	3.2
Czech Republic	8.8	8.9	9.0	7.1	6.6	7.1	7.9	8.1	7.8	5.3	5.7	5.1
Estonia	9.0	9.2	9.5	6.7	6.6	8.0	8.1	8.2	7.8	4.4	4.3	4.7
Finland	9.3	9.7	9.8	9.1	9.3	9.5	7.9	7.8	7.2	6.7	6.6	5.6
France	8.3	8.6	9.3	6.9	6.6	7.7	7.7	8.1	7.5	4.0	3.6	3.6
Germany	7.5	8.9	9.5	7.0	7.8	8.5	7.5	7.9	6.8	4.8	4.2	3.6
Greece	9.0	9.2	9.2	7.2	7.3	7.5	7.9	7.6	8.1	3.7	3.6	4.0
Hungary	8.7	8.8	9.0	5.7	5.4	5.8	8.0	7.9	8.2	5.3	5.4	5.2
Iceland	9.2	9.5	9.7	8.1	8.0	8.4	8.0	8.4	7.7	5.4	5.6	4.6
Israel	6.5	8.9	8.9	6.1	6.6	7.1	5.6	7.2	7.0	5.1	3.8	3.4
Ireland	8.1	8.3	9.1	6.9	7.2	8.0	8.1	8.0	8.6	6.2	6.6	6.7
Italy	8.4	8.7	8.8	5.6	6.4	6.2	7.9	8.2	7.8	4.3	4.7	4.3
Latvia	8.8	8.1	9.0	4.6	5.7	6.7	8.0	7.9	8.2	4.7	4.8	5.0
Lithuania	8.3	7.9	8.9	5.8	5.8	6.7	7.9	8.2	8.2	4.9	5.1	5.7
Netherlands	8.9	9.5	9.6	7.8	8.0	8.8	7.3	7.5	6.0	5.0	4.6	3.9
Norway	9.1	9.3	9.7	8.9	9.1	9.3	8.2	8.1	8.0	7.1	7.0	6.2
Poland	9.3	9.3	9.6	8.0	8.7	8.4	8.6	8.7	8.5	4.4	3.4	4.3
Slovak Republic	8.4	8.0	8.8	6.9	6.5	7.4	7.9	7.5	7.8	4.3	4.2	4.9
Slovenia	9.1	9.0	9.5	7.0	6.8	7.9	8.8	8.7	8.9	5.7	5.4	5.7
Spain	9.2	9.6	9.8	7.3	7.4	7.5	8.4	8.7	8.4	4.6	3.6	3.3
Sweden	8.9	9.2	9.6	8.1	8.4	8.9	7.8	7.7	7.3	5.8	5.4	5.2
Switzerland	8.7	9.0	9.4	8.1	8.3	8.7	8.5	8.5	8.5	7.7	7.5	7.9
United Kingdom	8.2	9.1	9.5	7.9	7.9	8.3	8.0	8.0	7.5	6.5	6.1	5.4
Accession countries												
Bulgaria	9.2	9.1	9.0	3.5	3.5	3.7	8.4	8.3	8.1	2.4	2.2	2.5
Croatia	8.7	8.8	9.1	5.5	c	5.8	8.6	8.7	8.5	4.3	3.9	3.9
Average	8.6	8.9	9.3	6.9	7.1	7.6	7.9	8.1	7.8	5.1	4.8	4.7

Note: See StatLink and Box A6.2 for the notes related to this Table.

Source: OECD (2023). For more information see *Definitions, Methodology* and *Source* sections and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[5]).


StatLink  <https://stat.link/zp2sgt>

Table A6.2. Share of adults who reported the following behaviour indicating civic engagement, by educational attainment and programme orientation (2020)

European Social Survey (ESS) Round 10 or national surveys; 25-64 year-olds

	European Social Survey (ESS) Round 10											
	Boycotted certain products						Posted or shared anything about politics on line, for example on blogs, via email or on social media such as Facebook or Twitter					
	Below upper secondary	Upper secondary or post-secondary non-tertiary			Tertiary	All levels of education	Below upper secondary	Upper secondary or post-secondary non-tertiary			Tertiary	All levels of education
		General	Vocational	Total				General	Vocational	Total		
OECD countries	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Austria	27	50	34	36	59	45	23	34	20	22	28	24
Czech Republic	5	12	8	9	17	11	14	17	14	14	19	15
Estonia	3	10	7	8	14	11	18	11	8	9	20	15
Finland	38	51	37	39	48	44	10	35	17	19	28	24
France	20	31	26	27	43	33	11	18	18	18	25	20
Germany	17	51	44	44	58	50	15	26	19	19	24	21
Greece	13	17	20	18	23	19	5	24	26	25	31	25
Hungary	1	2	2	2	6	2	2	11	7	8	19	10
Iceland	19	37	27	31	41	34	15	24	19	21	28	24
Israel	16	33	32	33	40	38	10	26	17	23	29	27
Italy	7	11	12	11	17	12	11	22	16	19	27	20
Latvia	4	19	12	13	18	16	23	19	16	17	16	17
Lithuania	8	2	5	4	9	7	8	12	13	13	25	18
Netherlands	4	19	11	12	26	18	16	21	17	17	20	19
Norway	31	23	27	26	33	30	15	20	21	21	30	26
Poland	11	22	23	23	36	26	8	15	15	15	26	18
Portugal	1	3	12	4	14	6	7	10	17	11	25	13
Slovak Republic	c	8	10	10	13	10	6	17	20	20	16	18
Slovenia	5	24	6	8	22	14	5	23	13	14	18	15
Spain	22	30	30	30	38	32	25	32	31	32	37	32
Sweden	40	43	50	49	55	51	17	25	23	23	23	23
Switzerland	19	26	25	25	41	32	11	17	16	16	27	21
United Kingdom	21	18	19	19	38	30	13	36	25	27	36	30
Accession countries												
Bulgaria	1	3	4	4	10	6	3	10	11	11	21	14
Croatia	3	12	8	8	16	10	2	8	8	8	14	9
Average	14	22	20	20	29	23	12	20	17	18	24	20
National surveys												
	Boycotted certain products						Posted or shared anything about politics on line, for example on blogs, via email or on social media such as Facebook or Twitter					
	Below upper secondary	Upper secondary or post-secondary non-tertiary			Tertiary	All levels of education	Below upper secondary	Upper secondary or post-secondary non-tertiary			Tertiary	All levels of education
		General	Vocational	Total				General	Vocational	Total		
OECD countries	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Canada ¹	15	24	28	25	39	32	11	18	18	18	20	18

Note: See StatLink and Box A6.2 for the notes related to this Table.

Source: OECD (2023). For more information see *Definitions, Methodology and Source* sections and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[5]).

StatLink  <https://stat.link/hqyrxa>

Table A6.3. Percentage of Internet users taking precautions to protect the privacy of their personal data, by type of precaution and educational attainment (2021)

EU Survey on ICT usage in households and by individuals (EU-ICT) or national surveys; 16-74 year-olds

	EU Survey on ICT usage in households and by individuals (EU-ICT)											
	Use software that limits the ability to track their activities on the internet				Read privacy policy statements before providing personal data				Restricted or refused access to their geographical location			
	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	All levels of education	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	All levels of education	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	All levels of education
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Austria	10	19	28	21	37	46	55	48	26	41	55	44
Belgium	33	48	55	47	12	20	27	21	22	40	62	44
Czech Republic ¹	8	10	25	13	21	30	45	32	27	34	54	37
Denmark	26	25	26	26	28	36	38	34	49	60	74	62
Estonia	20	17	21	19	41	35	42	39	41	39	48	43
Finland	23	24	22	23	45	51	53	50	54	64	70	64
France	17	23	27	23	17	23	26	23	35	52	75	56
Germany ¹	12	17	25	18	28	40	44	39	21	34	49	36
Greece	4	19	30	18	14	40	55	37	13	33	56	34
Hungary	10	16	29	19	27	40	53	42	20	33	55	37
Iceland	26	25	28	26	39	39	39	39	68	75	85	77
Ireland ¹	11	23	32	27	13	32	42	37	23	48	70	59
Italy	6	14	19	12	23	43	53	37	19	41	56	35
Latvia	12	8	16	11	39	37	58	44	34	29	52	38
Lithuania	17	10	18	14	29	29	45	36	29	23	44	32
Luxembourg	18	21	26	22	15	19	31	22	25	44	67	48
Netherlands	24	30	34	29	39	43	40	41	61	75	85	74
Norway	30	31	45	38	39	45	45	43	57	59	75	67
Poland	16	14	33	19	18	23	47	29	29	26	56	35
Portugal	9	23	27	18	25	48	51	38	32	69	79	55
Slovak Republic	10	18	29	20	20	37	52	39	15	31	58	36
Slovenia	13	16	26	18	17	27	34	27	22	23	52	31
Spain	8	15	22	15	28	43	49	40	35	58	67	53
Sweden	28	25	28	26	27	35	33	32	45	58	74	61
Switzerland ¹	16	17	27	21	37	43	47	44	48	61	75	65
Türkiye	2	7	13	5	18	43	51	30	12	32	46	24
Accession countries												
Bulgaria	5	8	16	9	15	34	57	34	8	18	37	20
Croatia	3	20	32	18	17	48	61	43	11	41	52	36
Romania	5	7	28	10	16	30	58	32	13	20	48	23
Average	16	20	27	21	27	36	44	36	33	45	63	48
	National surveys											
	Use software that limits the ability to track their activities on the internet				Read privacy policy statements before providing personal data				Restricted or refused access to their geographical location			
	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	All levels of education	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	All levels of education	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	All levels of education
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Canada ²	50	69	82	66	m	m	m	m	37	56	70	53

Note: See StatLink and Box A6.2 for the notes related to this Table.

Source: OECD (2023). For more information see *Definitions, Methodology and Source* sections and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[5]).

StatLink  <https://stat.link/jkbglc>

Box A6.2. Notes for Indicator A6 Tables

Table A6.1. Average score for the perception of democracy, by educational attainment (2020)

1. Year of reference 2018 from column 19 to 24.

The score ranges from 0-10. The columns showing the "importance of the statement" correspond to the view items in the ESS Round 10 questionnaire. A score of 0 means respondent do not think the statement is important at all and a score of 10 means respondent think it is essential. The columns showing the "Evaluation on the extent to which the statement applies" correspond to the evaluation items in the ESS Round 10 questionnaire. A score of 0 means respondent think that the statement does not apply at all in the country and a score of 10 means it applies completely. Additional data on statements about governing parties being punished in elections, government measures to reduce differences in income levels, the will of the people and media freedom are available for consultation on line (see StatLink).

Table A6.2. Share of adults who reported the following behaviour indicating civic engagement, by educational attainment and programme orientation (2020)

Additional data on civic engagement are available for consultation on line (see StatLink).

1. Year of reference 2018 from column 19 to 24 (web version of Table)

Table A6.3. Share of Internet users taking precautions to protect the privacy of their personal data, by type of precaution and educational attainment (2021)

Note that the average differs from the one published by Eurostat as this is an unweighted average and the country coverage is different. Additional data on limiting access and use of data, checking whether websites were secure or asking administrators to update personal data are available for consultation on line (see StatLink).

1. Break in the series compared with the previous year.

2. Year of reference: 2020.

For more information see *Definitions, Methodology and Source* sections and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[5]).

Data and more breakdowns are available in the *Education at a Glance Database* (<http://stats.oecd.org/>).

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

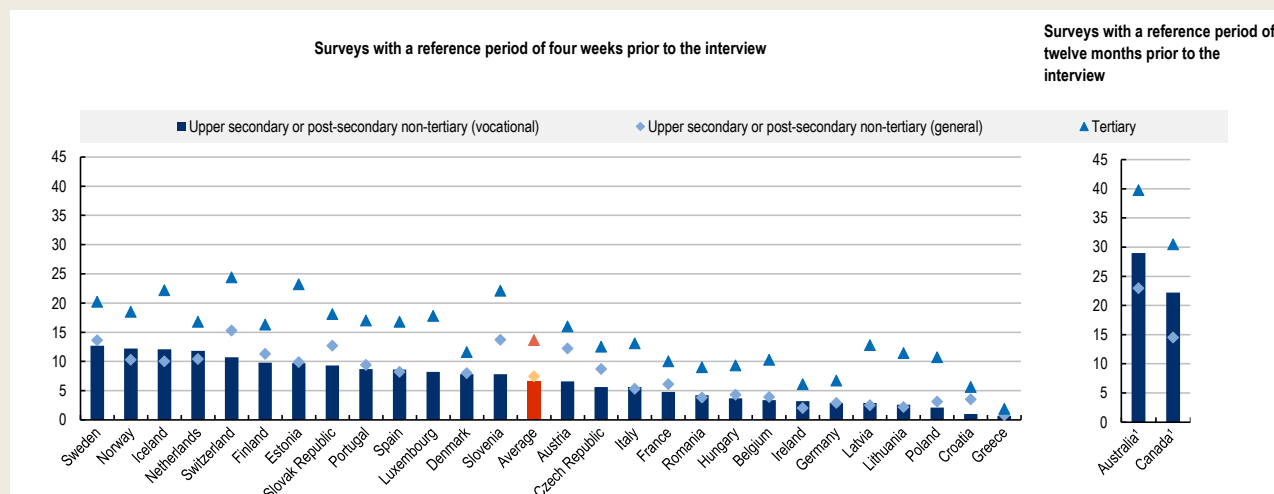
Indicator A7. To what extent do adults participate in education and training?

Highlights

- The most common form of participation in adult learning is non-formal education and training, mostly job-related. Slightly more than one in ten adults (25-64 year-olds) participate in non-formal education and training on average across OECD and accession countries reporting data with a four-week reference period, of which almost 80% have engaged in at least one job-related learning activity.
- On average, 7% of adults with vocational upper secondary or post-secondary non-tertiary attainment had taken up non-formal job-related education and training, the same share as their counterparts with a general qualification among countries reporting data with a four-week reference period.
- Take up varies by sector: 8% of adults working in the manufacturing participated in non-formal job-related education and training, compared to 14% in the information and communication sector and 17% in the education sector on average across countries reporting four-week participation data.

Figure A7.1. Participation in non-formal job-related education and training, by educational attainment and programme orientation (2022)


In per cent; 25-64 year-olds



1. Reference year differs from 2022. Refer to the source table for more details.

Countries are ranked in descending order of the share of 25-64 year-olds with vocational upper secondary or post-secondary non-tertiary attainment who have participated in non-formal job-related education and training.

Source: OECD (2023), Table A7.2. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/43oz5q>

Context

Initial education plays a key role in equipping young people with the skills for successful labour-market entry. However, completion of initial education should not be the end of the road for learning. Investing in adult learning, also known as lifelong learning, is essential to enable all adults to maintain and upgrade their skills, whether they are working or looking for jobs.

Adult learning is becoming a crucial tool for societies as they look to adapt to emerging challenges and benefit from new opportunities. Technological change means an increasing number of jobs can be automated, while demographic change will mean fewer young people entering the labour market. These wider trends are already having profound impacts on labour markets, and analyses suggest that skill needs will continue to change rapidly over the next decades (OECD, 2019^[2]).

Adult learning systems differ considerably across OECD and accession countries but what is common is that those with the greatest needs are often the ones receiving the least training. This indicator considers who is undertaking non-formal education and training and of what kind, and how employers are supporting it.

Other findings

- On average, 13% of women and 10% of men participate in non-formal education and training across OECD and accession countries reporting four-week data. However, the men who do participate are more likely to take part in job-related learning activities than women: 80% of these men and 75% of these women took part in job-related activities.
- Participation in non-formal job-related education and training decreases with age. But the fall is less steep for tertiary-educated adults than for those with lower levels of educational attainment.
- Large enterprises invest a larger share of their total labour costs in training than small enterprises in almost all OECD and accession countries with available data: companies with 250 or more employed persons spend 1.5% of total labour costs on continuing vocational training (CVT) courses, compared to just 0.8% by companies with 10-49 employed persons, on average across OECD and accession countries taking part in the European Union Continuing Vocational Training Survey (EU-CVTS).

Note

Different sources are used for the participation in job-related education and training in this indicator. The main difference between the surveys used is the reference period – whether it was the 4 weeks or the 12 months prior to the survey. In other words, respondents' answers are based on their situation over the last 4 weeks or 12 months preceding the survey. The difference in reference period leads to big differences in participation rates. Please refer to the *Source* and *Methodology* sections for more information.

Analysis

Adult learning often takes the form of non-formal education and training, rather than formal education, which dominates initial education and is more common among young people (OECD, 2022^[3]). This is not surprising given that adult learning indicators cover those aged 25-64, when most people have already completed their formal studies. The analysis below will concentrate on non-formal education and training. Refer to the *Definitions* section for more information on the type of learning activities.

Participation in non-formal education and training

On average across OECD and accession countries reporting data with a four-week reference period, slightly more than one in ten adults participate in non-formal education and training. This share ranges from just 1% in Bulgaria and the Republic of Türkiye (hereafter “Türkiye”), to over 20% in Denmark and 30% in Sweden. Among OECD countries reporting data with a 12-month reference period, the participation rates are generally higher, as would be expected: around 30% in Australia, Canada and Korea, and 7% in Costa Rica (Table A7.1).

On average, 13% of women and 10% of men took part in non-formal education and training across OECD and accession countries with a four-week reference period. The gender difference is more than 5 percentage points in Denmark, Estonia, Finland and Sweden. Among the OECD countries that reported over a 12-month reference period, Australia, Canada and Costa Rica also show higher participation rates in non-formal education and training among women while the opposite is observed in Korea (Table A7.1, online columns).

Participation by job-relatedness

Non-formal education and training can be divided into job-related and non-job-related. Most adults participating in non-formal education and training took part in at least one job-related education and training activity. On average across the countries with a four-week reference period, almost 80% of adults participating in non-formal education and training engaged in at least one job-related activity. This share exceeds 90% in Norway, Romania and the Slovak Republic. Denmark is the only country where adults are more likely to participate in non-job-related education and training than job-related activities. Data for OECD countries with a 12-month reference period also show that job-related training is more popular among adults participating in non-formal education and training (Table A7.1).

On average over countries with a four-week reference period, 9% of women and 8% of men participate in job-related non-formal education and training. However, as a share of those participating in non-formal education and training, men are more likely to participate in job-related learning activities than women: 80% of the men who participated in any non-formal education and training took part in job-related learning activities, compared to 75% of the women. This pattern holds true in most OECD and accession countries regardless of survey reference period, except for Bulgaria, Croatia, Hungary, Lithuania and Poland (Table A7.1, online columns).

Participation by labour-market status

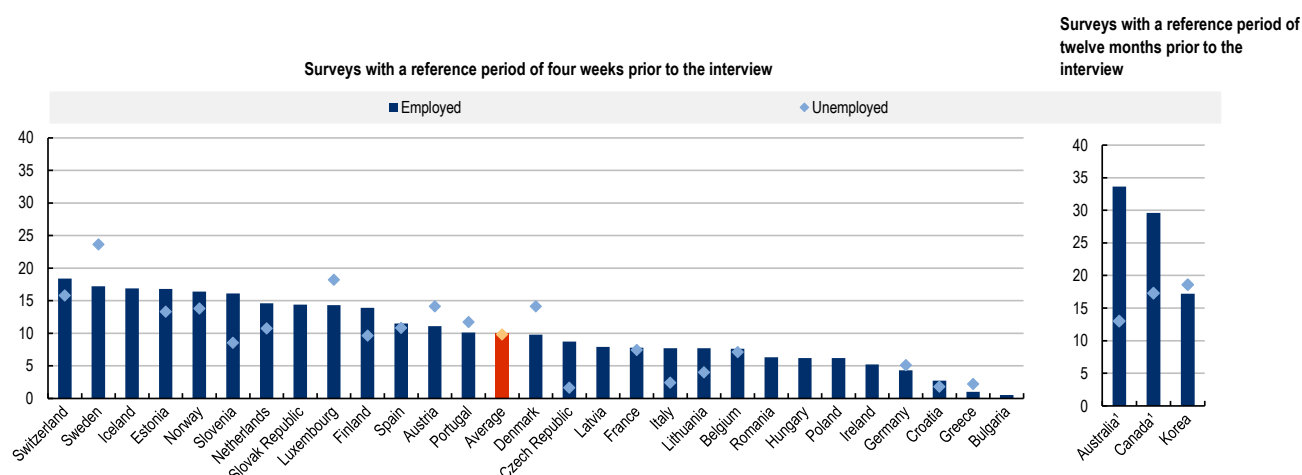
On average across OECD and accession countries reporting data with a four-week reference period, the percentage of both employed and unemployed adults participating in at least one job-related non-formal education and training activity was roughly the same (10%). In Austria, Denmark, Germany, Greece, Luxembourg, Portugal and Sweden, unemployed adults are more likely to participate in non-formal job-related education and training than employed adults. The gaps in participation rates between employed and unemployed adults are much wider among OECD countries with a 12-month reference period. For

example, employed adults are over 20 percentage points more likely to have participated than unemployed adults in Australia and more than 10 percentage points more likely in Canada (Figure A7.2).

Adults who are inactive in the labour market are much less likely to participate in job-related learning activities than those who are working or seeking employment. On average across OECD and accession countries with four-week data, only 2% of inactive adults participated in at least one job-related non-formal education and training. However inactive adults are more likely to participate in non-job-related activities than their employed or unemployed counterparts (Table A7.1).

Figure A7.2. Participation in non-formal job-related education and training, by labour-market status (2022)

In per cent; 25-64 year-olds



1. Reference year differs from 2022. Refer to the source table for more details.

Countries are ranked in descending order of the share of employed 25-64 year-olds participating in non-formal job-related education and training.

Source: OECD (2023), Table A7.1. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/1nv9mu>

Participation by age group, educational attainment and programme orientation

Learning begets learning. Participation rates in non-formal job-related education and training tend to increase with educational attainment. On average across OECD and accession countries with a four-week reference period, only 4% of 25-64 year-olds with below upper secondary attainment participate in non-formal job-related education and training. The share increases to 6% among those with upper secondary or post-secondary non-tertiary attainment and reaches 14% among tertiary-educated adults. Australia and Canada also follow this pattern, although their 12-month reference periods lead to higher participation rates (Table A7.2).

Vocational qualifications often aim to equip students with specific skills to enter the labour market. However, these skills might be less transferable than those acquired in general programmes. Given rapid technological change, VET graduates may be particularly exposed to job disruptions and therefore need to benefit from learning opportunities over their work life to meet new skill needs. On average across OECD and accession countries reporting data with a four-week reference period, 7% of adults with vocational upper secondary or post-secondary non-tertiary attainment report having taken up such learning activities,

the same share as for their counterparts with a general qualification. In Austria and Slovenia, the difference exceeds 5 percentage points in favour of those with a general qualification but in more than one-third of countries the participation rate barely differs by programme orientation. In contrast, the data from Australia and Canada, with a 12-month reference period, suggest that adults with a vocational qualification at this level are more likely to participate in non-formal job-related education and training than their peers with a general one (Figure A7.1).

Participation in non-formal job-related education and training decreases with age (reflecting in part that the older group is leaving the labour force). On average across OECD and accession countries with available data, the share is 10% among 25-54 year-olds compared to 6% among 55-64 year-olds over the four weeks preceding the survey. Iceland is the only country where the participation rate remains almost constant between these age groups among countries with this reference period. Data with a 12-month reference period from Australia and Canada show a similar decline between 25-54 year-olds and 55-64 year-olds (Table A7.2, online columns).

Compared to those with lower educational attainment, tertiary-educated adults seem more likely to continue non-formal job-related education and training later in their careers. Participation in non-formal job-related education and training decreases between 25-54 year-olds and 55-64 year-olds. But the fall is less steep for tertiary-educated adults than for those with lower levels of educational attainment (Table A7.2). This is partially related to the fact that tertiary-educated 55-64 year-olds are more likely to be active in the labour market (i.e. employed or unemployed) compared to their counterparts without a tertiary degree. On average across OECD countries, only about one in five tertiary-educated 55-64 year-olds are inactive, while almost half of those with below upper secondary attainment are inactive (OECD, 2023^[4]).

Participation of employed adults in non-formal job-related education and training

Participation by size of enterprise

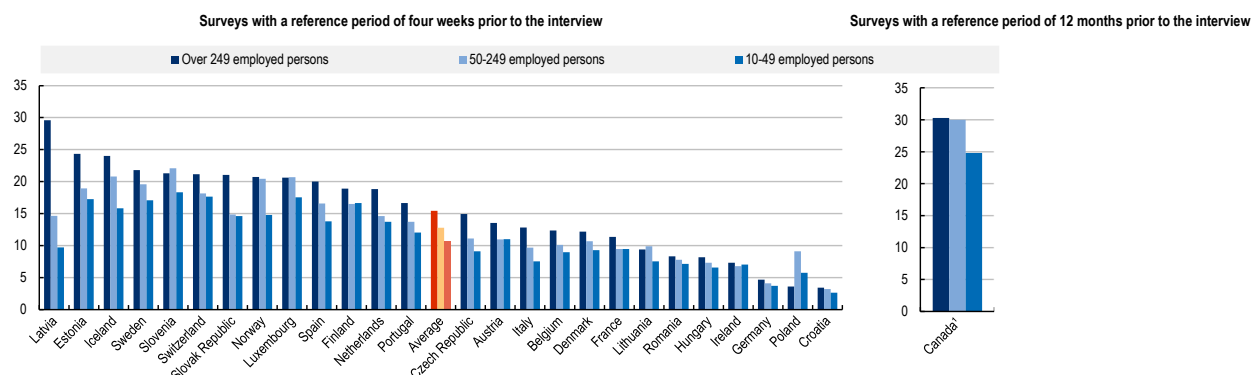
The differences in job-related training also arise among employed adults depending on the size of the enterprise they work for. For instance, regardless of the reference period considered, workers in larger enterprises in OECD and accession countries are more likely to take up non-formal job-related education and training than those in smaller ones (Table A7.3). This is related to the fact that small and medium-sized enterprises often lack the capacity to offer training opportunities to their employees (OECD, 2019^[2]).

On average, 11% of adults working in enterprises with 10-49 employed persons participate in non-formal job-related education and training during the four weeks prior to the survey. The share rises to 13% among those in enterprises with 50-249 employed persons and 15% for those in enterprises with over 249 employed persons. While the difference in participation rates between small and large firms is only in single figures in most countries with a four-week reference period, the gap is 20 percentage points in Latvia (Figure A7.3).

Not all countries show a positive relationship between the size of enterprise (in terms of the number employed) and participation in non-formal job-related education and training. For example, in Lithuania, Poland and Slovenia, adults working in medium-sized enterprises are the most likely to participate in non-formal education and training over the four weeks preceding the survey (Figure A7.3).

Figure A7.3. Participation of employed adults in non-formal job-related education and training, by size of enterprise (2022)

In per cent; 25-64 year-olds



1. Reference year differs from 2022. Refer to the source table for more details. The size of enterprise differs as follows: 10-49 employed persons includes 20-99 employed persons; 50-249 employed persons includes 100-500 employed persons; over 249 employed persons includes over 500 employed persons.

Countries are ranked in descending order of the share of 25-64 year-olds employed in enterprises with over 249 employed persons participating in non-formal job-related education and training.

Source: OECD (2023), Table A7.4, available on line. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/8owau9>

Participation in the public and private sector

Working in the public sector is often associated with greater participation in non-formal job-related education and training than working in the private sector. This could be related to different cultures and governance structures in the two sectors. It could also be associated with the size of enterprises in the private sector compared with the public sector. The distribution of employees by educational attainment and/or by gender could also differ between these sectors. Given the various factors other than public/private sector that could influence participation rates, caution is needed when interpreting the difference in participation rates in the public and private sector across countries.

On average across OECD and accession countries with a four-week reference period, 16% of adults working in the public sector participated in job-related non-formal education and training, compared to 9% of adults in the private sector (regardless of the size of the enterprise). The largest differences are observed in Estonia, Hungary, Latvia, Slovenia, Spain and Switzerland where the public sector participation rate is more than 10 percentage points higher than for the private sector. This pattern holds true in all countries with this reference period. In Canada, where data with a 12-month reference period are used, 41% of adults employed in the public sector and 26% of those in the private sector participated in job-related non-formal education and training (Table A7.4, available on line).

The difference in participation rates in adult learning activities is not limited to gender, age group, educational attainment, sector of occupation or size of enterprise. Box A7.1 shows the unequal participation in job-related education and training by economic activity.

Box A7.1. The unequal participation in job-related education and training by economic activity

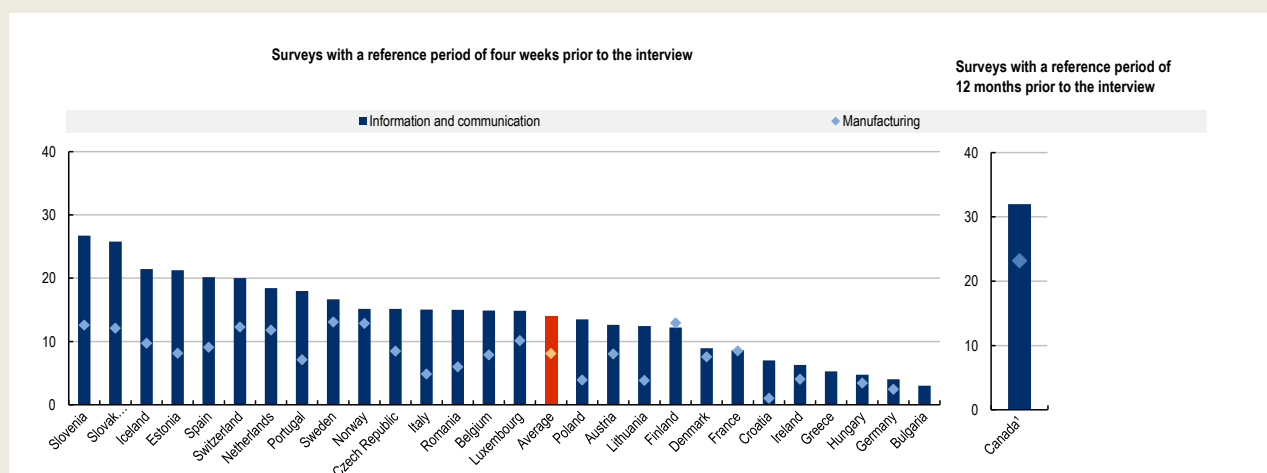
Technological advances and an ageing society have major implications for the demand and supply of skills, work organisation and business models. These trends are likely to affect all workers. Some studies show that occupations at a greater risk of automation experience lower rates of employment growth and a greater decline in job stability compared to occupations at a lower risk of automation (OECD, 2021^[5]). These workers will face urgent need for training to upskill or reskill. This is particularly the case for adults working in the manufacturing, land transport or food services, whose jobs face a relatively high risk of automation (Nedelkoska and Quintini, 2018^[6]). However, the recent rapid development of artificial intelligence, and especially the progress made by large language models, has opened the possibility that large numbers of high-skilled jobs could also be at risk of automation.

Figure A7.4 shows that on average across countries that report four-week data, only 8% of adults working in the manufacturing sector participate in non-formal job-related education and training, compared to 14% of those in the information and communication sector. In Estonia, Iceland, Italy, Latvia, Portugal, the Slovak Republic, Slovenia and Spain, the difference is more than 10 percentage points. Data from Canada, with a 12-month reference period, show a similar pattern, with 23% of adults working in the manufacturing sector participating compared to 32% of those in information and communication. Finland is the only country where those working in the manufacturing sector are more likely to participate in non-formal job-related education and training than those in the information and communication sector.

This comparison suggests that participation in job-related learning activities is lower among workers in jobs at a high risk of automation. This finding holds true across wider range of economic activities. For example, around 8% of adults with jobs in construction or transportation and storage participate in non-formal job-related education and training on average across OECD and accession countries reporting four-week data. The participation rate doubles among those who work in public administration and defence, compulsory social security, education, and human health and social work (Table A7.5, available on line).

Figure A7.4. Share of employed adults participating in non-formal job-related education and training, by economic activity (2022)

In per cent; 25-64 year-olds



1. Reference year differs from 2022. Refer to the source table for more details.

Countries are ranked in descending order of the share of adults participating in non-formal job-related education or training, among all adults working in the information and communication sector.

Source: OECD (2023), Table A7.5, available on line. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/m9bo6s>

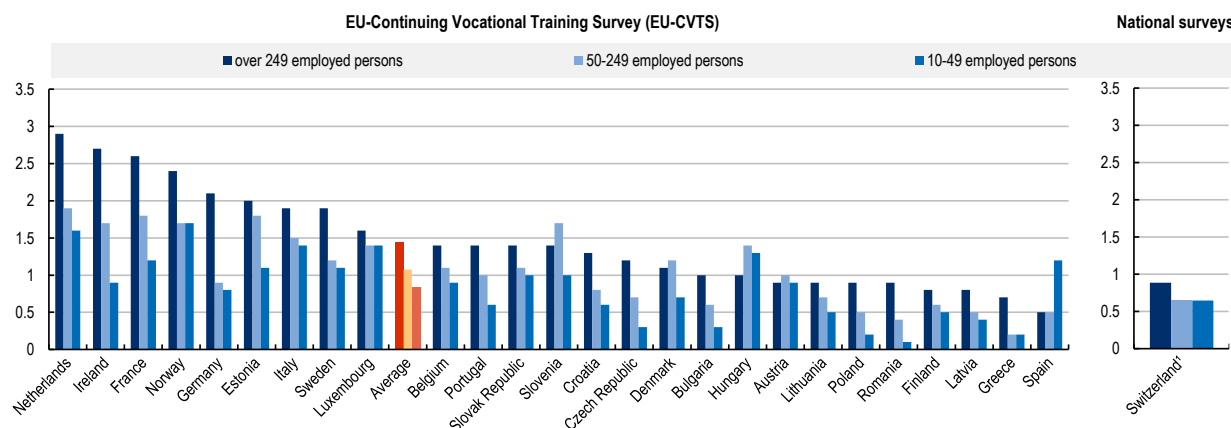
The differences in training incidence between groups (e.g. gender, educational attainment, programme orientation, labour-market status, age, size, sector of enterprise and economic activity) should be carefully interpreted and do not imply any causal relationships. Many of these groups overlap and the descriptive statistics presented in this analysis cannot isolate the effect of each characteristic.

Training costs for enterprises over time

Employers benefit greatly from the outcomes of job-related training and they contribute a substantial share of the financial resources invested in adult learning (European Education and Culture Executive Agency et al., 2015^[7]). Data from the *European Union Continuing Vocational Training Survey* (EU-CVTS) and a national survey from Switzerland suggest that larger enterprises financially invest more in training than smaller enterprises. In 2020, on average across OECD and accession countries taking part in EU-CVTS, training costs in the form of continuing vocational training (CVT) courses or other forms of CVT for their employees make up 1.5% of the total labour costs of enterprises with over 249 employed persons, 1.1% for enterprises with 50-249 employed persons and 0.8% for enterprises with 10-49 employed persons (Figure A7.5).

Figure A7.5. Training costs for Continuing Vocational Training (CVT) courses as a share of labour costs, by size of enterprise (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 training costs of enterprises of over 249 employed persons as a share of their labour costs.

Source: OECD (2023), Table A7.3. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink <https://stat.link/d47ako>

In most OECD and accession countries participating in EU-CVTS, training costs had fallen relative to total labour costs in 2020 compared to the share in 2010 and 2005. This is probably related to the outbreak of the COVID-19 pandemic in 2020, which made it more challenging to provide trainings due to sanitary restrictions. On average, the overall training costs among enterprises with at least 10 employed persons was 1.5% of total labour costs in 2005, 1.7% in 2010 and 1.2% in 2020. Italy, the Netherlands and Norway are the only countries where enterprises continued to increase the share of their training costs between 2005, 2010 and 2020 (Table A7.3).

Definitions

Adults refer to 25-64 year-olds.

Adult learning means the participation of adults in lifelong learning. Adult learning usually refers to learning activities after the end of initial education. The participation rate in education and training covers participation in both formal and non-formal education and training.

Continuing vocational training (CVT) refers to training measures or activities which have as their primary objectives the acquisition of new competencies or the development and improvement of existing ones and which must be financed at least partly by the enterprises for employed persons who either have a working contract or who benefit directly from their work for the enterprise such as unpaid family workers and casual workers. Persons employed holding an apprenticeship or training contract should not be taken into consideration for CVT.

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

Job-related education or training: Taking part in training activity in order to obtain knowledge and/or learn new skills needed for a current or future job, to increase earnings, to improve job and/or career

opportunities in a current or another field and generally to improve opportunities for advancement and promotion.

Learning activities are any activities of an individual organised with the intention to improve their knowledge, skills and competencies. There are two fundamental criteria that distinguish learning activities from non-learning activities: they must be intentional and organised. Intentional learning (as opposed to random learning) is defined as a deliberate search for knowledge, skills or competencies or attitudes of lasting value. Organised learning is defined as learning planned in a pattern or sequence with explicit or implicit aims.

The learning activities are defined within a classification named classification of learning activities (CLA) (Eurostat, 2016^[8]), where

Formal education and training is defined as “education that is institutionalised, intentional and planned through public organisations and recognised private bodies, and - in their totality - constitute the formal education system of a country. Formal education programmes are thus recognised as such by the relevant national education or equivalent authorities, e.g. any other institution in cooperation with the national or sub-national education authorities. Formal education consists mostly of initial education [...]. Vocational education, special needs education and some parts of adult education are often recognised as being part of the formal education system. Qualifications from formal education are by definition recognised and, therefore, are within the scope of ISCED. Institutionalised education occurs when an organisation provides structured educational arrangements, such as student-teacher relationships and/or interactions, that are specially designed for education and learning” (UIS, 2012^[9]).

Non-formal education and training is defined as “education that is institutionalised, intentional and planned by an education provider. The defining characteristic of non-formal education is that it is an addition, alternative and/or complement to formal education within the process of lifelong learning of individuals. It is often provided in order to guarantee the right of access to education for all. It caters to people of all ages but does not necessarily apply a continuous pathway structure; it may be short in duration and/or low-intensity; and it is typically provided in the form of short courses, workshops or seminars. Non-formal education mostly leads to qualifications that are not recognised as formal or equivalent to formal qualifications by the relevant national or sub-national education authorities or to no qualifications at all. Nevertheless, formal, recognised qualifications may be obtained through exclusive participation in specific non-formal education programmes; this often happens when the non-formal programme completes the competencies obtained in another context” (UIS, 2012^[9]).

Non-formal job-related education and training: taking part in non-formal education and training activity in order to obtain knowledge and/or learn new skills needed for a current or future job, to increase earnings, to improve job and/or career opportunities in a current or another field and generally to improve their opportunities for advancement and promotion.

Methodology

This indicator includes data on participation in formal and/or non-formal education and training from different sources that have different reference periods: either 4 weeks or 12 months before the survey.

The European Union-Labour Force Survey (EU-LFS) is held quarterly and measures participation in formal and/or non-formal education and training during a four-week period excluding guided on-the-job training. The EU-LFS methodology can be found at https://ec.europa.eu/eurostat/statistics-explained/index.php?title=EU_labour_force_survey_-_methodology. The national survey of the United Kingdom also uses a 4-week reference period, while the national surveys of Australia, Canada, Costa Rica and Korea use a 12-month reference period.

The European Union Continuous Vocational Training Survey (EU-CVTS) takes place every five years and measures continuing vocational training carried out in enterprises over the 12 months prior to the survey. The EU-CVTS methodology can be found at: [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Continuing_Vocational_Training_Survey_\(CVTS\)_methodology](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Continuing_Vocational_Training_Survey_(CVTS)_methodology). National survey of Switzerland is also based on the EU-CVTS methodology and measure training costs in enterprises during a 12-month period.

For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

Source

- For Tables A7.1, A7.2, A7.4 and A7.5 on participation in non-formal education and training: the EU-LFS for European OECD and accession countries (i.e. Austria, Belgium, Bulgaria, Croatia, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland and Türkiye), and national data sources for Australia (Australian Bureau Survey of Work-Related Training and Adult Learning), Costa Rica (Continuous Employment Survey), Canada (Labour Force Survey), Korea (Korean Adult Lifelong Learning Survey) and the United Kingdom (Labour Force Survey).
- For Table A7.3 on training costs of enterprises: the Continuing Vocational Training Survey (CVTS) for European OECD and accession countries (i.e. Austria, Belgium, Bulgaria, Croatia, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, the Slovak Republic, Slovenia, Spain, Sweden) and the United Kingdom, and national data source for Switzerland (Swiss Continuing Education and Training Survey).

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Indicator A7 tables

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

Table A7.1	Share of adults participating in non-formal education and training, by labour-market status, job-relatedness and gender (2022)
Table A7.2	Share of adults participating in non-formal job-related education and training, by educational attainment, programme orientation and age group (2022)
Table A7.3	Training costs as a share of total labour costs, by size of enterprise (2010, 2015 and 2020)
WEB Table A7.4	<i>Share of employed adults participating in non-formal job-related education and training, by size and sector of enterprise (2022)</i>
WEB Table A7.5	<i>Share of employed adults participating in non-formal job-related education and training, by economic activity (2022)</i>

StatLink  <https://stat.link/slufyd>

Cut-off date for the data: 15 June 2023. 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 A7.1. Share of adults participating in non-formal education and training, by labour-market status, job-relatedness and gender (2022)

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

	Surveys with a reference period of 4 weeks prior to the interview											
	Total participation in non-formal education and training (regardless of job-relatedness)				Participation in at least one job-related non-formal education and training				Participation in non-job-related non-formal education and training only			
	Employed (3)	Unemployed (6)	Inactive (9)	Total (12)	Employed (15)	Unemployed (18)	Inactive (21)	Total (24)	Employed (27)	Unemployed (30)	Inactive (33)	Total (36)
OECD countries												
Austria	14	18	7	13	11	14	4	10	3	4 ^r	3	3
Belgium	9	10	3	8	8	7	1	6	1	3	2	1
Czech Republic	10	3 ^r	2	8	9	2 ^r	0	7	1	1 ^r	1	1
Denmark	25	25	15	23	10	14	3	9	15	11	12	14
Estonia	19	17	7	17	17	13	4	15	2	4 ^r	2 ^r	2
Finland	19	15	11	17	14	10	5	12	5	6	6	5
France	13	12	6	11	8	7	2	7	5	5	4	5
Germany	5	7	3	5	4	5	2	4	1	2 ^r	1	1
Greece	1	3	1	2	1	2	1	1	0	1 ^r	1	1
Hungary	8	2 ^r	1	7	6	c	1 ^r	5	2	c	1 ^r	2
Iceland	19	16	12	18	17	c	3	15	2	c	10	3
Ireland	9	10	5	8	5	c	c	4	3	8 ^r	4	4
Italy	9	4	2	7	8	2	1	6	2	2	2	2
Latvia	9	6	3	8	8	c	c	7	1	c	2 ^r	1
Lithuania	9	5	3	8	8	4 ^r	1 ^r	7	1	c	1 ^r	1
Luxembourg	16 ^r	22 ^r	6 ^r	14 ^r	14 ^r	18 ^r	4 ^r	13 ^r	2 ^r	c	2 ^r	2 ^r
Netherlands	20	15	6	18	15	11	2	13	5	5	4	5
Norway	17	17 ^r	5	15	16	14 ^r	3	14	1	c	2 ^r	1
Poland	8	4 ^r	2	7	6	c	0 ^r	5	2	c	1	2
Portugal	12	15	6	11	10	12	4	9	2	3 ^r	2	2
Slovak Republic	15	c	c	12	14	c	c	12	c	c	c	0 ^r
Slovenia	22	18	6	19	16	9 ^r	1 ^r	13	6	9 ^r	5	6
Spain	13	13	7	12	12	11	5	10	1	2	3	2
Sweden	31	31	15	30	17	24	5	16	14	7	10	13
Switzerland	20	19	7	19	18	16	4	16	2	3 ^r	3	2
Türkiye	1	1	1	1	m	m	m	m	m	m	m	m
United Kingdom	m	m	m	14	m	m	m	m	m	m	m	m
Accession countries												
Bulgaria	1	c	c	1	1	c	c	0	c	c	c	c
Croatia	3	4 ^r	1 ^r	3	3	2 ^r	0 ^r	2	1 ^r	2 ^r	0 ^r	1
Romania	7	c	0 ^r	5	6	c	c	5	0	c	c	0
Average	12	12	5	11	10	10	2	9	3	m	3	3
	Surveys with a reference period of 12 months prior to the interview											
	Total participation in non-formal education and training (regardless of job-relatedness)				Participation in at least one job-related non-formal education and training				Participation in non-job-related non-formal education and training only			
	Employed (3)	Unemployed (6)	Inactive (9)	Total (12)	Employed (15)	Unemployed (18)	Inactive (21)	Total (24)	Employed (27)	Unemployed (30)	Inactive (33)	Total (36)
OECD countries												
Australia ¹	37	21	10	31	34	13	4	28	6	9	6	7
Canada ²	32	20	7	27	30	17	4	25	2	3	3	2
Costa Rica	9	5	2	7	m	m	m	m	m	m	m	m
Korea	32	30	22	30	17	19	4	15	m	m	m	m

Note: See StatLink and Box A7.2 for the notes related to this Table.

Source: OECD (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/db56z4>

Table A7.2. Share of adults participating in non-formal job-related education and training, by educational attainment, programme orientation and age group (2022)

EU Labour Force Survey (EU-LFS) or national surveys

		Surveys with a reference period of 4 weeks prior to the interview														
		Below upper secondary			Upper secondary or post-secondary non-tertiary									Tertiary		
					By programme orientation						Total					
					General			Vocational								
					25-64 year-olds	25-54 year-olds	55-64 year-olds	25-64 year-olds	25-54 year-olds	55-64 year-olds						
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	
Austria	4	5	2 ^r	12	13	9 ^r	7	8	4	7	9	4	16	17	11	
Belgium	2	2	1 ^r	4	4	3	3	4	2	4	4	3	10	11	8	
Czech Republic	2	3	1 ^r	9	9	6	6	6	4	6	6	4	13	13	10	
Denmark	5	6	3	8	9	5 ^r	8	8	7	8	8	7	12	12	10	
Estonia	7	8	c	10	12	4 ^r	10	11	7	10	11	6	23	25	16	
Finland	6	7	5	11	12	8 ^r	10	11	7	10	11	7	16	17	14	
France	3	4	1	6	7	4	5	6	3	5	6	3	10	11	7	
Germany	1	2	1 ^r	3	3	c	3	3	2	3	3	2	7	7	5	
Greece	c	c	c	1	1	c	1	1	c	1	1	c	2	2	1	
Hungary	3	3	c	4	5	3 ^r	4	4	2	4	4	2	9	10	8	
Iceland	7	7	6	10	10	12	12	13	10	11	11	11	22	21	26	
Ireland	c	c	c	2	2 ^r	c	3	3	c	3	3	c	6	6	6	
Italy	2	2	1	5	5	5	6	6	5	6	6	5	13	13	14	
Latvia	c	c	c	3	3	c	3	3	2 ^r	3	3	2	13	13	12	
Lithuania	3 ^r	3 ^r	c	2	3	c	3	3	2 ^r	3	3	1 ^r	11	11	11	
Luxembourg	4 ^r	6 ^r	c	m	m	m	8 ^r	9 ^r	4 ^r	8 ^r	9 ^r	4 ^r	18 ^r	19	12 ^r	
Netherlands	6	6	5	10	11	10	12	12	11	12	12	11	17	17	16	
Norway	8	9	6 ^r	10	10	10 ^r	12	13	10	12	12	10	19	19	17	
Poland	c	c	c	3	3	c	2	3	1	2	3	1	11	11	9	
Portugal	3	4	2	9	10	6	9	9	9 ^r	9	10	7	17	17	16	
Slovak Republic	c	c	c	13	13	c	9	10	7	10	10	7	18	19	16	
Slovenia	3 ^r	4 ^r	c	14	15	c	8	9	4	8	10	5	22	23	18	
Spain	4	5	2	8	9	6	9	9	6	8	9	6	17	18	12	
Sweden	11	12	8	14	14	12	13	14	11	13	14	11	20	20	20	
Switzerland	5	6	3	15	16	13	11	12	8	12	13	9	24	25	21	
Accession countries																
Bulgaria	c	c	c	c	c	c	c	c	c	0 ^r	0 ^r	c	1	1	c	
Croatia	c	c	c	4 ^r	4 ^r	c	1	1	1 ^r	1	1	1 ^r	6	6	5 ^r	
Romania	1	1	c	4	4	c	4	5	3	4	5	3	9	9	6	
Average	4	5	m	7	8	m	7	7	5	6	7	5	14	14	12	
Surveys with a reference period of 12 months prior to the interview																
		Below upper secondary			Upper secondary or post-secondary non-tertiary									Tertiary		
					By programme orientation						Total					
					General			Vocational								
					25-64 year-olds	25-54 year-olds	55-64 year-olds	25-64 year-olds	25-54 year-olds	55-64 year-olds						
		OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Australia ¹	17	18	15	23	24	20	29	30	27	26	27	25	40	40	41	
Canada ²	8	10	4	15	17	9	22	26	14	17	20	11	31	33	22	
Korea	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	

Note: See StatLink and Box A7.2 for the notes related to this Table.

Source: OECD (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/hcn3ag>

Table A7.3. Training costs as a share of total labour costs, by size of enterprise (2010, 2015 and 2020)

EU Continuing Vocational Training Survey (EU-CVTS) or national surveys

	EU-Continuing Vocational Training Survey (EU-CVTS)											
	2010				2015				2020			
	Total	10-49 employed persons	50-249 employed persons	Over 249 employed persons	Total	10-49 employed persons	50-249 employed persons	Over 249 employed persons	Total	10-49 employed persons	50-249 employed persons	Over 249 employed persons
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Austria	1.5 ^b	1.1 ^b	1.6 ^b	1.7 ^b	1.3	1.1	1.4	1.5	0.9	0.9	1.0	0.9
Belgium	2.4	1.3	2.1	3.1	2.4	1.7	2.4	2.8	1.2	0.9	1.1	1.4
Czech Republic ¹	1.2 ^b	0.8 ^b	1.1 ^b	1.5 ^b	1.5 ^b	1.1 ^b	1.4 ^b	1.6 ^b	0.9 ^b	0.3 ^b	0.7 ^b	1.2 ^b
Denmark	1.8 ^b	2.1 ^b	1.9 ^b	1.6 ^b	2.7	1.1	1.6	4.1	1.0	0.7	1.2	1.1
Estonia	1.1 ^b	0.8 ^b	1.1 ^b	1.5 ^b	1.8	1.1	1.7	2.5	1.6	1.1	1.8	2.0
Finland	1.4 ^b	1.0 ^b	1.2 ^b	1.6 ^b	1.1	1.1	1.0	1.2	0.7	0.5	0.6	0.8
France	2.5	1.5	2.1	3.0	2.5	1.4	2.0	3.2	2.1	1.2	1.8	2.6
Germany	1.5 ^b	1.0 ^b	1.3 ^b	1.7 ^b	1.4	1.0	1.2	1.5	1.6	0.8	0.9	2.1
Greece	0.7 ^b	0.5 ^b	0.5 ^b	0.9 ^b	1.1	0.8	0.8	1.4	0.3	0.2	0.2	0.7
Hungary	1.9 ^b	1.2 ^b	1.6 ^b	2.4 ^b	1.8	1.1	1.3	2.2	1.2 ^b	1.3 ^b	1.4 ^b	1.0 ^b
Ireland	m	m	m	m	2.2	2.0	2.0	2.4	1.9	0.9	1.7	2.7
Italy	1.1	0.7	0.9	1.6	1.3	0.9	1.1	1.7	1.7	1.4	1.5	1.9
Latvia	0.8	0.5	0.6	1.2	0.8	0.6	0.8	1.0	0.6	0.4	0.5	0.8
Lithuania	1.1 ^b	0.9 ^b	1.1 ^b	1.2 ^b	1.1	0.9	1.0	1.3	0.7	0.5	0.7	0.9
Luxembourg	1.9 ^b	1.5 ^b	1.7 ^b	2.2 ^b	2.1	1.4	2.2	2.4	1.5	1.4	1.4	1.6
Netherlands	2.2 ^b	1.8 ^b	1.9 ^b	2.5 ^b	2.3	1.8	2.0	2.5	2.4	1.6	1.9	2.9
Norway	1.7	1.4	2.1	1.6	1.8	1.9	1.7	1.9	2.1	1.7	1.7	2.4
Poland	1.1 ^b	0.3 ^b	0.7 ^b	1.5 ^b	1.2	0.5	0.7	1.7	0.6	0.2	0.5	0.9
Portugal	1.9 ^b	1.2 ^b	2.0 ^b	2.5 ^b	1.5	1.0	1.3	2.2	1.0	0.6	1.0	1.4
Slovak Republic	1.9 ^b	1.8 ^b	1.8 ^b	2.0 ^b	1.6	1.3	1.3	1.9	1.3	1.0	1.1	1.4
Slovenia	1.5 ^b	0.8 ^b	1.7 ^b	2.0 ^b	2.5	1.7	2.4	3.1	1.4	1.0	1.7	1.4
Spain	1.6 ^b	1.2 ^b	1.4 ^b	2.0 ^b	1.8	1.2	1.6	2.1	0.7	1.2	0.5	0.5
Sweden	1.7 ^b	1.8 ^b	1.6 ^b	1.6 ^b	1.6 ^b	1.5 ^b	1.6 ^b	1.6 ^b	1.5 ^b	1.1 ^b	1.2 ^b	1.9 ^b
United Kingdom	1.1 ^b	1.2 ^b	1.3 ^b	1.0 ^b	1.8	2.4	2.5	1.5	m	m	m	m
Accession countries												
Bulgaria	1.1 ^b	0.8 ^b	1.2 ^b	1.3 ^b	1.4	1.1	1.5	1.5	0.7	0.3	0.6	1.0
Croatia	0.7	0.6	1.1	0.5	1.3	0.6	1.1	1.9	0.9	0.6	0.8	1.3
Romania	m	m	m	m	1.0	0.5	0.7	1.3	0.6	0.1	0.4	0.9
Average	1.5	1.1	1.4	1.7	1.7	1.2	1.5	2.0	1.2	0.8	1.1	1.5
	National surveys											
	2010				2015				2020			
	Total	10-49 employed persons	50-249 employed persons	Over 249 employed persons	Total	10-49 employed persons	50-249 employed persons	Over 249 employed persons	Total	10-49 employed persons	50-249 employed persons	Over 249 employed persons
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Switzerland	0.8	0.9	0.6	0.8	0.8	0.6	0.7	0.9	m	m	m	m

Note: See Statink and Box A7.2 for the notes related to this Table.

Source: OECD (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/wy5umn>

Box A7.2. Notes for Indicator A7 Tables

Table A7.1. Share of adults participating in non-formal education and training, by labour-market status, job-relatedness and gender (2022)

The reference period for participation in non-formal education and training is during the previous 4 weeks (top panel of the table) or the previous 12 months (bottom panel of the table). The breakdown by gender is available for consultation on line (see StatLink).

1. Year of reference 2021-2022.
2. Reference period ending in November 2022 and the labour market status recorded in November 2022.

Table A7.2. Share of adults participating in non-formal job-related education and training, by educational attainment, programme orientation and age group (2022)

The reference period for participation in non-formal education and training is during the previous 4 weeks (top panel of the table) or the previous 12 months (bottom panel of the table). Totals for all levels of educational attainment are available for consultation on line (see StatLink).

1. Year of reference 2021-2022.
- Reference period ending in November 2022.

Table A7.3. Training costs as a share of total labour costs, by size of enterprise (2010, 2015 and 2020)

Training costs during the 12 months prior to the survey. Note that the average differs from the one published by Eurostat as this is an unweighted average and the country coverage is different (see StatLink).

1. Data were mainly collected on line and via interactive PDF forms, only a small share of questionnaires was distributed in a paper form. See metadata for more information at https://ec.europa.eu/eurostat/cache/metadata/EN/trng_cvt_sims_cz.htm.

For more information see *Definitions, Methodology and Source* sections and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

Data and more breakdowns are available in the *Education at a Glance Database* (<http://stats.oecd.org/>).

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

Chapter B. Access to education, participation and progression

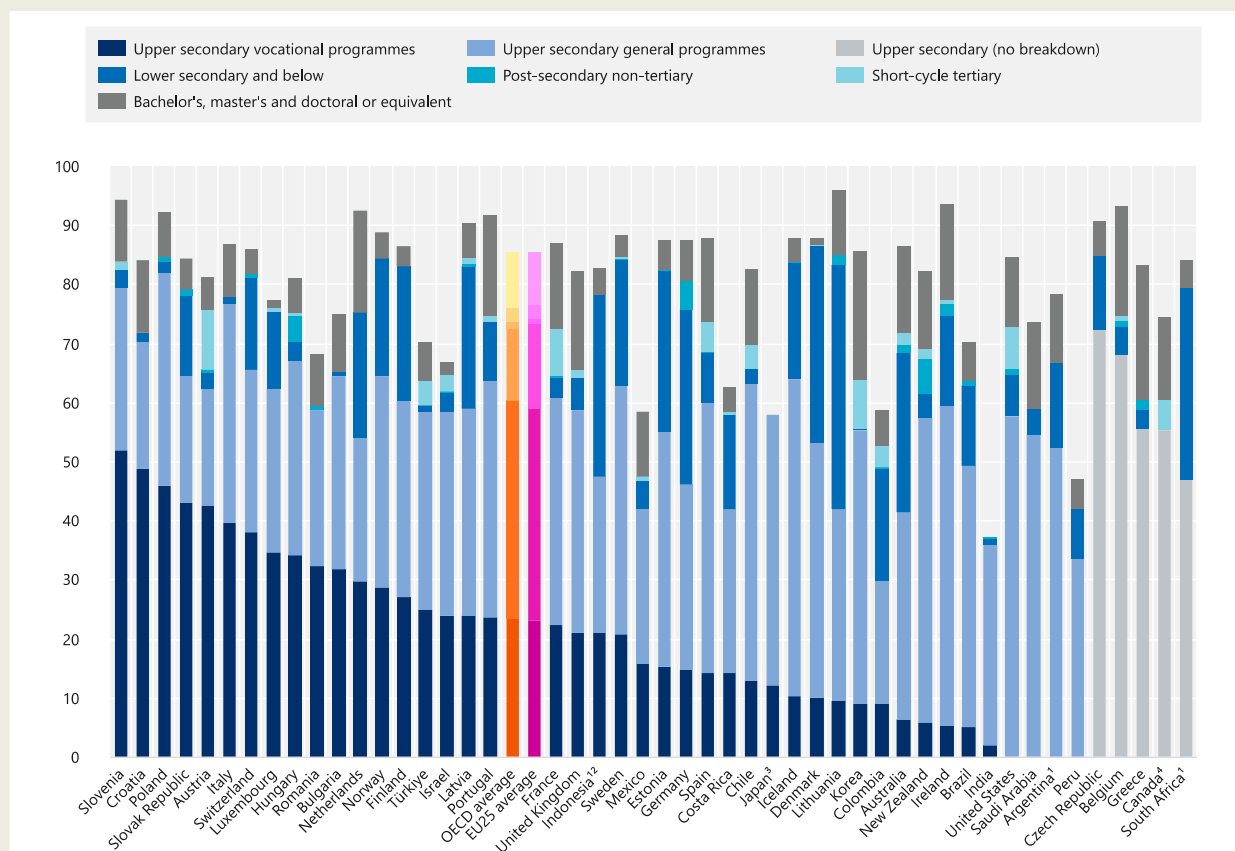
Indicator B1. Who participates in education?

Highlights

- Although in many countries upper secondary Vocational education and training (VET) serves both teenagers and adults, in a few countries initial upper secondary education is predominantly general. In Canada, Ireland and New Zealand, vocational programmes mostly serve those who have completed their initial schooling, and less than 12% of 15-19 year-old upper secondary students are pursuing VET. In contrast, there are 11 OECD countries where the majority of 15-19 year-olds enrolled in upper secondary education are in vocational programmes.
- Most upper secondary VET students are in programmes that offer direct access to tertiary education. Countries where around 30% or more vocational students enrolled in programmes that lead to full level completion without direct access to tertiary education tend to be those with multiple vocational tracks (e.g. Hungary, the Netherlands, Slovenia) and bridging options to allow progression to higher levels of education.
- In Denmark, Germany, Hungary, Ireland, Latvia and Switzerland, around nine out of ten upper secondary VET students are in a combined school- and work-based programme, spending at least one-quarter of their time in work-based learning, but in 10 countries, the share is less than one in five.
- School-based programmes which include shorter periods of work-based learning, accounting for less than 25% of the programme, are common in vocational upper secondary programmes. In Austria about half of VET students pursue a programme with a short internship, which together with apprenticeships mean that nearly all students benefit from work-based learning. Short internships are also commonly used in Costa Rica, Lithuania, Slovenia, Spain and Sweden.

Figure B1.1. Enrolment rates of 15-19 year-olds, by level of education (2021)

In per cent



1. Year of reference differs from 2021: 2020 for Argentina and South Africa; 2018 for Indonesia.


2. Excludes students enrolled at tertiary levels

3. Breakdown by age not available after 15 years old.

4. Excludes post-secondary non-tertiary education.

Countries are ranked in descending order of the share of students enrolled in upper secondary vocational education.

Source: OECD/UIS/Eurostat (2023), Table B1.1. For more information see [Source](#) section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#). (OECD, 2023^[1]).

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Context

Vocational education and training (VET) is seen as a powerful tool to facilitate school-to-work transitions, as well as allowing adults to upskill and reskill in a time of rapidly changing labour market needs. It can also help engage learners less attracted to academic forms of learning, helping them to complete upper secondary education and prepare for entry into the labour market. While the traditional focus of vocational programmes has often been on occupational training, there is increasing awareness that VET graduates need to be able to access and benefit from higher level learning opportunities (see Vanderweyer and Verhagen (2020^[2]) for a comparative analysis of changing labour markets for VET graduates). While not all VET graduates will want to pursue higher level studies, having the option should make vocational

programmes more attractive, support equity and underpin lifelong learning. It is therefore important to ensure good progression pathways from VET to higher levels of education (OECD, 2022^[3]).

Countries vary widely in the role that vocational programmes play in the education and training system: the level at which programmes are provided, how they are delivered and the profile of students served. Some countries traditionally have a substantial VET system at upper secondary level, with a large share of students pursuing a vocational route, with often more than one track available for them to choose from. But there are also countries where occupational training mostly takes place outside the initial schooling system, so that vocational programmes either do not exist at upper secondary level or are very small, or mostly serve young adults rather than teenagers.

Beyond overall VET participation, understanding how well learners in these programmes are being prepared for emerging green jobs and provided with green skills and competencies is central. As economies become greener, labour markets will need new skills, while others become obsolete. VET has a key role to play in this respect. It prepares learners for the labour market and should therefore ensure that the skills it is developing correspond to those needed in a greener economy. VET is also vital for providing opportunities for upskilling and reskilling of adults: it can support workers who are faced with changes in their jobs due to the green transition or who need to move into a new greener job (CEDEFOP, 2022^[4]).

Vocational programmes at higher levels (post-secondary non-tertiary and short-cycle tertiary) can also play different roles. They may offer occupational preparation to graduates of upper secondary education in countries with mostly comprehensive schooling. Alternatively, they may allow upper secondary VET graduates to deepen their skills in a specific area through higher vocational programmes (See Box B5.1 in Indicator B5).

Data on enrolment patterns, exploring participation at different levels of education and among students of different ages shed light on the function of vocational programmes in different country contexts.

Other findings

- On average, around two-thirds of 20-24 year-olds who are pursuing upper secondary education, are in VET programmes. In those countries that offer them, the average age of students in vocational programmes at post-secondary non-tertiary level is 30 years old, compared to 27 years at short-cycle tertiary level.
- On average 75% of upper secondary VET students pursue a programme that yields direct access to tertiary education. In most cases, this means eligibility for all types of tertiary education, but in some countries, access is limited to short-cycle tertiary education (e.g. Austria, Luxembourg, Norway and Spain) or to some applied, professionally oriented bachelor's programmes (e.g. Germany, the Netherlands, Slovenia and Switzerland). In all cases, there are bridging programmes giving access to a wider range of tertiary options.
- Countries that offer vocational upper secondary programmes without direct access to tertiary education also provide bridging options for VET graduates. These may take different forms, including bridging programmes at upper secondary level (e.g. the Czech Republic, Hungary, Iceland, Poland and Slovenia), another vocational programme with access to tertiary education, or bridging programmes at post-secondary non-tertiary level (e.g. the Flemish and French Communities of Belgium, Germany, and the Slovak Republic).

Note

Given the focus on this edition of Education at a Glance, Indicator B1 focuses on vocational programmes, in particular those at upper secondary level, as VET plays an important role in the education and training systems in many OECD countries.

Analysis

Participation in education and training

Data on participation in vocational programmes provide insights on the importance of VET in the education and training systems of different countries, where there is considerable variation, especially at upper secondary level. Participation patterns are also sometimes viewed as an indicator of the attractiveness of VET. This is indeed the case in countries where enrolment in vocational rather than a general programmes is a matter of student choice, subject to few or no constraints. In many countries, however, student choice is subject to various constraints. Half of the countries that participated in the 2022 *Survey of Upper Secondary Completion Rates* report that students' choices are limited by their school performance (e.g. grades in lower secondary education). Performance in an external examination is a factor in nine countries and teacher or school recommendations matter in seven countries. Finally, in four countries the type of lower secondary education pursued limits the upper secondary options available to students. Only six countries with available information report that students' choice of upper secondary programme was entirely unconstrained (see the [Dashboard on Upper Secondary Education Systems](#)).

Participation rates of 15-19 year-olds

Enrolment patterns among 15-19 year-olds vary considerably across countries, both in terms of overall enrolment rates and the level at which students study. In many OECD countries nine out of ten teenagers in this age group are enrolled in education, and the average enrolment rate is 84%. However, at the lowest end of the range, there are countries where only about two-thirds of 15-19 year-olds are still in education. Information on the ages covered by compulsory education is complemented by data on the range of ages when at least 90% of the population are enrolled in education. In most OECD countries, enrolment rates exceed 90% up to the age of 17 or 18 but in ten countries the enrolment rate falls below 90% after 16, or even earlier (Table B1.1).

The level at which 15-19 year-olds are enrolled reflects the different structures of national education systems. Students in this age group might be pursuing lower secondary, upper secondary, post-secondary non-tertiary or tertiary education, although the majority are enrolled in upper secondary education. Enrolment in lower secondary education is also relatively common in Australia, Denmark, Estonia and Germany, where over one-quarter of 15-19 year-olds are studying at this level. In countries where upper secondary education is normally completed around age 17-18, participation in post-secondary non-tertiary or tertiary education can be common among this age group. At least one in five 15-19 year-olds are enrolled at those levels in Belgium, France, Greece, Korea, New Zealand and the United States (Table B1.1).

Data on enrolment rates across different age groups shed light on the role of VET in initial upper secondary education. These data complement information on attainment in Indicator A1 (see Box A1.1), which records the highest level of education individuals have completed, and therefore does not capture those who pursue VET but drop out, for example, or who complete it and then obtain a higher level qualification. Upper secondary enrolment among 15-19 year-olds is mostly in vocational programmes in 11 OECD countries. In these countries, VET is the main initial upper secondary education pathway. In contrast, the very small share of vocational upper secondary students in this age group in New Zealand reflect the fact that in these countries vocational education is delivered outside the initial schooling system. Students typically complete general upper secondary education and then might pursue a vocational programme at upper secondary level, as an alternative to post-secondary or tertiary education. Germany has a strong tradition of apprenticeships, and around one-third of 15-19 year-old upper secondary students pursue a vocational programme. At the same time, a considerable share of 20-24 year-olds in Germany are enrolled in vocational upper secondary (9%) or post-secondary non-tertiary (8%) programmes. The latter category

includes apprenticeships for general upper secondary graduates. This shows that vocational programmes serve both teenagers and young adults (Table B1.1).

Box B1. explores the transition from lower to upper secondary level, analysing participation patterns in education around the age when students are typically expected to start upper secondary education.

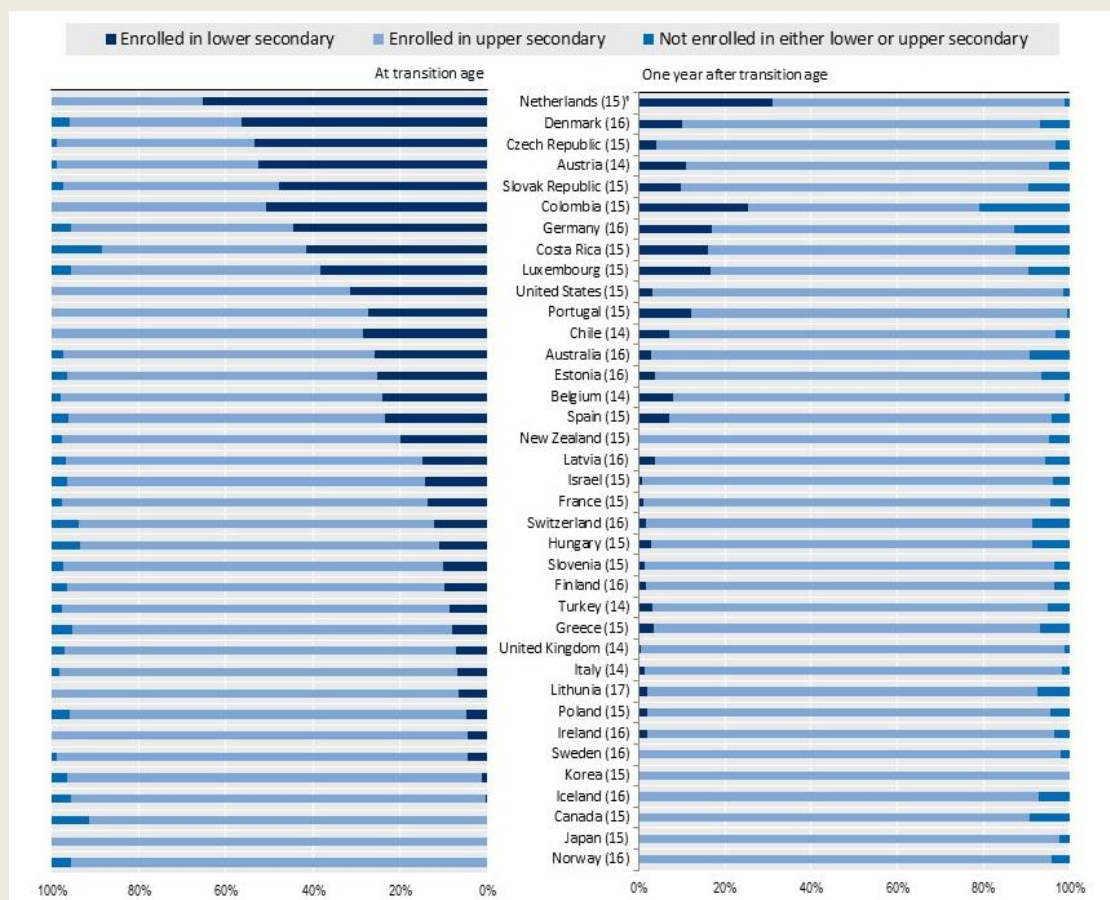
Box B1.A. Above and beyond: Transitions in upper secondary education

While many OECD countries aim to ensure universal completion of upper secondary education, the transition into upper secondary education remains a challenge for some students. Countries achieve a smooth transition between lower and upper secondary by ensuring that a high share of students enter upper secondary at the expected transition age. Grade repetition at earlier stages might delay transitions and strict academic requirements may also be a barrier to entry.

Figure B1.2 shows the enrolment rates in different levels of education at the theoretical age of transition for each OECD country and after one year. The theoretical age of transition refers to the age when students are typically expected to enter upper secondary education in the given country. Iceland, Ireland, Japan, Korea and Norway appear to have particularly smooth transitions, with at least 95% of students at the theoretical transition age enrolled in upper secondary education. The transition appears less smooth in Colombia, Costa Rica, Germany, Luxembourg and the Netherlands. In these countries over 15% of the cohort are still in lower education even one year after the expected transition age.

The reasons why students might not be transitioning to upper secondary education at the expected age can vary by country. In some places, this reflects the length of certain educational programmes, in particular programmes which in some countries have variable length that is not reflected in theoretical transition ages (e.g. Denmark, Flemish Community of Belgium, Germany, Israel, the Netherlands and Switzerland). Grade repetition is another potential driver in some countries: Colombia and Luxembourg for example have relatively high rates of repetition (Perico E Santos, 2023^[5]).

Figure B1.2. Distribution of students by education level at the theoretical age of transition into upper secondary and after one year (2021)




Note: Enrolment rate by age is the percentage of people of a specific age who are enrolled in each type of education as a share of the total population of that age. The number in parentheses represents the theoretical age of transition into upper secondary education for each country. The left panel shows enrolment rates in lower secondary and upper secondary at the theoretical transition age, so the theoretical age for the first year of upper secondary education. The right panel shows enrolments in the relevant levels of education one year after the theoretical transition age, so the theoretical age for the second year of upper secondary education.

1. The typical age of transition is between 15 and 16.

Countries are ranked in descending order of the share of students enrolled in lower secondary education at transition age.

Source: OECD/UIS/Eurostat (2023); Table B1.2 For more information see [Source section](#) and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#). (OECD, 2023^[1]).

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Participation rates of 20-24 year-olds

Among 20-24 year-olds, tertiary education is the most common level being pursued. On average, 31% of young adults in this age group are enrolled in a programme at bachelor's level or above, reaching over 40% in Greece, Korea, the Netherlands and Slovenia. Most of the enrolment is in bachelor's level programmes (one-quarter of all 20-24 year-olds on average), with only 6% enrolled in master's level programmes (which include long first degrees). Participation in doctoral programmes is negligible (below 1%) for this age group in all countries (Table B1.1).

Short-cycle tertiary programmes also play an important role in some countries in offering learning opportunities to adults, including young adults. In Canada 7% of 20-24 year-olds pursue studies at this level, often in colleges and with an occupational focus. In some countries, programmes at this level offer higher level technical skills, often to graduates of upper secondary education. In Chile 9% of those in this age group pursue two-year studies in technical training centres, in Spain the same share enrol in higher vocational programmes. The Republic of Türkiye has a particularly high short-cycle tertiary enrolment rate (16%), driven by recent reforms that have expanded open access courses at this level.

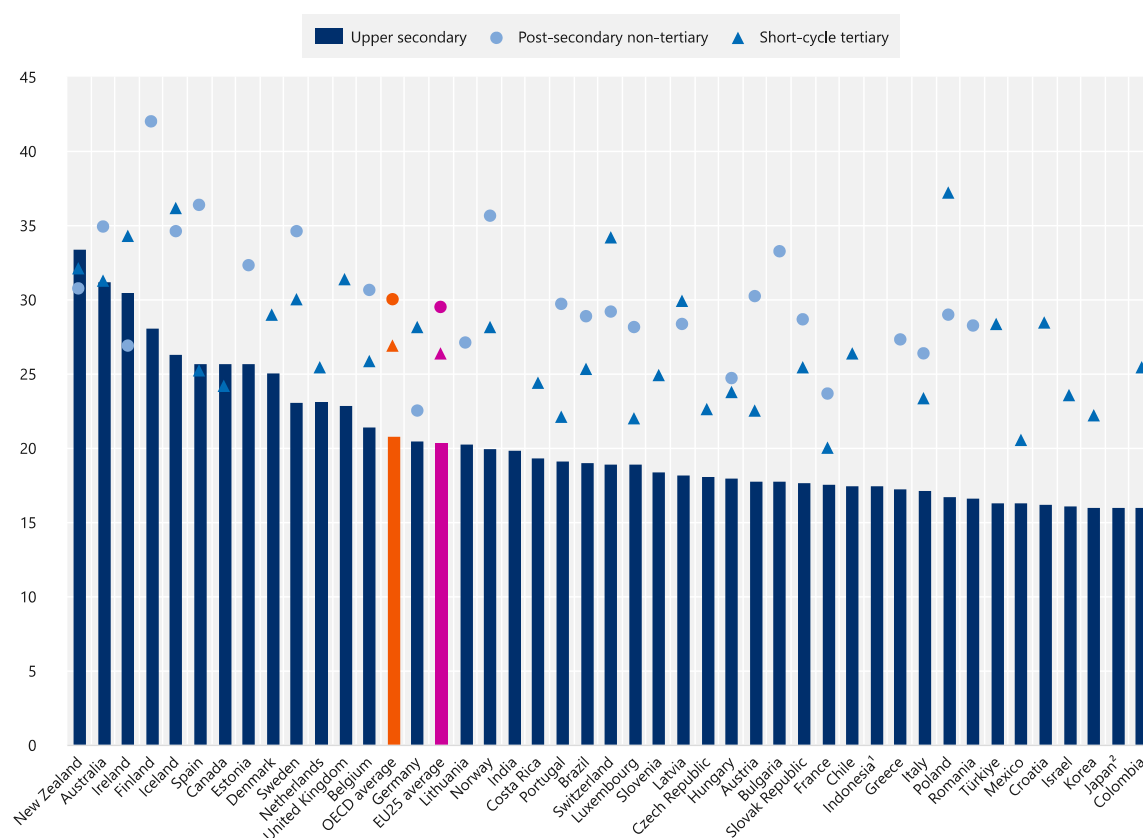
Young adults who pursue upper secondary education tend to do so in vocational programmes. Around two-thirds of upper secondary students aged 20-24 are in VET programmes (Table B1.1). In some countries nearly all upper secondary students in this age group are in a vocational programme: the share is over 95% in the Czech Republic, France, Ireland, the Netherlands and the United Kingdom. Relatively high enrolment rates in upper secondary vocational programmes among 20-24 year-olds in some countries reflect the role of VET in adult education. This includes participation in second-chance programmes and other forms of adult education, such as those in Denmark, Finland, Luxembourg and the Netherlands. In Australia and New Zealand upper secondary enrolment among 20-24 year-olds is also predominantly vocational. This reflects the fact that initial schooling is predominantly general as the main programme in these countries and students will pursue further VET qualifications upon the completion of upper secondary education (see Box A1.1 in Indicator A1).

The age of participants in vocational education and training

The average age of vocational students at different levels also reflects the function of programmes in different countries. For example, in Croatia, Colombia, Israel, Korea and Türkiye the average age of upper secondary VET students is 16 and in nearly half of OECD countries the average age is 18 or lower, reflecting that upper secondary programmes in these countries mostly serve teenagers. In many countries vocational upper secondary programmes serve both teenagers in initial education (Figure B1.) and adults seeking occupational training, and the average age of upper secondary VET students is higher, between 20 and 30. For example, in Finland and Norway, 45% of 15-19 year-olds in upper secondary education are in VET, but the mean age of students is 28 in Finland and 20 in Norway. In the Netherlands around half of 15-19 year-olds in upper secondary education are in VET and the average age of upper secondary VET students is 23. In a small number of countries few teenagers are enrolled in VET, leading to a high average age of upper secondary VET students. In Australia, Ireland and New Zealand, 16% or less of 15-19 year-olds in upper secondary education study VET as their main programme and the average age of students who pursue upper secondary level VET is 30 or above (Figure B1.3).

Figure B1.3. Average age of students in vocational programmes, by level of education (2021)

In years



1. Year of reference 2018.

2. Breakdown by age not available after 20 years old.

Countries are ranked in descending order of the average age of upper secondary vocational students.

Source: OECD/UIS/Eurostat (2023), Table B1.3, (web columns). For more information see [Source section](#) and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#). (OECD, 2023^[1]).

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Post-secondary non-tertiary vocational programmes are part of higher vocational education in some countries, typically serving graduates of upper secondary vocational programmes. Examples include Finland, Norway and Sweden, where programmes at this level offer advanced, specialised vocational skills to upper secondary graduates, typically those from VET. In these countries participants are adults with a mean age of 42 in Finland, 36 in Norway and 35 in Sweden (Figure B1.3). In other countries, programmes at this level serve younger adults, including recent upper secondary graduates. In Germany programmes at this level include apprenticeships in second cycle programmes serving general upper secondary graduates and vocational programmes in the health and social sectors, serving general upper secondary graduates, and the average age of students is 23.

In Ireland and New Zealand upper secondary VET students are older on average than their peers in post-secondary non-tertiary education (Figure B1.3). The reason is that post-secondary programmes do not always build on upper secondary VET, but can be an alternative learning opportunity. In Ireland, post-secondary non-tertiary programmes include apprenticeships and post leaving certificate programmes (which serve graduates of general upper secondary education). Vocational programmes at upper

secondary level are occupationally focused, with some concentrating on unemployed and marginalised adults. This is also the case in New Zealand. In addition, both upper secondary and post-secondary non-tertiary vocational programmes serve adults seeking to upskill, reskill or otherwise further their education and training.

In some countries, short-cycle tertiary programmes mostly serve recent upper secondary graduates, including Canada, France, Luxembourg, Portugal and Spain. In these countries the average age of students is 25 or below. In Austria, for example, this level includes a two-year programme that is the continuation of an upper secondary vocational programme (both offered at higher technical and vocational colleges). In Canada, short-cycle tertiary programmes play a key part in offering occupational training to young people, as upper secondary education is predominantly general. In Spain, programmes at this level offer advanced vocational training to both general and vocational upper secondary graduates. Short-cycle tertiary programmes can also serve a broader adult population, however. The OECD average age for students at this level is 27 and it is 30 or more in nine OECD countries. In these countries, programmes at this level include higher VET, such as higher VET in Sweden or vocational programmes for adults in New Zealand. Note, that in some countries with a high average age, the short-cycle tertiary sector is relatively small. For example, short-cycle tertiary students represent less than 1% of VET students in Germany, Switzerland and Poland (Table B1.3.). While higher vocational and professional programmes exist in several countries at bachelor's and even master's level, data are not included here, as internationally agreed definitions has not yet been developed for these levels (see Box B5.2, Indicator B5).

Types of upper secondary vocational education and training

Type of completion and access to tertiary education

It is important to ensure that vocational programmes, particularly those at upper secondary level, allow for progression to higher levels of education. This matters for the attractiveness of VET, as without progression opportunities bright young people will not consider VET as an option. It also matters for equity, as nobody should be locked out of further learning because of a choice made in initial schooling. It is also important for lifelong learning, as access to tertiary education can allow VET graduates to upskill or reskill during their careers. Countries have taken different approaches to structuring upper secondary education and VET, as well as associated progression opportunities.

Most upper secondary vocational students pursue a programme that leads to a qualification that allows for direct access to tertiary education (Figure B1.4). Within this broad category there are some nuances in access arrangements. In many countries VET graduates are eligible for any type of tertiary programme, subject to the same selection processes that apply to general upper secondary graduates. In some countries, however, there are distinct progression routes for VET graduates. For example access may only be possible to short-cycle tertiary programmes, which are typically viewed as part of higher VET. This is the case for example in Austria, where graduates of three year vocational programmes (in higher technical colleges) may progress to short-cycle tertiary programmes within the same institutions. Similarly, in Norway graduates of upper secondary VET have direct access to higher vocational programmes but not to universities. In some countries, VET graduates have access to some but not all bachelor's level programmes. For example, in the Netherlands and Slovenia they have direct access to professional bachelor's programmes, but not academic ones. Box B1.A provides further details on progression pathways from VET in different countries.

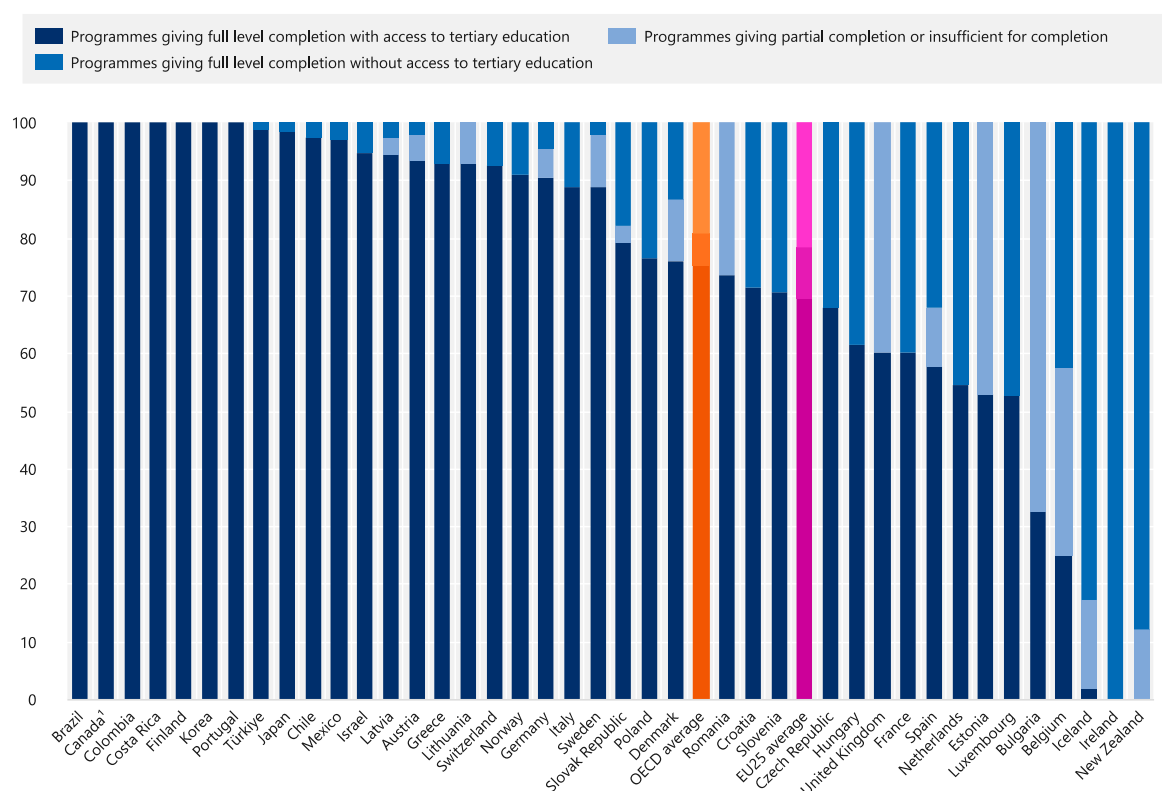
Most countries have at least one upper secondary vocational programme that leads to full level completion without direct access to tertiary education. This category refers to programmes that meet the requirements for graduates to be considered "upper secondary graduates" but the qualification obtained does not make them eligible for any type of tertiary education. Enrolment in such programmes is relatively high in countries with multiple vocational tracks at upper secondary level, such as Hungary, the Netherlands and Slovenia.

In these countries, one vocational track has stronger emphasis on general skills and preparation for higher level studies, and gives direct access to tertiary education. Another track focuses on occupational preparation and its graduates do not have direct access to tertiary education.

Some OECD countries have vocational programmes that lead to partial completion of upper secondary education or are insufficient for level completion. These categories do not mean that students do not complete their studies or only complete some study at the level. Instead, these programmes lead to a recognised qualification but are not the final programme in a sequence of programmes. The category “insufficient for level completion” refers to programmes that are too short to meet the requirements for full or partial level completion (OECD/Eurostat/UNESCO Institute for Statistics, 2015^[6]). Programmes that do not lead to full level completion may play different functions, such as representing a stage within a multi-stage vocational pathway so that students typically progress to full level completion, or serving adults in search of occupational skills with limited general education content. Examples of a stage within a pathway include programmes in Denmark, the Flemish Community of Belgium and Germany. In Denmark, this category refers to the basic course in VET. It typically takes one year to complete, after which students enter the main course. In Germany programmes in this category serve lower secondary graduates who have not found an apprenticeship position with a company and pursue a year of basic vocational training, with a view to starting an apprenticeship later. In the Flemish Community of Belgium partial completion programmes include the second stage of technical or vocational secondary education which is connected to a third stage leading to full level completion. In contrast, programmes within this category in Estonia target adults and, unlike vocational programmes for youth at the same level, include limited general education and are deliberately focused on occupational skills.

Figure B1.4. Distribution of students enrolled in upper secondary vocational education, by type of vocational programme (2021)

In per cent



1. Excludes post-secondary non-tertiary education.

Countries are ranked in descending order of the share of students enrolled in programmes giving full level completion with access to tertiary education.

Source: OECD/UIS/Eurostat (2023), Table B1.3 (web columns). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023^[1]).

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When VET graduates seek to enter tertiary education, they may face some restrictions. As described above, some programmes do not yield direct access to tertiary education, while some only yield access to some types of tertiary education. There are some good arguments for limiting access of VET graduates to tertiary education – some programmes put less emphasis on general skills, so that their graduates are not well prepared to successfully pursue a tertiary programme. Some programmes may prepare students for applied tertiary programmes, but not so well for more theoretically oriented types of learning. At the same time, any restrictions need to be complemented by bridging opportunities to ensure students have effective pathways from VET to all types of higher levels of learning.

Countries have established different approaches to provide bridging pathways from restricted VET programmes, which are listed in Box B1.A. For example, although VET graduates in the Netherlands only have direct access to professional bachelor's programmes, completing the first year of a professional bachelor's programme yields access to the first year of studies in an academic programme at a university. In Germany and Switzerland, where VET gives access to bachelor's programmes that are part of the professional sector (including some at master's level in Germany), but not universities, graduates may

pursue bridging programmes, but also have the option to pursue additional general education during their vocational programme to gain eligibility to universities. In Austria, Luxembourg, Norway and Spain, VET graduates have access to short-cycle tertiary education (higher vocational programmes) which would then give them access to bachelor's level programmes. Sweden had a similar arrangement at the time of the data collection underpinning Box B1.A, until a recent reform gave VET graduates access to all types of tertiary education.

There are also bridging arrangements for programmes that do not yield direct access to tertiary education (Box B1.A). In most countries with such programmes, VET graduates have access to a bridging programme at upper secondary or post-secondary non-tertiary level. In a few countries this may involve entering another vocational programme which is not specifically designed as a bridging programme but may serve as one. For example, students in Switzerland who complete a two-year apprenticeship may transition into the second year of a three- or four-year apprenticeship, which in turn yields access to the professional sector of tertiary education.

Box B1. 1. Progression pathways from upper secondary VET

The first part of Table B1.A lists cases of VET programmes giving graduates only restricted access to tertiary education – either only to short-cycle tertiary education (ISCED level 5) or to some types of bachelor's programmes (ISCED level 6). The second part lists countries that have programmes that do not yield direct access to tertiary education, distinguishing between those giving no access to higher levels or giving access to post-secondary non-tertiary programmes (ISCED level 4). For both parts, the table includes information on the kind of bridging opportunities that allow VET graduates to access a broader range of higher-level programmes.

Table B1. A. Access to higher levels of education: Restrictions and bridges for vocational graduates

Direct access to tertiary education with restrictions ¹	Access to ISCED 5	Access up to ISCED 6 with some restrictions	Bridging opportunities, comments
OECD			
Austria	x		Completion of ISCED 5 yields access to ISCED 6.
Czech Republic	x		Small programme focused on performing arts.
Germany		x	Additional general subjects during VET or bridging programme
Iceland	x		Small programme focused on performing arts.
Luxembourg	x		Completion of ISCED 5 yields access to ISCED 6.
Netherlands		x	Completing the first year at a university of applied sciences gives access to university programmes.
Norway	x		Bridging programme at ISCED 3; Completion of ISCED 5 yields access to ISCED 6.
Slovenia		x	
Spain	x		Completion of ISCED 5 yields access to ISCED 6.
Sweden	x		Optional general subjects during VET or adult learning programmes.
Switzerland		x	Additional general subjects during VET, bridging programme or stand-alone examination.

No access to tertiary education ²	No direct access to higher levels	Access to ISCED 4	Bridging opportunities, comments
OECD			
Czech Republic		x	Bridging programme at ISCED 3
Denmark	x		Possibility to complete VET together with a specific course (EUX), which provides general study competences for higher education.
Flemish Comm. (Belgium)		x	Bridging programme at ISCED 4 (3rd year of the 3rd stage of VET)
France	x		Possibility to access an ISCED 3 programme with direct access to tertiary education
French Comm. (Belgium)		x	Bridging programme at ISCED 4 (3rd year of the 3rd stage of VET)
Germany		x	Bridging programme at ISCED 4
Hungary	x		Bridging programme at ISCED 3
Iceland	x		Possibility to transition to a general upper secondary programme during VET.
Italy		x	Possibility to access an ISCED 3 programme with direct access to tertiary education
Netherlands	x		Possibility to access an ISCED 3 programme with direct access to tertiary education
Poland	x		Bridging programme at ISCED 3
Slovak Republic		x	Bridging programme at ISCED 4
Slovenia	x		Bridging programme at ISCED 3
Spain	x		Possibility to access an ISCED 3 programme with direct access to tertiary education
Switzerland	x		Possibility to access an ISCED 3 programme with direct access to tertiary education

1 This table highlights restrictions on access to tertiary education that apply to VET graduates, but not general upper secondary graduates. Access up to ISCED 6 involves access to ISCED 5. The restrictions described apply to all VET students enrolled in programmes that yield access to tertiary education. Additional admission requirements may apply, similarly to those applied for general upper secondary graduates.

2 This table focuses on ISCED 353 programmes only, recognising that countries in this table may also offer ISCED 354 programmes. It excludes countries where such programmes enrol less than 5% of upper secondary VET students in programmes that lead to full level completion. The table distinguishes between "bridging programmes" that are designed to lead to a qualification that gives eligibility to tertiary education, and "Possibility to access an ISCED 3 programmes with direct access to tertiary education", which serve a broader target group than ISCED 353 completers."

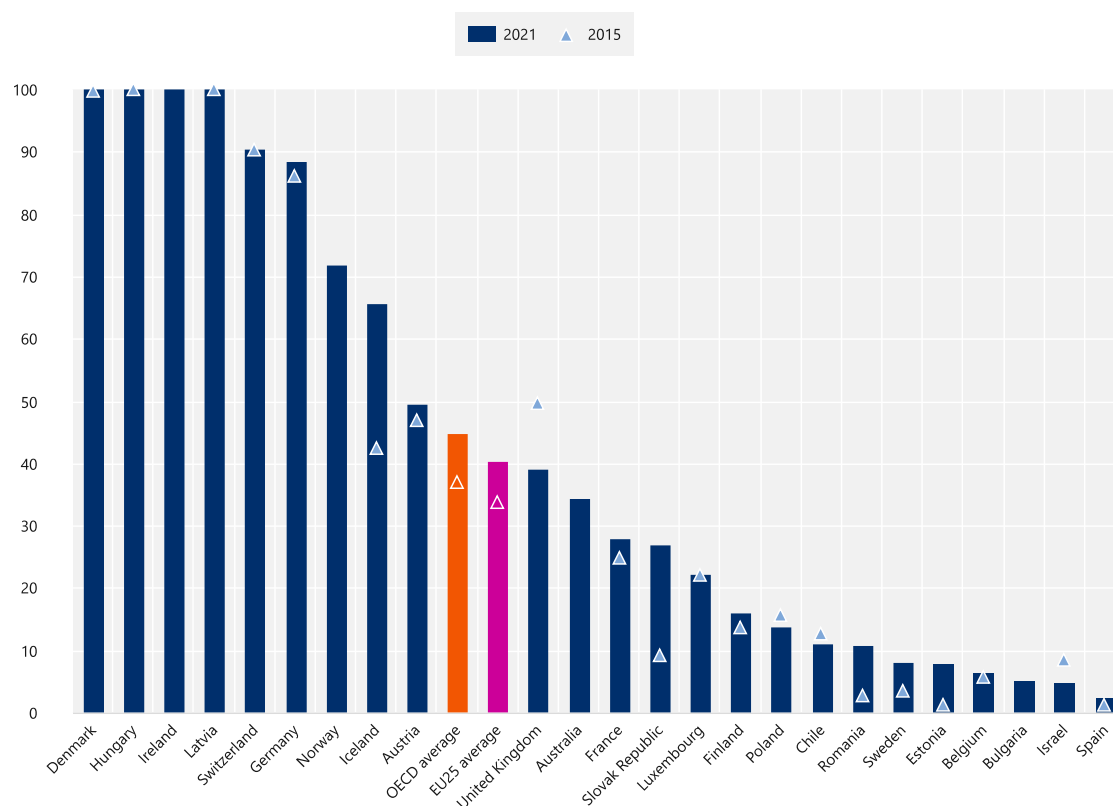
Source: OECD/UIS/Eurostat (2023), ISCED mappings. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023^[1]).

The use of work-based learning

Including an element of work-based learning in vocational programmes has multiple benefits. Workplaces are powerful environments for the acquisition of both technical and soft skills. Students can learn from experienced colleagues, using the equipment and technology that is currently used in their field. Soft skills like conflict management are easier to develop in real life contexts than in classroom settings. Delivering practical training in work environments can reduce the cost of training in schools, as equipment is often costly and becomes quickly obsolete. Similarly, including a strong element of work-based learning in VET can help tackle teacher shortages if students are learning from experienced skilled workers in companies. Finally, work-based learning creates a link between schools and the world of work, as well as between students and potential employers (OECD, 2018^[7]).


Figure B1.5. Share of upper secondary vocational students enrolled in combined school- and work-based programmes (2015 and 2021)

In per cent



Countries are ranked in descending order of the share of students in combined school- and work- based programmes in 2021.

Source: OECD/UIS/Eurostat (2023), Table B1.2, (2015 in web column). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023^[1]).

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Despite these compelling benefits, countries vary widely in the use of work-based learning in vocational programmes (Figure B1.5). In some countries work-based learning is extensively used, with 90% or more of students pursuing combined school- and work-based programmes. These are largely apprenticeship programmes (e.g. Denmark, Germany, Hungary and Switzerland). School-based and combined school- and work-based programmes co-exist in several countries. In some of them this reflects the existence of alternative routes to the same qualification. In France, for example, upper secondary vocational qualifications may be acquired either through apprenticeships or through a school-based route with a smaller work-based learning component (accounting for 17-20% of programme duration, depending on the programme). In some other countries, apprenticeships and school-based programmes lead to different qualifications. In Austria, for example, upper secondary vocational programmes include both apprenticeships and programmes in higher technical and vocational colleges. In many countries only a small share of vocational students are enrolled in combined school- and work-based programmes: in 12 countries, less than one in four students pursue such programmes. However, programmes that are considered school-based may include shorter forms of work-based learning, accounting for less than 25% of the programme's duration (Box B1.2).

Box B1.2. Types of work-based learning in vocational programmes

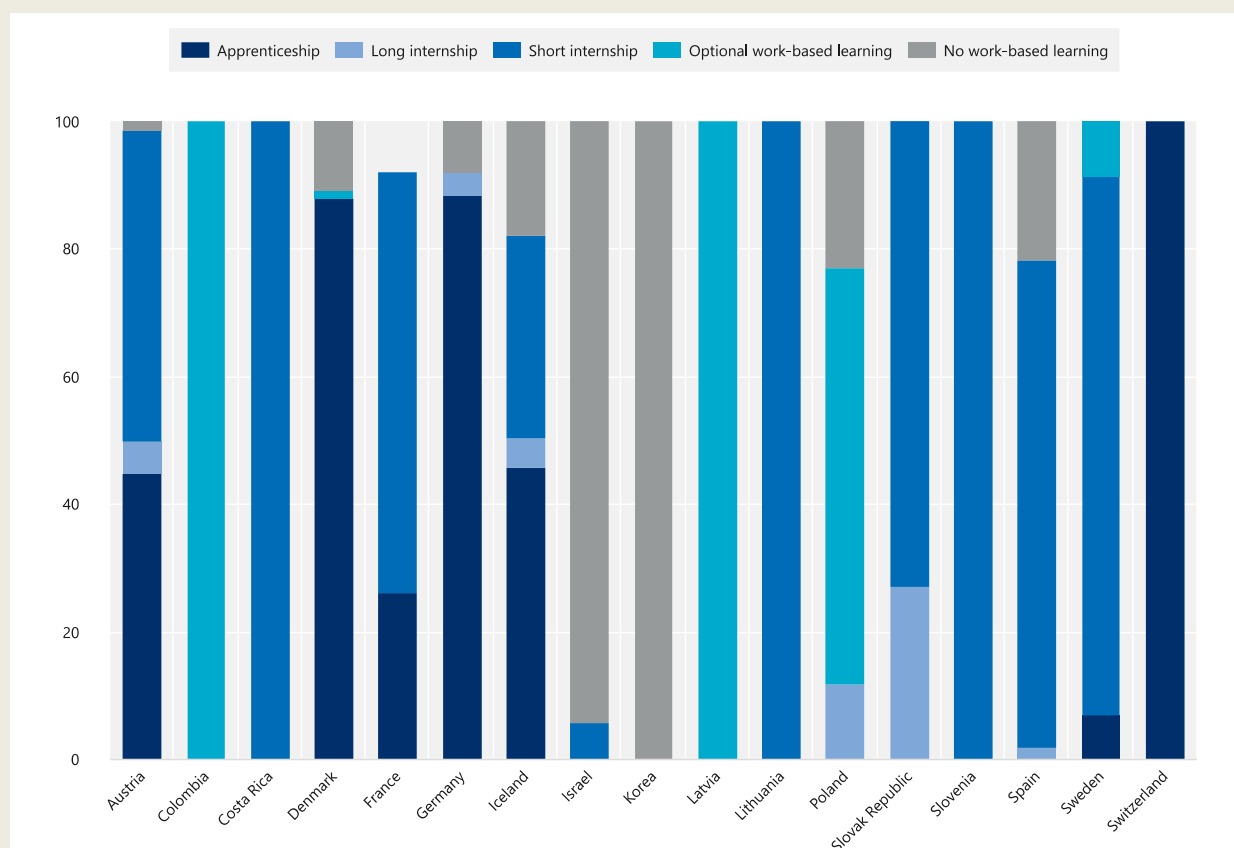
The ISCED mappings were updated in 2022 to provide further details on the type of work-based learning used in each vocational programme. This allows for a more fine-grained picture of how work-based learning is being used, in particular separately identifying apprenticeships, as well as short internships which are excluded from the definition of “combined school- and work-based programmes”. The following categories are proposed:

- apprenticeship: work-based learning is mandatory, accounts for at least 50% of the curriculum and is paid
- long internship: work-based learning is mandatory and accounts for 25% to 49% of the curriculum
- short internship: work-based learning is mandatory and accounts for less than 25% of the curriculum
- optional work-based learning: work-based learning is an optional part of the curriculum
- no work-based learning as part of the curriculum.

Apprenticeships are the dominant form of upper secondary VET in Denmark, Germany and Switzerland, while in Austria, France and Iceland apprenticeships are available alongside school-based programmes, which include a short internship. In Sweden apprenticeships enrol a relatively small share of students. Short internships are common in several countries, including Costa Rica, Lithuania, Spain, Slovenia and Sweden.


Figure B1.6. Distribution of students enrolled in upper secondary vocational programmes, by type of work-based learning (2021)

In per cent



Note. Numbers may not add up to 100 if information on the type of work-based learning was not available for some programmes. For France data on the type of work-based learning are limited to the *certificat d'aptitude professionnelle* (CAP) and baccalauréat professionnel. In Sweden apprenticeships are unpaid.

Source: OECD/UIS/Eurostat (2023), Table B1.2 (2015 in web column) ISCED mappings. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#). (OECD, 2023^[1]).

StatLink  <https://stat.link/ikpbqg>

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.

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.

Full completion (of ISCED level 3) without direct access to first tertiary programmes at ISCED level 5, 6 or 7: programmes with duration of at least 2 years at ISCED level 3 and that end after at least 11 years cumulative study since the beginning of ISCED level 1. These programmes may be terminal (i.e. not giving direct access to higher levels of education) or give direct access to ISCED level 4 only.

Full completion (of ISCED level 3) with direct access to first tertiary programmes at ISCED level 5, 6 or 7: any programmes that give direct access to first tertiary programmes at ISCED level

Partial level completion refers to programmes representing at least 2 years at ISCED level 3 and a cumulative duration of at least 11 years since the beginning of ISCED level 1, and which are part of a sequence of programmes at ISCED level 3 but are not the last programme in the sequence.

Insufficient for level completion refers to programmes that do not meet the duration requirements for partial or full level completion and therefore result in an educational attainment at the level below the level of the programme. This category includes short, terminal programmes (or a sequence of programmes) with a duration of less than 2 years at ISCED level 3 or which end after less than 11 years of cumulative duration since the beginning of ISCED level 1.

Methodology

Except where otherwise noted, figures are based on head counts, because it is difficult 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 see the [OECD Handbook for Internationally Comparative Education Statistics](#) (OECD, 2018^[8]) and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

Source

Data refer to the 2020/21 academic year and are based on the UNESCO-UIS/OECD/Eurostat data collection on education statistics administered by the OECD in 2022. Data for some countries may have a different reference year. For more information see [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

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Indicator B1 Tables

Tables Indicator B1. Who participates in education?

Table B1.1	Enrolment rates by age group (2010, 2015 and 2021)
Table B1.2	Enrolment rates of 15-19 year-olds and 20-24 year-olds, by level of education (2021)
Table B1.3	Profile of students enrolled in vocational programmes (2021)

StatLink  <https://stat.link/omnpzq>

Cut-off date for the data: 15 June 2023. 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 (2010, 2015 and 2021)

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

	2021								2015			2010		
	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
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Australia	13	5-17	99	87	54	26	15	6	92	58	30	83	45	19
Austria	13	4-16	99	82	38	19	6	1	80	34	18	78	33	17
Belgium	16	3-18	98	94	49	13	6	3	92	46	14	75	13	10
Canada ¹	12	5-16	99	75	37	12	5	1	73	35	11	76	37	12
Chile	13	5-17	98	83	44	15	7	2	80	42	17	76	37	13
Colombia	11	5-15	95	59	26	12	6	1	m	m	m	m	m	m
Costa Rica	10	5-14	95	63	26	13	8	2	m	m	m	m	m	m
Czech Republic	13	5-17	98	91	45	10	3	1	91	42	10	91	39	11
Denmark	16	3-18	100	88	54	29	9	2	87	57	33	85	49	27
Estonia	15	4-18	97	88	39	15	7	2	89	42	17	91	44	12
Finland	14	5-18	98	87	49	29	16	6	87	52	31	87	53	31
France	15	3-17	100	87	39	8	2	0	85	36	7	84	34	6
Germany	14	4-17	99	88	52	22	6	1	88	49	21	89	45	17
Greece	13	5-17	97	83	55	29	12	3	86	47	19	m	m	m
Hungary	13	4-16	95	81	35	10	4	1	85	37	10	92	41	11
Iceland	16	2-17	99	88	47	23	12	5	88	48	27	88	51	26
Ireland	14	4-17	100	94	46	13	6	3	93	45	12	91	32	9
Israel	15	3-17	97	67	23	20	6	2	66	22	21	65	24	21
Italy	14	4-17	98	87	38	14	4	1	77	35	14	85	35	11
Japan ²	14	4-17	100	m	m	m	m	m	m	m	m	m	m	m
Korea	16	2-17	99	86	51	8	2	1	86	51	10	85	54	10
Latvia	16	3-18	99	91	48	16	6	1	92	43	14	94	44	11
Lithuania	15	4-18	100	96	43	10	4	1	94	47	13	98	56	16
Luxembourg	13	4-16	98	78	20	6	2	0	76	21	7	m	m	m
Mexico	9	5-13	99	59	26	9	4	2	58	22	7	51	19	6
Netherlands	14	4-17	100	93	56	18	6	2	94	53	18	90	m	m
New Zealand	13	5-17	99	82	43	20	13	6	82	39	18	80	42	20
Norway	17	2-18	99	89	50	21	9	3	87	44	18	87	48	19
Poland	14	5-18	98	92	47	11	4	1	93	51	10	93	53	10
Portugal	14	4-17	100	92	39	10	4	2	88	38	10	86	38	15
Slovak Republic	11	6-16	96	85	33	7	2	1	84	34	7	m	m	m
Slovenia	15	4-18	98	94	56	13	3	1	94	55	13	94	54	16
Spain	15	3-17	98	88	48	17	7	2	87	49	16	82	37	12
Sweden	17	2-18	99	88	49	28	16	5	86	42	27	m	m	m
Switzerland	13	5-17	100	86	43	19	5	1	86	39	16	85	34	14
Türkiye	11	6-16	100	70	50	34	19	4	70	50	26	m	m	m
United Kingdom	14	3-16	100	82	36	11	6	2	81	32	10	76	27	10
United States	12	6-17	99	85	36	13	6	2	82	35	15	80	38	15
OECD average	14		98	84	42	16	7	2	85	42	16	84	40	15
Average for countries with available data for all reference years				86	43	16			85	42	16	84	40	15
Partner and/or accession countries														
Argentina ³	12	5-16	100	78	43	24	m	m	75	39	21	70	36	19
Brazil	11	6-16	95	71	26	13	8	3	69	26	13	m	m	m
Bulgaria	3	10-12	88	75	38	8	4	1	80	39	12	m	m	m
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	12	6-17	100	84	40	11	2	0	82	38	9	m	m	m
India ⁴	m	m	90	37	m	m	m	m	m	m	m	m	m	m
Indonesia ³	10	5-14	93	83	26	5	2	1	m	m	m	m	m	m
Peru	12	4-15	100	47	10	1	m	m	m	m	m	m	m	m
Romania	6	6-11	m	m	m	3	3	1	74	44	7	m	m	m
Saudi Arabia	m	m	89	74	37	6	2	1	85	38	10	m	m	m
South Africa ³	7	9-15	88	84	25	5	2	1	m	m	m	m	m	m
EU25 average	13		98	88	44	15	6	2	87	43	15	88	41	14
G20 average	m		97	81	m	m	m	m	m	m	m	m	m	m

Note: See StatLink and Box B1.3 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023^[1]).

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

StatLink  <https://stat.link/xreg7m>

Table B1.2. Enrolment rates of 15-19 year-olds and 20-24 year-olds, by level of education (2021)

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

	Enrolment rate														Share of upper secondary students enrolled in vocational programmes	
	Age 15 to 19						Age 20 to 24									
	Lower secondary and below	Upper secondary			Post-secondary non-tertiary	Short-cycle tertiary	Bachelor's, master's and doctoral or equivalent	Lower secondary and below	Upper secondary			Post-secondary non-tertiary	Short-cycle tertiary	Bachelor's, master's and doctoral or equivalent	Age 15 to 19	Age 20 to 24
		All programmes	General programmes	Vocational programmes					All program mes	General programmes	Vocational programmes					
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Australia	27	41	35	7	1	2	15	1	9	1	9	4	5	34	16	93
Austria	3	63	20	43	0	10	6	0	5	1	5	1	2	29	68	89
Belgium	5	68	31	m	1	1	19	2	4	1	m	2	2	40	54	75
Canada	0	56	54	m	m	5	14	0	3	2	m	m	7	27	2	39
Chile	3	63	50	13	a	4	13	1	2	2	0	a	9	33	28	18
Colombia	19	30	21	9	0	4	6	1	2	2	0	0	6	18	30	6
Costa Rica	16	42	28	14	a	1	4	4	8	6	2	a	2	12	34	26
Czech Republic	12	73	m	51	m	0	6	0	5	m	4	m	0	39	71	97
Denmark	33	54	43	10	a	0	1	0	15	6	10	a	4	34	19	64
Estonia	27	55	40	15	0	a	5	0	6	2	4	2	a	31	28	67
Finland	23	61	33	27	0	a	4	0	12	1	11	0	a	37	45	89
France	4	61	38	22	0	8	14	0	3	0	3	0	5	31	37	98
Germany	30	46	31	15	5	0	7	1	10	1	9	8	0	32	32	91
Greece	3	56	41	m	2	a	23	1	2	0	m	5	a	46	26	93
Hungary	3	67	33	34	5	0	6	0	3	2	1	4	1	27	51	46
Iceland	20	64	53	11	0	0	4	0	16	9	7	1	0	30	16	45
Ireland	15	60	54	5	2	1	16	0	3	0	3	5	1	36	9	98
Israel	3	59	35	24	0	3	2	0	0	0	0	1	3	18	41	12
Italy	1	77	37	40	0	0	9	1	2	0	2	0	0	35	51	87
Japan ¹	0	58	46	12	0	m	m	0	m	m	m	m	m	m	21	m
Korea	0	55	46	9	a	9	22	0	0	0	0	a	9	42	17	27
Latvia	24	59	35	24	0	1	6	0	4	2	2	2	5	37	40	49
Lithuania	41	42	33	10	2	a	11	1	2	1	1	3	a	38	23	55
Luxembourg	13	62	28	35	0	0	1	1	9	1	9	0	2	7	56	93
Mexico	5	42	26	16	a	1	11	2	1	1	0	a	1	22	38	25
Netherlands	21	54	24	30	a	m	17	0	13	0	12	a	m	42	55	98
New Zealand	4	58	52	6	6	2	13	0	4	0	4	10	3	25	11	92
Norway	20	65	36	29	0	0	4	0	9	2	7	1	1	39	45	77
Poland	2	82	36	46	1	0	8	0	3	2	1	4	0	39	56	22
Portugal	10	64	40	24	0	1	17	0	4	1	3	0	2	33	37	68
Slovak Republic	13	65	21	43	1	0	5	0	2	0	1	1	0	29	67	86
Slovenia	3	79	27	52	a	1	11	1	9	1	8	a	6	41	65	94
Spain	8	60	46	14	0	5	14	1	6	1	5	0	9	31	24	83
Sweden	21	63	42	21	0	0	4	4	14	9	5	1	2	28	33	34
Switzerland	16	66	27	38	1	0	4	0	11	3	8	1	0	30	58	74
Türkiye	1	59	34	25	a	4	7	0	6	4	1	a	16	29	43	23
United Kingdom	5	59	38	21	a	1	17	1	5	0	5	a	2	28	36	100
United States	7	58	58	a	1	7	12	0	0	0	a	2	10	25	a	a
OECD average	12	59	37	23	1	2	10	1	6	2	4	2	4	31	37	65
Partner and/or accession countries																
Argentina ²	14	53	53	a	a	x(7)	11 ^d	4	2	2	a	a	x(14)	37 ^d	a	a
Brazil	14	49	44	5	1	0	7	1	4	4	0	1	0	19	11	11
Bulgaria	1	65	33	32	0	a	9	0	1	0	1	0	a	37	49	77
China	0	m	m	m	m	x(7)	18 ^d	0	m	m	m	m	x(14)	24 ^d	m	m
Croatia	1	70	21	49	a	0	12	0	0	0	0	a	0	40	70	97
India	1	36	34	2	0	a	m	0	3	1	3	1	a	m	5	84
Indonesia ²	31	48	27	21	a	x(7)	4 ^d	0	3	2	1	m	x(14)	23 ^d	44	37
Peru	8	34	34	a	a	x(7)	5 ^d	1	1	1	a	a	x(14)	7 ^d	a	a
Romania	0	59	26	32	1	a	9	0	m	m	m	3	a	31	55	m
Saudi Arabia	4	55	55	a	m	x(7)	15 ^d	1	3	3	0	m	x(14)	33 ^d	0	0
South Africa ²	32	47	46	m	m	x(7)	5 ^d	1	14	10	m	m	x(14)	10 ^d	m	m
EU25 average	15	57	36	23	1	2	9	1	6	2	4	2	3	32	37	64
G20 average	10	53	41	16	1	m	12	1	4	2	3	2	m	28	25	55

Note: See StatLink and Box B1.3 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023^[1]).

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

StatLink  <https://stat.link/k5o9m7>

Table B1.3. Profile of students enrolled in vocational programmes (2021)

	Upper secondary				Lower secondary			Post-secondary non-tertiary				Short-cycle tertiary			
	Share of female students	Upper secondary vocational students as a share of all vocational students	Vocational students as a share of all upper secondary students	Share of VET students enrolled in combined school- and work-based programmes	Share of female students	Lower secondary vocational students as a share of all vocational students	Vocational students as a share of all lower secondary students	Share of female students	Post-secondary non-tertiary students as a share of all vocational students	Vocational students as a share of all post-secondary non-tertiary students	Share of VET students enrolled in combined school- and work-based programmes	Share of female students	Short-cycle tertiary students as a share of all vocational students	Vocational students as a share of short-cycle tertiary students	Share of VET students enrolled in combined school- and work-based programmes
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Australia	44	42	52	35	40	10	10	56	25	100	7	59	23	84	4
Austria	44	74	69	50	a	a	a	77	4	100	36	54	22	100	a
Belgium	49	73	54	6	48	13	17	49	9	92	a	56	5	100	a
Canada	50	m	10	m	a	a	a	m	m	m	m	54	m	100	m
Chile	46	35	33	11	a	a	a	a	a	a	a	57	65	100	m
Colombia	54	37	28	m	a	a	a	a	a	a	a	50	63	100	m
Costa Rica	55	m	30	a	49	m	18	a	a	a	a	m	m	m	a
Czech Republic	45	97	69	a	44	1	1	49	2	28	a	62	0	100	a
Denmark	41	76	39	100	a	a	a	a	a	a	a	46	24	100	a
Estonia	43	77	40	8	43	6	3	72	17	100	6	a	a	a	a
Finland	51	90	68	16	a	a	a	60	10	100	56	a	a	a	a
France	41	66	40	28	a	a	a	60	0	43	a	48	34	100	a
Germany	35	57	47	89	39	8	3	55	35	95	53	47	1	100	a
Greece	37	62	34	a	34	3	2	56	35	100	0	a	a	a	a
Hungary	42	74	50	100	a	a	a	57	22	100	100	57	4	100	100
Iceland	36	80	31	66	a	a	a	28	16	99	7	62	4	44	0
Ireland	62	m	24	100	56	m	5	26	m	100	98	52	m	m	m
Israel	50	74	41	5	21	1	0	a	a	a	a	53	25	100	a
Italy	36	98	52	a	a	a	a	38	0	100	a	26	2	100	100
Japan	43	m	22	a	a	a	a	m	m	m	a	61	m	83	a
Korea	42	28	17	a	a	a	a	a	a	a	a	41	72	100	a
Latvia	41	58	40	100	31	0	0	66	8	100	100	63	34	100	100
Lithuania	34	56	26	a	40	7	1	54	37	100	a	a	a	a	a
Luxembourg	48	92	61	22	a	a	a	21	3	100	100	57	5	100	a
Mexico	49	55	35	a	64	40	17	a	a	a	a	42	5	100	a
Netherlands	50	87	69	m	43	8	7	a	a	a	a	54	5	100	a
New Zealand	53	36	37	m	a	a	a	32	47	93	m	56	17	92	m
Norway	38	86	52	72	a	a	a	72	7	100	a	18	7	100	a
Poland	38	81	54	14	a	a	a	71	19	100	a	74	0	100	a
Portugal	43	80	39	a	44	7	4	35	3	100	a	37	10	100	a
Slovak Republic	45	85	68	27	46	5	2	59	8	100	41	66	2	100	a
Slovenia	43	85	70	a	a	a	a	a	a	a	a	38	15	100	a
Spain	47	55	39	2	45	2	2	63	3	100	4	49	39	100	4
Sweden	48	78	35	8	a	a	a	61	8	71	97	50	14	91	98
Switzerland	41	93	62	91	a	a	a	61	5	80	0	61	1	100	0
Türkiye	42	44	38	m	a	a	a	a	a	a	a	52	56	100	a
United Kingdom	52	70	39	39	47	16	12	a	a	a	a	58	13	63	84
United States ¹	a	a	a	a	a	a	a	59	m	100	m	60	m	m	m
OECD average	45	69	44	45	43	8	6	53	14	92	47	52	20	95	54
Partner and/or accession countries															
Argentina ²	a	a	a	a	a	a	a	a	a	a	a	61	m	m	m
Brazil	57	55	11	a	55	1	0	59	44	100	a	68	0	100	a
Bulgaria	40	97	52	5	62	3	2	44	0	100	a	a	a	a	a
China	41	m	40	m	m	m	0	48	m	75	m	47	m	m	m
Croatia	44	85	70	a	62	15	10	a	a	a	a	8	0	100	a
India	11	m	9	m	18	m	0	50	m	100	m	a	a	a	a
Indonesia ²	43	m	44	m	m	m	m	a	a	a	a	58	m	m	m
Peru	a	a	a	a	63	m	3	a	a	a	a	31	m	m	m
Romania	44	82	57	11	a	a	a	70	18	100	12	a	a	a	a
Saudi Arabia	a	a	a	a	a	a	a	m	m	m	m	29	m	m	m
South Africa ²	54	m	10	m	a	a	a	63	m	100	m	61	m	m	m
EU25 average	44	78	51	40	45	6	4	54	12	92	54	50	12	100	80
G20 average	43	m	31	m	44	m	6	54	m	90	m	51	m	m	m

Note: See StatLink and Box B1.3 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023_[1]).

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

StatLink  <https://stat.link/l17mdy>

Box B1.3. Notes for Indicator B1 tables

Table B1.1. Enrolment rates by age group (2010, 2015 and 2021)

1. Excludes post-secondary non-tertiary education.
2. Breakdown by age not available after 15 years old.
3. Year of reference differs from 2021: 2020 for Argentina and South Africa; 2018 for Indonesia.
4. Excludes students enrolled at tertiary levels.

Table B1.2. Enrolment rates of 15-19 year-olds and 20-24 year-olds, by level of education (2021)

Additional columns showing more detail on enrolment rates for lower secondary and below and master's and doctoral levels are available for consultation on line (see StatLink below).

1. Breakdown by age not available after 15 years old.
2. Year of reference differs from 2021: 2020 for Argentina and South Africa; 2018 for Indonesia.

Table B1.3. Profile of students enrolled in vocational programmes (2021)

Additional columns showing average ages, breakdowns by type of programme and comparative data for 2013 are available for consultation on line (see StatLink below). All vocational students in columns 2, 6, 9, 13 refer to students enrolled in lower secondary, upper secondary, post-secondary non-tertiary and short-cycle tertiary programmes.

1. Short-cycle tertiary includes both general and vocational programmes.
2. Year of reference differs from 2021: 2020 for Argentina and South Africa; 2018 for Indonesia.

For more information see *Definitions, Methodology and Source* sections and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

Data and more breakdowns are available in the *Education at a Glance Database* (<http://stats.oecd.org/>).

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

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

Highlights

- Early childhood education and care (ECEC) is crucial for children's learning, development and well-being as well as for their parents' ability to return to work. On average, 18% of children under 2 and 43% of 2-year-olds were enrolled in ISCED 0 programmes in 2021 but other ECEC services also play a significant role. In Japan, 26% of children under 2 and 53% of 2-year-olds are enrolled in ECEC services outside ISCED 0.
- Women dominate the early childhood education and care (ECEC) workforce. Across all OECD countries with available data, 96% of pre-primary teachers are women.
- Expenditure per child increased by an annual 3% on average across OECD countries between 2015 and 2020. Annual expenditure per child fell in only a handful of countries, including Ireland, where expenditure per child (on all early childhood education - ECE programmes - rather than just pre-primary ones) fell at an annual rate of 4% as a result of the rising number of children.

Context

Policy makers are increasingly aware 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 participate in high-quality organised learning at an early age 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]). However, survey results show that less than two-thirds of pre-primary education staff receive training on working with children from diverse backgrounds (e.g. multicultural, economically disadvantaged, religious) (Box B2.2).

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 heightened governments' interest in expanding ECEC services. High-quality ECEC services and other provisions can improve parents' work-life balance by providing them with greater opportunities to enter employment and combine work and family responsibilities (OECD, 2018^[2]; 2011^[3]; 2016^[4]).

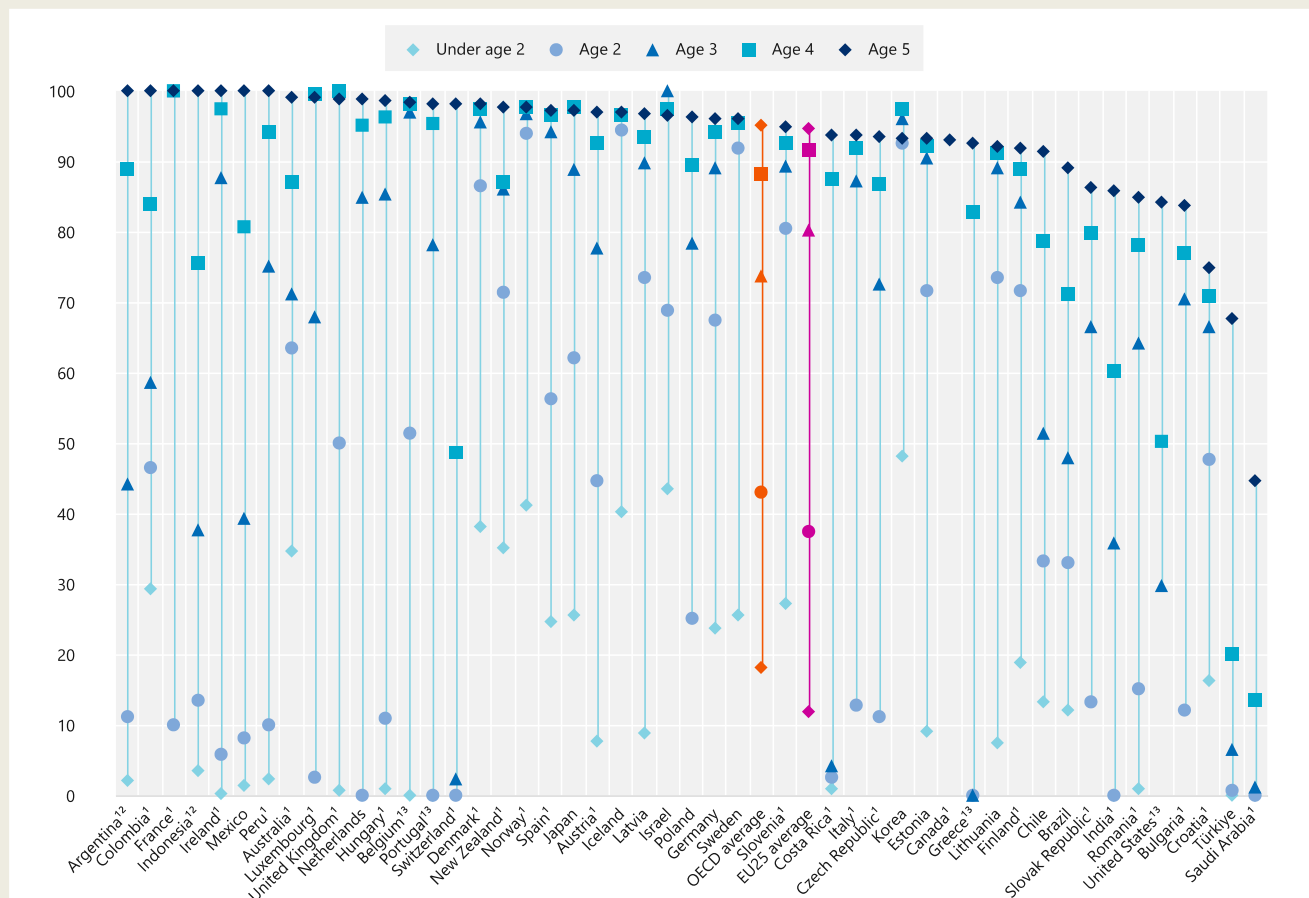
Such evidence has prompted policy makers to design early interventions, with initiatives that aim to enhance the quality of ECEC services and improve the equity of access to ECEC settings, lower the starting age of compulsory education, and rethink education spending patterns to gain "value for money" (Duncan and Magnuson, 2013^[5]). Despite these general trends, there are substantial differences across OECD countries in the types, volume and quality of ECEC services.

Other findings

- On average, 18% of pre-primary teachers across OECD countries are under the age of 30. However, this share varies considerably across countries, ranging from 3% in Portugal to 49% in Japan.
- There are on average 14 children for every teacher working in pre-primary education, but with wide variations across countries.
- In many countries, teachers' average actual salaries tend to increase with the level of education, meaning that salaries for teachers in ECEC are particularly uncompetitive.

Figure B2.1. Enrolment rates of young children, by age (2021)

Education programmes meeting ISCED criteria and other registered ECEC services outside the scope of ISCED, in per cent



Note: Countries may have ECEC programmes on which enrolment statistics are not collected. For more information on which ECEC programmes are available in countries, see (OECD, 2023^[6]) *Education at a Glance 2023 Sources, Methodologies and Technical Notes*, (<https://doi.org/10.1787/d7f76adc-en>) and the *Education GPS* (OECD, 2022).

1. Excludes other registered ECEC services.

2. Year of reference differs from 2021: 2020 for Argentina; 2018 for Indonesia.

3. Excludes ISCED 01 programmes.

Countries are ranked in descending order of enrolment rates of 5-year-olds.

Source: OECD/UIS/Eurostat (2023), Table B2.1. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023^[6]).

Note

This indicator only covers formal education and care. 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 (see the *Definitions* section for more details). In addition, this indicator focuses mostly on teachers, as they are the staff members with the most responsibility for the learning of children on a day-to-day basis. The analysis also concentrates on the pre-primary level where data are more available and comparable.

Analysis

There is a growing consensus among OECD countries about the importance of high-quality early childhood education and care (ECEC). Research from a variety of contexts suggests that participation in high-quality ECEC is associated with positive outcomes in both the short and long term (OECD, 2021^[7]). Some ECEC programmes have been shown to help children develop their cognitive, social and emotional skills. The progress that children make at a young age can have a lasting impact on their academic performance, well-being and earnings in later life (García et al., 2020^[8]; Heckman and Karapakula, 2021^[9]). Identifying which aspects of ECEC services constitute high-quality provision is therefore of great policy interest. The quality of ECEC provision has often been considered in terms of the structure of services and of the processes at work within settings (Slot, 2018^[10]). Structural characteristics cover the infrastructure and organisation of ECEC services, such as group sizes, funding arrangements, types of staff and workforce training. Meanwhile, process quality concerns the daily interactions that occur between children and their environment as part of their ECEC programme, including their relationships with their peers, staff, families, communities and physical surroundings (Cadima et al., 2020^[11]).

Multiple studies have stressed the importance of process quality in driving children's development in ECEC in particular (OECD, 2018^[12]; Melhuish et al., 2015^[13]). Process quality is influenced by a multitude of factors such as the characteristics of the children enrolled or the organisation and the competencies of staff, indicating that comprehensive strategies are needed to improve the quality of ECEC (OECD, 2021^[7]). There is also evidence to suggest that process quality can be affected by the structural conditions of ECEC provision, which can be more easily regulated (OECD, 2018^[12]). At the same time, policies governing ECEC programmes also have to take into account other priorities, such as access, demand and funding.

The types 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 in homes (OECD, 2017^[11]). The programmes offered by ECEC services can also vary significantly in terms of their content. In order to distinguish between ECEC services that are primarily focused on early childhood education and those that aim to offer childcare, ECEC provision can be classified into two main categories: those that comply with the ISCED 2011 classification of early childhood education (ECE) services, and other registered ECE services that are not considered by ISCED to be an educational programme.

In order to comply with the ISCED 2011 classification, ECE services 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^[14]).

There are 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 (OECD/Eurostat/UNESCO Institute for Statistics, 2015^[14]; OECD, 2006^[15]). While such programmes exist in many countries, particularly for children under 3, not all countries are able to

report the number of children enrolled in them (Table B2.1). For this reason, the focus of this indicator is mainly on ECE programmes. It should be further noted that some services may not currently be recognised as meeting ISCED criteria but do meet the requirements for classification as an educational programme in practice. Thus, the educational status of programmes may be under review, as is the case with *amas* in Portugal.

Countries organise their national ECEC systems in a variety of ways, with a key difference being which administrative authorities are ultimately in charge and whether the system is split or integrated at the national level. More than half of the OECD countries with available data have integrated ECEC services, where one authority is 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 (Box B2.1). In such cases, it is usually the education ministry that is in charge of regulating ECEC programmes. In the remaining countries with available data, different authorities are responsible for ECEC provision for different age groups. In these countries, services for older children (generally 3-5 year-olds) are often regulated by the education ministry, while services for younger children (generally aged 0 to 2) are governed by another authority.

Box B2.1. Interactive visualisations of the structure of ECEC programmes

An interactive online platform is available to provide complementary contextual information on early childhood education and care (ECEC) programmes. It gives information on the different types of programmes, their duration, the starting age as well as information regarding the governance, the curriculum frameworks and the monitoring methods.

The platform can be accessed at [Dashboard on Early Childhood Education and Care \(ECEC\) Systems](#).

Enrolment in early childhood education and care

Enrolment of children aged 3 and below

Despite the benefits of high-quality ECEC in the first years of life, participation in early childhood education is not compulsory in any OECD country for children under the age of 3 (OECD, 2018^[12]; 2018^[2]). In 2021, around three-quarters of 3-year-olds were enrolled in formal ECE settings on average across OECD countries. The share is ranging from 4% or less in Costa Rica, Greece, Saudi Arabia and Switzerland to 100% in France, Israel and the United Kingdom (Table B2.1). The availability and length of parental leave and the starting age for ECE programmes influence whether children are enrolled in such services and the age at which they begin to attend. In most countries with early childhood educational development services (ISCED 01), children can be enrolled in relevant programmes before they turn one. However, in Latvia and Sweden, children can only be enrolled after their first birthday (See Annex 1, Table X1.5).

Entitlement to ECE is also a significant factor affecting enrolment rates. In Korea, for example, children have universal entitlement to early childhood educational development programmes within their first year, while children in Norway have the right to attend ECE after their first birthday (See Annex 1, Table X1.5). Significantly, children are also entitled to some free ECE from birth in Korea, the country with the highest enrolment rates in ECE for children under the age of 2 (Table B2.1).

Other factors, such as maternal employment rates and cultural perspectives on the role of women either in the workplace or as primary caregivers, are also likely to be important. In Sweden, where the enrolment rate is 25% under the age of 2 and 91% at the age of 3, 82% of mothers with children under 3 are employed, the highest level among OECD countries (OECD average of 60%) (OECD, 2020^[16]). In contrast, relatively few young children are enrolled in ECEC in countries where maternal employment rates are low. For example, the enrolment rates

of children aged 2 are around 11% in Hungary and 13% in the Slovak Republic (Table B2.1), where the employment rates of mothers whose youngest child is under 3 are below 20%.

In some countries, considerable shares of children under 3 are enrolled in other registered ECEC services targeted at this age group that do not meet ISCED criteria for ECE. For example, 53% of children at age 2 in Japan are enrolled in such services, the highest reported share among OECD countries. A smaller share (9%) of 2-year-olds are also enrolled in ECE programmes in Japan, although these are primarily targeted at children aged at least 3 (Table B2.1).

Enrolment of children aged 3 and over

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 (at 6 years old in most countries). But today, ECE has become a mandatory level of education in 18 OECD countries, as the starting age of compulsory education has been lowered. In nine countries, compulsory education starts one year before entry into primary school but in several cases participation in ECE is mandatory for longer. For example, children are legally required to attend ECE for three years in France, Hungary, Israel and Mexico, and for two years in Argentina, Brazil, Costa Rica and Luxembourg (See Annex 1, Table X1.5).

In about one-third of countries, children are not obliged to attend early childhood education for any period but there is universal provision of such services. In several others, universal entitlement to ECE starts from an even earlier age than compulsory attendance. In Lithuania or Sweden, for example, only one year of pre-primary (ISCED 02) education is mandatory but all children have the right to a place in ECE for six years (See Annex 1, Table X1.5).

Although participation is not compulsory in all countries, enrolment of children over 3 is still very common across the OECD, with 88% of children aged 4 enrolled in ECE and primary education on average. In more than half of the OECD 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 4-year-olds in ECE and primary education are found in Belgium, France, Japan, Luxembourg, Norway and the United Kingdom, where they equal or exceed 98%. In contrast, 50% or less are enrolled in education in Saudi Arabia, Switzerland, the Republic of Türkiye and the United States (Table B2.1). Lower enrolment rates may be due to insufficient numbers of places, lack of awareness by parents of the importance of ECEC, limited public coverage and high cost of early learning settings, or low employment rates of mothers with young children (OECD, 2017^[17]).

The vast majority of 3-5 year-olds enrolled in education attend pre-primary programmes across most OECD and partner and/or accession countries. However, in countries such as Australia, Ireland, New Zealand and the United Kingdom, primary education begins at age 5. Meanwhile, children do not start primary education until the age of 7 in Bulgaria, Estonia, Finland, Indonesia, Latvia, Lithuania, Poland, South Africa and Sweden (See Annex 1, Table X1.5). The age at which children should transition to primary education has long been debated across OECD countries. ECEC programmes aim to develop the cognitive, physical and socio-emotional skills needed to participate in school and society, while 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^[14]).

Public and private provision 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. If public institutions do not meet parents' needs for quality, availability, accessibility or affordability, some parents may be more inclined to send their children to private institutions, or not to enrol them in ECEC at all (Shin, Jung and Park, 2009^[18]).

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, half of the children in early childhood educational development services and one-third of those in pre-primary education are enrolled in either government-dependent or independent private institutions. In pre-primary education, this share ranges from 4% or less in Bulgaria and the Czech Republic to 99% in Ireland and New Zealand (Table B2.3).

Staffing of early childhood education and care

Teachers play a central role during children's early years, helping them develop in many aspects of their lives: cognitively, socially and emotionally. In ECE, teachers are the individuals with the most responsibility for a group of children at the class or playroom level and may be referred to as pedagogues, educators or childcare practitioners. They have varying levels of qualification across countries, but are generally expected to hold qualifications commensurate with the professional nature of their work, often a tertiary degree (OECD, 2020^[19]).

In some countries, teachers constitute the vast majority of staff working with children in ECEC. In Japan, ECEC centre leaders reported that more than 70% of pre-primary staff working in ECEC centres are teachers (OECD, 2022^[20]). However, in other countries, the workforce is more diverse and there are fewer teachers. ECEC centre leaders in Chile reported that teachers make up only around 20% of all pre-primary staff.

There is a large degree of variation among OECD countries regarding the share of contact staff who are teachers as opposed to teachers' aides. Teachers' aides support teachers and have lower levels of responsibility and autonomy but perform educational functions on a regular basis. In most countries, they need lower qualifications than teachers, often an upper secondary vocational qualification. In some countries, pre-primary teachers aides' need to meet additional selection criteria. For example, in Slovenia, pre-primary school assistants need to pass a state professional examination in education to qualify. At pre-primary level, nearly one-quarter of OECD, partner and/or accession countries do not have teachers' aides as a separate category of staff. Among those countries that do, they make up 10% or less of contact staff in Brazil, the Czech Republic, Germany, Ireland, Japan, Romania and the Slovak Republic but more than 60% in the United Kingdom.

Positive relationships with teachers are an important element of process quality, associated with both improved literacy and numeracy skills, and with better behavioural and social skills (OECD, 2018^[12]). The quality of teachers' interactions with children is influenced by a range of factors, notably the preparation and support that they receive to enter the profession and in their continuing professional development (OECD, 2021^[7]). However, teachers' capacity to foster positive relationships with young children is also influenced by their working conditions, which can affect their well-being and motivation to stay in the profession (OECD, 2020^[21]).

Age profile of early childhood education teachers

The age distribution of ECE staff varies considerably across countries, and can be affected by a variety of factors, such as the size and age distribution of the population, as well as the attractiveness of staff salaries and working conditions within the ECE profession. On average across OECD countries, 18% of teachers at the pre-primary level are below the age of 30. However, this share varies considerably across countries, ranging from 3% in Portugal to 49% in Japan. Meanwhile, older staff (50 years and over) make up 30% of all teachers at pre-primary level on average across OECD countries. In 17 out of 38 countries with available data, the share of teachers aged 50 and over is at least double that of the share of those under 30, which may have some significant implications for their capacity to replace retiring teachers in the near future (Table B2.2).

Ensuring that young teachers working in ECEC are offered career development opportunities is central to avoiding teacher attrition. Survey data reveal that pre-primary staff under the age of 30 are most likely to want to leave the profession to take up further studies in an education programme, reflecting that young staff are seeking further qualifications for career progression, either within the ECEC sector or elsewhere (OECD, 2020^[21]).

Gender profile of early childhood education and care staff

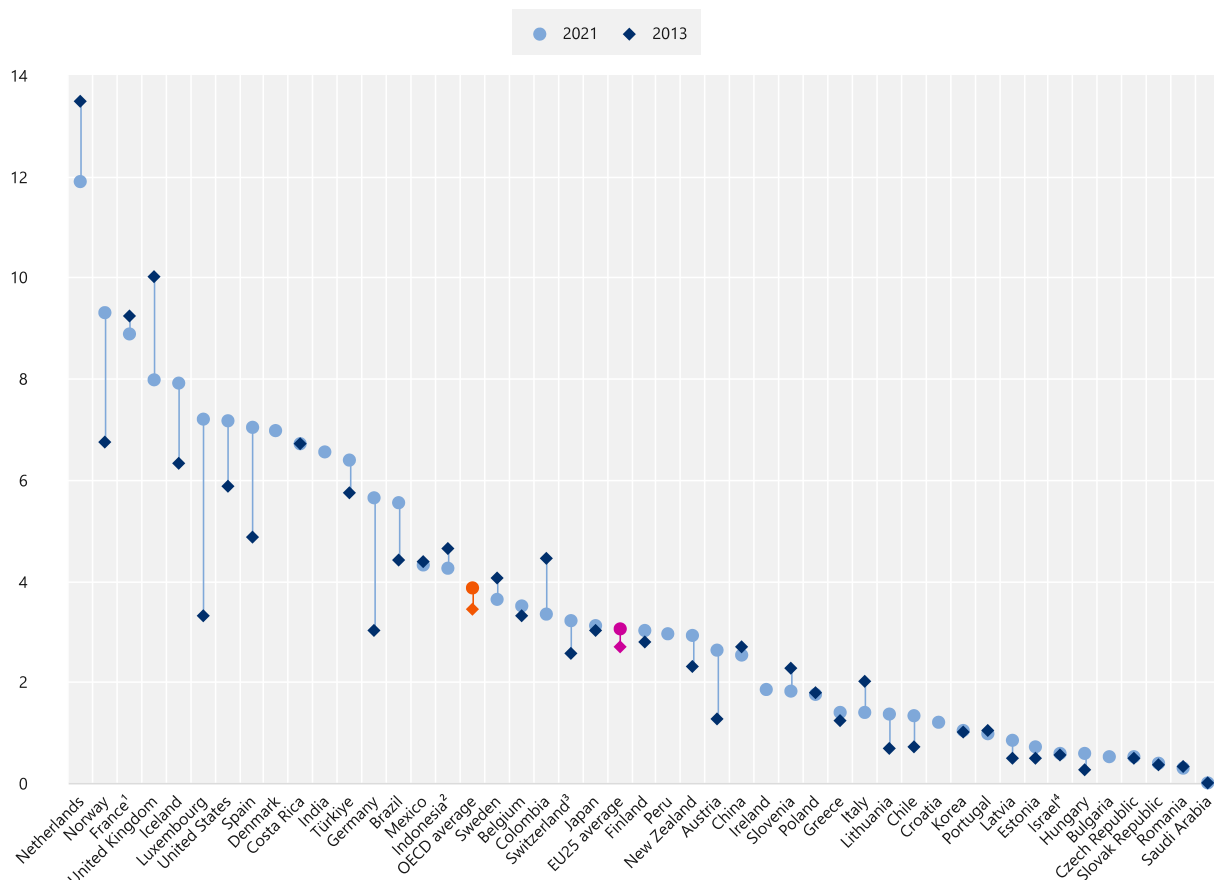
Women dominate the early childhood education and care workforce. Across all OECD countries with available data, 96% of pre-primary teachers are women. Very slow progress has been made towards greater male representation since 2013, when women accounted for 97% of pre-primary teachers (Table B2.2).

The gender imbalance of teaching staff in ECE raises questions as to why women are much more likely to enter the profession and what the implications are for the understanding of gender among children, staff and society. Gender stereotypes of women as caretakers contribute to the perception of teaching at pre-primary level as a female profession (Peeters, Rohrmann and Emilsen, 2015^[22]). It is not necessarily the case that female teachers reinforce gender stereotypes in their interactions with children nor that the mere presence of more male teachers would tackle gender essentialism. However, scholars have argued that children's understanding of gender is broadened when they are able to observe a variety of gender expressions both within and between genders (Warin, 2019^[23]; McGrath et al., 2020^[24]). On a staff and societal level, having more men in the ECEC workforce could help to challenge dominant discourses about masculinity regarding the participation of men in young children's lives.

In this regard, governments in several OECD countries have made efforts to attract more men to the ECEC workforce in recent years. In Norway, for example where men make up less than 10% of pre-primary teachers, one measure has been the "Play Resources" project. As part of this initiative, boys are encouraged to experience work in ECEC settings, and consider working with young children as a professional career. For example, the county of Oppland financed a project where boys in secondary school (13-16 years old) were invited to work in ECEC settings for 1-2 weeks during their holidays, or 1 day a week after school, for a set period of time (OECD, 2020^[21]).

Figure B2.2. Share of male teachers among pre-primary teaching staff (2013 and 2021)

In per cent



Note: Countries may have ECEC programmes on which enrolment statistics are not collected. For more information on which ECEC programmes are available in countries, see (OECD, 2023^[6]) Education at a Glance 2023 Sources, Methodologies and Technical Notes, (<https://doi.org/10.1787/d7f76adc-en>) and the Education GPS (OECD, 2022).

1. Excludes data from independent private institutions (and government-dependent private institutions for teachers' aides).

2. Year of reference 2018.

3. Public institutions only for the ratio of children to teaching staff.

4. Public institutions only.

Countries are ranked in descending order of the share of male teachers in 2021.

Source: OECD/UIS/Eurostat (2023), Table B2.2. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023^[25]).

StatLink  <https://stat.link/0h39ez>

Child-staff ratios

Child-staff ratios and group sizes are important indicators of the resources devoted to education. Research into the impact of lower child-staff ratios have found that they can be 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 time spent addressing disruptions. Regulating these ratios can therefore be used to improve the quality of ECE. On average across OECD countries, there are 14 children for every teacher working in pre-primary education, with wide variations across countries. The ratio of children to teaching staff, excluding teachers' aides, ranges from 5 children or less per teacher in Iceland and Ireland to more than 30 in Colombia and the United Kingdom (Table B2.2).

Lower child-staff ratios are particularly important for high-quality interactions with children under 3 (COFACE, 2023^[26]). With the exception of Hungary, Indonesia, Mexico and Romania 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, partner and/or accession countries. On average across OECD countries, there are 9 children for every teacher working in early childhood educational development services, ranging from 3 in Iceland to 29 in the United Kingdom (Table B2.2).

Sensitive and responsive child-adult interactions, enabled by lower child-staff ratios, bring great benefits to both children and staff. Children evolve in very personalised relationships with ECEC staff in a stimulating environment, while staff benefit from good-quality working conditions, which are in turn linked to stable relationships between children and practitioners as well as low staff turnover rates (COFACE, 2023^[26]).

Lastly, low child-staff ratios may offer opportunities for stronger partnerships between parents and ECEC staff. Having fewer children to take care of during the day allows caregivers and teachers more time to discuss children's activities and also to communicate and develop relationships with parents, which in turn can determine the relationships between educators and children (COFACE, 2023^[26]).

Some countries – Austria, Chile, Lithuania, Norway, Slovenia, Sweden and the United Kingdom – also make extensive use of teachers' aides, as can be seen from the smaller ratios of children to contact staff compared to teaching staff. In most cases, early childhood development services and pre-primary education have similar shares of teachers' aides among contact staff, with differences of less than 5 percentage points. In Chile, however, the share of teachers' aides in pre-primary is nearly twice that in early childhood development services, while the ratio of children to teaching staff (21:1) is well above the OECD average of 14:1 (Table B2.2).

Box B2.2. Early childhood education and care (ECEC) staff qualification and pre-service training

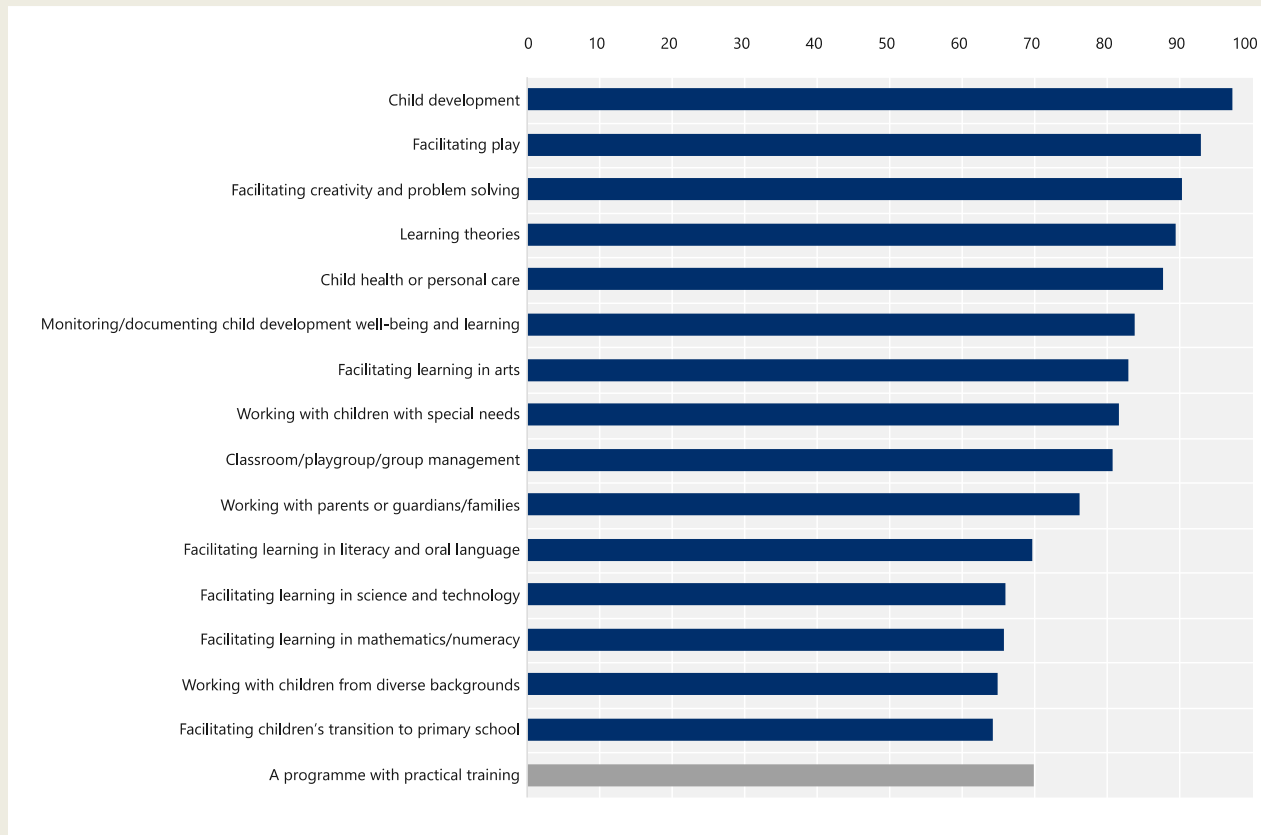
Teaching staff may follow different pathways in their preparation to become a teacher in different countries (see Indicator D6). Initial staff qualifications acquired during pre-service education and training are a strong predictor of process quality. Even within the same country, regulations on the minimum level of qualification required can differ between early childhood development services and pre-primary education. For example, teachers working with younger children (usually under 3 years) in the Flemish Community of Belgium, the Netherlands and Türkiye are required to have an upper secondary qualification. Meanwhile, teachers working with children from the age of 3 (or 4 in the Netherlands) are required to have a tertiary degree (see (OECD, 2023^[6]) Education at a Glance 2023 Sources, Methodologies and Technical Notes).

Pre-service training focuses on teaching trainees about child development and how to support their learning and well-being. The OECD *TALIS Starting Strong Survey 2018* results reveal that, among pre-primary education staff who received specific training to work with children, the content areas covered by this training are broad. Nearly all staff (both teachers and assistants) receive training on child development (e.g. socio-emotional, motor, cognitive or self-regulation). Similarly, at least 90% receive training in facilitating play, creativity and problem solving. This is important, as playing, making and creating is one of the things 5-year-olds like most about being at their ECEC centre/school (OECD, 2021^[27]) so ensuring that ECEC staff are well prepared to meet children's needs and interests is important. In contrast, slightly less than two-thirds of pre-primary education staff report receiving training on working with children from diverse backgrounds (e.g. multicultural, economically disadvantaged, religious) or training on facilitating children's transitions to primary school (Figure B2.3).

A period of workplace-based learning is a required part of pre-service training for working as a teacher in ECEC settings in all countries except Iceland, where it is, however, common practice. For instance, in Denmark, student ECEC teachers must complete the equivalent of more than one year of practical placements under the supervision and guidance of a qualified ECEC teacher, with both receiving financial compensation for their work during this time (OECD, 2019^[28]).


Figure B2.3. Content of pre-service training to work with children

Average percentage of pre-primary education staff who received training in each of the following content areas and practical training as part of their formal education to work with children¹



1. Data are available only for staff who received training specifically to work with children.

Source: TALIS Starting Strong 2018 Database, <https://doi.org/10.1787/888934010774> (accessed on July 2023).

StatLink  <https://stat.link/ufgjqa>

Salaries of pre-primary teachers

Competitive salaries, opportunities for career development and good working conditions are important levers for encouraging ECEC staff to enter the profession and increase their job satisfaction. In most OECD countries with available data, however, the average actual salaries of pre-primary teachers aged 25-64 are substantially lower than those of full-time, full-year workers with tertiary education. In Hungary and the Slovak Republic, their average salaries no more than 60% of those of tertiary-educated workers (see Indicator D3). In many countries, teachers' average actual salaries tend to increase with the level of education, meaning that salaries for teachers in ECEC are particularly uncompetitive. In a few countries, however, pre-primary teachers are paid salaries that on average are equal to or significantly higher than those of teachers at higher levels of education and well above the wages of tertiary-educated workers. Pre-primary teachers in Australia earn 5% more than tertiary-educated workers on average, rising to 40% more in Lithuania and Portugal (see Indicator D3).

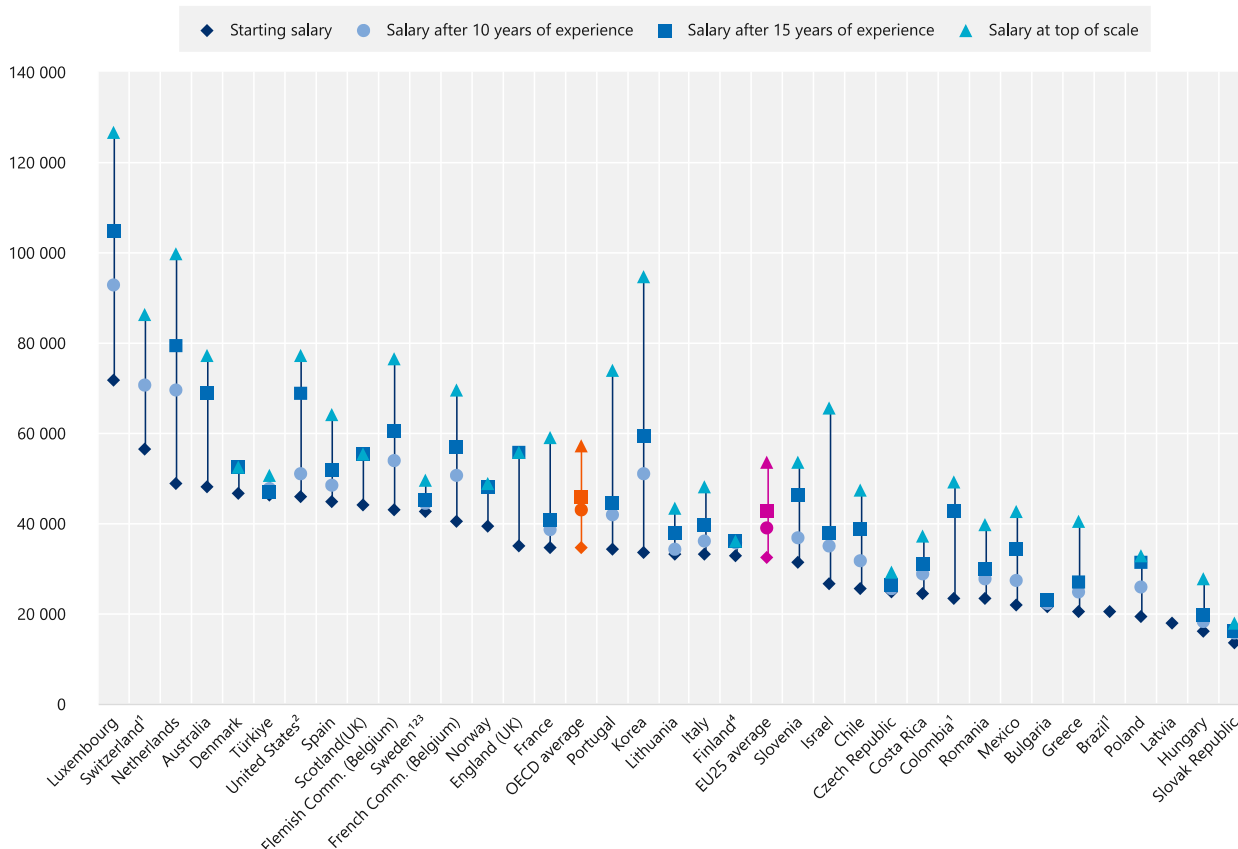
Given the wage gaps in most other countries, however, it is not surprising that in all countries, a majority of staff "strongly disagree" or "disagree" that they are satisfied with their salary, rising from 61% of pre-primary staff in Türkiye to 90% in Iceland (OECD, 2020^[21]). This is a concern, as there is some evidence to suggest that higher

wages for ECEC staff are associated with higher-quality interactions with children (OECD, 2018^[12]). Teachers' views of their value in society are also likely to be affected by their comparative earnings and these factors could discourage them from staying in the profession. Research suggests that lower salaries are often linked to higher levels of staff turnover, which is troubling given that positive child outcomes are consistently related to stability (Hunstman, 2008^[29]).

Looking at pre-primary teachers' statutory salaries at four points in their careers (starting out, after 10 and 15 years of experience, and at the top of the scale) gives an overview of potential career incentives offered to ECEC staff. In OECD countries, pre-primary teachers' salaries for a given qualification level rise during the course of their career, although the rate of change differs across countries. On average across OECD countries, the salaries of pre-primary teachers with the most prevalent qualification are 65% higher at the top of the scale than starting salaries. The average starting salary is USD 34 563 across OECD countries, ranging from USD 13 559 in the Slovak Republic to USD 71 647 in Luxembourg, and rises to an average of USD 57 118 at the top of the scale across OECD countries, from USD 17 718 in the Slovak Republic to USD 126 576 in Luxembourg. Maximum salaries (at the top of the scale) are at least double the minimum salaries (starting salary) in Colombia, Israel, Korea, the Netherlands and Portugal (Table B2.3).

Figure B2.4. Pre-primary teachers' statutory salaries, based on the most prevalent qualifications at different points in teachers' careers (2022)

Annual teachers' salaries, in public institutions, in equivalent USD converted using PPPs for private consumption



1. Year of reference differs from 2022: 2021 for Colombia and Sweden, and 2020 for Brazil.

2. Actual base salaries.

3. Excludes the social security contributions and pension-scheme contributions paid by the employees.

4. Data on pre-primary teachers include the salaries of kindergarten teachers, who are the majority.

Countries are ranked in descending order of pre-primary teachers starting salaries.

Source: OECD (2023), Table D3.1. For more information see [Source](#) section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023^[25]).

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Financing early childhood education and care

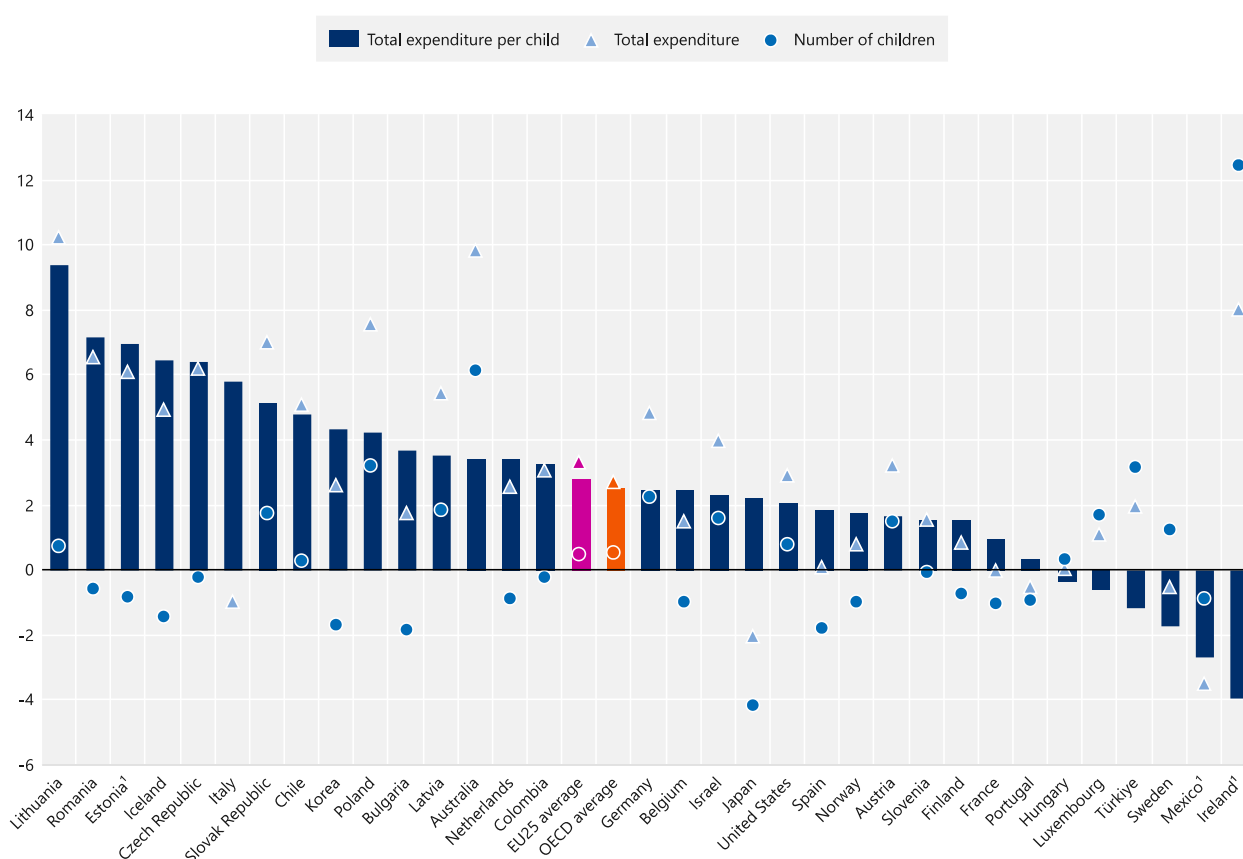
Sustained public financial support is critical for the growth and quality of ECEC programmes. Appropriate funding helps to recruit trained staff who are qualified to support children's cognitive, social and emotional development, as well as ensure their ongoing professional development. Investment in early childhood facilities and materials also helps support the development of child-centred environments for well-being and learning. Moreover, if the cost of ECEC is not sufficiently subsidised, parents' ability to pay will greatly influence participation in ECEC and there is a risk that children from disadvantaged socio-economic backgrounds are excluded from ECEC (OECD, 2017^[11]).

Expenditure per child

Expenditure on pre-primary education per child increased by 3% per year on average across OECD countries between 2015 and 2020, although this figure masks wide cross-country differences. Annual expenditure per child rose in almost all countries, with the largest increases in Estonia (figures include early childhood development programmes), Lithuania and Romania, where the annual rate was 7% or more. Expenditure fell in only a small number of countries, by up to 4% in Ireland (where the figure includes all ECE programmes rather than only pre-primary ones). An increase in expenditure per child might be the result of an increase in the amount of funding available for pre-primary programmes or a fall in the number of children enrolled. For example, Ireland and Poland had a similar increase in expenditure between 2015 and 2020 (an average rate of 8%), but the number of children enrolled outstripped the increase in expenditure in Ireland, resulting in falling expenditure per child, whereas the number of children increased at a slower pace in Poland resulting in an increase in expenditure per child (Figure B2.5).

Figure B2.5. Average annual change in total expenditure on pre-primary education per child between 2015 and 2020

In per cent, 2015 constant prices and constant PPPs



1. Includes early childhood educational development programmes.

Countries are ranked in descending order of the average annual change in total expenditure per child.

Source: OECD/UIS/Eurostat (2023), *Education at a Glance Database*, <http://stats.oecd.org>. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023^[25]).

StatLink  <https://stat.link/pzccqfa>

In pre-primary education, annual expenditure for both public and private settings averaged about USD 10 200 per child in OECD countries in 2020, ranging from less than USD 5 000 in Colombia, Romania and Türkiye to more than USD 16 000 in Iceland, Luxembourg and Norway (Table B2.3). Child-to-staff ratios and teacher compensation are the main drivers 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 length of time 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 *Education at a Glance 2018* (OECD, 2018_[30])).

Annual expenditure per child enrolled in early childhood educational development services is substantially higher than for pre-primary education, averaging about USD 15 600 across OECD countries with available data. However, this masks wide variation in spending between these levels of education across countries: in Lithuania, spending on early childhood educational development services is at most USD 1 000 more per child than at pre-primary level, compared to a difference of at least USD 11 000 more in Denmark, Finland and Norway. Australia, Chile, Hungary and Israel are the only OECD countries with data available where spending per child in early childhood development services is lower than at pre-primary level (Table B2.3).

Smaller child-to-staff ratios in early childhood development services are one of the main drivers of this difference (Table B2.3). However, they do not account for all of it. For example, in Chile, although the child-to-teacher ratio in pre-primary education is more than three times that in early childhood development services, spending levels in both services are quite similar (Table B2.3). This may be partly due the lower qualifications required of teaching staff at ECEC level, resulting in lower salary costs in some countries.

Expenditure as a percentage of gross domestic product (GDP)

Funding for ECE can also be analysed relative to a country's output. In 2020, expenditure on ECEC programmes represented 0.9% of gross domestic product (GDP) on average across OECD countries, whereas this share averages 0.7% for pre-primary programmes only. The highest values for funding at pre-primary level were observed in Iceland and Sweden (1.2% of GDP in both cases) (see Indicator C2). The differences in expenditure are largely explained by enrolment rates, legal entitlements and the intensity of participation, as well as the different ages at which children start primary education. The shorter duration of pre-primary education in Ireland, as a result of children's earlier transition from pre-primary to primary education, partly explains why that country's expenditure on ECEC as a percentage of GDP is below the OECD average. Similarly, late entry into primary education, as in Estonia, Latvia, Lithuania 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 See Annex 1, Table X1.5).

It is therefore interesting to look at the overall funding for the education and care of children in a certain age range, regardless of the level they are enrolled at. Across OECD countries, the share of national resources devoted to 3-5 year-olds enrolled in ECE and primary education is 0.6% of GDP. This ranges from 0.3% of GDP in Greece, Ireland, Romania and Türkiye to at least 1% of GDP in countries such as Iceland and Norway (Table B2.3).

Sources of funding for early childhood education

On average across OECD countries, private funding represented 26% of total expenditure on early childhood educational development and 14% on pre-primary education in 2020 (Table B2.3). While the share of private funding varies greatly across countries, the source of funding does not necessarily reflect the entity providing the service. In all OECD member, partner and/or accession countries, the government provides at least 50% of the total funding for pre-primary education, even in countries where almost all pre-primary children attend private institutions. In Korea, for example, although 73% of pre-primary children attend private institutions, private sources account only 10% of total costs, a lower share than in countries with significantly higher public provision of pre-primary education, such as Denmark or Slovenia (Table 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, private costs are shared between households, foundations and the business sector, although private ECE centres are publicly subsidised and household contributions to ECE are capped.

Early childhood education and care remains expensive for many parents, particularly for those of children under 3, where households' financial contributions tend to be higher than at the pre-primary level. Calculations using comparable data on childcare prices charged to parents, and accounting for all relevant support provisions, show that the net costs average 17% of women's median full-time earnings for a middle-income two-earner couple. This varies from over half of female median earnings in Japan and the United Kingdom to almost zero in Chile, the Czech Republic, Germany and Italy, where families with children in public childcare centres can benefit from heavily subsidised childcare fees or may be exempt from paying fees altogether (OECD, 2020^[31]).

Compared to other levels of education, regional and local government sources provide a larger share of ECE funding than central government sources. In 2020, central government provided 49% of initial public funds for pre-primary expenditure on average across OECD countries. However, this masks wide differences across countries. Central government is the only source of public funding in Costa Rica, Greece and New Zealand, while local governments provide all the public funding at this level in several Northern European countries (Denmark, Iceland and Norway) (Table B2.3).

These variations reflect different governance models for ECE systems as well as the distribution of regulatory and funding responsibilities between levels of government. In Denmark, municipalities administer a range of key local services (Nusche et al., 2016^[32]) and use a range of different parameters to allocate funds, including socio-economic background and school size. Similarly, in Germany, each state (Land) determines its own legislation and administration, and assists households with the costs of childcare. In contrast, 98% of initial government funds for pre-primary education come from central government in Chile (Table B2.3). Here, most government funds are allocated through school grants directly from the state to school providers and calculated using attendance and adjustment factors by level and type of education (Santiago et al., 2017^[33]).

Definitions

ECE: ECEC services in adherence with the criteria defined in the ISCED 2011 classification (see ISCED 01 and 02 definitions) are considered early childhood education programmes and are therefore referred to as ECE in this indicator. Others are considered an integral part of countries' ECEC provision, but are not in adherence with all the ISCED criteria. (OECD, 2023^[6]) Education at a Glance 2023 Sources, Methodologies and Technical Notes, available on line, makes the distinction between these two categories explicit.

- **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, 2023^[6]) (see Education at a Glance 2023 Sources, Methodologies and Technical Notes).
 1. **Regular centre-based ECEC:** More formalised ECEC centres typically belong to one of these three subcategories:
 - a. *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.
 - b. *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.
 - c. *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).
 2. **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.

3. **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).

Full enrolment: As in Indicator B1, full enrolment is defined as enrolment rates exceeding 90%.

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 primary education, 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.

Please see Indicator D3 for definitions on statutory and actual salaries of teachers.

Methodology

Enrolment rates

Net enrolment rates are calculated by dividing the number of children of a particular age / age group enrolled in ECEC by the size of the population of that age / 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^[34]) and (OECD, 2023^[6]) *Education at a Glance 2023 Sources, Methodologies and Technical Notes*, (<https://doi.org/10.1787/d7f76adc-en>) for country-specific notes.

Estimated expenditure for all children aged 3-5 enrolled in ECE 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 3% of all children enrolled in ISCED 01, 99% of all children enrolled in ISCED 02 and 11% 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: 3% of all expenditure in ISCED 01 and 99% of all expenditure in ISCED 02 and 11% of all expenditure in ISCED 1. A similar calculation was made for all countries.

Source

- Data refer to the reference year 2021 (school year 2020/21) and financial year 2020.
- 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 2022 (for details, see (OECD, 2023^[6]) [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#)).

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Indicator B2 tables

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

Table B2.1	Enrolment rates in early childhood education and care (ECEC) and primary education, by age (2021)
Table B2.2	Profile of teachers and ratio of children to staff in early childhood education (ECE), by level of education (2013 and 2021)
Table B2.3	Financing of early childhood education (ECE) in public and private institutions (2020)

StatLink  <https://stat.link/cub5sz>

Cut-off date for the data: 17 June 2023. Any updates on data can be found online 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. Enrolment rates in early childhood education and care (ECEC) and primary education, by age (2021)

Public and private institutions

	Under age 2			Age 2			Age 3			Age 4			Age 5			Age 6		
	ECE (ISCED 0)	Other registered ECEC services	Total	ECE (ISCED 0)	Other registered ECEC services	Total	ECE (ISCED 0)	Other registered ECEC services	Total	ECE (ISCED 0)	Primary education	Total	ECE (ISCED 0)	Primary education	Total	ECE (ISCED 0)	Primary education	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
OECD countries																		
Australia	35	m	35	63	m	63	71	m	71	86	1	87	22	77	99	2	100	100
Austria	8	m	8	45	m	45	78	m	78	93	0	93	97	0	97	43	57	100
Belgium ¹	0	m	0	51	m	51	97	m	97	98	0	98	98	1	98	3	95	98
Canada ¹	m	m	m	m	m	m	m	m	m	m	m	m	93	0	93	0	96	96
Chile	13	0	13	33	0	33	51	1	51	79	0	79	91	0	92	25	73	97
Colombia	29	m	29	46	m	46	58	m	58	84	0	84	97	17	100	7	83	90
Costa Rica	1	m	1	3	m	3	4	m	4	87	0	87	94	0	94	2	92	94
Czech Republic	a	m	m	11	m	11	72	m	72	87	0	87	93	0	93	49	46	96
Denmark	38	m	38	87	m	87	96	m	96	97	0	97	97	1	98	6	93	99
Estonia	7	2	9	64	8	72	87	4	91	92	0	92	93	0	93	93	1	94
Finland	19	m	19	72	m	72	84	m	84	89	0	89	92	0	92	96	0	96
France	a	m	m	10	m	10	100	m	100	100	0	100	100	1	100	2	100	100
Germany	24	a	24	67	a	67	89	a	89	94	0	94	96	0	96	39	59	98
Greece ¹	0	m	0	0	m	0	0	m	0	83	0	83	93	0	93	4	92	95
Hungary	1	m	1	11	m	11	85	m	85	96	0	96	99	0	99	53	40	93
Iceland	27	13	40	94	0	94	97	0	97	97	0	97	97	0	97	0	98	98
Ireland	0	m	0	6	m	6	88	m	88	80	18	97	3	100	100	2	100	100
Israel	44	a	44	69	a	69	100	a	100	97	0	97	96	0	96	13	84	97
Italy	a	m	m	13	m	13	87	m	87	92	0	92	87	7	94	1	97	98
Japan	a	26	26	9	53	62	89	0	89	98	0	98	97	0	97	0	100	100
Korea	48	a	48	93	a	93	96	a	96	97	0	97	93	0	93	0	97	97
Latvia	9	a	9	74	a	74	90	a	90	94	0	94	97	0	97	93	4	98
Lithuania	7	a	7	73	a	73	89	a	89	91	0	91	92	0	92	89	8	96
Luxembourg	a	m	m	3	m	3	68	m	68	100	0	100	94	5	99	6	93	99
Mexico	1	a	1	8	a	8	39	a	39	81	0	81	75	25	100	1	98	99
Netherlands	a	m	m	0	m	0	85	m	85	95	0	95	99	0	99	0	100	100
New Zealand	31	4	35	66	6	71	82	4	86	87	0	87	7	91	98	0	98	99
Norway	41	m	41	94	m	94	97	m	97	98	0	98	98	0	98	1	99	99
Poland	a	8	m	6	19	25	76	2	78	89	0	89	96	0	96	99	2	100
Portugal ¹	0	m	0	0	m	0	78	m	78	95	0	95	98	0	98	15	85	100
Slovak Republic	a	m	m	13	m	13	67	m	67	80	0	80	86	0	86	44	50	94
Slovenia	27	m	27	80	m	80	89	m	89	93	0	93	95	0	95	11	87	98
Spain	25	m	25	56	m	56	94	m	94	97	0	97	97	0	97	1	97	98
Sweden	25	0	26	91	1	92	94	1	95	95	0	95	96	0	96	98	1	99
Switzerland	a	m	m	0	m	0	2	m	2	49	0	49	97	1	98	53	46	100
Türkiye	0	a	0	1	a	1	6	a	6	20	0	20	66	2	68	0	91	91
United Kingdom	1	m	1	50	m	50	100	m	100	100	3	100	0	99	99	0	100	100
United States ¹	m	m	m	m	m	m	30	m	30	50	0	50	81	4	84	20	74	93
OECD average	17	m	18	41	m	43	73	m	74	88	1	88	84	11	95	26	72	97
Partner and/or accession countries																		
Argentina ²	2	m	2	11	m	11	44	m	44	89	0	89	100	0	100	1	100	100
Brazil	12	a	12	33	a	33	48	a	48	71	0	71	87	2	89	13	81	94
Bulgaria	a	m	m	12	m	12	71	m	71	77	0	77	84	0	84	81	5	86
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	16	m	16	48	m	48	66	m	66	71	0	71	75	0	75	79	19	98
India	0	m	0	0	m	0	36	m	36	58	2	60	57	28	86	0	88	88
Indonesia ²	3	m	3	14	m	14	38	m	38	76	m	76	99	3	100	59	63	100
Peru	2	m	2	10	m	10	75	m	75	94	a	94	100	3	100	1	98	99
Romania	1	m	1	15	m	15	64	m	64	78	0	78	85	0	85	17	73	90
Saudi Arabia	0	m	0	0	m	0	1	m	1	14	0	14	37	7	45	2	89	90
South Africa ^{1, 2}	m	m	m	m	m	m	m	m	m	m	0	m	m	0	m	m	33	m
EU25 average	12	m	12	36	m	37	80	m	80	91	1	92	90	5	95	38	60	97
G20 average	12	m	13	29	m	32	62	m	62	77	0	77	77	14	90	10	85	96

Note: See StatLink and Box B2.3 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). See *Source* section for more information and (OECD, 2023^[6]), *Education at a Glance 2023 Sources, Methodologies and Technical Notes*, <https://doi.org/10.1787/d7f76adc-en>.

StatLink  <https://stat.link/2o64ln>

Table B2.2. Profile of teachers and ratio of children to staff in early childhood education (ECE), by level of education (2013 and 2021)

	Share of teachers by age group				Share of male teachers			Ratio of children to staff in full-time equivalents, by type of ECE service (public and private institutions)					
	2021				2021		2013	2021					
	Early childhood educational development (ISCED 01)	Pre-primary (ISCED 02)			Early childhood educational development (ISCED 01)	Pre-primary (ISCED 02)	Pre-primary (ISCED 02)	Early childhood educational development (ISCED 01)			Pre-primary (ISCED 02)		
		< 30 years	< 30 years	30-49 years				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
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
OECD countries													
Australia	m	m	m	m	m	m	m	m	m	m	m	m	m
Austria	37	30	49	21	2	3	1	44	5	10	39	8	14
Belgium	m	17	55	28	m	3	3	m	m	m	a	13	13
Canada	m	m	m	m	m	m	m	m	m	m	m	m	m
Chile	18	14	65	21	1	1	1	30	4	6	58	9	21
Colombia	m	24	42	34	m	3	4	m	m	m	m	m	46
Costa Rica	7	7	67	26	15	7	7	a	4	4	a	11	11
Czech Republic	a	17	42	41	a	1	0	a	a	a	10	11	12
Denmark	11	11	51	38	7	7	m	39	3	5	39	6	10
Estonia	x(2)	10 ^d	43 ^d	47 ^d	x(6)	1 ^d	0	m	m	x(13)	m	m	8 ^d
Finland	m	17	51	32	m	3	3	m	m	m	m	m	8
France ¹	a	10	60	30	a	9	9	a	a	a	39	14	22
Germany	22	22	49	30	5	6	3	10	4	5	10	8	9
Greece	m	8	54	38	m	1	1	m	m	m	a	10	10
Hungary	16	15	44	41	2	1	0	a	13	13	a	13	13
Iceland	36	36	43	21	8	8	6	a	3	3	a	5	5
Ireland	m	m	m	m	x(6)	2 ^d	m	x(11)	x(12)	x(13)	5 ^d	4 ^d	4 ^d
Israel ²	m	11	63	26	m	1	1	m	m	m	m	m	m
Italy	a	1	38	61	a	1	2	a	a	a	a	11	11
Japan	a	49	40	11	a	3	3	a	a	a	9	12	13
Korea	20	46	46	7	0	1	1	a	5	5	a	13	13
Latvia	12	12	47	40	1	1	1	m	m	5	m	m	11
Lithuania	11	12	41	47	0	1	1	37	6	9	38	6	10
Luxembourg	a	24	63	13	a	7	3	a	a	a	a	9	9
Mexico	m	m	m	m	0	4	4	73	6	23	a	19	19
Netherlands	a	16	53	31	a	12	13	a	a	a	18	13	16
New Zealand	25	25	50	25	3	3	2	m	m	4	m	m	6
Norway	19	19	63	18	9	9	7	59	3	6	59	5	11
Poland	a	17	58	25	a	2	2	a	a	a	m	m	13
Portugal	m	3	44	53	m	1	1	m	m	m	m	m	16
Slovak Republic	a	16	47	38	a	0	0	a	a	a	4	11	11
Slovenia	10	10	63	27	2	2	2	52	5	11	52	9	19
Spain	11	11	61	28	2	7	5	m	m	8	m	m	13
Sweden	11	10	52	38	3	4	4	60	5	13	55	6	14
Switzerland ²	a	17	53	30	a	3	3	a	a	a	m	m	18
Türkiye	m	22	74	4	m	6	6	m	m	m	m	m	13
United Kingdom	27	23	57	20	5	8	10	91	3	29	88	4	36
United States	m	m	m	m	m	7	6	m	m	m	25	10	13
OECD average	18	18	52	30	m	4	3	49	5	9	34	10	14
Partner and/or accession countries													
Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m
Brazil	15	13	67	20	3	6	4	26	9	12	9	12	13
Bulgaria	a	10	50	40	a	1	m	a	a	a	a	12	12
China	m	m	m	m	a	3	3	m	m	m	m	m	m
Croatia	17	17	56	26	1	1	m	m	m	8	m	m	10
India	m	m	m	m	a	7	m	m	m	m	m	m	m
Indonesia ³	m	m	m	m	7	4	5	m	m	21	m	m	13
Peru	m	m	m	m	3	3	m	m	m	m	m	m	m
Romania	9	19	58	24	0	0	0	12	17	19	4	14	14
Saudi Arabia	a	m	m	m	a	0	0	a	a	a	m	m	13
South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m
EU25 average	15	14	51	35	m	3	3	36	7	9	26	10	12
G20 average	m	m	m	m	m	5	4	m	m	m	m	m	m

Note: See StatLink and Box B2.3 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). See *Source* section for more information and (OECD, 2023^[6]), *Education at a Glance 2023 Sources, Methodologies and Technical Notes*, <https://doi.org/10.1787/d7f76adc-en>.



StatLink  <https://stat.link/d4rwjf>

Table B2.3. Financing of early childhood education (ECE) in public and private institutions (2020)

Expenditure per child enrolled in ECE, distribution of sources of public funds and relative share of private expenditure

	Percentage of children enrolled in private institutions (government-dependent and independent private institutions)			Expenditure on all children aged 3 to 5 enrolled in ECE and primary education (based on head counts)		Annual expenditure per child in USD, converted using PPPs (based on head counts)			Distribution of initial funds (before transfers) between levels of government			Relative proportions of private expenditure on early childhood education (after public to private transfers)		
	Early childhood educational development (ISCED 01)	Pre-primary (ISCED 02)	All ECE (ISCED 0)	As a % of GDP	Per child (in USD PPP)	Early childhood educational development (ISCED 01)	Pre-primary (ISCED 02)	All ECE (ISCED 0)	Pre-primary (ISCED 02)			Early childhood educational development (ISCED 01)	Pre-primary (ISCED 02)	All ECE (ISCED 0)
									Central	Regional	Local			
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Australia	m	86	m	0.6	10 632	8 059	9 726	8 983	74	26	0	30	24	26
Austria	61	29	35	0.5	12 188	15 786	11 977	12 698	6	53	41	23	11	14
Belgium ¹	m	53	m	0.6	10 595	m	10 589	m	23	72	5	m	2	m
Canada	m	7	m	m	m	m	m	m	m	m	m	m	m	m
Chile	10	64	53	0.9	7 547	7 530	7 548	7 544	98	a	2	19	16	17
Colombia	m	19	m	0.5	1 852	m	1 657	m	88	3	9	85	23	40
Costa Rica ²	61	11	13	m	m	m	m	m	100	a	a	m	m	m
Czech Republic	a	4	4	0.5	8 048	a	8 048	8 048	8	60	32	a	9	9
Denmark	15	22	19	0.6	m	23 918	12 234	16 508	0	0	100	24	24	24
Estonia	x(3)	x(3)	4	0.8	10 699	x(8)	x(8)	10 699	m	a	m	x(14)	x(14)	11
Finland	24	15	16	0.6	13 511	26 933	13 511	16 016	29	a	71	5	7	6
France	a	14	14	0.7	9 985	a	9 986	9 986	51	0	48	a	6	6
Germany	73	65	67	0.6	12 944	20 774	12 946	15 049	0	46	55	7	8	7
Greece ^{1,2}	m	11	m	0.3	6 411	m	6 411	m	100	a	0	m	13	m
Hungary	17	12	12	0.6	m	6 853	7 600	7 565	71	a	29	10	10	10
Iceland	21	15	17	1.2	18 770	27 804	18 775	21 839	a	a	100	8	12	10
Ireland	100	99	99	0.3	m	x(8)	x(8)	4 790	m	a	a	x(14)	x(14)	16
Israel	100	35	58	0.9	5 936	3 208	5 930	4 960	78	a	22	71	7	22
Italy	a	28	28	0.5	10 078	a	10 032	10 032	81	4	15	a	13	13
Japan ³	a	78	78	m	m	a	8 557	8 557	29	38	33	a	23	23
Korea	83	73	77	0.5	10 102	m	10 099	m	79	19	2	m	10 ⁴	m
Latvia ¹	20	9	11	0.7	7 348	7 348	7 348	7 348	11	a	89	6	6	6
Lithuania	12	6	7	0.7	9 894	10 159	9 894	9 944	44	a	56	15	11	12
Luxembourg	a	10	10	0.5	22 708	a	22 702	22 702	79	a	21	a	2	2
Mexico	56	16	18	0.6	2 579	m	m	2 558	m	m	m	x(14)	x(14)	12
Netherlands	a	29	29	0.4	8 901	a	8 901	8 901	89	0	11	a	14	14
New Zealand	99	99	99	m	m	m	m	m	100	0	0	m	m	m
Norway	51	49	50	1.0	17 412	31 341	17 412	22 386	0	a	100	13	13	13
Poland	a	26	26	0.7	8 644	a	8 644	8 644	74	0	26	a	15	15
Portugal ¹	m	47	m	0.6	8 323	m	8 322	m	77	9	13	m	35	m
Slovak Republic	a	8	8	0.6	6 623	a	7 642	7 642	11	a	89	a	11	11
Slovenia	7	5	6	0.7	10 038	13 218	10 038	11 016	12	a	88	20	19	20
Spain	48	32	37	0.6	8 231	10 205	8 230	8 742	11	80	9	29	14	19
Sweden	20	18	19	0.9	14 934	21 407	14 934	16 621	m	a	m	6	6	6
Switzerland	a	5	5	m	m	a	m	m	0	47	53	a	m	m
Türkiye ¹	100	18	18	0.3	4 698	m	4 718	m	99	a	1	m	16	m
United Kingdom	82	56	61	0.6	m	m	m	m	7	a	93	70	30	40
United States ¹	m	40	m	0.4	11 102	m	11 014	m	22	34	44	m	24	m
OECD average	51	33	32	0.6	10 025	15 636	10 181	11 145	49	12	39	26	14	15
Partner and/or accession countries														
Argentina	50	29	30	m	m	m	m	m	m	m	m	m	m	m
Brazil	33	22	26	m	m	m	m	m	m	m	m	m	m	m
Bulgaria	a	2	2	0.6	6 710	a	6 712	6 712	94	a	6	a	5	5
China	a	56	56	m	m	m	m	m	m	m	m	m	m	m
Croatia	19	20	20	0.5	7 098	m	m	7 098	m	m	m	x(14)	x(14)	23
India	a	25	25	m	m	a	m	m	m	m	m	a	m	m
Indonesia	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Peru	11	24	23	m	m	m	m	m	m	m	m	m	m	m
Romania	3	6	6	0.3	4 812	11 174	4 832	5 076	79	a	21	1	0	0
Saudi Arabia	m	47	m	m	m	m	m	m	m	m	m	m	m	m
South Africa	m	6	m	m	m	m	m	m	m	m	a	m	m	m
EU25 average	32	24	22	0.6	9 942	15 252	10 070	10 538	45	13	42	13	11	11
G20 average	47	28	28	m	m	m	m	m	m	m	m	m	m	m

Note: See StatLink and Box B2.3 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2022, 2023). See Source section for more information and (OECD, 2023^[6]), *Education at a Glance 2023 Sources, Methodologies and Technical Notes*, <https://doi.org/10.1787/d7f76adc-en>.StatLink  <https://stat.link/sh11nd>

Box B2.3. Notes for Indicator B2 tables

Table B2.1. Enrolment rates in early childhood education and care (ECEC) and primary education, by age (2021)

Early childhood education (ECE) = 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 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.
2. Year of reference differs from 2021: 2020 for Argentina and South Africa; 2018 for Indonesia.

Table B2.2. Profile of teachers and ratio of children to staff in early childhood education (ECE), by level of education (2013 and 2021)

Additional columns showing the breakdown of other age groups in early childhood educational development, and for male teachers in pre-primary education, are available for consultation on line (see StatLink below).

1. Excludes data from independent private institutions (and government-dependent private institutions for teachers' aides).
2. Public institutions only. For Switzerland, only for the ratio of children to teaching staff.
3. Year of reference differs from 2021: 2018 for Indonesia.

Table B2.3. Financing of early childhood education (ECE) in public and private institutions (2020)

The percentage of children enrolled in private institutions for 2020 is available in the Education at a Glance Database (<http://stats.oecd.org/>).

1. Expenditure on all children aged 3 to 5 excludes expenditure and enrolment in ISCED 01 programmes.
2. Year of reference differs from 2020: 2021 for Costa Rica and 2019 for Greece.
3. Data do not cover day care centres and integrated centres for early childhood education and care.

For more information see *Definitions, Methodology and Source* sections and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[6]).

Data and more breakdowns are available in the Education at a Glance Database (<http://stats.oecd.org/>).

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

Indicator B3. Who is expected to complete upper secondary education?

Highlights

- On average, 72% of students who enter upper secondary education graduate within its theoretical duration across countries with available data. Two years after the end of the theoretical duration, the average completion rate has increased to 82%.
- Students who entered a general upper secondary programme have a higher rate of completion (87%) than those who entered in a vocational programme (73%) in nearly all countries two years after the end of the theoretical programme duration.
- Continuation patterns of upper secondary graduates vary greatly depending on the pathways available within education systems. On average across countries with available data, the majority of general upper secondary graduates (65%) continue their studies, most often at bachelor's degree level or above. Around one-third of those completing vocational programmes are enrolled in an education programme one year after graduating from upper secondary education.

Context

Upper secondary education, which in many countries includes separate general and vocational pathways, aims to prepare students to enter further levels of education or the labour market. In many countries, this level of education is not compulsory and programmes typically take two to five years to complete. Upper secondary completion rates indicate how many of the students who enter an upper secondary programme ultimately graduate from it. The number of students disengaging and consequently dropping out of the education system, thereby leaving school without an upper secondary qualification, is a challenge for many education systems. Typically, these young people tend to face severe difficulties entering – and remaining in – the labour market.

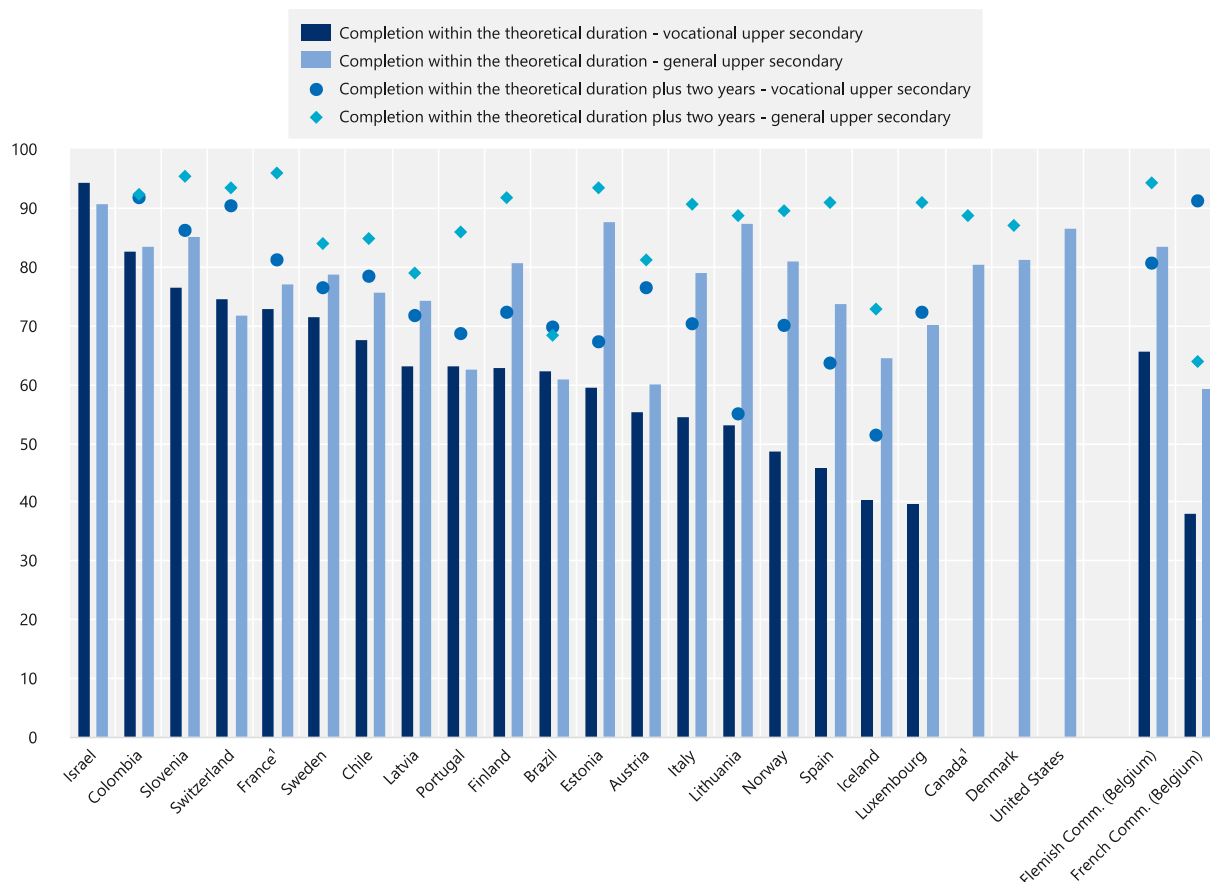
This indicator measures the proportion of students who have successfully completed upper secondary programmes, and how many are still in education or have dropped out at two specific points: the end of the theoretical duration of the programme they entered; and two years after the end of the theoretical duration. The difference between these two timeframes sheds light on the extent to which students tend to graduate “on time”. It also compares completion rates by gender and programme orientation. This indicator also examines the status of those completing upper secondary education in the year after graduation, including whether they are still in education and, if so, whether it is in a post-secondary or tertiary programme, or another upper secondary programme.

The COVID-19 pandemic has had a substantial impact on global education systems. In 2020, students worldwide experienced total or partial school closures and had to adapt to alternative forms of education. Upper secondary completion rate is one of the education indicators that have been affected by various factors such as changes in graduation requirements, psychological and health conditions impacting academic performance, and challenges in fulfilling the work-based component of vocational education and training (VET)

programmes. The extensive analysis of the impact of COVID-19 on upper secondary completion rates can be accessed online in the Upper Secondary Education Systems Dashboard (Box B3.1).

Figure B3.1. Upper secondary completion rates, by timeframe and programme orientation on entry (2021)

In per cent, true cohort data only




Note: The data presented here come from an ad-hoc survey and only concern initial education programmes. The reference year (2021, unless noted otherwise) refers to the year of graduation two years after the theoretical duration.

1. Year of reference differs from 2021. Refer to the source table for more details.

Countries and other participants are ranked in descending order of the completion rate within the theoretical duration of vocational upper secondary students.

Source: OECD (2023), Table B3.1. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023_[1]).

StatLink  <https://stat.link/crjkyh>

Other findings

- For nearly all countries, the completion rate within the theoretical duration is higher for upper secondary general programmes than for vocational ones. In Lithuania, Luxembourg and Norway the gap in completion rates is at least 30 percentage points wider for general programmes than for vocational ones by the end of theoretical duration.

- On average, 5% of students who enter an upper secondary vocational programme is still in education two years after the end of the theoretical duration of the programme, while 23% have not graduated and are no longer enrolled.
- In some countries and other participants, upper secondary students can transfer between general and vocational programmes before graduating, meaning that they could graduate from a programme with a different orientation from the one they entered. In Chile, the Flemish and French Communities of Belgium about 20% of students who enter an upper secondary general programme graduate from a vocational. Similarly, in Brazil, Colombia, Latvia and Norway, at least 10% of upper secondary students graduate from a general programme after entering a vocational one.
- In all countries with available data, women have higher completion rates of upper secondary education than men. The gender gap decreases with time, as men take longer to complete their programmes.
- On average across countries, 56% of graduates from general programmes enrol in bachelor's education within a year of completing upper secondary education. Only in Canada, Colombia and Spain do a significant share – at least 15% – enrol in short-cycle tertiary education.

Note

The upper secondary completion rate is the percentage of students who enter an upper secondary programme for the first time and graduate from it within a given number of years after they entered. Restricting it to first time entrants to upper secondary education excludes adult education programmes and students enrolling in upper secondary education for a second time after their initial schooling. For example, this indicator does not capture students who enter a vocational upper secondary programme after completing a general upper secondary one.

Moreover, the drop-out rate, which is one of the key indicators of this analysis, should not be confused with the out-of-school rate (see Box A2.1. in Indicator A2). The drop-out rate refers to the share of students who leave a specific level of education without graduating from a first qualification at that level. The out-of-school rate is defined as the percentage of children in the official age range for a given level of education who are not enrolled in school.

Analysis

Completion rates by true cohort methodology

On average across the countries and other participants with true cohort data (see the *Definitions* and *Methodology* sections), 72% of students who enter upper secondary education graduate from any programme within the theoretical duration of the programme. Two years after the end of the theoretical duration, the average completion rate increases to 82% (Table B3.1). This delay in completion for some students may reflect various factors, including grade repetition, changes in programme choice or delayed fulfilment of the requirements for graduation.

In all countries and other participants with available information, except in Italy and Korea, academic performance is the primary requirement for graduating from any upper secondary programme. Performance is assessed in different ways in different countries. In Canada, students must complete a certain number of course credits, to obtain an upper secondary diploma. In Israel, students can study a subject for up to five study units, each unit bringing them to a higher level, and some students write research papers at this level. Nearly half of countries and other participants require students to pass an external examination, i.e. a national examination, to complete upper secondary education (e.g. in Austria, France and Slovenia). Vocational students are required to complete work-based learning in one-third of countries (Box B3.1).

Box B3.1. Interactive visualisations of the structure of upper secondary programmes

An interactive online platform is available to provide complementary contextual information on upper secondary programmes. It gives information on the different types of programmes, their duration, the starting age as well as information regarding selection mechanisms, graduation criteria, transition pathways and the impact of COVID-19 on completion rates of upper secondary education.

The platform can be accessed at [the Dashboard on Upper Secondary Education Systems](#).

Completion rates by programme orientation

Ensuring students complete their upper secondary education is a challenge in several countries, especially in vocational programmes. Less than 50% of vocational upper secondary students in the French Community of Belgium, Iceland, Luxembourg, Norway and Spain complete their studies by the end of the theoretical duration. After a further two years, however, completion rates are higher and reach 70% in Luxembourg and Norway. Completion rates among vocational students are relatively high in Colombia, France, Israel, Slovenia, Sweden and Switzerland, exceeding 70% at the end of theoretical duration. There is much less cross-country variation in the case of general programmes. Completion rates in general upper secondary education exceed 70% in all countries and other participants except in Austria, Brazil, the French Community of Belgium, Iceland and Portugal (Figure B3.1).

The completion gap between general and vocational programmes is partly driven by selection or self-selection into vocational or general programmes. In general, students with weaker school performance are often guided into or opt for vocational programmes (Kis, 2020^[2]). However, unlike most countries, in Brazil, Israel and Switzerland, completion rates are higher for students in vocational programmes (Figure B3.1). In Brazil, public vocational schools are viewed as high-status institutions, face excess demand and many graduates continue to higher education (OECD, 2022^[3]). In Switzerland, the vocational education and training (VET) system is based on apprenticeships, shorter programmes have been developed for youth at risk of dropping out and there are various targeted measures to support completion (OECD, 2018^[4]).

Several countries provide data on completion patterns by type of vocational programme, distinguishing between programmes with or without direct access to tertiary education. In most countries with available data, students who entered programmes without direct access to tertiary education are less likely to complete than their peers in programmes with direct access to tertiary education. In Italy, for example, 53% of students who entered a vocational programme without direct access to tertiary education will have completed their studies by two years after the theoretical duration, compared to 71% of those in programmes with direct access to tertiary education. The only exception is Latvia, where the completion rates are 85% for vocational programmes without direct access, and 70% for those with. The size of the gap in completion rates between the two types of programmes within two years of the end of the theoretical duration varies considerably across countries, ranging from 28 percentage points in the French Community of Belgium to only 4 percentage points in Slovenia (Table B3.1).

The gap in completion rates between programmes with or without direct access to tertiary education also reflects a combination of selection and self-selection into upper secondary programmes. Some countries offer multiple vocational tracks at upper secondary level. Programmes with direct access to tertiary education tend to place more emphasis on general content and preparation for further studies. Students with weaker lower secondary school grades and those less interested in school-based forms of learning are more likely to choose or be guided towards vocational programmes without direct access to tertiary education, as these tend to have a stronger focus on occupational skills and a lighter academic workload. Some programmes in this category were explicitly designed for youth at risk of dropping out, such as two-year apprenticeships in Switzerland.

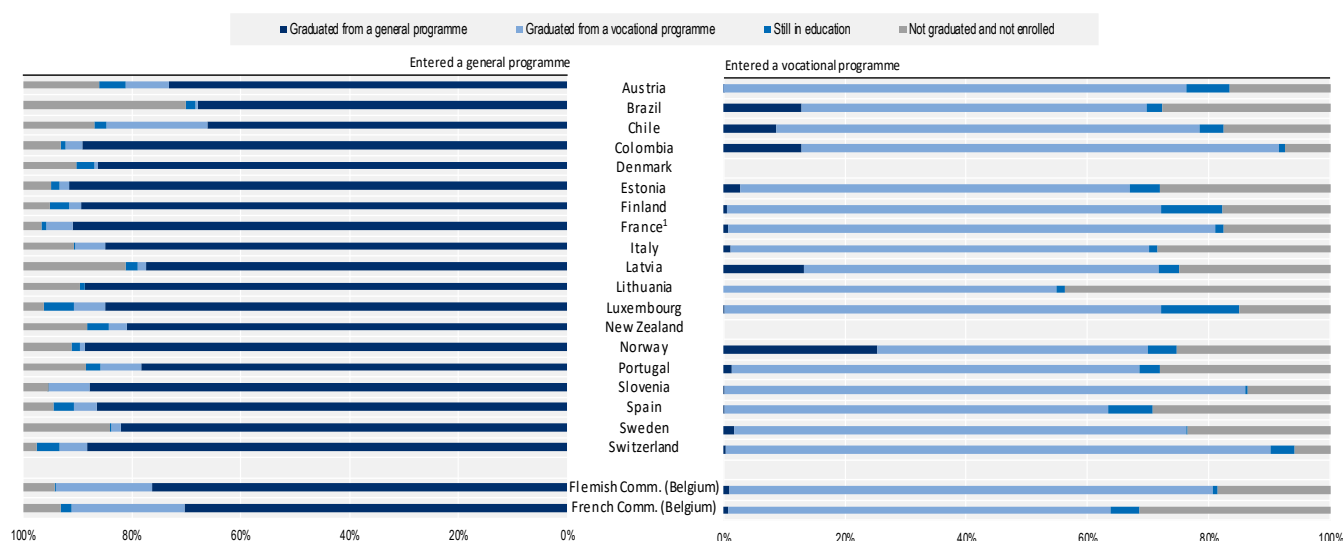
Completion rates by gender

In all countries with available data, female students have a higher completion rate of upper secondary education than males. This holds for both vocational and general programmes, with Lithuania and Sweden being the only exceptions for vocational programmes. On average, the gender gap in general and vocational programmes is the same and is 7 percentage points for both. The gender gap in completion rates is consistent for both timeframes (within the theoretical duration and plus two years), though the gap closes slightly two years after the theoretical duration, indicating that male students are more likely to delay graduation (Table B3.1).

Countries show different patterns in their gender gaps in completion rates by programme orientation. The gender gap is wider for vocational programmes in some countries (e.g. Norway and Spain), and in general programmes for others (e.g. Iceland and Israel). In Norway the gender gap in completion rates for vocational programmes is 20 percentage points and in Spain it is 11 percentage points, whereas it is reported around 7 percentage points for general programmes in both countries. On the other hand, in Iceland and Israel, the gender gap for general programmes is respectively 15 and 11 percentage points while it is respectively 8 and 4 percentage points for vocational programmes (Table B3.1).

Figure B3.2. Distribution of entrants to upper secondary education, by programme orientation and outcomes after the theoretical duration plus two years (2021)

In per cent



Note: The data presented here come from an ad-hoc survey and only concern initial education programmes. The columns for "not graduated and not enrolled" may include students who left the country before graduation. Students who continued their studies in the adult education system are included in the columns for "not graduated and not enrolled"

1. Year of reference differs from 2021. Refer to the source table for more details.

Countries and other participants are listed alphabetically.

Source: OECD (2023), Table B3.2. For more information see [Source section](#) and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#). (OECD, 2023^[1])

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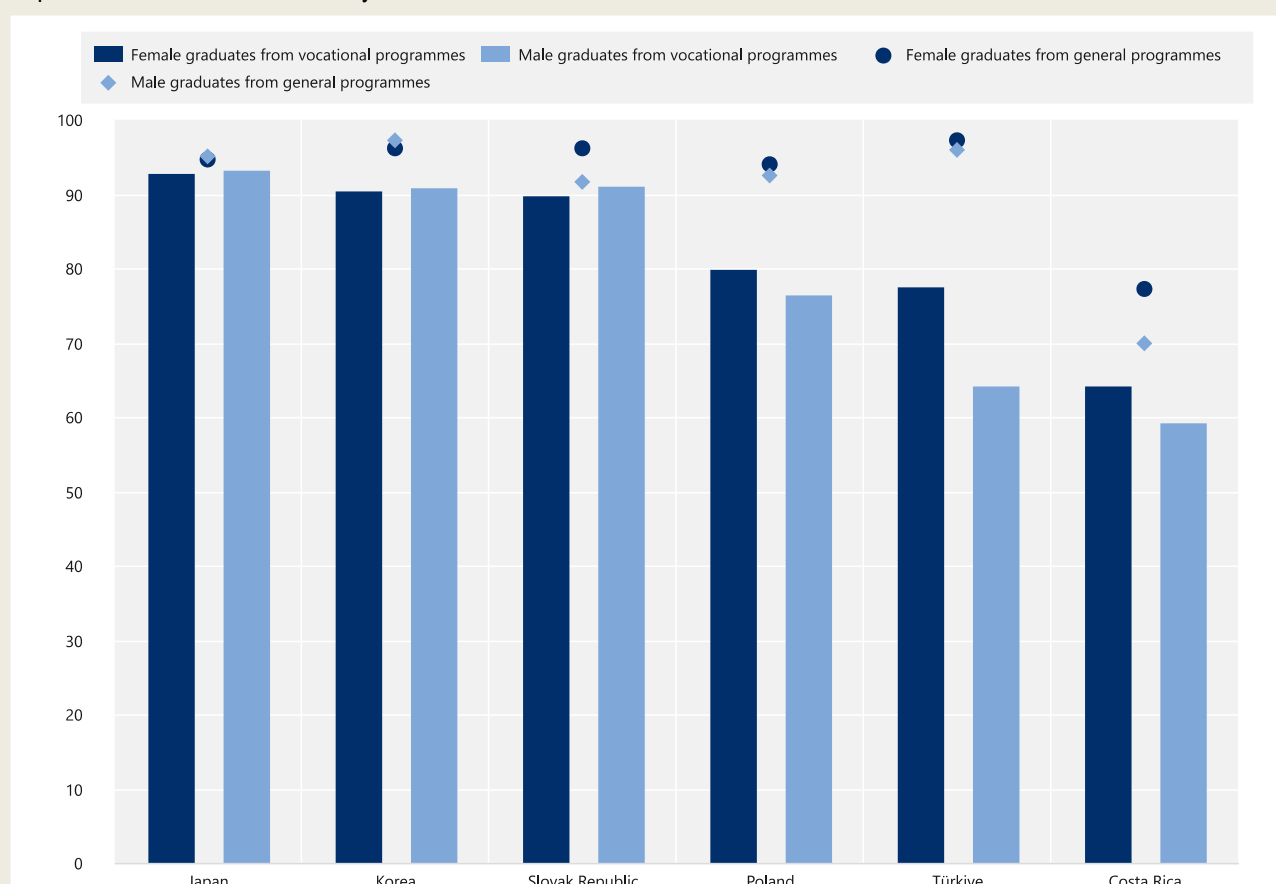
Box B3.2. Completion rates using the cross cohort methodology

The true cohort method for computing completion rates follows a cohort of students over time and records if and when they complete the programme. In contrast, the cross cohort method covers all graduates in a given year – with no limitation on the time it took them to complete the programme. The two methodologies are therefore not comparable. The cross-cohort completion rate relies on the assumption of constant student flows and is therefore sensitive to changes in the student population and it tends to overestimate completion rates in general. It is still used because it has the advantage that it does not require longitudinal data tracking students over time, unlike the true cohort methodology.

Although the true cohort and cross cohort methods produce different results, they show similar patterns. Figure B3.3 shows completion rates in the countries using cross cohort methodology by gender and programme orientation. In all these countries, completion rates are higher for general programmes, although the disparity between the two tends to be smaller than for countries with true cohort data. Moreover, the gender gap in completion rates is negligible in Japan, Korea and the Slovak Republic and although there is a gender gap in favour of female students in Costa Rica, Poland and Türkiye, it is smaller than the gender gaps seen in the true cohort dataset.

Figure B3.3. Upper secondary completion rates, by gender and programme orientation (2021)


In per cent, cross cohort data only



Note: The data presented here come from an ad-hoc survey. For cross cohort data, the reference year is 2021.

Countries and other participants are ranked in descending order of the completion rate of female vocational programme graduates.

Source: OECD (2023), Table B3.1 For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#). (OECD, 2023^[1]).

StatLink  <https://stat.link/97fsr0>

Transfers between programmes

Many countries aim to ensure permeability between different types of programmes, allowing students to transition to another programme if it better suits their interests and abilities. Moving from a vocational to a general programme may appeal to learners who have their eyes set on tertiary education and are not interested (or have not found a suitable programme) in a specific occupational area. Conversely, moving to a vocational programme can be an attractive option for students less interested in academic forms of learning but attracted by hands-on learning. One of the main benefits of being able to track individual students in a longitudinal dataset is the ability to analyse their distinct educational pathways.

Figure B3.2 examines the situation of upper secondary students two years after the end of their theoretical programme. It shows whether they graduated and, if so, from which programme, as well as the share of students who are still in education without having graduated and those who have dropped out. Unsurprisingly, most students graduate from the same programme orientation as the one they entered. Nevertheless, completion and transition patterns reveal some intriguing variations across and within countries. For instance, in Norway, one-quarter of students who entered a vocational programme have graduated from a general one two years after theoretical duration, while 45% have graduated from a vocational programme, 25% have dropped out and 5% are still in upper secondary education. This may reflect Norway's 2+2 apprenticeship system where students mostly pursue school-based VET for two years, followed by two years spent in a company. VET students who cannot find a place for the work-based part of the programme, and VET students who instead wish to obtain a general diploma, commonly transition to a general programme, which explains the large share of students who enter vocational education but graduate from general education. Conversely, transfers from general to vocational programmes are more common in the Flemish Community of Belgium, as a result of certification system which allows students in general programmes who obtained a grade A at the end of the school year to continue whatever programme they wish, including vocational programmes. In contrast, the same freedom is not available to students in vocational programmes.

Transition from vocational programmes with direct access to tertiary education to vocational programmes without such access (as observed in the Flemish Community of Belgium, France, Slovenia and Switzerland, for example) reflects students moving from more academically demanding vocational programmes to programmes with a stronger emphasis on occupational training and less on general subjects. Such transitions may be helpful in preventing students from dropping out, by offering VET students who might be struggling with the academic demands of their programme an alternative way to complete upper secondary education.

Still in education

In half of the countries and other participants with available data, at least 15% of students take up to two years longer than the theoretical end of the programme to graduate, for both general and vocational programmes (Table B3.2). Such delayed completion may be due to various factors. One is grade repetition, which may apply to general and vocational programmes. Another factor might be students "stopping-out" – withdrawing temporarily from a programme, either to return to the same programme or transfer to another one that better matches their interests or abilities (Wydra-Somaggio, 2021^[5]). For example, in Germany, approximately one-quarter of apprentices terminate their vocational education and training early (BIBB, 2019^[6]), but only a small share of them permanently drop out. Other factors can contribute to longer periods of study. In Finland, for instance, upper secondary programmes are flexible and students are able to schedule their own study programme according to their needs. This may increase the number of students who take longer to complete the programme: in vocational upper secondary education, students have a personal competence development plan which enables them to study according to their individual development needs while in general upper secondary education, it is relatively common for students to plan their study programmes to take 4 years instead of the typical duration of 3 years.

Two years after the theoretical end of their programme, the proportion of students who have not yet completed and are still in education is non-negligible. This is particularly common in vocational programmes. In Austria, Finland, Iceland, Luxembourg and Spain, for example, 7% or over of those who entered a vocational programme

are still in education two years after the end of the theoretical duration of their programme (Table B3.2). One implication is that, whatever the completion rates shown, ultimately a larger share of young people are likely to achieve an upper secondary qualification than Figure B3.2 suggests. Some of them will have needed more than the additional two years covered by this survey, while others may graduate through second chance and adult education programmes.

Drop-outs

Overall, two years after the theoretical duration, the share of students who drop out is higher than the share of students who are still in education in all countries except Luxembourg and Switzerland for general programmes. The proportion of students who drop out from vocational programmes exceeds 10% in all countries except in Colombia (7%) and Switzerland (6%). Drop-out rates are relatively high in some countries, with at least one in four VET students dropping out in Brazil, Estonia, the French Community of Belgium, Iceland, Italy, Latvia, Lithuania, Norway, Portugal and Spain (Table B3.2). High drop-out rates are worrying, as young people who fail to complete upper secondary education are most at risk of becoming NEET (neither employed nor in formal education or training). Supporting completion of upper secondary education is therefore essential for preventing young people from becoming not in employment education or training (NEET) (OECD, 2022^[7]) (see Indicator A2).

Research has explored the reasons underlying students' decisions to drop out. For example, Doll, Eslami and Walters (2013^[8]) highlighted the importance of identifying push-out and pull-out factors. Push-out factors may arise within the school environment – strict academic performance policies may result in poor grades, or discipline policies or bullying may lead to students dropping out. Pull-out factors arise when students have an illness or must work for financial concerns or experience family changes such as having a child. In addition to these two factors, Doll and colleagues (2013^[8]) identified a third category: fall-out factors. These factors may emerge when students fail to make adequate academic progress and consequently lose motivation and interest in continuing their studies. These three factors could be contributing to high drop-out rates, though they cannot account for every case. According to a study from Norway (Norwegian Directorate for Education and Training, 2020^[9]), school performance in lower secondary education is the most significant determinant of who will not complete upper secondary education. Similarly, a study from Sweden found that previous school performance was a major driver of completion. In fact, the completion gap between vocational and general programmes disappeared when grades obtained in lower secondary education were taken into account (Skolverket, 2022^[10]).

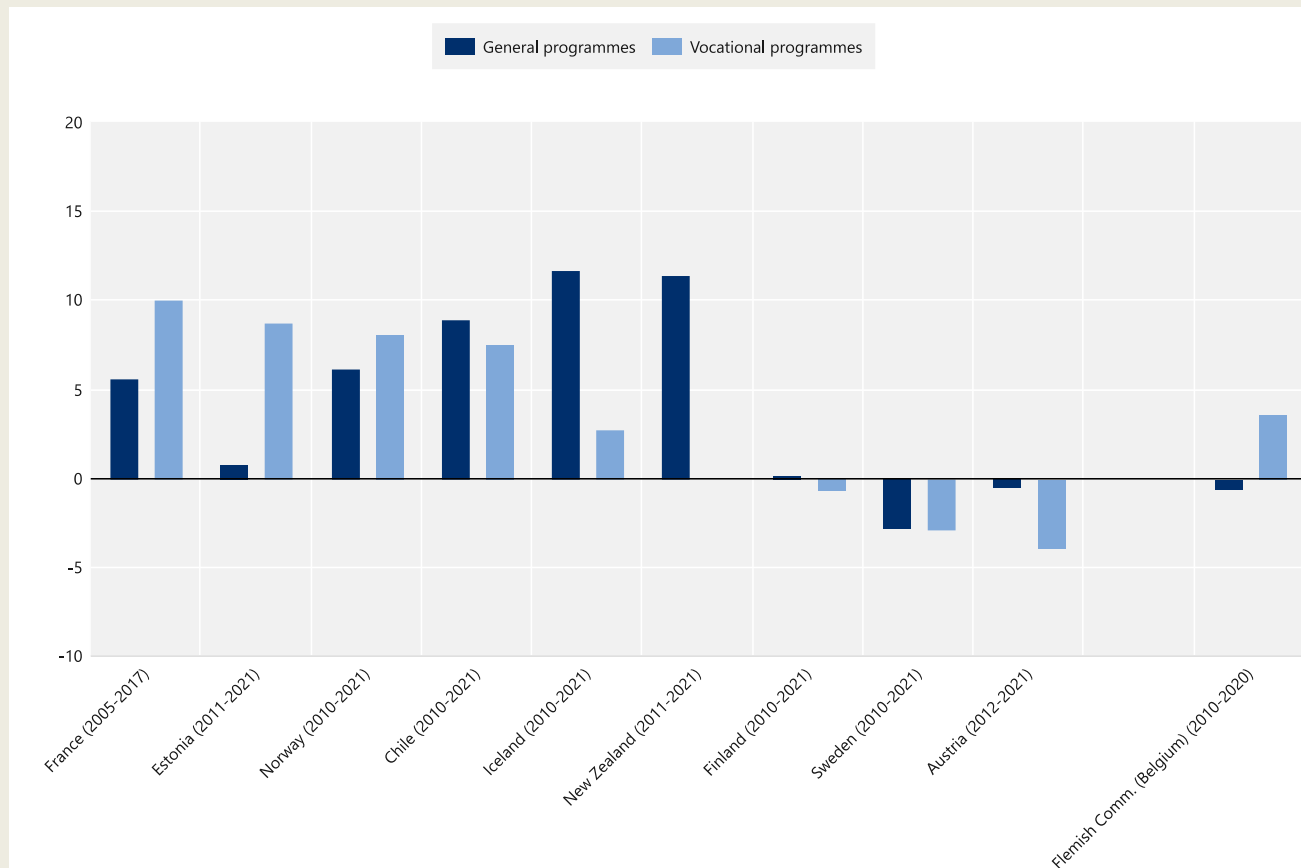
Box B3.3. Trends in completion rates

Trend data can shed light on how completion rates have evolved in recent years. Figure B3.4 shows trends in completion rates broken down by programme orientation. The reference years used for comparison in each country vary according to data availability (as indicated next to the country name). As a result, no cross-country comparisons can be drawn from these data.

Nevertheless, this analysis can provide relevant information on the evolution of completion rates within each country and on how the pattern differs by programme orientation. In Estonia, the Flemish Community of Belgium, France and Norway, for instance, completion rates for vocational programmes have increased considerably more than for general programmes. In contrast, Chile and Iceland have experienced greater increases in completion rates for general programmes compared to vocational programmes. In Finland, completion rates for both orientations have remained relatively stable, while they have been falling for both orientations in Austria and Sweden (Figure B3.4). In Sweden, the decrease in the completion rates for both programme orientation can be partially attributed to the 2011 reform of upper secondary education, in which stricter completion requirements were implemented.

Figure B3.4. Change in the share of students completing upper secondary education within the theoretical duration plus two years, by programme orientation (2010 and 2021)


In percentage points



Note: The data presented here come from an ad-hoc survey and show the change in completion rates by programme orientation over around 10 years.

Countries and other participants are ranked in descending order of the change in the completion rate for vocational programmes.

Source: OECD (2023), Table B3.1. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#). (OECD, 2023^[1]).

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Transition after upper secondary education

Many countries have sought to increase progression to tertiary levels, including among VET graduates. Bridges have been established to avoid dead ends, connecting vocational programmes without direct access to tertiary education or to higher-level programmes. One challenge is that some pathways are rarely taken, rendering some programmes dead ends in practice. Data on the status of graduates one year after graduation can help explore to what extent those bridging options are pursued in practice – for example identifying graduates of vocational programmes without direct access to tertiary education who enter a bridging programme in upper secondary education. Given the small number of students in some of the relevant programmes, analysis based on longitudinal data is particularly helpful. It provides a fine-grained picture of transition patterns, exploring whether graduates enter an education programme and, if they do, whether that is at post-secondary or tertiary level, or another upper secondary programme. Due to data limitations, disaggregated information on graduates from upper secondary education who are no longer enrolled is not available for all countries. The labour force status

of upper secondary graduates one year after graduation is only available for Estonia, Finland, Iceland, Norway, Sweden and Switzerland, presented in Box B3.4.

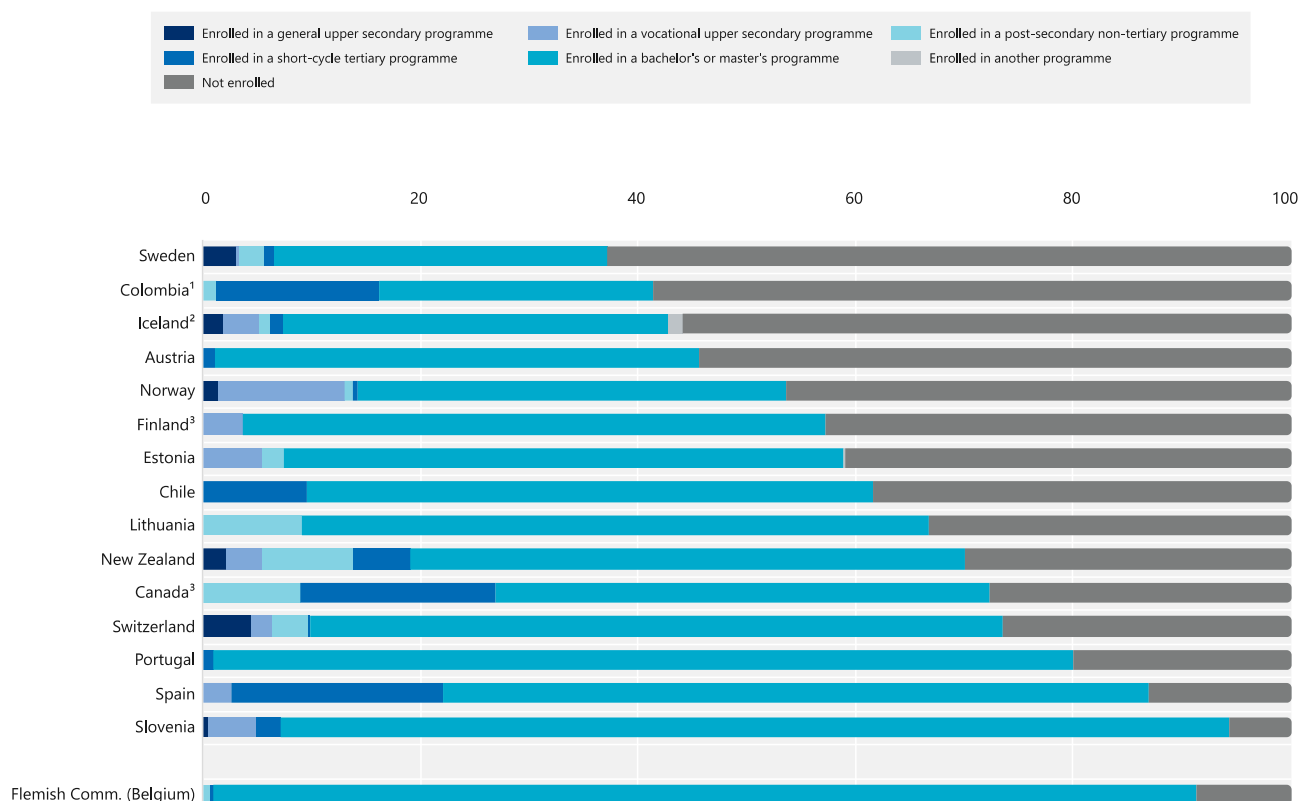
Transition after upper secondary education by programme orientation

Transition after general upper secondary

Figure B3.5 depicts the paths taken by graduates of general programmes one year after completing upper secondary education. According to the figure, most of these graduates are pursuing tertiary education. They are mostly enrolled in bachelor's degree programmes or above; the share of graduates pursuing short-cycle tertiary programmes is relatively low (also, as noted in Indicator B4, not all countries have short-cycle tertiary programmes). For instance, in the Flemish Community of Belgium, 90% of graduates from general upper secondary programmes are continuing their education with a bachelor's or master's level programmes.

Figure B3.5. Status of graduates from upper secondary general programmes in the year after their graduation (2020)

In per cent



Note: The data presented here come from an ad-hoc survey and only concern initial education programmes.

1. Data for vocational graduates are included in the data for graduates of general programmes.

2. Other type of programme shows students who have received a public student loan to study abroad in the autumn of 2019 and are not students in schools in Iceland.

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

Countries and other participants are ranked in descending order of the share of upper secondary general programme graduates who are not enrolled in any programme one year after graduation.

Source: OECD (2023), Table B3.3. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

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However, there are countries where short-cycle tertiary programmes, which are mostly vocational, are relatively popular. For instance, in the year after their upper secondary graduation, 19% of general upper secondary graduates in Spain are enrolled in a short-cycle tertiary programme, followed by 18% in Canada and 15% in Colombia (Figure B3.5). This reflects the different functions of short-cycle tertiary programmes in different countries. In Canada, for example, colleges offering short-cycle tertiary education are very popular and play a key role in preparing young people for entry into the labour market. Contrary to vocational orientation of short-cycle degrees in most countries, in Canada, general or combined general-vocational programmes are offered within the short-cycle tertiary education (see Annex 1, Table A1.3).

The share of graduates who are not enrolled one year after graduation from general upper secondary education varies significantly across countries, ranging from 6% in Slovenia to 63% in Sweden (Figure B3.5). In Sweden, 75% of general upper secondary graduates who are not enrolled in any ISCED programme one year after their graduation are employed while only 5% are unemployed and the remainder are inactive or unknown (Box B3.4).

Transition after vocational upper secondary

Figure B3.6 illustrates the different pathways chosen by graduates of vocational upper secondary programmes one year after graduation. Continuation patterns for these graduates vary greatly depending on the potential pathways in the national education systems. It is therefore crucial to analyse these specific pathways in each country when interpreting the distribution of enrolments in various programmes after graduation.

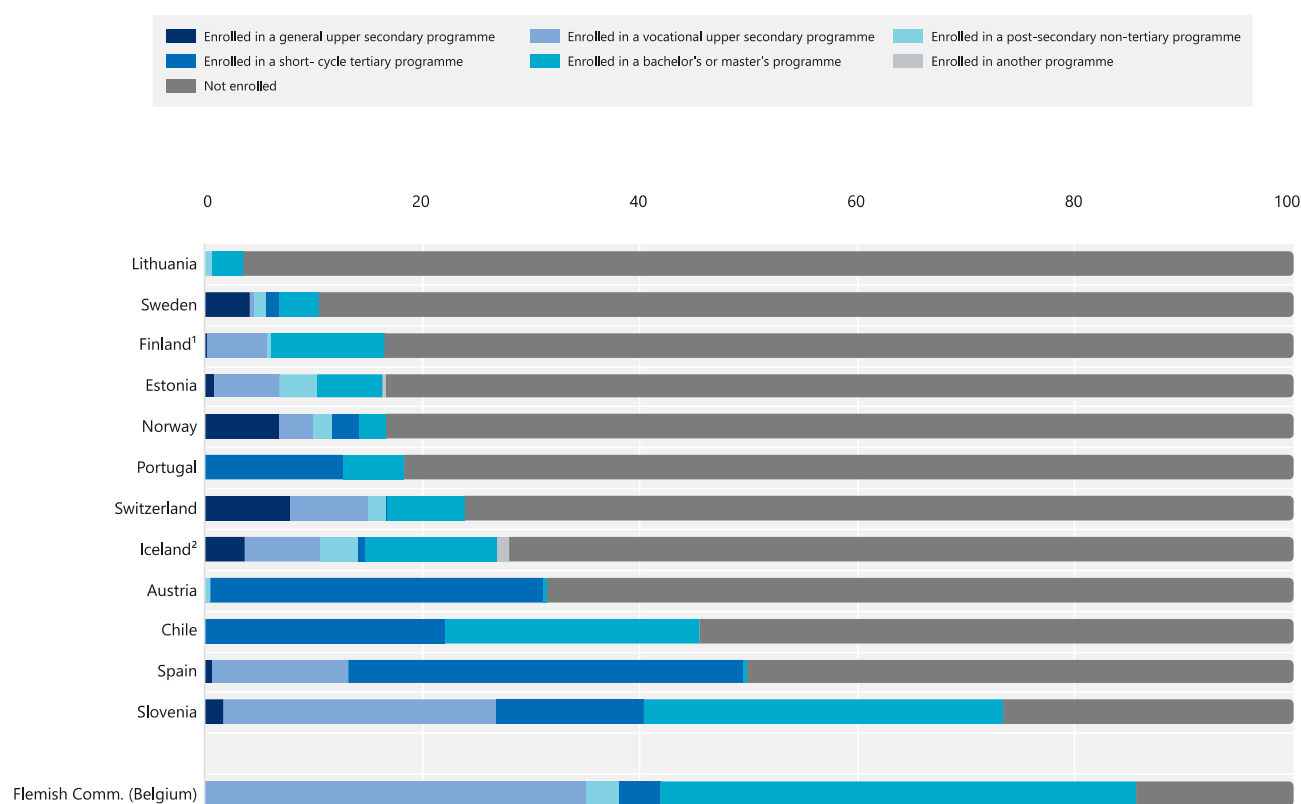
For instance, in Austria and Spain, vocational upper secondary graduates only have direct access to short-cycle tertiary programmes, not to bachelor's programmes. Accordingly, progression from VET to short-cycle tertiary education is common: 31% of such graduates in Austria and 36% in Spain continue their studies in short-cycle tertiary programmes. In the Flemish Community of Belgium, graduates of the BSO (*Beroepssecundair onderwijs* – vocational secondary education) who have completed the second year of the third stage, must complete an additional year of study as a bridge to be eligible for tertiary education. This explains why 35% of upper secondary vocational graduates are enrolled in upper secondary vocational programmes – they largely include BSO graduates pursuing a 7th year of BSO to gain eligibility for tertiary education (Figure B3.6).

Moreover, some upper secondary graduates may not enrol in short-cycle tertiary programmes immediately but wait until later in their career. Since the scope of the data presented here is limited to initial education, adult entrants into short-cycle tertiary level are not covered (see Indicator B4).

Overall, vocational upper secondary graduates are less likely to be enrolled in any education programme one year after graduation than their peers who graduated from general programmes (Table B3.3). This is hardly surprising, as vocational programmes are designed to prepare students for entry into the labour market in a specific occupation or sector. In some countries the share of VET graduates not enrolled in education one year after graduation is very high, reaching 96% in Lithuania and 89% in Sweden. Whether not being in education is a positive or a negative outcome depends on what graduates are doing instead and whether they are able to access and successfully pursue further learning opportunities later in their careers.

Figure B3.6. Status of graduates from upper secondary vocational programmes in the year after their graduation (2020)

In per cent



Note: The data presented here come from an ad-hoc survey and only concern initial education programmes.

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

2. Other type of programme shows students who have received a public student loan to study abroad in the autumn of 2019 and are not students in schools in Iceland.

Countries and other participants are ranked in descending order of the share of upper secondary vocational programme graduates who are not enrolled in any programme one year after graduation.

Source: OECD (2023), Table B3.3. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#). (OECD, 2023^[1])

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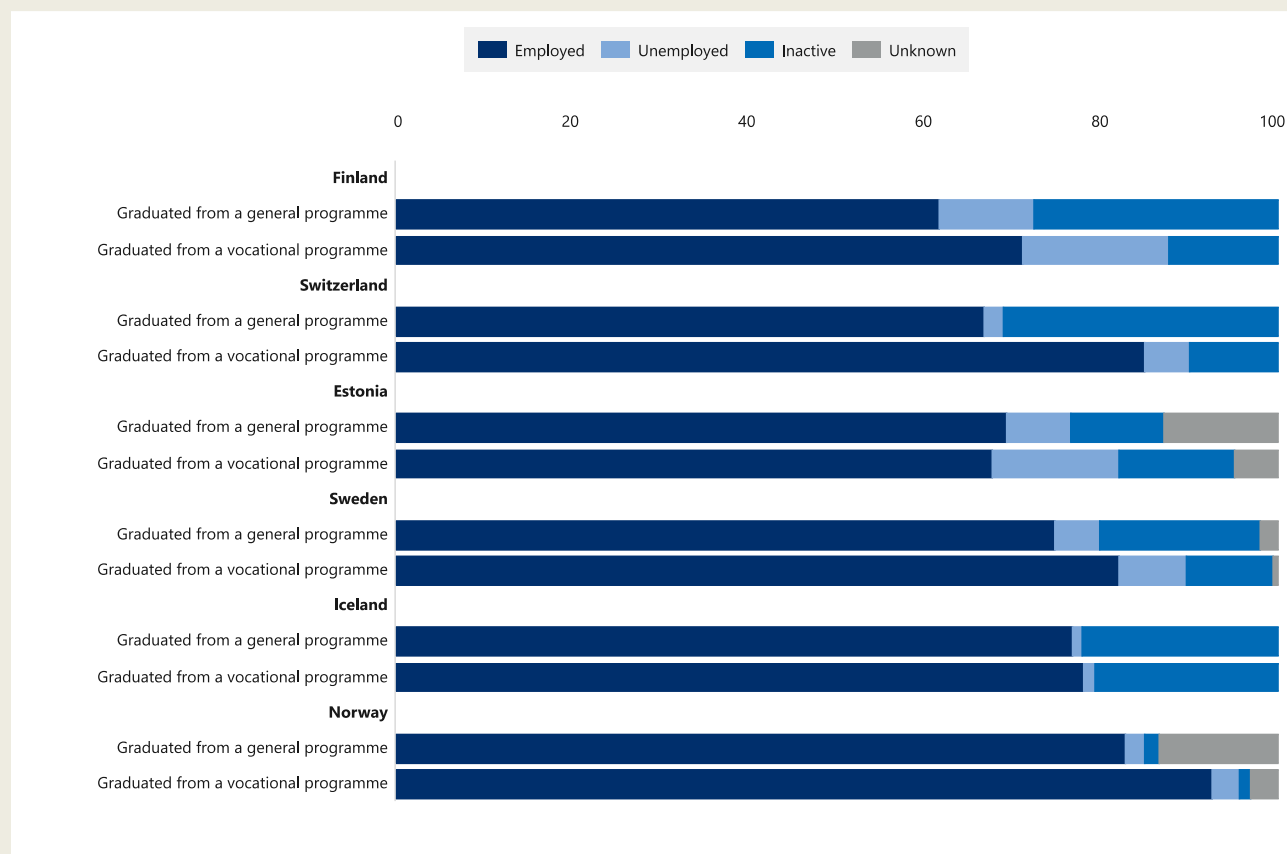
Non-enrolment may be driven by a high share of VET graduates successfully finding employment. Data on the labour force status of graduates are available for some countries: for instance, in Sweden 82% of upper secondary vocational graduates who are not enrolled one year after graduation are employed (Box B3.4). According to the European Labour Force Survey (EU-LFS) 2022, in Lithuania, 72% of VET graduates start to work in the 1-3 years after their graduation from upper secondary education (EUROSTAT, 2021^[11]). More broadly, some higher vocational programmes are designed to build on a period of relevant work experience. In some countries a common progression route for VET graduates is to work for a few years in their target occupation, then improve their skills through tertiary programmes. For example, in Switzerland, relevant work experience is formally required for professional bachelor's and master's degrees.

Box B3.4. Labour force status of upper secondary graduates one year after their graduation

For those students who do not immediately pursue further studies, countries should ensure that upper secondary education prepares them for entry into the labour market, as well as for higher education. In light of the high rates of non-enrolment one year after graduating from upper secondary education, particularly among vocational graduates, employment status is an important indicator of effectiveness. Relevant data have been provided by Estonia, Finland, Norway, Sweden and Switzerland, enabling to monitor the status of graduates who are not in education to be explored.

Figure B3.7. Labour-market status one year after completing upper secondary education, by programme orientation (2020)

In per cent of upper secondary graduates not enrolled in any ISCED programme




How to read this figure: In Switzerland, 67% of graduates who are not enrolled in any ISCED programme one year after graduating from general upper secondary education are employed, while 2% are unemployed.

Note: The data presented here come from an ad-hoc survey. Each category represents a share of graduates of upper secondary education not enrolled in education one year after graduation.

Countries are ranked in ascending order of the share of employed graduates within not enrolled general graduates one year after their graduation from upper secondary education.

Source: OECD (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023^[1]).

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In these countries, the majority of upper secondary graduates who are not in education are in employment, for both programme orientations (Figure B3.7). In Norway, for instance, 93% of graduates from vocational programmes are employed, compared to 83% of those from general ones. Overall, VET graduates are more

likely to be employed one year after graduation except in Estonia, where they are slightly less likely. At the same time, they are also more likely to be unemployed in all countries with available data. Finland and Switzerland have relatively large shares of graduates who are inactive (e.g. not in education nor in labour market), particularly for graduates from upper secondary general programmes. In Finland, for instance, the gap years between upper secondary and tertiary level are common, mainly due to restricted entry to tertiary education (*numerus clausus*) or voluntary breaks to decide on what career to pursue.

Transition after upper secondary education by gender

On average across countries with available data, 58% of female general upper secondary graduates enrol in a bachelor's degree, compared to 53% of male graduates. The gender gap reaches 34 percentage points in Austria and 15 percentage points in Canada. Progression to short-cycle tertiary education is only significant in a few countries (e.g. Canada, Chile, Colombia and Spain), with similar enrolment patterns across both genders (Table B3.3).

The gender disparity in enrolment patterns among graduates from upper secondary is greater for general programmes than for vocational ones. However, male graduates of vocational programmes are more likely to enrol in a short-cycle tertiary programme than their female peers in most countries with available data. In Spain, for example, 39% of male vocational graduates enrol in short-cycle tertiary programmes after completing upper secondary education, compared to only 33% of female vocational graduates (Table B3.3).

Given the relatively high share of upper secondary graduates who are not enrolled in any education after graduation, it is also important to apply a gender lens to this group. The share of male graduates who are not enrolled is higher than for their female peers for both programme orientations in most countries, except in Chile, Colombia, Iceland, Italy and Sweden for general programmes and in Chile, Portugal, Slovenia and Spain for vocational programmes. In Austria, where 40% of female graduates are not enrolled after completing a general upper secondary programme compared to 75% of their male counterparts, the gender disparity in non-enrolment is the largest (Table B3.3). Young men in Austria frequently perform their mandatory military or community service after graduating from upper secondary education, which explains part of this gender gap.

Definitions

The **true cohort** method requires following an entry cohort through a specific time frame, which in the case of this survey corresponds to the theoretical duration N and the theoretical duration plus two years ($N+2$). Only countries with longitudinal surveys or registers are able to provide such information. Panel data can be available in the form of an individual student registry (a system including unique personal ID numbers for students) or a cohort of students used for conducting a longitudinal survey.

The **cross cohort** method only requires the number of new entrants to a given ISCED level and the number of graduates N years later, where N corresponds to the theoretical duration of the programme. Under the assumption of constant student flows (constant increase or decrease in the number of students entering a given ISCED level throughout the years), the cross cohort completion is closer to a total completion rate (i.e. the completion rate of all students, regardless of the time it took them to graduate). As such, in countries where a large share of students do not graduate “on time” given the theoretical duration of the programme, the cross cohort completion may be more comparable to longer time frames than the true cohort completion.

The **theoretical duration of studies** is the regulatory or common-practice time it takes a full-time student to complete a level of education. True cohort completion is measured within two timeframes: by the end of the theoretical duration and by the end of the theoretical duration plus two years. The theoretical duration always refers to the programme in which the student originally entered upper secondary education. This means that even if a student transfers to a different programme with a different duration they will still be registered according

to the programme in which they originally entered the level. Please see (OECD, 2023^[1]), [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), for information on each country's theoretical duration for general and vocational upper secondary programmes.

The **programme orientation** can refer either to the programme in which the student originally entered upper secondary education or to the programme from which the student graduated. Both types of analysis are included in the indicator. The titles, subtitles or axis titles of the figures (and tables) will clarify which programme is being disaggregated by programme orientation. Only programmes sufficient for level completion are included. Four programme orientations are considered in the analysis:

- general programmes (ISCED-P 343 and 344)
- vocational programmes without access to tertiary education (ISCED-P 353)
- vocational programmes with access to tertiary education (ISCED-P 354)
- combined vocational programmes (ISCED-P 353 and 354).

The **reference year** for the survey is 2021 and refers to the academic year 2020/21 in countries where the academic year runs from September to June. For countries submitting data based on the true cohort method, the reference year should be two years after the end of the theoretical duration of the programme. For example, if a programme has a duration of two years, the cohort reported must have entered upper secondary education in the academic year 2017/18. Their status is then recorded by the end of the theoretical duration of the programme (academic year 2018/19) and two years later (academic year 2020/21). For countries submitting cross cohort data, the year of reference corresponds to the reference year for the graduate data which is 2021 here.

The share of students who are **still in education** corresponds only to those still pursuing the original degree or that have transferred to another degree but have not yet completed it.

Drop-out rate refers to the share of students who leave the specified level of education without graduating from a first qualification at the level. **Stop-out** refers to withdraw temporarily from a programme.

Push-out factors refer to the factors that push students out of school by creating a compelling school environment, such as strict school performance policies, discipline policies and bullying, consequently resulting in drop-out.

Pull-out factors refer to the factors that pull students away from school due to financial concerns, family changes or illnesses, consequently resulting in drop-out.

Fall-out factors refer to the factors that fall students out of school such as low academic performance in school, disengagement and apathy against schoolwork, consequently resulting in drop-out.

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.

Unemployed individuals are those who, during the survey reference week, were without work, actively seeking employment and currently available to start work.

Inactive individuals are those who, during the survey reference week, were outside the labour force and classified neither as Employed nor as unemployed. individuals enrolled in education are also considered as Inactive if they are not looking for a job.

Methodology

The completion rate for both true cohort and cross cohort methods is calculated as the number of graduates divided by the number of entrants N or $N+2$ years before (where N is the theoretical duration of the programme).

For countries that submit longitudinal data it is also possible to calculate the share of students still in education and the share of students who have neither graduated nor are still enrolled – all of which is calculated within the timeframes of N and N+2. Both shares are calculated by dividing the number of students in the given situation by the number of new entrants N or N+2 years before.

For countries and other participants that submitted transition data one year after graduation, enrolment rates for each ISCED level and the share of not enrolled graduates were calculated by dividing number of students in the given category by total number of graduates one year before. The labour force status of upper secondary graduates was calculated as a share of graduates who are not enrolled one year after upper secondary education.

For more information see the [OECD Handbook for Internationally Comparative Education Statistics](#) (OECD, 2018_[12]) and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#). (OECD, 2023_[1])

Source

Data on completion rates refer to the academic year 2020/2021 and were collected through a special survey undertaken in 2022. Data for some countries may have a different reference year. Countries submitted data using either the true cohort or cross cohort methodology. For more information see [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023_[1]).

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Indicator B3 Tables

Tables Indicator B3. Who is expected to complete upper secondary education?

Table B3.1	Completion rates of entrants to upper secondary education, by timeframe, programme orientation on entry and gender (2021)
Table B3.2	Distribution of entrants to upper secondary education, by programme orientation on entry, outcome and timeframe (2021)
Table B3.3	Status of upper secondary graduates in the year after their graduation, by gender and programme orientation (2020)

StatLink  <https://stat.link/zjxyrt>

Cut-off date for the data: 17 June 2023. 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. Completion rates of entrants to upper secondary education, by timeframe, programme orientation on entry and gender (2021)

Completion rate of full-time students, graduating from any programme

	General programmes			Vocational programmes			Vocational programmes without direct access to tertiary education			Vocational programmes with direct access to tertiary education			Total upper secondary		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
True cohort – Completed upper secondary by theoretical duration															
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Austria	55	64	60	51	61	55	68	36	54	51	61	55	52	62	57
Brazil	56	66	61	59	65	62	a	a	a	59	65	62	56	66	61
Canada ¹	77 ^d	84 ^d	81 ^d	x(1)	x(2)	x(3)	x(1)	x(2)	x(3)	a	a	a	77	84	81
Chile	72	79	76	65	71	68	a	a	a	65	71	68	70	78	74
Colombia	81	86	84	80	85	83	a	a	a	80	85	83	81	86	83
Denmark	79	84	81	m	m	m	a	a	a	m	m	m	79	84	81
Estonia	87	89	88	58	63	60	a	a	a	58	63	60	75	84	80
Finland	80	81	81	62	64	63	a	a	a	62	64	63	69	72	70
France ¹	74	80	77	70	77	73	59	66	61	77	81	79	72	79	76
Iceland	56	71	64	38	46	40	38 ^d	46 ^d	40 ^d	x(7)	x(8)	x(9)	51	68	60
Israel	85	97	91	92	97	94	80	85	81	94	97	95	88	97	92
Italy	76	81	79	51	60	55	19	21	19	53	62	57	60	73	66
Latvia	71	78	74	60	68	63	80	67	73	59	68	62	67	75	71
Lithuania	85	90	88	55	50	53	a	a	a	55	50	53	76	83	80
Luxembourg ²	67	73	70	37	43	40	37	34	36	37	47	42	45	54	50
New Zealand	71	79	75	a	a	a	a	a	a	a	a	a	71	79	75
Norway	77	84	81	41	61	49	a	a	a	41	61	49	58	75	67
Portugal	57	67	63	58	70	63	a	a	a	58	70	63	57	68	63
Slovenia	83	87	85	74	80	77	73	73	73	75	82	78	77	83	80
Spain	70	77	74	42	53	46	38	41	39	43	55	48	57	70	64
Sweden	76	81	79	72	71	72	a	a	a	72	71	72	75	79	77
Switzerland	69	74	72	72	79	75	67	75	70	72	79	75	71	77	74
United States	m	m	87	a	a	a	a	a	a	a	a	a	m	m	87
Other participants															
Flemish Comm. (Belgium)	78	88	84	61	72	66	55	64	59	66	77	71	69	81	75
French Comm. (Belgium)	51	67	59	33	44	38	29	32	30	37	53	45	45	61	54
Average	72	80	77	59	66	62	55	54	54	61	68	64	67	76	72
True cohort - Completed upper secondary education by the theoretical duration plus two years															
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Austria	78	83	81	73	81	76	69	38	56	73	81	76	74	82	78
Brazil	64	73	68	67	72	70	a	a	a	67	72	70	64	73	68
Canada ¹	86 ^d	91 ^d	89 ^d	x(1)	x(2)	x(3)	x(1)	x(2)	x(3)	a	a	a	86	91	89
Chile	82	87	85	76	82	78	a	a	a	76	82	78	80	86	83
Colombia	91	93	92	90	93	92	a	a	a	90	93	92	91	93	92
Denmark	85	88	87	m	m	m	a	a	a	m	m	m	85	88	87
Estonia	92	94	93	66	69	67	a	a	a	66	69	67	82	89	86
Finland	90	93	92	71	73	72	a	a	a	71	73	72	78	83	80
France ¹	95	96	96	79	85	81	69	77	72	84	87	86	88	93	90
Iceland	65	79	73	50	55	51	50 ^d	55 ^d	51 ^d	x(7)	x(8)	x(9)	61	76	69
Israel	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Italy	90	91	90	68	73	70	50	59	53	70	74	71	76	84	80
Latvia	75	82	79	68	77	72	88	83	85	66	76	70	73	81	77
Lithuania	86	91	89	57	52	55	a	a	a	57	52	55	78	84	81
Luxembourg ²	90	91	91	69	76	72	63	61	63	72	81	77	75	82	78
New Zealand	82	87	84	a	a	a	a	a	a	a	a	a	82	87	84
Norway	87	92	89	68	73	70	a	a	a	68	73	70	77	85	81
Portugal	84	88	86	64	75	69	a	a	a	64	75	69	76	84	80
Slovenia	94	96	95	85	88	86	83	83	83	85	90	87	87	92	89
Spain	89	92	91	60	69	63	51	52	51	63	72	67	76	85	81
Sweden	81	86	84	76	76	76	a	a	a	76	76	76	80	84	82
Switzerland	92	94	93	89	92	90	79	85	81	90	93	91	89	93	91
United States	m	m	m	a	a	a	a	a	a	a	a	a	m	m	m
Other participants															
Flemish Comm. (Belgium)	93	95	94	78	84	81	66	75	70	87	91	89	85	90	88
French Comm. (Belgium)	88	94	91	59	69	64	47	51	49	71	82	77	79	88	83
Average	85	89	87	71	76	73	66	66	66	73	78	75	79	86	82
Cross cohort															
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Costa Rica	70	77	74	59	64	62							67	73	70
Japan	95	95	95	93	93	93							95	94	94
Korea	97	96	97	91	90	91							96	95	96
Poland	93	94	93	77	80	78							82	88	85
Slovak Republic	92	96	94	91	90	91							91	92	92
Türkiye	96	97	97	64	78	70							78	88	82
Average	90	93	92	79	83	81							85	88	87

Note: See StatLink and Box B3.5 for the notes related to this Table.

Source: OECD - ad-hoc survey on upper secondary completion rates (2023). For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023^[11]).

StatLink  <https://stat.link/26ld3m>

Table B3.2. Distribution of entrants to upper secondary education, by programme orientation on entry, outcome and timeframe (2021)

True cohort data only

	Status by the end of theoretical duration of the programme							Status by the end of the theoretical duration of the programme plus two years										
	Graduated						Still in education	Not graduated and not enrolled	Total	Graduated						Still in education	Not graduated and not enrolled	Total
	From general programmes	From vocational programmes		Total	From general programmes	From vocational programmes				Total								
		Sufficient for level completion, without direct access to tertiary education	Sufficient for level completion, with direct access to tertiary education			Sufficient for level completion, without direct access to tertiary education					Sufficient for level completion, with direct access to tertiary education							
General programme entrants	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(5)+(6)+(7)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)=(13)+(14)+(15)		
OECD countries	57	0	3	3	60	29	11	100	73	0	8	8	81	5	14	100		
Austria	61	m	0	0	61	18	21	100	68	m	0	0	68	2	30	100		
Brazil	81	a	a	a	81	m	m	m	89	a	a	a	89	m	m	m		
Canada ^{1,2}	60	a	15	15	76	18	6	100	66	a	19	19	85	2	13	100		
Chile	81	a	2	2	84	10	6	100	89	a	3	3	92	1	7	100		
Colombia	81	0	0	0	81	9	9	100	86	0	1	1	87	3	10	100		
Denmark	88	a	0	0	88	8	4	100	92	a	2	2	93	2	5	100		
Estonia	80	a	1	1	81	16	3	100	89	a	2	2	92	3	5	100		
Finland	76	0	1	1	77	22	1	100	91	1	4	5	96	1	3	100		
France ¹	m	m	m	m	64	16	20	100	m	m	m	m	73	8	19	100		
Iceland	85	0	5	5	91	0	9	100	m	m	m	m	m	m	m	m		
Israel	77	0	2	2	79	12	9	100	85	0	5	6	90	0	9	100		
Italy	74	0	0	0	74	8	18	100	78	1	0	1	79	2	19	100		
Latvia	88	a	0	0	88	3	10	100	89	a	0	0	89	1	10	100		
Lithuania	69	0	1	1	70	26	4	100	85	0	6	6	91	6	4	100		
Luxembourg ³	74	1	0	1	75	20	5	100	81	3	0	3	84	4	12	100		
New Zealand	81	a	0	0	81	7	12	100	89	a	1	1	89	2	9	100		
Norway	63	a	0	0	63	35	2	100	78	a	7	7	86	3	11	100		
Portugal	83	0	1	2	85	12	3	100	88	1	6	7	95	0	5	100		
Slovenia	74	0	0	0	74	23	3	100	87	0	4	4	91	4	6	100		
Spain	78	a	1	1	79	7	14	100	82	a	2	2	84	0	16	100		
Sweden	71	0	1	1	72	25	3	100	88	0	5	5	93	4	3	100		
Switzerland																		
Other participants																		
Flemish Comm. (Belgium)	71	0	12	12	84	13	3	100	76	1	17	18	94	0	6	100		
French Comm. (Belgium)	52	1	6	7	59	37	4	100	70	2	19	21	91	2	7	100		
Average	75	0	2	2	76	16	8	100	83	1	5	5	87	3	10	100		
Vocational programme entrants																		
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(5)+(6)+(7)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)=(13)+(14)+(15)		
Austria	0	0	55	55	55	36	9	100	0	0	76	76	76	7	17	100		
Brazil	8	m	54	54	62	27	11	100	13	m	57	57	70	3	28	100		
Canada ^{1,2}	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m		
Chile	7	a	61	61	68	24	8	100	9	a	70	70	78	4	18	100		
Colombia	8	a	75	75	83	11	6	100	13	a	79	79	92	1	7	100		
Denmark	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m		
Estonia	1	a	58	58	60	16	24	100	3	a	64	64	67	5	28	100		
Finland	0	a	63	63	63	24	13	100	1	a	72	72	72	10	18	100		
France ¹	0	26	47	73	73	19	8	100	1	30	50	80	81	1	18	100		
Iceland	m	m	m	m	40	23	37	100	m	m	m	m	51	14	35	100		
Israel	11	4	79	84	94	0	5	100	m	m	m	m	m	m	m	m		
Italy	0	2	52	54	55	19	26	100	1	2	67	69	70	1	28	100		
Latvia	9	5	49	55	63	11	26	100	13	6	52	58	72	3	25	100		
Lithuania	0	a	53	53	53	3	44	100	0	a	55	55	55	1	44	100		
Luxembourg ³	0	20	20	40	40	45	15	100	0	36	36	72	72	13	15	100		
New Zealand	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a		
Norway	23	a	25	25	49	24	27	100	25	a	45	45	70	5	25	100		
Portugal	0	a	63	63	63	25	12	100	1	a	67	67	69	3	28	100		
Slovenia	0	24	53	77	77	16	8	100	0	28	58	86	86	0	14	100		
Spain	0	9	37	46	46	34	19	100	0	12	51	63	63	7	29	100		
Sweden	1	a	71	71	72	8	20	100	2	a	75	75	76	0	24	100		
Switzerland	0	8	66	75	75	20	6	100	0	9	80	90	90	4	6	100		
Other participants																		
Flemish Comm. (Belgium)	1	31	34	65	66	21	13	100	1	38	41	80	81	1	18	100		
French Comm. (Belgium)	0	17	21	38	38	41	21	100	1	29	34	63	64	5	31	100		
Average	4	12	53	60	62	21	17	100	5	17	61	69	73	5	23	100		

Note: See StatLink and Box B3.5 for the notes related to this Table.

Source: OECD - ad-hoc survey on upper secondary completion rates (2023). For more information see [Source](#) section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#). (OECD, 2023^[1]).

StatLink  <https://stat.link/r23atw>

Table B3.3. Status of upper secondary graduates in the year after their graduation, by gender and programme orientation (2020)

Any ISCED and/or non-ISCED programme

	Enrolled in an upper secondary general programme		Enrolled in an upper secondary vocational programme		Enrolled in a post-secondary non-tertiary programme		Enrolled in a short-cycle tertiary programme		Enrolled in a bachelor's or master's degree programme		Enrolled in another type of programme		Not enrolled	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
General programme graduates														
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Austria	0	0	0	0	0	0	0	1	24	58	0	0	75	40
Canada ¹	m	m	m	m	9	9	19	17	38	53	a	a	35	20
Chile	a	a	a	a	a	a	10	9	54	50	a	a	36	41
Colombia ²	0 ^d	0 ^d	0 ^d	0 ^d	1 ^d	2 ^d	15 ^d	14 ^d	26 ^d	25 ^d	0 ^d	0 ^d	58 ^d	59 ^d
Estonia	0	0	6	5	1	2	a	a	48	54	0	0	44	38
Finland ^d	0	0	2	5	0	0	a	a	55	53	a	a	43	42
Iceland ³	2	2	4	3	1	1	1	1	36	35	1	1	54	57
Italy ⁴	0	0	0	0	m	m	m	m	76	74	a	a	24 ^d	26 ^d
Lithuania	0	0	0	0	11	8	m	m	52	63	0	0	38	29
New Zealand	2	2	5	2	10	6	5	6	47	55	a	a	31	29
Norway	2	1	10	13	1	1	0	0	37	41	0	0	50	43
Portugal	0	0	a	a	a	a	1	1	77	80	a	a	21	19
Slovenia	1	1	4	5	a	a	3	2	87	88	0	0	6	5
Spain	0	0	3	3	m	m	21	18	62	67	0	0	14	12
Sweden	3	4	0	0	3	1	1	1	30	31	0	0	63	63
Switzerland	3	5	2	2	3	4	0	0	62	65	0	0	30	23
Other participants														
Flemish Comm. (Belgium)	0	0	0	0	1	1	0	0	89	91	m	m	10	8
Average	1	1	2	2	3	2	5	5	53	58	0	0	37	33
Vocational programme graduates														
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Austria	0	0	0	0	0	1	25	37	0	0	0	0	74	62
Canada ¹	m	m	m	m	m	m	m	m	0	m	m	m	m	m
Chile	a	a	a	a	a	a	23	22	24	23	a	a	54	55
Colombia ²	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Estonia	1	1	6	6	3	4	a	a	6	6	0	0	84	82
Finland ^d	0	0	4	7	0	0	a	a	10	11	a	a	86	81
Iceland ³	3	4	8	5	5	1	0	1	8	20	1	2	75	67
Italy ⁴	0	0	2	1	m	m	m	m	26	32	a	a	73 ^d	67 ^d
Lithuania	0	0	0	0	1	1	m	m	2	5	0	0	98	94
New Zealand	a	a	a	a	a	a	a	a	a	a	a	a	a	a
Norway	4	11	4	3	0	3	4	1	2	3	0	0	86	80
Portugal	0	0	a	a	a	a	15	11	5	6	a	a	80	83
Slovenia	1	3	29	20	a	a	16	11	28	39	0	0	27	27
Spain	1	1	15	10	m	m	39	33	0	0	0	0	45	56
Sweden	3	7	0	1	1	1	2	0	1	7	0	0	93	84
Switzerland	7	9	8	6	1	3	0	0	6	8	0	0	77	74
Other participants														
Flemish Comm. (Belgium)	0	0	35	36	4	2	3	4	41	47	m	m	17	11
Average	1	2	7	6	1	1	10	9	11	14	0	0	65	62

Note: See StatLink and Box B3.5 for the notes related to this Table.

Source: OECD - ad-hoc survey on upper secondary completion rates (2023). For more information see [Source section](#) and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#). (OECD, 2023^[1])

StatLink  <https://stat.link/4spdqz>

Box B3.5. Notes for Indicator B3 tables

Table B3.1. Completion rates of entrants to upper secondary education, by timeframe, programme orientation on entry and gender (2021)

The data presented in this table only concern initial education programmes so do not include adult education. For true cohort data, the reference year (2021, unless noted otherwise) refers to the year of graduation by the theoretical duration plus two years.

1 Year of reference differs from 2021: 2020 for Canada; 2017 for France.

2 The data concern only pupils in the public educational system.

Table B3.2. Distribution of entrants to upper secondary education, by programme orientation on entry, outcome and timeframe (2021)

The data presented in this table only concern initial education programmes, so do not include adult education. For true cohort data, the reference year (2021, unless noted otherwise) refers to the year of graduation by the theoretical duration plus two years. Students who continued their studies in the adult education system are included in the columns for “not graduated and not enrolled”.

1 Year of reference differs from 2021: 2020 for Canada; 2017 for France.

2 Quebec vocational graduates included in general programme data.

3 The data concern only pupils in the public educational system.

Table B3.3. Status of upper secondary graduates in the year after their graduation, by gender and programme orientation (2020)

The data presented in this table only concern initial education programmes, so do not include adult education. The reference year is 2020, unless noted otherwise.

1 Year of reference differs from 2020: 2018 for Canada; 2021 for Finland.

2 Data for vocational graduates are included in the data for graduates of general programmes.

3 Other type of programme shows students who have received a public student loan to study abroad in the autumn of 2019 and are not students in schools in Iceland.

4 Data presented in the category “not enrolled” (see columns 13 & 14) includes enrolments into post-secondary non-tertiary and short-cycle tertiary.

For more information see *Definitions, Methodology and Source* sections and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

Data and more breakdowns are available in the Education at a Glance Database (<http://stats.oecd.org/>).

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

Indicator B4. Who enters tertiary education?

Highlights

- Bachelor's programmes are the most popular programmes for first-time entrants into tertiary education by a clear margin in almost all OECD countries. On average, more than three-quarters (76%) of all first-time entrants enter a bachelor's programme.
- Short-cycle tertiary programmes providing the professional knowledge and competencies to enter the labour market are an important part of the tertiary education system in some countries. In Austria, Colombia, Türkiye and the United States, more than 40% of first-time entrants into tertiary education enrol in short-cycle tertiary programmes. In contrast, in many other OECD countries, short-cycle tertiary programmes are much less prevalent or even non-existent.
- There are significant gender differences in enrolment by field of study at all levels of tertiary education. Less than one-quarter of first-time entrants into short-cycle tertiary science, technology, engineering and mathematics (STEM) programmes are women, compared to more than three-quarters of first-time entrants into health and welfare, and education. Similar gender differences among first-time entrants can also be found at other levels of education.

Context

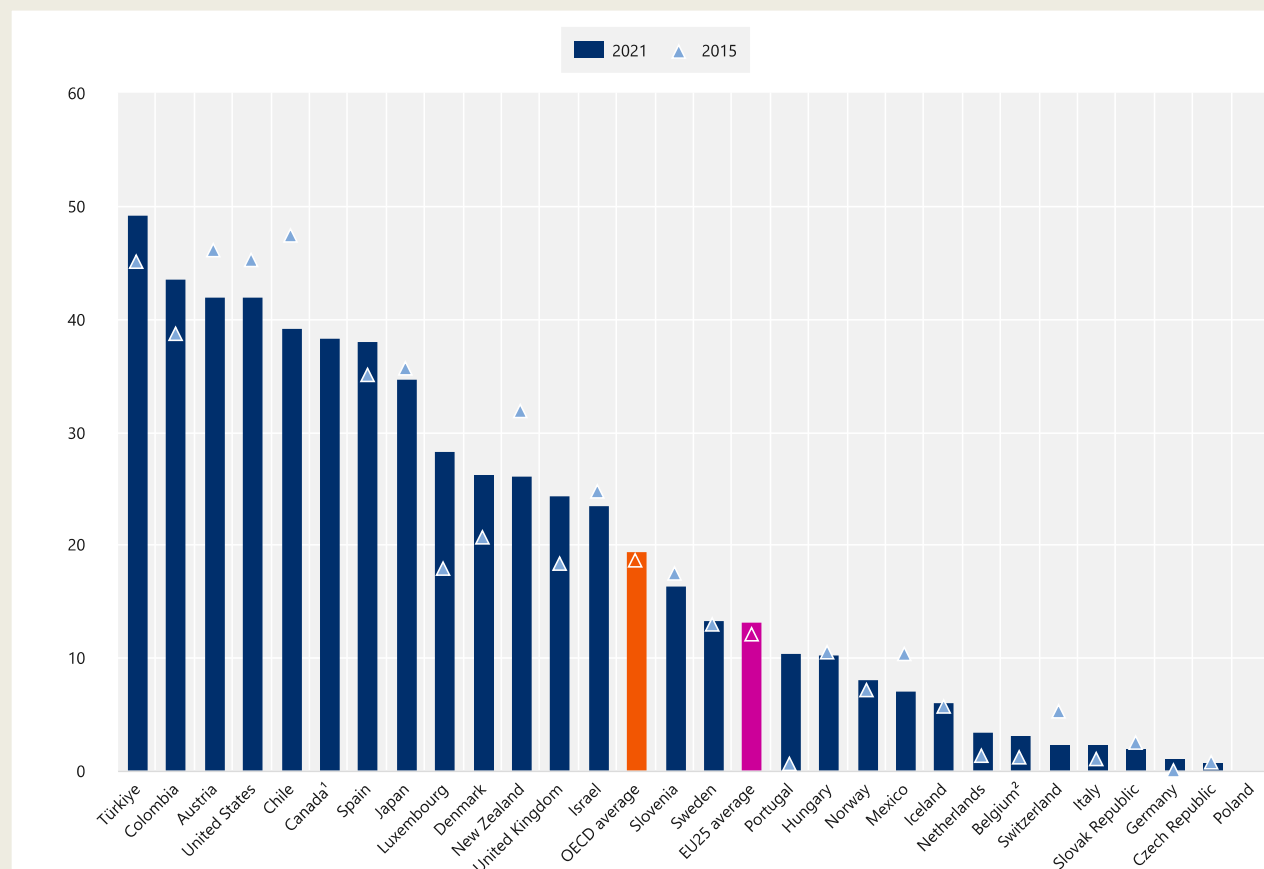
Participation in tertiary education plays an essential role in developing young adults' skills so they contribute fully to society. Yet students' profiles and academic aptitudes can be very diverse, as are their pathways into tertiary education. While it is common in some countries for students to enter tertiary education directly after completing upper secondary education, in other students often postpone entry to higher education, by taking a gap year or alternating periods of employment with periods of study. Attractive employment opportunities and booming economies have prompted young people in some countries to defer education in favour of learning in the workplace, particularly when financial support for further study is limited. The possibility to enter tertiary education at later stage in life is increasingly considered important as lifelong learning is essential to allow individuals to adapt to changing labour market trends (OECD, 2021^[1]).

To address the growing needs of a diverse population, some countries have progressively adapted their tertiary-level programmes to make them more flexible so as to suit a wide range of students' skills and learning aptitudes. This includes building more pathways between upper secondary and tertiary programmes, including vocational upper secondary programmes, and expanding the types of programmes available to first-time tertiary students: short-cycle tertiary, bachelor's or long first degrees at master's level. 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. Offering a range of educational options adapted to the needs and ambitions of young adults also ensures a smoother transition from education to work.

Analysing the distribution of new entrants across different fields of education allows policy makers to understand how their students are choosing between different professional paths and to plan specific actions to combat future shortages in some professional occupations.

Figure B4.1 Share of first-time entrants to short-cycle programmes among all first-time tertiary entrants (2015 and 2021)

In per cent




1. Year of reference differs from 2021. Refer to the source table for more details.

2. Short-cycle tertiary data refer to the Flemish Community of Belgium only.

Countries are ranked in descending order of share of new entrants into short-cycle programmes among all first-time tertiary entrants in 2021.

Source: OECD/UIS/Eurostat (2023), Table B4.1. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023^[2]).

StatLink  <https://stat.link/ybx9sq>

Other findings

- The distribution of first-time entrants across short-cycle tertiary, bachelor's and master's programmes has remained largely unchanged across OECD countries. However, some countries have experienced large changes, such as Luxembourg, where bachelor's students increased from 48% of first-time entrants in 2015 to 72% in 2021.
- The age of new entrants into short-cycle tertiary programmes varies widely across countries. In some countries, such as France, most new entrants are young and tend to be close in age. In these countries,

new entrants tend to enter short-cycle tertiary programmes shortly after completing upper secondary education. In other countries, new entrants tend to be older and fall into a much wider age range, indicating that short-cycle tertiary programmes in those countries offer opportunities to acquire new skills in mid-career.

- International mobility of tertiary students increases with levels of education. On average across the OECD, just 6% of new entrants into short-cycle tertiary programmes and 8% of new entrants into bachelor's programmes are internationally mobile. This share increases to 19% in master's programmes and 31% in doctoral programmes (see [Education at a Glance Database](#)).

Analysis

Profile of new entrants into tertiary education

Tertiary education is the most flexible and diverse level of education today, with a vast array of programmes on offer, from professional courses that provide students with practical skills to enter the labour market directly, to research-oriented degrees that prepare students for doctoral studies and academia. As a non-compulsory level of education, there is a variety of different pathways for those who wish to pursue further education after secondary school and students may engage in other personal or professional activities before starting their tertiary education.

In some countries, not all vocational upper secondary programmes provide eligibility to enter tertiary education. On average across OECD countries, 19% of upper secondary vocational students are enrolled in programmes which do not provide direct access into tertiary education (see Indicator B1). However, entering tertiary education is becoming more and more common among all young adults. Over the past two decades, the proportion of 25-34 year-olds who have attained a tertiary degree has increased by more than 20 percentage points to 47% (see Indicator A1 and [Education at a Glance Database](#)).

Level of education

A large majority of first-time entrants to tertiary education enrol in bachelor's programmes. Across the OECD, 76% of first-time entrants into tertiary programmes in 2021 were bachelor's students compared to 75% in 2015. In Greece, the share is 100%, as bachelor's programmes are the only pathway into tertiary education, while in many other countries, the share is above or close to 90% (Table B4.1).

Countries with below-average shares of bachelor's students among first-time entrants usually have well-developed short-cycle tertiary programmes. These programmes are designed to provide participants with professional knowledge, skills and competencies and usually last 2-3 years. Typically, they are occupation specific and prepare students to enter the labour market directly. Short-cycle tertiary students made up 19% of all first-time entrants to tertiary education in 2021, almost unchanged from 2015. This makes it the second most common route into tertiary education on average across OECD countries after bachelor's programmes (Table B4.1).

Figure B4.1 shows that countries vary widely in the prevalence of short-cycle tertiary programmes. In some, more than one-third of all tertiary students enter tertiary education through such programmes. In Austria and Türkiye, they have even become the most common entry route. In contrast, in other countries the share of short-cycle tertiary students among first-time entrants is well below 10% and there is a considerable number of OECD countries that do not offer any short-cycle tertiary programmes.

Given the diverse nature of short-cycle programmes and their different roles within tertiary education systems, it is not surprising that the outcomes from short-cycle tertiary education also differ across countries. In general, the employment rates and wages of 25-34 year-olds with short-cycle tertiary degrees tend to be lower than those

with bachelor's degrees. However, in some countries, such as Norway, wages are higher for workers with short-cycle tertiary degrees (see Indicators A3 and A4). Moreover, even if labour-market outcomes are slightly less positive for workers with short-cycle tertiary degrees than with bachelor's degrees, it can make economic sense to choose these programmes. Their shorter duration means the direct costs and the foregone earnings from participating in them are lower than they would be for four-year programmes.

Master's long first-degree programmes are the third possible route into tertiary education. These programmes typically last 5-7 years and are often offered in highly specialised professional subjects, such as medicine. Accounting for just 10% of all first-time entrants on average, a slight decline from 11% in 2015, they are by far the least common option. Two notable exceptions are Romania and Sweden, where more than one-quarter of all first-time entrants enter a master's long first-degree programme and where the popularity of such programmes has increased since 2015 (Table B4.1).

Fields of study

Many factors influence students' future career aspirations and their choice of field of study, including their parents and other role models, career guidance given in schools, internship experiences, and the opportunities available in the labour market (Hofer, Zhivkovikj and Smyth, 2020^[3]). The choice of field of study is important as tertiary students gain specialised skills and knowledge, which can open doors to certain career paths.

In 2021, 27% of new entrants chose one of the science, technology, engineering and mathematics (STEM) fields (*Education at a Glance Database*). Taken together, these fields were the most common choice of field of study followed by business, administration and law, chosen by 24% of all students, health and welfare (14% of students), the arts and humanities (10%), and social sciences and journalism (10%). As a large majority of new entrants enrol in bachelor's programmes, it is not surprising that the distribution of new entrants into bachelor's programmes by field of study is very similar to the overall distribution of fields of study.

Figure B4.2 shows that across the OECD, short-cycle tertiary students also show similar patterns for fields of study, with two exceptions. Services are chosen by 12% of new entrants into short-cycle tertiary programmes compared to just 4% of those at bachelor's level. In contrast, social sciences and journalism are very rare among short-cycle tertiary students with just 2% of all new entrants choosing this field. Among first-time entrants into master's programmes, health and welfare dominates with over half of students choosing this field. This can be explained by the prevalence of long first degree programmes in health and welfare in many OECD countries. As these figures are unweighted averages of all OECD countries with available data, it is important to keep in mind that they can be influenced by countries with very few students in a particular level of education. For example, 48% of new entrants to short-cycle tertiary programmes in Germany choose the field of services. This has driven up the corresponding overall OECD average, even though short-cycle tertiary students make up only 1% of first-time new entrants to tertiary education in Germany.

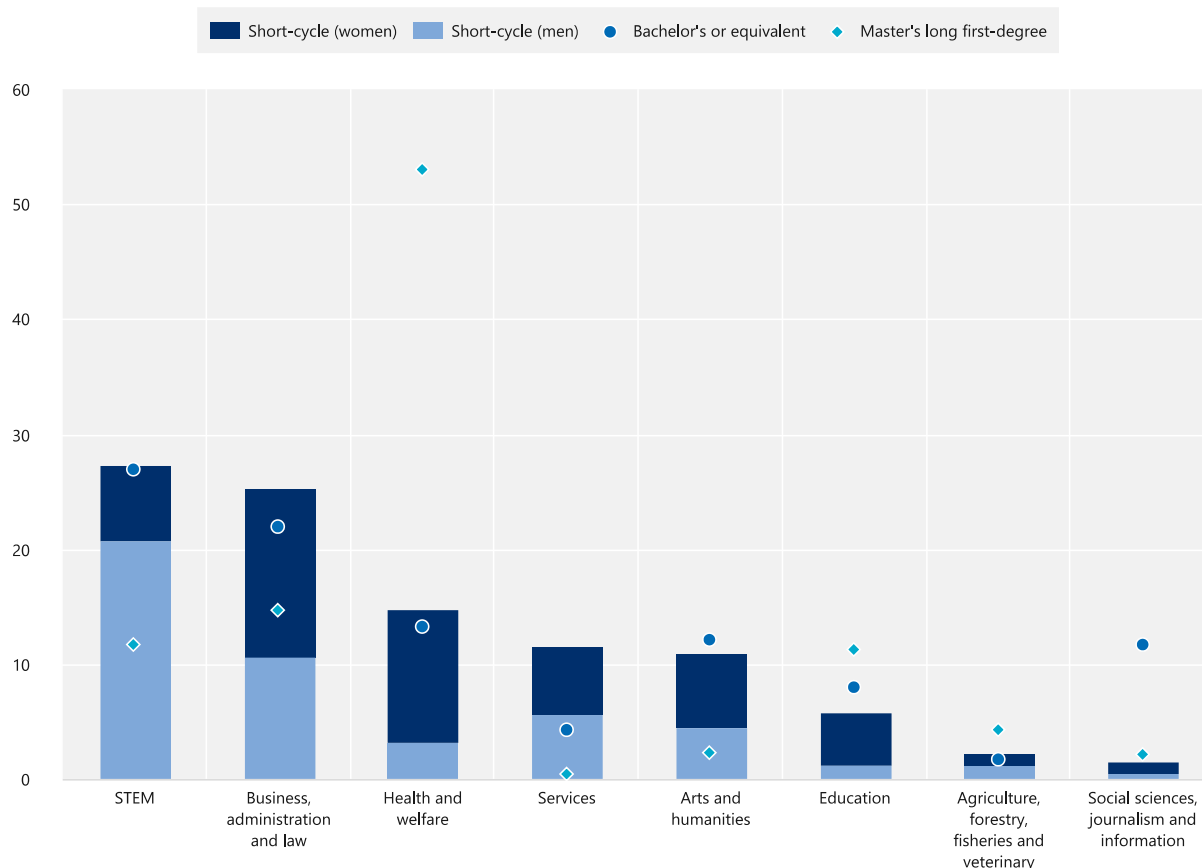
The nature of short-cycle tertiary programmes and their role within tertiary education systems varies greatly across countries. This explains the significant differences in the distribution of new entrants by field of study at this level. For example, in the Czech Republic, the only short-cycle tertiary programmes on offer are for students of the performing arts. Thus, 100% of new entrants into short-cycle tertiary education in the Czech Republic have chosen the field of arts and humanities. In contrast, in Norway, short-cycle tertiary programmes are predominantly used to acquire a master craftsman qualification in technical fields, so 69% of all new entrants at that level enrol in a STEM field (Table B4.).

At bachelor's level, cross-country differences in fields of study are smaller due to the greater similarity of the programmes offered at this level. Nevertheless, important differences still exist. In Colombia, 35% of new entrants to bachelor's programmes enrol in business administration and law, compared to only 13% in Korea (Table B4.). At master's level, the choice of fields that are offered as long first-degree programmes strongly affects the distribution of new entrants across fields. In many countries, medicine and related subjects are only offered as

long first-degree programmes and so the share of new entrants in the field of health and welfare is correspondingly high.

Figure B4.2. Distribution of new entrants to tertiary education, by field, gender and educational level (2021)


OECD average, in per cent



Note: STEM refers to the fields of science, technology, engineering and mathematics.

Fields are ranked in descending order of the share of new entrants to short-cycle tertiary programmes.

Source: OECD/UIS/Eurostat (2023), Table 4.2 and Table 4.3. For more information see [Source section](#) and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#). (OECD, 2023^[2])

StatLink  <https://stat.link/nswbq1>

Gender and age

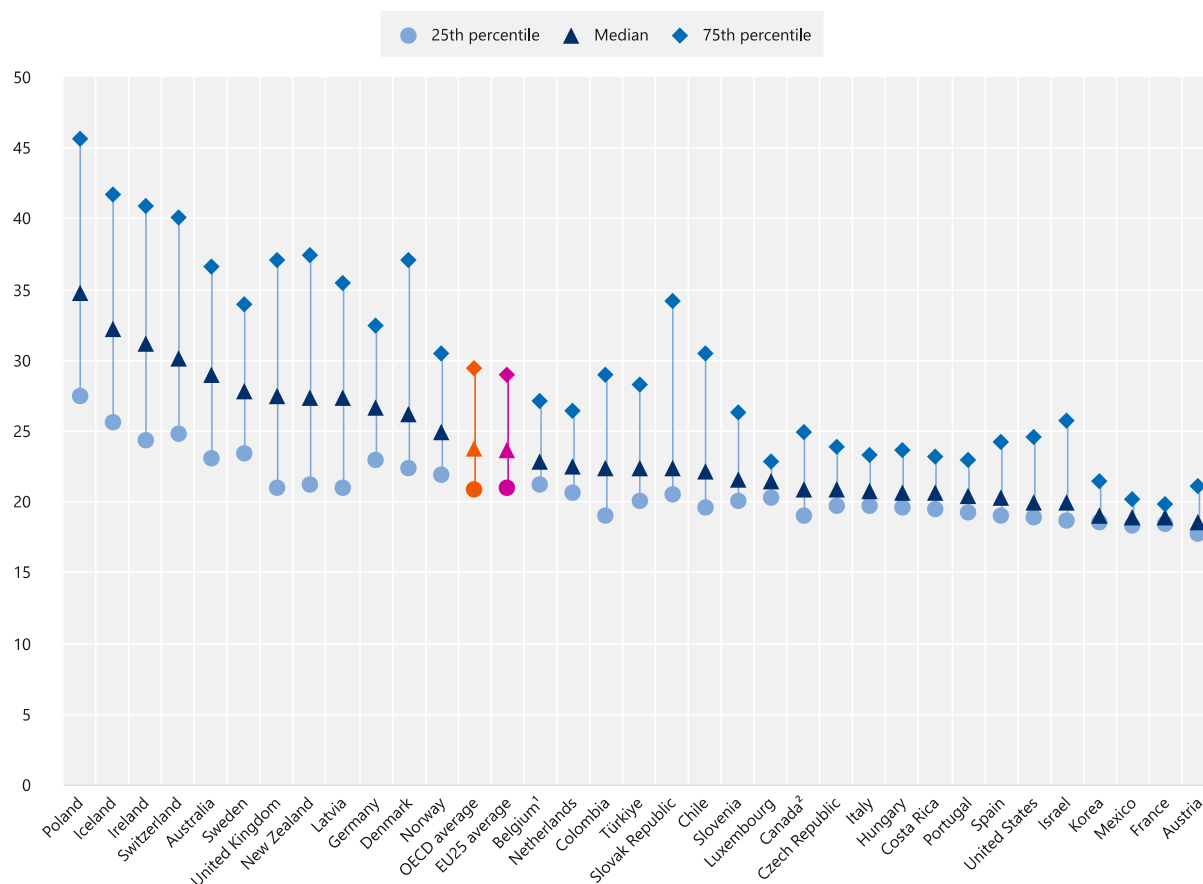
Women make up a small but clear majority of those starting tertiary education across OECD countries, at 55% of all new entrants. Notably, there is no longer a single OECD country where women are not in the majority among first-time entrants to tertiary education. Iceland has the largest gender gap, as women make up 62% of first-time entrants compared to 38% for men, whereas in Germany, Japan and Switzerland, women are just barely in the majority. In general, the gender gap among first-time entrants is slightly smaller than the gender gap in tertiary attainment among 25-34 year-olds and among graduates from tertiary education (see Table B5.1, Indicator B5 and [Education at a Glance Database](#)). This is due to gender differences in the completion rates of tertiary students (OECD, 2022^[4]). As women are more likely to complete their tertiary studies than men, the gender gap among graduates is wider than among entrants.

Although women are in the majority overall, there are significant gender differences in the choice of field of study among first-time entrants to tertiary education. Figure B4.2 shows the gender breakdown for short-cycle tertiary programmes. More than three-quarters of first-time entrants into short-cycle tertiary STEM programmes are men, whereas in health and welfare, and education programmes, more than three-quarters of first-time entrants are women. The fields of business administration and law, services, and arts and humanities are more evenly balanced. Similar gender patterns are also found at higher levels of tertiary education, although the overall gender gap tends to narrow slightly with increasing level of education and is smallest among entrants into doctoral programmes (OECD, 2022^[4]).

A large majority – 83% – of first-time entrants into tertiary education in all OECD countries are aged under 25. The average age of first-time entrants into tertiary education is 22 years. However, there are wide differences across countries in how common it is to enter tertiary education for the first-time later in life. Only 4% of first-time entrants in Belgium, and just 1% in Japan, are 25 or older. In contrast, more than 30% of first-time entrants in Colombia, Sweden, Switzerland and Türkiye are 25 years or older (Table B4.1). This illustrates the fundamental differences in pathways into tertiary education that exist across countries, and the varying roles that tertiary education can play in lifelong learning.

Figure B4.3. Age distribution of new entrants to short-cycle tertiary programmes (2021)

In years



1. Short-cycle tertiary data refer to the Flemish Community of Belgium only

2. Year of reference differs from 2021. Refer to the source table for more details.

Countries are ranked in descending order of the median age of new entrants to short-cycle tertiary programmes.

Source: OECD/UIS/Eurostat (2023), Table B4.3. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#). (OECD, 2023^[2])

StatLink  <https://stat.link/lw10a3>

Figure B4.3 shows that the age distribution of first-time entrants into short-cycle tertiary programmes varies widely among countries. The difference can be explained by the fact that in some countries, these programmes are often adult education programmes. In Austria, at bachelor's level, several short-cycle programmes are classified as adult education, such as the *Berufsbildende höhere Schule für Berufstätige* and the *Werkmeister- und Bauhandwerkerschule*.

The age distribution of new entrants to short-cycle tertiary programmes is also considerably wider than for bachelor's or master's long first-degree programmes. In many countries, there is more than a 10-year gap between the ages of entrants at the 75th percentile of the age distribution and those at the 25th percentile (Figure B4.3). Again, this can be explained by the diverse roles that short-cycle tertiary programmes have in many countries, covering both initial education and adult education. Two exceptions in this respect are France and Mexico where, even at the 75th percentile, entrants into short-cycle tertiary programmes are aged slightly below 20. In contrast to most other countries, short-cycle tertiary programmes in France are primarily targeted at students who have just completed upper secondary education.

International mobility

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 tertiary institutions at home, the capacity of tertiary institutions abroad to attract talent, and government policies to encourage cross-border mobility for education (Bhandari, Robles and Farrugia, 2018^[5]).

Across the OECD, 10% of all first-time entrants into tertiary education are international students (Table B4.1). The share of internationally mobile students increases with the level of education in most OECD countries. Short-cycle tertiary programmes have the lowest share, of just 6% of new entrants on average, followed by bachelor's programmes, with 8% of new entrants. At master's level, 19% of new entrants are internationally mobile and the share reaches 31% at doctoral level (see [Education at a Glance database](#)).

Definitions

Adult education is specifically targeted at individuals who are regarded as adults by their society to improve their technical or professional qualifications, further develop their abilities, enrich their knowledge with the purpose of completing a level of formal education, or to acquire, refresh or update their knowledge, skills and competencies in a particular field. This also includes what may be referred to as “continuing education”, “recurrent education” or “second-chance education”.

Initial education is the education of individuals before their first entrance to the labour market, i.e. when they will normally be in full-time education. It thus targets individuals who are regarded as children, youth and young adults by their society. It typically takes place in educational institutions in a system designed as a continuous educational pathway.

Internationally mobile students or international students are those students who left their country of origin and moved to another country for the purpose of study.

Master's long first degree (LFD) is a 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 its 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

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.

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.

The field of education is determined by the main subject matter of a student's programme of study. For practical purposes, the main subject of a programme or qualification is determined by the detailed field in which the majority (i.e. more than 50%) or a clearly predominant part of the learning credits or students' intended learning time is spent. Learning credits, where available, should be used. Otherwise, an approximate assessment of the intended learning time should be made. Learning time includes time spent in lectures and seminars, as well as in laboratories or on special projects. Private study time is excluded (as it is difficult to measure and varies between students). Programmes and qualifications are classified in the detailed field containing their main subject (UNESCO Institute for Statistics, 2014^[6]).

For more information see the [OECD Handbook for Internationally Comparative Education Statistics](#) (OECD, 2018^[7]) and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#). (OECD, 2023^[2])

Source

Data refer to the 2020/21 academic year and are based on the UNESCO-UIS/OECD/Eurostat data collection on education statistics administered by the OECD in 2022. Data for some countries may have a different reference year. For more information see [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#). (OECD, 2023^[2])

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- UNESCO Institute for Statistics (2014), *ISCED Fields of Education and Training 2013 (ISCED-F 2013)*, UNESCO Institute for Statistics, Montreal, <https://doi.org/10.15220/978-92-9189-150-4-en>. [6]

Indicator B4 Tables

Tables Indicator B4. Indicator. Who enters tertiary education?

Table B4.1	Profile of first-time entrants to tertiary education (2021) and share by level of education (2015 and 2021)
Table B4.2	Distribution of new entrants to short-cycle tertiary, bachelor's and master's long first degree programmes, by field of study (2021)
Table B4.3	Profile of new entrants to short-cycle tertiary programmes (2021)

StatLink  <https://stat.link/b3lxch>

Cut-off date for the data: 17 June 2023. 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 to tertiary education (2021) and share by level of education (2015 and 2021)

	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 in 2021			Share of first-time entrants by level of education in 2015		
					Short-cycle tertiary	Bachelor's or equivalent	Master's or equivalent	Short-cycle tertiary	Bachelor's or equivalent	Master's or equivalent
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Australia	m	m	m	m	m	m	m	m	m	m
Austria	54	81	22	25	42	41	17	46	37	17
Belgium	56	96	19	9	3	97	a	1	96	2
Canada	54	80	22	27	38	53	8	m	m	m
Chile	55	81	22	2	39	59	2	47	51	1
Colombia	53	69	23	0	44	56	a	39	61	a
Costa Rica	m	m	m	m	m	m	m	m	m	m
Czech Republic	56	88	22	18	1	87	12	1	89	10
Denmark	55	76	25	7	26	74	a	21	72	7
Estonia	56	87	22	8	a	92	8	m	m	m
Finland	54	76	23	11	a	93	7	a	94	6
France	m	m	m	m	m	m	m	m	m	m
Germany	51	78	23	9	1	84	15	0	82	18
Greece	54	92	20	2	a	100	a	a	100	a
Hungary	54	90	21	13	10	73	17	11	74	16
Iceland	62	75	24	8	6	93	1	6	88	7
Ireland	m	m	m	m	m	m	m	m	m	m
Israel	56	74	24	3	24	76	a	25	75	a
Italy	55	93	20	3	2	88	10	1	84	15
Japan	51	99	18	m	35	63	2	36	62	2
Korea	m	m	m	m	m	m	m	m	m	m
Latvia	m	m	m	m	m	m	m	m	m	m
Lithuania	57	86	22	9	a	90	8	a	95	5
Luxembourg	56	92	21	21	28	72	a	18	48	34
Mexico	53	86	21	1	7	93	a	10	90	a
Netherlands	55	94	20	16	4	96	a	1	92	6
New Zealand	59	76	23	9	26	74	a	32	68	a
Norway	56	85	22	2	8	81	11	7	82	11
Poland	57	90	21	9	0	85	14	m	m	m
Portugal	53	91	20	11	11	76	13	1	84	16
Slovak Republic	56	84	22	12	2	92	6	2	98	m
Slovenia	55	94	20	12	16	79	5	17	78	5
Spain	53	83	22	7	38	50	12	35	55	10
Sweden	57	69	24	12	13	59	27	13	62	25
Switzerland	51	69	25	18	2	86	11	5	68	27
Türkiye	53	68	24	4	49	49	2	45	53	2
United Kingdom	57	74	23	13	24	74	1	18	80	1
United States	57	94	20	3	42	58	a	45	55	a
OECD average	55	83	22	10	19	76	10	19	75	11
Partner and/or accession countries										
Argentina	m	m	m	m	m	m	m	m	m	m
Brazil	m	m	m	m	m	m	m	m	m	m
Bulgaria	53	80	23	7	a	86	14	a	89	11
China	m	m	m	m	m	m	m	m	m	m
Croatia	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
Peru	m	m	m	m	m	m	m	m	m	m
Romania	56	78	23	5	a	61	39	a	91	9
Saudi Arabia	m	m	m	m	m	m	m	18	81	1
South Africa	m	m	m	m	m	m	m	m	m	m
EU25 average	55	86	22	11	13	80	14	12	80	12
G20 average	m	m	m	m	m	m	m	m	m	m

Note: See StatLink and Box B4.6 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). For more information see [Source section](#) and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#). (OECD, 2023^[2])

StatLink  <https://stat.link/suf45h>

Table B4.2. Distribution of new entrants to short-cycle tertiary, bachelor's and master's long first degree programmes, by field of study (2021)

	Short-cycle tertiary						Bachelor's or equivalent						Master's long first degree					
	Education	Arts and humanities	Business, administration and law	STEM	Health and welfare	Services	Education	Arts and humanities	Business, administration and law	STEM	Health and welfare	Services	Education	Arts and humanities	Business, administration and law	STEM	Health and welfare	Services
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Australia	10	10	43	15	18	3	9	12	20	21	25	1	a	a	a	a	a	a
Austria	10	4	24	35	5	19	13	13	19	33	9	1	2	7	59	0	28	0
Belgium ¹	0	0	28	26	45	0	9	9	24	20	24	2	a	a	a	a	a	a
Canada ²	2	7	26	28	19	13	5	10	20	35	10	5	0	0	46	0	50	0
Chile	10	2	21	26	26	12	7	5	24	31	19	4	0	0	0	0	100	0
Colombia	1	3	45	34	2	9	10	5	35	25	7	1	a	a	a	a	a	a
Costa Rica	8	4	27	48	0	8	16	12	23	28	6	2	a	a	a	a	a	a
Czech Republic	0	100	0	0	0	0	10	10	19	28	13	8	15	2	23	0	52	5
Denmark	3	8	58	15	3	10	6	9	22	23	29	1	a	a	a	a	a	a
Estonia	a	a	a	a	a	a	4	15	19	34	12	8	9	0	0	42	38	0
Finland	a	a	a	a	a	a	5	8	20	35	21	5	0	0	0	0	100	0
France	0	5	39	32	11	7	1	21	25	24	13	4	0	2	43	43	4	0
Germany	0	4	0	26	7	48	11	7	27	37	6	3	11	25	24	17	18	1
Greece	a	a	a	a	a	a	6	12	18	32	9	3	a	a	a	a	a	a
Hungary	0	3	57	17	1	15	6	13	20	29	8	8	14	5	28	3	43	0
Iceland	17	37	3	17	7	13	10	12	17	23	17	2	0	0	0	0	100	0
Ireland	3	3	52	20	8	12	5	19	20	29	15	4	m	m	m	m	m	m
Israel	50	2	4	43	2	0	13	8	16	32	7	0	a	a	a	a	a	a
Italy	0	9	17	48	0	21	4	22	14	30	6	5	10	0	47	6	37	0
Japan ³	9 ^d	12 ^d	13 ^d	17	22 ^d	21 ^d	8 ^d	20 ^d	26 ^d	19	9 ^d	3 ^d	0 ^d	0 ^d	0 ^d	0	95 ^d	0 ^d
Korea	4	15	8	27	26	19	6	17	13	34	13	8	a	a	a	a	a	a
Latvia	13	1	31	15	26	13	4	9	28	32	7	7	0	0	0	0	93	0
Lithuania	a	a	a	a	a	a	4	12	27	26	17	2	0	0	24	6	59	2
Luxembourg	0	9	31	24	34	0	16	12	23	25	8	0	a	a	a	a	a	a
Mexico	0	3	27	51	6	10	10	4	32	27	12	3	a	a	a	a	a	a
Netherlands	3	2	40	15	18	14	9	7	28	19	18	5	a	a	a	a	a	a
New Zealand	3	15	23	29	12	8	9	15	16	29	15	1	a	a	a	a	a	a
Norway	0	19	2	69	0	10	8	13	23	16	18	5	45	1	11	23	12	0
Poland	12	12	11	6	52	0	4	12	22	29	7	12	15	4	20	0	36	0
Portugal	0	8	23	38	9	17	3	13	27	21	13	8	0	0	0	56	28	2
Slovak Republic	20	19	8	17	22	13	14	7	20	25	14	7	0	4	0	0	86	0
Slovenia	0	6	18	44	2	27	9	9	20	29	13	6	6	1	0	15	69	0
Spain	7	8	19	30	19	15	11	14	22	24	11	4	0	0	0	18	72	0
Sweden	0	10	24	51	5	8	9	21	15	21	14	3	33	0	15	39	9	0
Switzerland	3	12	42	11	29	0	7	6	29	27	16	5	100	0	0	0	0	0
Türkiye	0	7	32	15	21	16	6	16	19	18	15	7	0	0	0	0	92	0
United Kingdom	4	4	39	15	30	1	3	16	24	24	15	0	a	a	a	a	a	a
United States	m	m	m	m	m	m	m	m	m	m	m	m	a	a	a	a	a	a
OECD average	6	11	25	27	15	12	8	12	22	27	13	4	11	2	15	12	53	0
Partner and/or accession countries																		
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
Bulgaria	a	a	a	a	a	a	14	12	16	28	7	11	0	1	27	14	53	0
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	0	0	0	100	0	0	5	9	19	35	11	12	16	4	49	1	24	0
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
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	a	a	a	a	a	a	4	11	30	31	6	5	0	0	0	7	83	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
EU25 average	4	11	25	29	14	12	8	12	22	28	12	5	7	3	19	14	49	1
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See StatLink and Box B4.6 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). For more information see [Source section](#) and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023_[2]).


StatLink  <https://stat.link/x5k93d>

Table B4.3. Profile of new entrants to short-cycle tertiary programmes (2021)

	Share of female new entrants	Share of international new entrants	Age distribution of new entrants			Share of female new entrants in selected fields of study by level of education							
			25th percentile	Median	75th percentile	Education	Arts and humanities	Social sciences, journalism and information	Business, administration and law	STEM	Agriculture, forestry, fisheries and veterinary	Health and welfare	Services
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Australia	56	35	23	29	37	89	61	65	49	25	55	75	69
Austria	53	3	18	19	21	88	71	82	60	17	50	71	83
Belgium ¹	55	1	21	23	27	41	97	52	58	9	a	76	30
Canada ²	51	30	19	21	25	84	56	71	51	24	59	84	50
Chile	57	2	20	22	30	98	40	65	61	12	56	83	57
Colombia	50	0	19	22	29	37	53	66	62	33	52	62	45
Costa Rica	52	m	19	21	23	67	62	69	69	37	56	63	69
Czech Republic	62	4	20	21	24	a	62	a	a	a	a	a	a
Denmark	48	8	22	26	37	63	65	58	47	25	46	83	51
Estonia	a	a	a	a	a	a	a	a	a	a	a	a	a
Finland	a	a	a	a	a	a	a	a	a	a	a	a	a
France	49	m	18	19	20	80	59	71	58	21	41	85	56
Germany	46	0	23	27	32	a	39	a	a	27	19	57	64
Greece	a	a	a	a	a	a	a	a	a	a	a	a	a
Hungary	55	1	20	21	24	99	35	65	65	14	56	91	66
Iceland	63	21	26	32	42	73	68	84	14	45	a	97	48
Ireland	51	4	24	31	41	75	68	81	53	35	0	81	39
Israel	52	2	18	19	24	82	74	a	91	29	a	80	a
Italy	27	0	20	21	23	a	50	a	25	13	27	a	41
Japan ³	60	m	m	m	m	91 ^d	65 ^d	36 ^d	59 ^d	17	31 ^d	71 ^d	71 ^d
Korea	51	2	18	19	21	92	59	77	63	14	49	70	55
Latvia	67	1	21	27	35	99	81	100	72	16	35	88	42
Lithuania	a	a	a	a	a	a	a	a	a	a	a	a	a
Luxembourg	56	13	20	21	23	a	55	38	64	19	a	77	a
Mexico	42	0	18	19	20	72	57	59	62	26	37	63	51
Netherlands	49	3	21	22	26	76	58	82	44	11	19	80	45
New Zealand	57	7	21	27	37	68	64	63	61	37	71	79	57
Norway	22	1	22	25	30	a	62	a	57	10	a	90	13
Poland	71	13	27	35	46	59	58	50	55	81	a	81	a
Portugal	37	17	19	20	23	86	40	88	52	13	43	86	40
Slovak Republic	69	1	20	22	34	95	65	a	82	39	67	71	60
Slovenia	38	5	20	22	26	a	41	a	67	15	40	81	53
Spain	48	2	19	20	24	91	49	83	55	16	33	78	43
Sweden	49	0	23	28	34	74	59	81	71	30	77	79	65
Switzerland	57	0	25	30	40	83	36	60	54	7	a	87	4
Türkiye	53	2	20	22	28	97	57	47	54	25	47	76	45
United Kingdom	59	6	21	27	37	73	61	74	54	27	65	77	55
United States	57	2	19	20	25	m	m	m	m	m	m	m	m
OECD average	52	6	21	24	29	79	58	68	58	24	45	78	51
Partner and/or accession countries													
Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m
Brazil	m	m	m	m	m	m	m	m	m	m	m	m	m
Bulgaria	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
Croatia	a	a	a	a	a	a	a	a	a	a	a	a	a
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
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	a	a	a	a	a	a	a	a	a	a	a	a	a
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
EU25 average	52	4	21	24	29	79	58	72	58	24	39	79	52
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See StatLink and Box B4.6 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023^[2]).

StatLink  <https://stat.link/hd801i>

Box B4.6. Notes for Indicator B4 tables

Table B4.1. Profile of first-time entrants to tertiary education (2021) and share by level of education (2015 and 2021)

1. Short-cycle tertiary data refer to the Flemish Community of Belgium only.
2. Year of reference differs from 2021: 2020 for Canada.

Table B4.2. Distribution of new entrants to short-cycle tertiary, bachelor's and master's long first degree programmes, by field of study (2021)

STEM refers to the fields of science, technology, engineering and mathematics. Additional columns showing the share for social sciences, journalism and information, and agriculture, forestry, fisheries and veterinary are available for consultation on line (see StatLink below).

1. Short-cycle tertiary data refer to the Flemish Community of Belgium only.
2. Year of reference differs from 2021: 2020 for Canada.
3. All fields of study include the field of information and communication technologies.

Table B4.3. Profile of new entrants to short-cycle tertiary programmes (2021)

STEM refers to the fields of science, technology, engineering and mathematics.

1. Short-cycle tertiary data refer to the Flemish Community of Belgium only.
2. Year of reference differs from 2021: 2020 for Canada.
3. All fields of study include the field of information and communication technologies.

For more information see *Definitions, Methodology and Source* sections and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[2]).

Data and more breakdowns are available in the Education at a Glance Database (<http://stats.oecd.org/>).

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

Indicator B5. Who graduates from tertiary education?

Highlights

- In OECD countries, bachelor's degrees or equivalent continue to be the most prevalent tertiary qualification among first-time graduates. In 2021, the vast majority of first-time tertiary graduates (77%) obtained a bachelor's degree, compared to 16% obtaining a short-cycle tertiary diploma and 8% a master's degree or equivalent.
- Gender differences persist when choosing a field of study. In OECD countries, female tertiary graduates are under-represented in the traditionally male-dominated science, technology, engineering and mathematics (STEM) fields (33% on average), while they are over-represented in health and welfare (77%).
- The popularity of fields of study differs at different levels of education. At upper secondary and post-secondary non-tertiary, more than 30% of OECD graduates from vocational programmes studied a STEM field, partly due to the fact that upper secondary vocational education and training (VET) plays a major role in preparing students for jobs in manufacturing and construction (graduates from these programmes fall into the STEM category). At tertiary level, STEM accounts for less than 25% of graduates in OECD countries. At this level, the broad category of STEM translates into different narrow fields of study (e.g. engineering, biology or physics).

Context

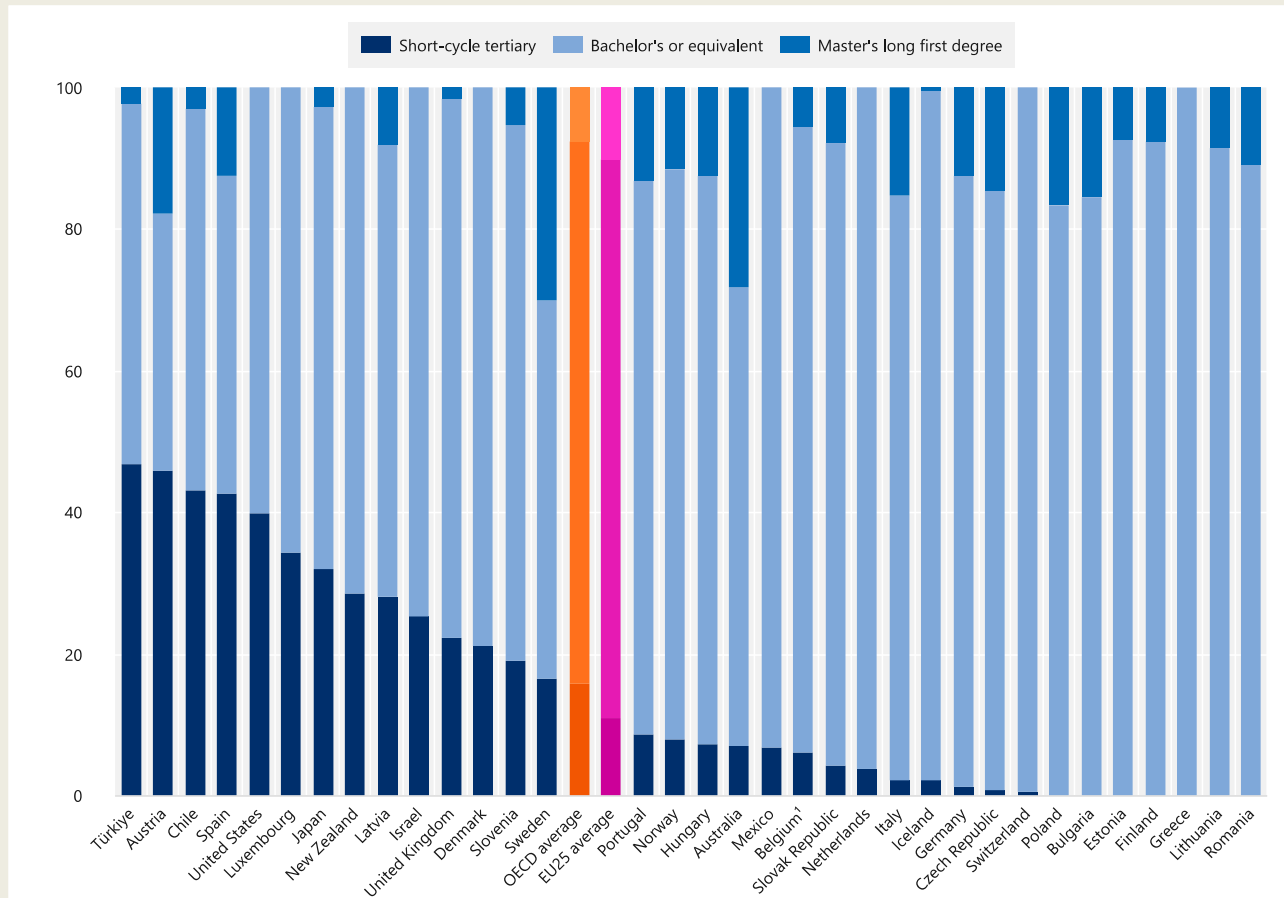
The incentives to earn a tertiary degree, including higher salaries and better employment prospects, remain strong across OECD countries (see Indicators A1, A3 and A4 for further reading on these themes). Tertiary education varies in its structure and scope across countries and its outcomes appear to be influenced by educational factors such as the flexibility of programmes, the supply of places available at each education level and within each field of study, as well as other factors during the academic year, that affect whether or not students complete their programme.

Access to tertiary education has expanded significantly in recent decades, with a variety of institutions offering more options and new delivery methods (OECD, 2016^[1]). The student population is more international, more women than men are graduating from tertiary education, and field of study options have expanded. Understanding current graduation patterns and profiling tertiary graduates are both helpful to inform the design of inclusive education systems that prepare students for further study or employment without dead ends.

Policy makers are exploring ways to help ease the transition from tertiary education into the labour market (OECD, 2015^[2]). To this end, short-cycle tertiary programmes, typically vocationally oriented, are central to preparing young people for work, developing adults' skills and responding to labour-market needs.

Figure B5.1. Distribution of first-time tertiary graduates, by level of education (2021)

In per cent



1. Short-cycle tertiary data refer to the Flemish Community of Belgium only.

Countries are ranked in descending order of the share of first-time tertiary graduates in short-cycle tertiary education.

Source: OECD/UIS/Eurostat (2023), Table B5.1. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023^[3]).

StatLink <https://stat.link/s3mky9>

Other findings

- In 2021, the average age of those graduating for the first-time from tertiary education in OECD countries was 26. The average age of first-time short-cycle tertiary graduates varies more across countries compared to other tertiary degrees. In some countries, these programmes serve as a continuation of upper secondary VET education for younger students, while in others they are more likely to form a part of lifelong learning for older students.
- The completion rates of short-cycle tertiary students with vocational upper secondary backgrounds are similar to or higher than those of their peers with a general upper secondary background. At bachelor's level, however, students with a vocational background have similar or lower completion rates compared to those with a general programme background in most countries.
- Women's participation in higher education has been increasing in recent years and they now form a clear majority of first-time graduates (58%) at all levels of tertiary education. Despite this rising participation, gender disparities persist in fields of study. On average, 33% of tertiary STEM graduates are female, ranging from 20% or less in Chile and Japan to 40% or more in Greece, Iceland, New Zealand and Poland.

Analysis

Profile of first-time tertiary graduates

Level of education

Students who are interested in pursuing tertiary education have access to a variety of pathways in different countries. The vast majority of OECD countries promote academic, professional or vocational programmes at the bachelor's level to develop necessary competencies for students attending tertiary education. On average, 77% of first-time tertiary graduates in OECD countries obtain a bachelor's degree (Figure B5.1). In 13 countries, the share is 85% or above and it is 100% in Greece where a bachelor's degree is the only pathway available to those entering tertiary education for the first-time (Table B5.1).

Some OECD countries also encourage participation in short-cycle tertiary programmes to enhance employability and facilitate transitions into the workforce. In 2018, the Ministers of European Higher Education Area (EHEA) recognised the importance of short-cycle tertiary programmes within the framework of the Bologna Process. They acknowledged the programmes as instrumental in equipping students with the skills needed for employment and further academic study. They were also found to be essential for promoting social cohesion by providing access to higher education for individuals who may not have otherwise considered it. Therefore, they were incorporated as a stand-alone qualification within the EHEA's qualification framework (EHEA, 2018^[4]). On average across OECD countries, 16% of first-time tertiary graduates attain a short-cycle tertiary degree, though the importance of this level varies widely across countries. In Austria and the Republic of Türkiye, for instance, almost half of first-time tertiary graduates (46% and 47%, respectively) obtain a short-cycle tertiary diploma compared to less than 2% in the Czech Republic, Germany, Poland and Switzerland (Table B5.1).

Given that short-cycle tertiary programmes generally have an occupational or professional focus, they are more likely to be pursued by vocational upper secondary graduates. In Austria, Luxembourg, Norway and Spain, short-cycle tertiary is the only pathway into tertiary education available for VET upper secondary graduates, and completion of short-cycle tertiary yields access to bachelor's level programmes (Table B1.4. in Indicator B1). However, in other OECD countries, short-cycle tertiary is not the only route into tertiary education for VET upper secondary graduates. Some countries (e.g. Germany, the Netherlands and Switzerland) have programmes at bachelor's and master's level, which act as continuation of VET.

Master's long first degrees are another pathway pursued by tertiary students in some countries, although the average share of first-time tertiary graduates at this level is relatively small (8%) across OECD countries compared to the other two pathways. In certain countries, however, a notable number of first-time graduates complete these programmes, which typically provide specialised professional subjects such as medicine. In Australia and Sweden, for example, at least one-quarter of first-time tertiary students obtain a master's long first degree (Table B5.1).

Age distribution of first-time tertiary graduates

Many OECD countries are aiming to reduce the age at which students complete tertiary education, so that they can enter the workforce and contribute to their economies as early as possible. In 2021, the average age of first-time tertiary graduates was 26 across OECD countries. There is, however, notable variation between countries, ranging from 22 in Japan to 29 in Latvia (Table B5.1). The age at which students graduate from tertiary education is primarily determined by their age at entrance and the theoretical length of the programmes in which they enrol. The structure of countries' upper secondary education systems, selection processes into tertiary education, gap years, conscription or entrance into the labour market may all delay entry into tertiary education, resulting in older graduation ages. In Iceland, Sweden and Switzerland, for instance, where students have a variety of pathways before entering tertiary education and have the flexibility to switch between programmes or transfer to adult learning, they enter tertiary education and graduate later than in other countries. Conscription in Israel, and

restricted entry to tertiary education due to fixed number of admissible entrants (*numerus clausus* policies) in Finland combined with students commonly taking a voluntary gap year, contribute to an average first-time graduation age of 28 in these two countries.

The average age of graduates also varies by level of education across OECD countries. The average age of first-time short-cycle tertiary graduates is 27, the same as that of first-time master's degree graduates, while for first-time bachelor's graduates the average is 25. There is greater variation in the age distribution of short-cycle tertiary graduates across countries, reflecting differences in countries' education systems. In Austria, for instance, where short-cycle tertiary programmes are designed as a continuation of upper secondary VET programmes for younger learners, the average age at graduation is 20. In other countries, older first-time graduates can be explained by having short-cycle tertiary programmes specifically designed for older students, as well as students taking longer to graduate (Table B5.1).

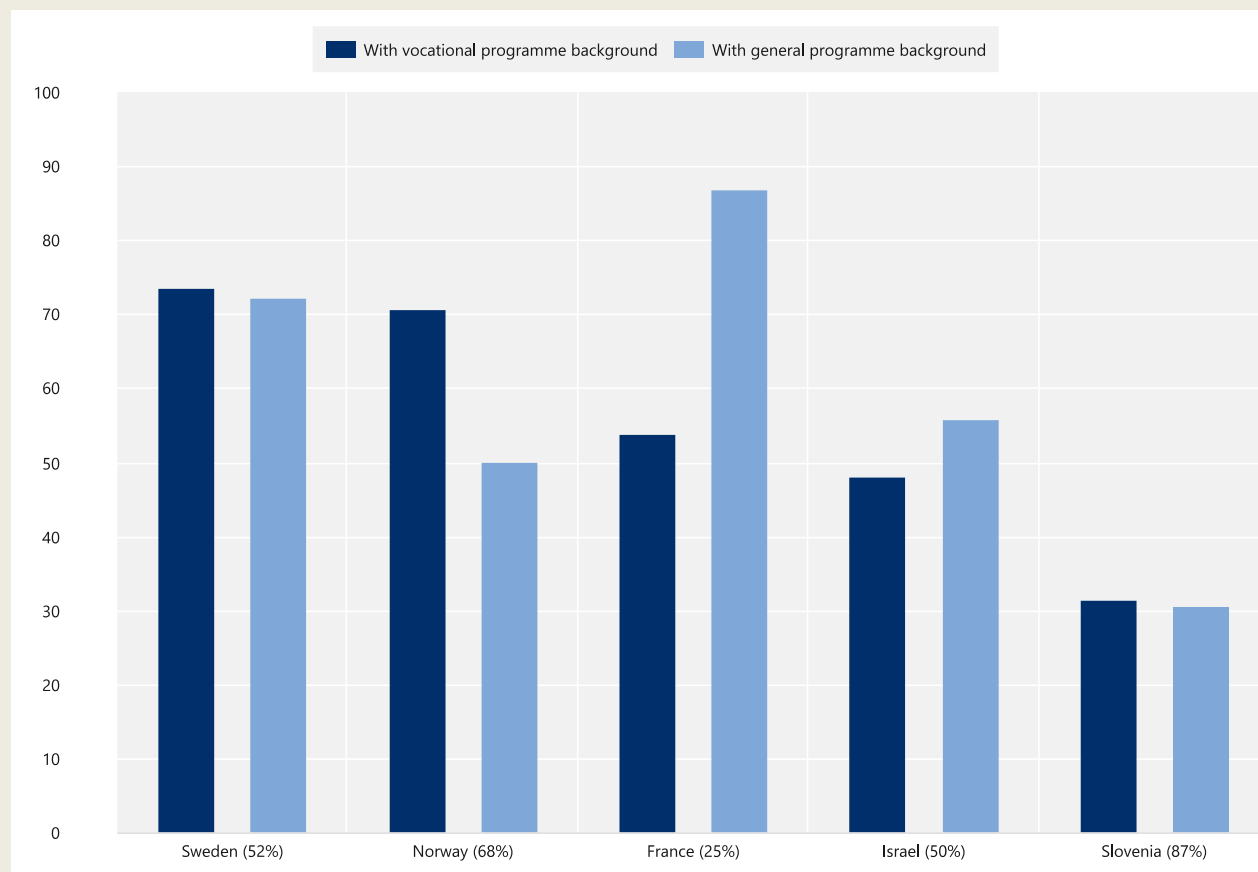
Box B5.1. How successful are VET students in higher education?

Higher education systems have the challenge of serving all students from diverse academic backgrounds, particularly VET students who are less likely to pursue further studies after upper secondary education. No one should be excluded from the opportunity to pursue advanced studies or be denied a high-quality education because of a decision made at a certain point in the system. Consequently, VET students who either pursue higher education or enter the workforce should be no more likely to face educational dead ends than their counterparts with general upper secondary backgrounds.

The completion rates of short-cycle tertiary students with vocational upper secondary backgrounds are similar to or higher than those of their peers with a general background in all countries with available data, except in France and Israel, where they are significantly lower (Figure B5.2). This might reflect the different function of short-cycle tertiary programmes in different countries. In Norway, Slovenia and Sweden, short-cycle tertiary programmes are a component of higher vocational education, enhancing vocational skills acquired at upper secondary level. Accordingly, completion rates are higher (or similar) among VET graduates to those of general education, although in Slovenia they are low for both backgrounds. In Israel, they primarily focus on practical engineering and technician training for both general and vocational upper secondary graduates, and VET graduates have slightly lower completion rates. On the other hand, in France, short-cycle tertiary programmes are not connected to upper secondary VET in the same way and the majority of students have a general education background.

Figure B5.2. Completion rates of full-time short-cycle tertiary students, by students' upper secondary orientation (2020)


In per cent, completion rates are for the end of the theoretical programme duration plus three years



Note: The share of short-cycle tertiary students in the entrance cohort who had graduated from a vocational upper secondary programme is shown in parentheses next to each country name. The reference year (2020) corresponds to a period three years after the theoretical end of the programme (2017). The reference year for students' entry into the programme may differ depending on its duration.

Countries are ranked in descending order of the completion rate of short-cycle tertiary students with a vocational upper secondary programme background.

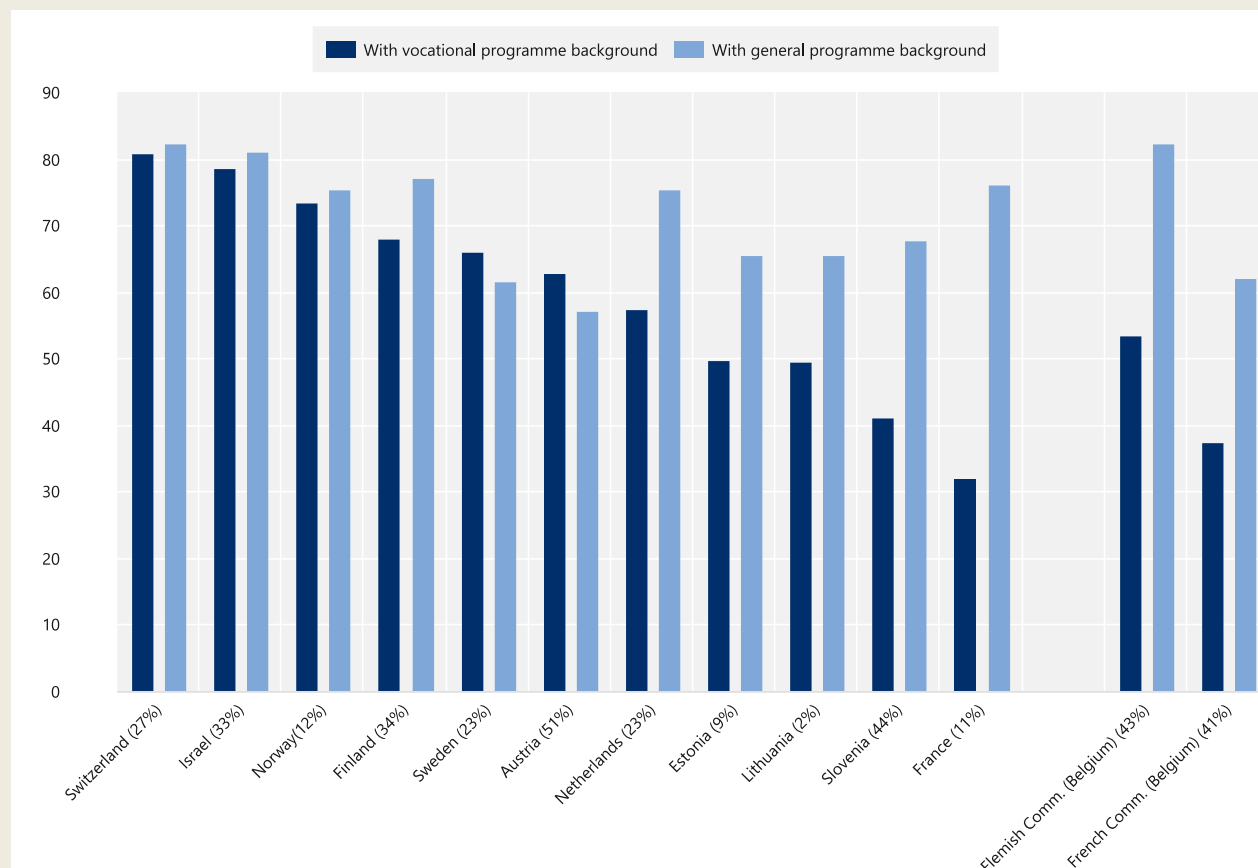
Source: OECD - ad-hoc survey on tertiary completion rates (2022). For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023^[3]).

StatLink  <https://stat.link/qt8f15>

in most countries with available data, in contrast, completion rates of bachelor's degree students with a VET background are similar to or lower than those with a general programme background (Figure B5.3). VET graduates appear to perform well in bachelor's level programmes in a few countries, however. In Austria and Sweden, for instance, students with a vocational background have higher completion rates than those with a general education background. In Israel, Norway and Switzerland, completion rates among VET graduates are above 70% – higher than for general upper secondary graduates in six countries or other participants. Ensuring completion among VET graduates is often a challenge – in five countries or sub-national entities (e.g. Estonia, France, the French Community of Belgium, Lithuania and Slovenia VET graduates are more likely to drop out or still be in education than they are to complete it).

Figure B5.3. Completion rates of full-time bachelor's students, by students' upper secondary orientation (2020)


In per cent, completion rates are for the end of the theoretical programme duration plus three years



Note: The share of bachelor's degree students in the entrance cohort who had graduated from a vocational upper secondary programme is shown in parentheses next to each country name. The reference year (2020) corresponds to a period three years after the theoretical end of the programme (2017). The reference year for students' entry into the programme may differ depending on its duration.

Countries and other participants are ranked in descending order of the completion rate of bachelor's students with a vocational upper secondary programme background.

Source: OECD - ad-hoc survey on tertiary completion rates (2022). For more information see [Source section](#) and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023_[3]).

StatLink  <https://stat.link/kz9ydc>

Gender and fields of study

Encouraging students to pursue studies in a field that aligns with their interests and skills has the potential to yield positive outcomes in both the labour market and society as a whole. Gender stereotyping is likely to dissuade women and men from pursuing certain careers, particularly in science, technology, engineering and mathematics (STEM) for women and health and welfare fields for men (Makarova, Aeschlimann and Herzog, 2019_[5]).

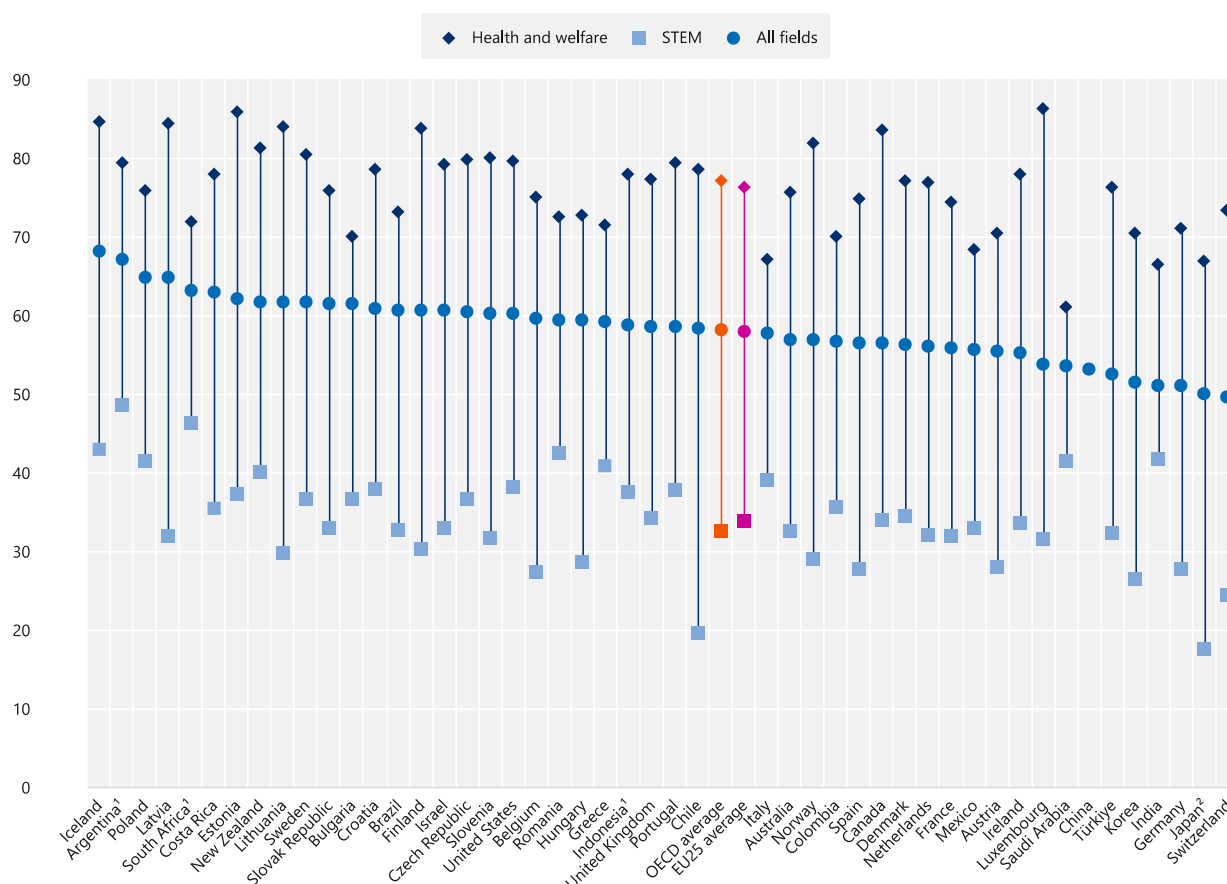
In recent years, there has been a notable increase in the number of women graduating from tertiary education, changing the gender disparity in tertiary participation, with more women than men now graduating from this level. Female tertiary graduates now make up the majority of first-time tertiary graduates, accounting for 58% of the

total on average across OECD countries. Despite this reversal of traditional gender patterns, old gender stereotypes in the choice of field of study still persist. The STEM fields have been traditionally dominated by male students and in 2021, still only 33% of tertiary STEM graduates across OECD countries were female, ranging from 20% or less in Chile and Japan to 40% or more in Greece, Iceland, New Zealand and Poland (Table B5.2). The share is above 40% in many partner countries (Argentina, India, Romania, Saudi Arabia and South Africa). According to research, the under-representation of women in OECD countries may be attributable to them experiencing isolation, micro-aggressions and a male-dominated culture when studying in these fields (Ong, Smith and Ko, 2018^[6]; Blackburn, 2017^[7]). Female students in STEM fields might feel less of a sense of belonging than their male counterparts, which has been associated with a lower likelihood of choosing or persisting in these programmes (Lewis et al., 2017^[8]). The disparity between the share of female tertiary graduates in STEM and health and welfare fields is illustrated in Figure B5.4. Men have also been under-represented in some fields, such as health and welfare. In 2021, 23% of tertiary graduates in health and welfare were male on average across OECD countries, and they made up less than 20% in nearly one-third of countries.

The average shares of female tertiary graduates in some fields within STEM are even lower: 23% in information and communication technologies (ICT), and 28% in engineering, for example. However, since 2015, some countries (e.g. Australia, Iceland, Ireland, Luxembourg and Saudi Arabia) have reported promising increases in the share of female tertiary ICT graduates, by more than 8 percentage points. Over the same period, the presence of female tertiary graduates in STEM fields has also increased by around 5 percentage points or more in a smaller number of countries, including Iceland, Ireland, Luxembourg, New Zealand and South Africa (Table B5.2). In the countries where the representation of female tertiary graduates in STEM has increased, their male peers in health and welfare have shown a similar patterns, although with a smaller percentage point change. However, Canada and Türkiye have seen the gender gap in these disciplines widen, with the proportion of female tertiary graduates in health and welfare increasing notably since 2015, while falling in ICT (Table B5.2).

Figure B5.4. Share of female tertiary graduates in health and welfare, STEM, and all fields (2021)

In per cent




Note: STEM refers to the fields of science, technology, engineering and mathematics.

1. Year of reference differs from 2021. Refer to the source table for more details.

2. All fields of study include the field of information and communication technologies.

Countries are ranked in descending order of the share of female tertiary graduates in all fields.

Source: OECD/UIS/Eurostat (2023), Table B5.2. For more information see [Source section](#) and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#). (OECD, 2023^[3]).

StatLink  <https://stat.link/a6bp17>

Patterns in the fields of study, by level of education

Arts and humanities; business, administration and law; health and welfare; services; and STEM are the most popular fields of study among tertiary education graduates in OECD countries. Of these five broad fields of study, the proportions studying STEM, services and business, administration and law vary the most across different levels of education (Figure B5.5).

On average, more than one-third of OECD graduates of upper secondary and post-secondary non-tertiary education from vocational programmes studied a STEM field. This may partly be driven by the fact that upper secondary VET plays a major role in preparing students for entry-level jobs in manufacturing and construction, and that graduates from these programmes fall into the STEM category. In nearly all OECD countries, STEM fields account for the largest share of VET graduates at this level. In some countries, the share is even more

concentrated. This is the case in Iceland, Israel and Korea where more than 50% of VET students graduate from STEM fields – possibly as a result of the focus on “traditional” VET occupations, as described above (Table B5.3).

At tertiary level (short-cycle tertiary or bachelor’s or above), less than 25% of those graduating in OECD countries studied a STEM field. At this level, the broad category of STEM translates into various specialised fields of study (e.g. engineering, biology or physics), compared to upper secondary and post-secondary where the STEM category would include, among others, electricians and different types of technicians. STEM is the most popular field in short-cycle tertiary education, closely followed by business, administration and law. Given the specialised nature of the short-cycle tertiary sector and its role in addressing specific labour-market demands, it might be prudent for education planners to prioritise a focused approach towards a particular field. This is the case in Israel, Mexico and Norway, where the majority of students at this level graduate from a STEM programme, as short-cycle tertiary programmes are part of the higher vocational sector and play a key role in upskilling upper secondary VET graduates.

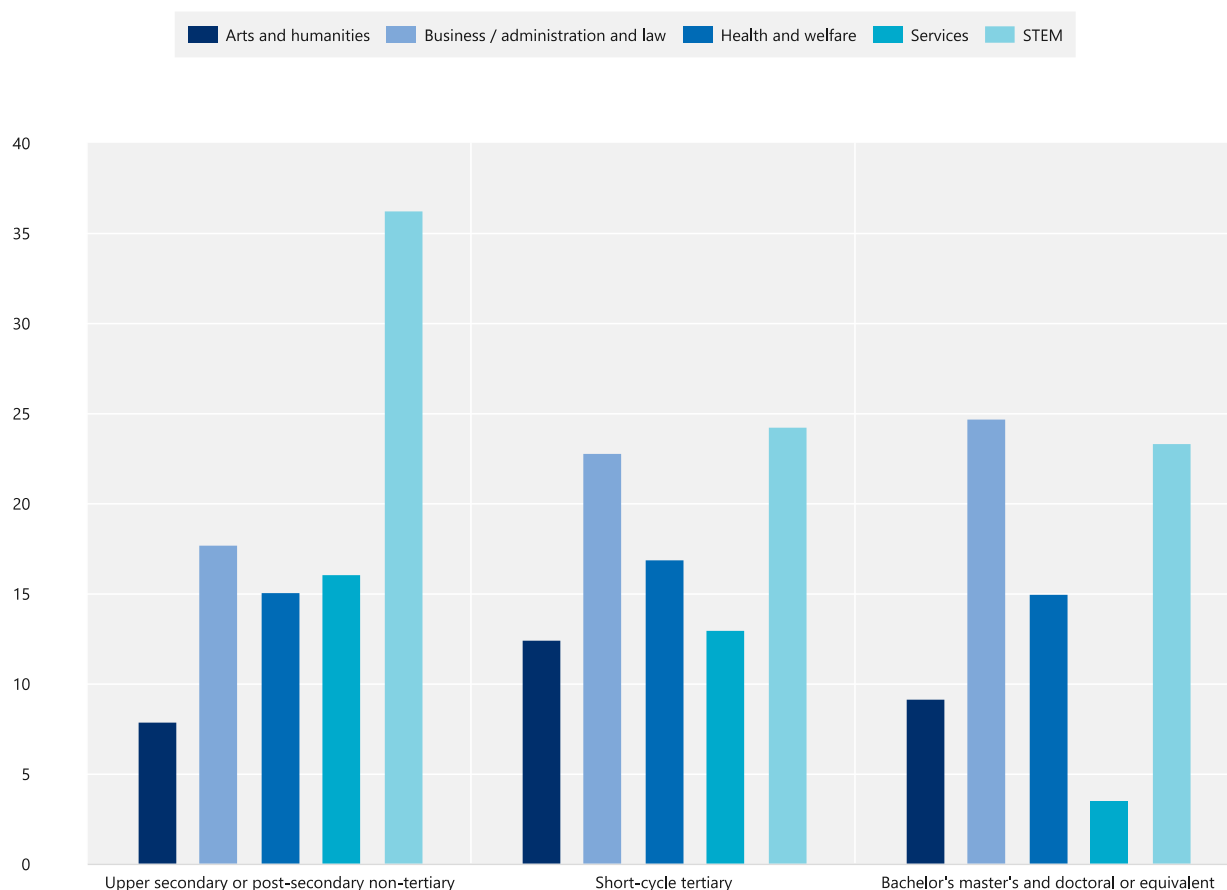
The broad field of services accounts for the smallest share of graduates at bachelor’s or higher levels (4%) compared to around 15% at upper secondary and post-secondary non-tertiary levels or short-cycle tertiary (Table B5.3). This partly reflects the kind of programmes and qualifications included in this category, such as domestic services (e.g. caretaking or cleaning), hair and beauty services, and hotel and catering, which are usually targeted by vocational programmes rather than tertiary ones. In Croatia, Estonia, Italy, Lithuania and Portugal, more than one-quarter of graduates at upper secondary and post-secondary non-tertiary levels studied services. Some programmes and qualifications within this field may also be targeted by tertiary level programmes (e.g. tourism or transport studies).

The broad field of business, administration and law is well represented across the different levels of education but more so at the tertiary level. This may be due to the negligible share of VET students in all OECD countries studying law-related fields, which are primarily aimed at those studying a bachelor’s degree or above. One-quarter of graduates with a bachelor’s degree or above in OECD countries completed a programme in business, administration and law. In some countries, such as Colombia and Luxembourg, this field has even greater prominence, accounting for more than 40% of tertiary graduates (Table B5.3).

On average across OECD countries, the distribution of graduates by fields of study and level of education has not changed substantially since 2015. The only notable change has been a 3 percentage point increase in the proportion of graduates from STEM fields at upper secondary and post-secondary non-tertiary and short-cycle tertiary programmes (Table B5.3).

Figure B5.5. Distribution of graduates, by level of education and selected fields of study (2021)

OECD average, in per cent



Note: Each selected field accounts for at least 10% of short-cycle tertiary graduates. STEM refers to the fields of science, technology, engineering and mathematics. Data (e.g. on the field of agriculture, forestry, fisheries and veterinary) and more breakdowns available at <http://stats.oecd.org>, Education at a Glance Database.

Source: OECD/UIS/Eurostat (2023), Table B5.3. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023^[3]).

StatLink  <https://stat.link/yrj83s>

Box B5.2. Why are there no data on programme orientation at tertiary level?

Many countries have adopted tertiary programmes with a focus on applied learning in specific fields to expand access to tertiary education particularly for graduates of upper secondary VET programmes and adult learners pursuing opportunities to reskill or upskill.

The ISCED 2011 framework has proposed classifying the orientation of these programmes as “professional” while categorising programmes that provide general knowledge, skills, competencies, as well as literacy and numeracy as “academic” (UIS, 2012^[9]). However, there are no internationally agreed definitions of academic or professional orientations that would serve as the basis for the collection of comparative data. Programmes training students for the same occupation are reported as academic in some countries and as professional or “unspecified orientation” in others. Therefore, no data on programme orientation at tertiary level are provided in *Education at a Glance*.

The OECD initiated the Higher VET – Professional Tertiary Education Project with the aim of improving the quality of comparative data on professional tertiary education by promoting dialogue on an international definition and classification of tertiary programmes by orientation and exploring ways to enhance the coverage of professional programmes in existing and future data collection (OECD, 2022^[10]). The project proposes classifying programme orientation into three categories:

Type 1 – Profession oriented: Programmes that provide applied education and training designed to equip students with knowledge and skills required to practice a particular profession.

Type 2 – Sector oriented: Programmes that provide applied education and training designed to equip students with knowledge and skills required to work within an occupational family or industrial sector.

Type 3 – General: Programmes that provide discipline-oriented education in the pure sciences, humanities and arts. While such programmes will also provide knowledge and skills of labour-market relevance, these are applicable in very diverse contexts and are not intended to prepare students for a particular profession, group of occupations or industrial sector.

Source: OECD (2022^[10]), *Pathways to Professions: Understanding Higher Vocational and Professional Tertiary Education Systems*.

Definitions

First-time graduates refer to students who graduated for the first-time at a given level of education during the reference period. Therefore, students who have graduated multiple times over the years are counted as a graduate each year, but as a first-time graduate only once per level of education.

First-time tertiary graduates refer to students who graduate for the first-time with a tertiary degree, regardless of the education programme in which they are enrolled. This definition is applied in Table B5.1.

The **theoretical duration** of programmes is the regulatory or common-practice time it takes a full-time student to complete a level of education.

Methodology

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.

For more information see the [OECD Handbook for Internationally Comparative Education Statistics](#) (OECD, 2018^[11]) and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3]).

Completion rate of students who graduate at the same ISCED level which they entered: number of graduates in a given calendar year and ISCED level divided by the number of entrants to that same ISCED level with theoretical duration plus three calendar years before.

Source

Data refer to the 2020/21 academic year and are based on the UNESCO-UIS/OECD/Eurostat data collection on education statistics administered by the OECD in 2022. Data for some countries may have a different reference year. For more information see [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3]).

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Indicator B5 Tables

Tables Indicator B5. Who is expected to graduate from tertiary education?

Table B5.1	Profile of first-time tertiary graduates by level of education (2021)
Table B5.2	Share of female graduates in tertiary education, by field of study (2015 and 2021)
Table B5.3	Distribution of graduates, by field of study and education level (2021)

StatLink  <https://stat.link/6uqo01>

Cut-off date for the data: 17 June 2023. 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. Profile of first-time tertiary graduates by level of education (2021)

	Share of first-time graduates			Share of female first-time tertiary graduates				Average age of first-time tertiary graduates				Share of international first-time graduates			
	Short-cycle tertiary	Bachelor's or equivalent	Master's long first degree	Total tertiary	Short-cycle tertiary	Bachelor's or equivalent	Master's long first degree	Total tertiary	Short-cycle tertiary	Bachelor's or equivalent	Master's long first degree	Total tertiary	Short-cycle tertiary	Bachelor's or equivalent	Master's long first degree
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Australia	7	65	28	57	52	59	53	26	25	26	27	45	43	29	82
Austria	46	36	18	56	52	61	58	24	20	25	31	20	0	29	52
Belgium ¹	6	88	5	60	46	61	58	24	27	23	29	12	3	8	89
Canada	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Chile	43	54	3	59	62	56	58	27	28	27	26	1	2	1	0
Colombia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Costa Rica	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Czech Republic	1	85	14	62	65	62	61	26	24	26	27	15	5	11	40
Denmark	21	79	a	56	45	59	a	26	26	26	a	15	12	6	a
Estonia	a	93	7	61	a	61	65	26	a	26	26	10	a	9	14
Finland	a	93	7	58	a	58	51	28	a	27	29	10	a	6	57
France	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Germany	1	86	12	51	49	49	67	26	30	26	26	4	0	5	4
Greece	a	100	a	58	a	58	a	25	a	25	a	2	a	2	a
Hungary	7	80	12	58	63	56	61	26	24	27	25	8	1	7	21
Iceland	2	97	0	64	40	64	75	27	33	26	27	3	2	3	0
Ireland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Israel	25	75	a	59	49	62	a	28	26	28	a	3	2	3	a
Italy	2	83	15	57	27	57	65	26	24	25	28	2	0	2	1
Japan	32	65	3	52	61	47	49	22	m	23	25	7	12	2	61
Korea	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Latvia	28	64	8	66	71	63	68	29	32	27	28	6	0	6	27
Lithuania	a	92	8	60	a	60	71	24	a	24	24	4	a	3	13
Luxembourg	34	66	a	58	63	55	a	24	22	24	a	26	31	23	a
Mexico	7	93	a	55	45	56	a	25	22	25	a	m	m	m	m
Netherlands	4	96	a	56	56	56	a	23	26	23	a	13	0	14	a
New Zealand	29	71	a	60	58	60	a	26	29	25	a	20	19	20	a
Norway	8	80	11	56	21	60	58	26	28	25	26	2	1	2	2
Poland	0	83	17	61	95	60	66	26	35	25	30	m	0	m	m
Portugal	9	78	13	58	44	61	54	24	23	24	25	5	5	5	6
Slovak Republic	4	88	8	63	66	62	67	24	26	24	25	9	1	8	29
Slovenia	19	76	5	59	41	63	70	25	28	24	25	5	2	5	5
Spain	43	45	12	55	51	58	59	25	25	24	30	5	1	2	28
Sweden	17	54	30	61	52	67	54	28	30	28	28	11	0	3	33
Switzerland	1	99	0	51	60	51	0	28	36	28	a	7	0	7	0
Türkiye	47	51	2	53	55	51	52	27	27	26	24	1	0	2	5
United Kingdom	23	76	1	57	56	58	52	24	28	23	31	13	6	15	44
United States	40	60	a	60	63	57	a	m	m	m	a	5	2	7	a
OECD average	16	77	8	58	54	58	58	26	27	25	27	10	6	8	27
Partner and/or accession countries															
Argentina ²	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
Bulgaria	a	85	15	59	a	59	59	28	a	28	27	6	a	3	24
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
India	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Indonesia ²	m	m	m	59	m	m	m	m	m	m	m	m	m	m	m
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	a	89	11	58	a	57	67	25	a	25	25	5	a	3	24
Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
South Africa ²	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
EU25 average	11	76	9	59	55	59	62	26	26	25	27	9	4	8	27
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See StatLink and Box B5.3 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). For more information see [Source section](#) and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023_[3]).

StatLink  <https://stat.link/e4cdif>

Table B5.2. Share of female graduates in tertiary education, by field of study (2015 and 2021)

			Social sciences, journalism and information	Business, administration and law	Natural sciences, mathematics and statistics		Information and communication technologies		Engineering, manufacturing and construction		Agriculture, forestry, fisheries and veterinary	Health and welfare		Services	All fields	
	Education	Arts and humanities														
	2021	2021	2021	2021	2015	2021	2015	2021	2015	2021	2021	2015	2021	2021	2015	2021
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Australia	79	65	68	52	51	51	19	28	23	26	62	77	76	59	58	57
Austria	80	68	68	57	48	49	14	17	21	24	48	69	71	78	55	55
Belgium	74	63	73	55	m	44	m	13	m	25	64	m	75	53	m	60
Canada	78	62	70	54	53	57	30	25	19	23	60	77	84	53	58	56
Chile	84	54	65	57	48	40	13	12	17	19	54	78	79	51	56	58
Colombia	65	53	72	62	54	59	28	23	33	36	48	72	70	49	55	57
Costa Rica	73	57	68	63	46	56	21	22	39	38	49	77	78	64	63	63
Czech Republic	83	70	66	62	60	61	13	19	32	33	63	83	80	46	61	60
Denmark	70	67	63	51	49	55	20	26	30	29	65	78	77	48	58	56
Estonia	93	69	69	66	64	65	30	31	33	31	65	89	86	44	66	62
Finland	84	74	75	60	57	59	19	25	22	25	61	85	84	58	60	61
France	76	69	69	59	47	52	17	19	26	24	43	74	74	53	56	56
Germany	81	71	69	54	47	50	18	22	20	21	41	71	71	51	50	51
Greece	86	72	65	60	52	53	40	35	32	35	49	72	71	47	58	59
Hungary	84	67	68	63	53	51	23	17	27	28	49	75	73	57	61	59
Iceland	81	64	73	64	53	57	21	31	30	41	68	86	85	66	65	68
Ireland	77	63	65	52	51	52	20	29	16	24	44	75	78	48	52	55
Israel	84	63	66	59	m	53	m	36	m	27	50	m	79	a	m	61
Italy	87	70	63	52	m	58	m	19	m	31	50	m	67	40	m	58
Japan ¹	70	67	48	38	26	27	m	m	13	16	43	64	67	77	49	50
Korea	78	65	61	51	50	49	24	27	19	22	45	73	70	52	51	51
Latvia	91	77	76	66	60	63	21	23	27	28	61	87	84	47	65	65
Lithuania	83	73	75	65	58	61	14	14	26	27	57	83	84	37	63	62
Luxembourg	74	59	67	52	47	43	12	25	15	28	50	77	86	42	54	54
Mexico	74	59	62	59	53	53	35	28	28	31	43	67	68	52	53	56
Netherlands	75	58	69	49	44	46	13	19	22	26	55	76	77	52	56	56
New Zealand	81	64	70	57	54	60	23	26	28	33	71	79	81	53	56	62
Norway	73	59	61	54	55	49	16	22	22	25	65	83	82	40	59	57
Poland	87	73	71	66	72	70	19	22	41	41	57	75	76	59	66	65
Portugal	78	63	71	62	62	61	21	19	33	33	60	78	79	44	59	59
Slovak Republic	81	69	72	64	64	67	12	15	28	26	62	79	76	41	63	61
Slovenia	88	66	70	65	63	59	17	17	26	26	65	79	80	61	61	60
Spain	75	58	66	56	54	49	14	13	25	26	49	73	75	46	55	57
Sweden	80	61	67	63	53	54	28	33	30	34	70	81	80	56	62	62
Switzerland	68	61	66	47	44	43	11	13	16	18	37	74	73	43	48	50
Türkiye	65	60	53	48	58	56	33	26	28	29	42	66	76	41	49	53
United Kingdom	77	63	68	55	53	47	19	23	23	27	73	76	77	70	57	59
United States	80	62	67	51	52	58	23	26	20	24	62	82	79	50	58	60
OECD average	79	65	67	57	53	54	21	23	25	28	55	77	77	52	58	58
Partner and/or accession countries																
Argentina ¹	83	73	60	60	m	58	m	31	m	42	43	m	79	56	m	67
Brazil	78	56	71	57	60	52	15	15	34	37	53	77	73	55	61	61
Bulgaria	85	68	68	67	68	70	39	37	29	28	44	68	70	42	60	61
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	52	53
Croatia	87	68	74	69	64	65	18	24	30	34	62	81	79	46	60	61
India	62	60	56	50	50	54	45	48	31	26	29	61	66	76	50	51
Indonesia ¹	70	59	51	58	72	74	35	35	22	25	48	78	78	a	57	59
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	88	67	76	65	65	68	33	35	37	39	43	69	73	32	58	59
Saudi Arabia	77	67	56	48	68	71	40	51	4	7	0	53	61	62	50	53
South Africa ¹	74	62	70	61	54	60	39	41	31	34	58	75	72	66	60	63
EU25 average	80	67	68	58	56	56	21	24	26	27	52	76	76	52	58	58
G20 average	76	64	63	53	53	55	28	29	23	26	47	71	73	57	54	56

Note: See StatLink and Box B5.3 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023_[3]).


StatLink  <https://stat.link/s1gj0u>

Table B5.3. Distribution of graduates, by field of study and education level (2021)

	Upper secondary and post-secondary non-tertiary (vocational programmes)					Short-cycle tertiary					Bachelor's, master's and doctoral or equivalent				
	Arts and humanities	Business, administration and law	Health and welfare	Services	STEM	Arts and humanities	Business, administration and law	Health and welfare	Services	STEM	Arts and humanities	Business, administration and law	Health and welfare	Services	STEM
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Australia	2	22	22	14	27	9	48	14	3	15	9	31	21	1	23
Austria	2	25	10	16	34	4	21	4	22	38	9	25	12	1	28
Belgium ¹	m	m	m	m	m	0	12	50	2	15	10	23	25	1	19
Canada	m	m	m	m	m	8	30	16	11	26	8	23	14	3	27
Chile	1	28	7	4	49	2	24	26	9	21	4	27	22	4	15
Colombia	m	m	m	m	m	3	42	3	12	32	3	43	7	1	21
Costa Rica	0	46	0	11	38	2	42	3	5	17	3	37	10	1	16
Czech Republic	m	m	m	m	m	100	0	0	0	0	8	19	13	7	26
Denmark	2	23	21	14	35	13	44	3	18	21	10	23	23	1	24
Estonia	5	19	2	26	43	a	a	a	a	a	12	24	13	5	28
Finland	4	23	20	19	29	a	a	a	a	a	10	20	21	5	28
France	2	18	20	20	36	2	48	10	6	29	10	32	14	3	24
Germany	2	27	25	10	33	4	0	8	47	28	10	26	8	3	35
Greece	2	8	28	17	41	a	a	a	a	a	11	20	11	4	27
Hungary	6	13	12	25	40	3	62	0	16	13	9	23	8	6	23
Iceland	11	3	6	18	58	3	0	0	59	4	9	21	15	2	17
Ireland	11	13	36	8	14	6	26	16	18	20	11	28	17	3	26
Israel	16	20	3	5	52	3	3	2	0	65	7	23	11	0	20
Italy	1	21	6	26	45	11	17	0	18	49	17	18	12	3	24
Japan ²	m	m	m	m	m	11	14	23	22	16	18	24	12	3	23
Korea	12	25	3	7	51	13	10	23	18	29	16	16	14	7	31
Latvia	14	12	7	24	38	1	27	33	15	13	9	28	15	7	21
Lithuania	4	9	12	27	46	a	a	a	a	a	9	26	19	2	26
Luxembourg	3	28	10	7	29	7	38	34	0	20	8	49	1	1	20
Mexico	m	m	m	m	m	2	30	6	10	50	4	24	13	2	23
Netherlands	6	17	26	23	21	3	42	18	13	12	8	27	16	5	19
New Zealand	15	16	16	12	27	20	24	11	14	18	9	21	18	1	25
Norway	2	10	29	17	37	16	0	2	13	65	8	18	21	5	20
Poland	4	13	12	24	39	0	0	100	0	0	8	27	16	8	20
Portugal	13	14	13	29	30	10	23	12	13	35	10	22	17	6	27
Slovak Republic	7	14	10	23	38	53	8	17	7	10	7	20	17	7	22
Slovenia	5	13	12	14	44	8	16	3	29	41	8	20	14	5	26
Spain	27	15	20	14	23	7	20	21	15	27	10	19	17	5	19
Sweden	1	11	22	16	39	11	33	4	7	40	6	14	23	2	26
Switzerland	3	31	18	9	34	26	0	46	0	7	7	28	17	5	26
Türkiye	34	10	12	7	36	11	31	26	14	12	14	25	10	5	19
United Kingdom	20	10	16	13	27	9	32	23	1	20	15	24	14	0	23
United States ³	14	11	29	17	25	42	11	19	5	15	9	21	20	3	22
OECD average	8	18	15	16	36	12	24	17	13	24	9	25	15	4	23
Partner and/or accession countries															
Argentina ⁴	m	m	m	m	m	9	25	21	5	15	11	21	14	2	13
Brazil	2	30	21	5	32	56	18	15	10	1	3	32	18	3	16
Bulgaria	7	9	1	23	48	a	a	a	a	a	7	27	11	8	20
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	4	19	8	26	40	0	0	0	0	100	8	22	13	10	28
India	m	m	m	m	m	a	a	a	a	a	5	18	5	0	34
Indonesia ⁴	m	m	m	m	m	3	12	41	0	31	6	20	10	0	17
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	4	2	15	24	36	a	a	a	a	a	9	27	11	5	29
Saudi Arabia	m	m	m	m	m	5	41	0	6	47	21	38	8	1	18
South Africa ⁴	m	m	m	m	m	6	44	2	2	11	5	30	7	0	18
EU25 average	6	17	16	19	35	13	25	18	13	24	10	25	14	4	25
G20 average	m	m	m	m	m	m	m	m	m	m	11	25	13	2	23

Note: See StatLink and Box B5.3 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023^[3]).

StatLink  <https://stat.link/mcq5jg>

Box B5.3. Notes for Indicator B5 tables

Table B5.1. Profile of first-time tertiary graduates by level of education (2021)

1. Short-cycle tertiary data refer to the Flemish Community of Belgium only.
2. Year of reference differs from 2021: 2020 for Argentina and South Africa; 2018 for Indonesia.

Table B5.2. Share of female graduates in tertiary education, by field of study (2015 and 2021)

1. All fields of study include the field of information and communication technologies.
2. Year of reference differs from 2021: 2020 for Argentina and South Africa; 2018 for Indonesia.

Table B5.3. Distribution of graduates, by field of study and education level (2021)

STEM refers to the fields of science, technology, engineering and mathematics. Columns 1-5 only refer to field of study for vocational programme graduates.

1. Short-cycle tertiary data refer to the Flemish Community of Belgium only.
2. All fields of study include the field of information and communication technologies.
3. Upper secondary and post-secondary non-tertiary refers to post-secondary non-tertiary only.
4. Year of reference differs from 2021: 2020 for Argentina and South Africa; 2018 for Indonesia.

For more information see *Definitions, Methodology and Source* sections and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3]).

Data and more breakdowns are available in the Education at a Glance Database (<http://stats.oecd.org/>).

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

Indicator B6. What is the profile of internationally mobile students?

Highlights

- The COVID-19 pandemic had a very uneven impact on international student flows across countries during the period 2019-2021. While the share of mobile students fell by 6 percentage points in Australia and 9 percentage points in New Zealand, it increased in several countries and remained unchanged in many others.
- Students from Asia form the largest group of mobile students enrolled in tertiary education programmes at all levels, representing 57% of all mobile students across OECD and partner countries in 2021. They account for over 80% of mobile tertiary students in Australia, Indonesia, Japan and Korea.
- In total across OECD countries, the distribution of students by field of study differs between mobile and national students, but overall, the broad fields science, technology, engineering and mathematics (STEM), and business, administration and law account for the largest shares of both populations of students.

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 can be a way to access high-quality education at a prestigious institution and acquire skills that may not be taught at home (King and Sondhi, 2017^[1]). It is also seen as a means of accessing career opportunities abroad and improving employability in increasingly globalised labour markets and, for some, it is a first step towards migrating to another country in the long-term (Crossman and Clarke, 2009^[2]; Wintre et al., 2015^[3]). Other motivations include the desire to expand one's knowledge of other societies and to improve language skills, particularly English (Sánchez, Fornerino and Zhang, 2006^[4]; Wu, 2014^[5]).

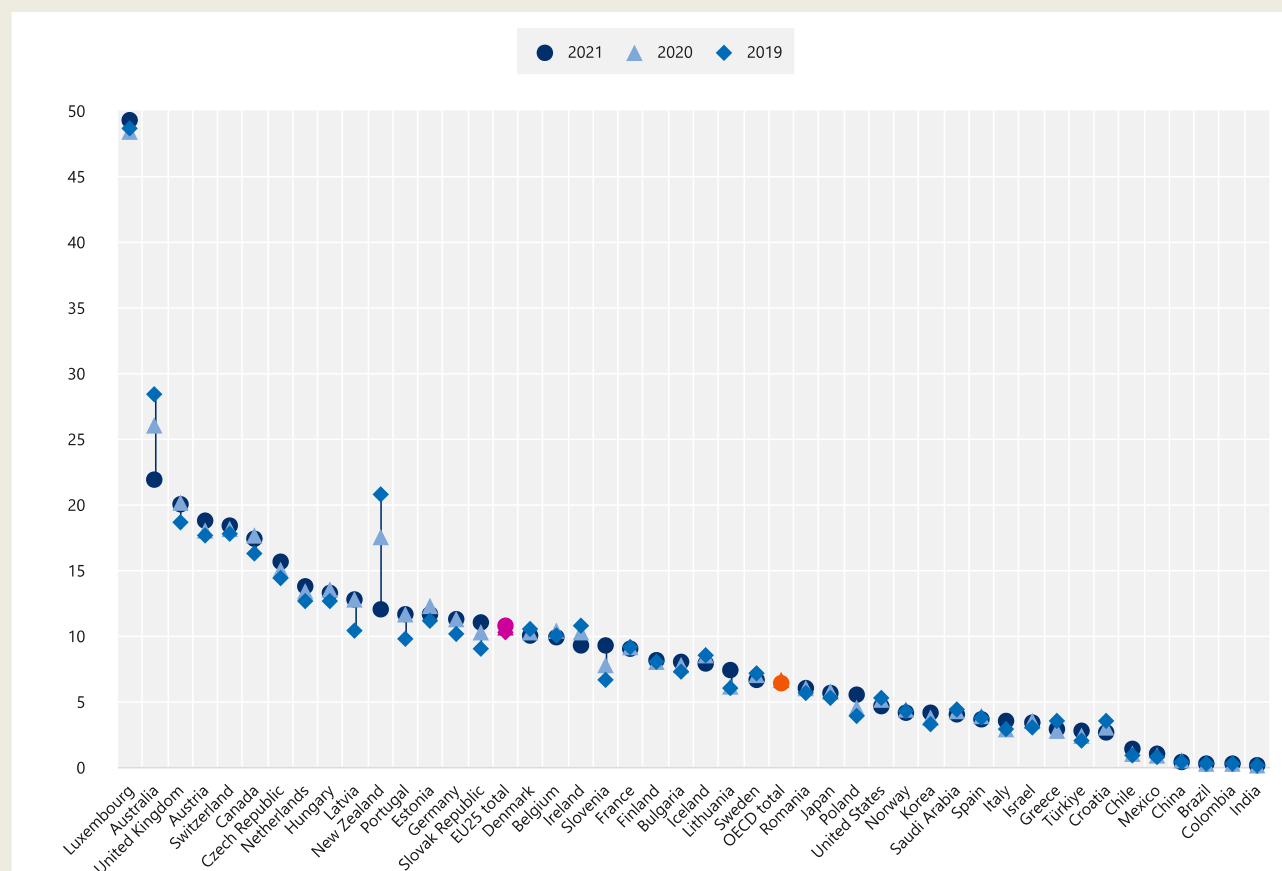
For host countries, mobile students (whether international or foreign) may be an important source of income and have a considerable impact on their economic and innovation systems (Halterbeck and Conlon, 2021^[6]). They often pay higher tuition fees than domestic students (OECD, 2022^[7]) and, in some countries, are subject to higher registration fees. They also contribute to the local economy through their living expenses (Canmac Economics, 2020^[8]). In the longer run, highly educated mobile students can integrate into domestic labour markets more easily than other migrants and contribute 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, support the development of innovation and production systems, and, in many countries, mitigate the impact of an ageing population on future skills supply (Hawthorne, 2008^[9]).

For their countries of origin, mobile students might be viewed as lost talent ("brain drain") if they stay in their host countries after graduating. However, mobile students can contribute to knowledge absorption, technology upgrading and capacity building in their home country if they return home after their studies or maintain links with nationals at home. They gain tacit knowledge that is often shared through personal interactions and can

help 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 movement of skilled labour across nations (Appelt et al., 2015^[10]). Student mobility also appears to shape international scientific co-operation networks more deeply than either a common language or scientific proximity.


Figure B6.1. Share of international or foreign students in tertiary education in OECD and partner/accession countries (2019, 2020 and 2021)

In per cent



Countries are ranked in descending order of the share of international or foreign students in 2021.

Source: OECD/UIS/Eurostat (2023), Table B6.1. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023^[11]).

StatLink  <https://stat.link/4jy9nr>

Other finding

- Students become more mobile as they reach more advanced levels of education. International students account for only 3% of total enrolment in short-cycle tertiary programmes and 5% of total enrolment in bachelor's programmes, but they represent 14% of master's programmes and 24% of enrolment in doctoral programmes.

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^[12]). The needs of increasingly knowledge-based and innovation-driven economies have increased the global demand for tertiary education, while increasing wealth in emerging economies has prompted the children of the growing middle classes to seek educational opportunities abroad. Simultaneously, 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 rendering international study substantially more affordable and accessible than it was previously.

The perceived quality of instruction abroad and the perceived value of host institutions are a key criteria for mobile students when selecting a study destination (Abbott and Silles, 2015^[13]). The top destinations for internationally mobile students include a large number of top-ranked higher educational institutions. The dissemination of university league tables and other international university rankings has led to a growing awareness among students worldwide regarding the disparities in quality among tertiary education systems. At the same time, institutions' ability to attract international students has become a criterion for assessing their performance and quality. 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, 2023^[14]). Similarly, in 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^[15]).

Most countries have implemented reforms aiming to lower the barriers to migration of highly skilled individuals, beyond the purposes of education. Many countries also operate funding programmes to support inward, outward or return mobility. While the conditions of migration may vary (e.g. short-term versus long-term settlement), pre-doctoral students and early-stage researchers, including both doctoral and postdoctoral candidates, are the primary beneficiaries of these programmes.

Many countries set higher fees for international students as this is less politically controversial than increasing tuition fees for national students and often constitutes an important revenue stream for higher educational institutions. In some countries, international students in public universities pay twice as much for their tuition as national students, attracted by the perceived quality of the education and potential labour-market prospects in their host country. However, the presence of significant disparities in tuition fees between national and international students could potentially pose a concern in the event of funding shortages for educational opportunities. In contrast, some countries 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 (OECD, 2022^[7]).

In 2021, 7% of students enrolled in tertiary level programmes held outside their home country, on average across OECD countries. Luxembourg has the highest share of mobile students at 49% due to recently promoted university system (Box B6.2). It was followed by Australia with 22% of mobile students. However, less than 2% of students in Brazil, Chile, China, Colombia, and India are internationally mobile.

Moreover, mobility patterns vary by level of education. As students progress to more advanced levels of education, they are more likely to study abroad. Short-cycle tertiary programmes typically focus on specialised vocational training and tend to have a more localized appeal, which may result in fewer students opting to pursue studies abroad. Conversely, institutions of higher tertiary levels often have more international recognition, a wider

range of academic programmes and research opportunities, rendering them attractive destinations for international students (Box B6.1.).

The impact of COVID-19

The COVID-19 pandemic had a major impact on international student migration in many OECD countries. Many countries implemented travel restrictions and border closures to limit the spread of the virus. The health crisis made it more difficult for international students to complete the administrative procedures necessary to enrol in a tertiary institution abroad and to travel to that country to take up their studies. Most OECD countries closed their national borders – with exceptions for some groups – in an effort to contain the spread of the virus in their territory, and many universities were also physically closed for periods during the pandemic (EMN and OECD, 2020^[16]). Surprisingly, the total share of mobile students across the OECD has been stable between 2019 and 2021. The share of mobile students increased the most in Latvia and Slovenia, by more than 2 percentage points over the period 2019-21 (Table B6.1).

However, in a few countries the share of international students decreased substantially. In Australia, it fell from 28% of all tertiary students to 22% between 2019 and 2021, while in New Zealand, it fell from 21% to 12%. In both countries, most of the decline took place between 2020 and 2021, dropping by 4 percentage points in Australia and 5 percentage points in New Zealand (Table B6.1). Australia and New Zealand are among the countries in the southern hemisphere where the start of the 2020 school year (equivalent to 2019/20 for countries in the northern hemisphere) occurred at the start of the pandemic, and thus had a major impact on the arrival of mobile students. Indeed, many of the students who arrived in September 2019 continued their studies remotely.

In other countries which started that academic year in 2019, many of the students who had arrived in September 2019 continued their studies remotely. Indeed, one of the measures taken by countries to reduce the impact of the pandemic on the mobility of international students was online learning. Technological measures have been put in place so that students were able to continue their studies remotely despite travel restrictions and border closures. The pandemic pushed countries to adapt quickly and improvements in online learning technology and platforms have been made. This has made it easier for international students to access course materials, interact with their peers and communicate with their instructors (UNESCO, 2021^[17]).

Another measure implemented during the health crisis was psychological support for students. Mobility restrictions and closure of social spaces resulting from the pandemic had a significant impact on the mental health of international students. Even under normal circumstances, international students were more likely to suffer from mental disorders (e.g. depression), struggle with the local medical system and be less motivated to seek psychological service than their domestic peers (Brunsting et al., 2023^[18]). The pandemic has increased feelings of loneliness and international students' anxieties about the future and their financial difficulties. In response to this emerging stress, most countries, including Germany for example, have put measures in place to communicate with international students about their health and well-being (Baer and Martel, 2020^[19]).

International mobility by country of origin

Data on international student flows illustrate the strength of proximity factors, such as language, historical ties, geographical distance, bilateral relationships and political framework conditions (e.g. the European Higher Education Area) as key determinants for mobility. In the majority of countries, student mobility occurs within the same region: 20% of international students come from neighbouring countries (Table B6.1).

Students from Asia form the largest group of international students enrolled in OECD tertiary education programmes at all levels, accounting for 57% of all mobile students in OECD countries in 2021. Other Asian countries are the main source of international enrolment in Asia: 95% of mobile students in Japan and Korea came from the Asian continent, while in Indonesia, 86% of mobile students were Asian in 2021. They are also very present in countries close to Asia, such as Australia and New Zealand, where they account for over three-quarters of international mobility. However, international students from Asia remain a minority in many Latin

American and Caribbean countries. They accounted for 2% or less in Argentina, Chile and Colombia (Figure B6.2).

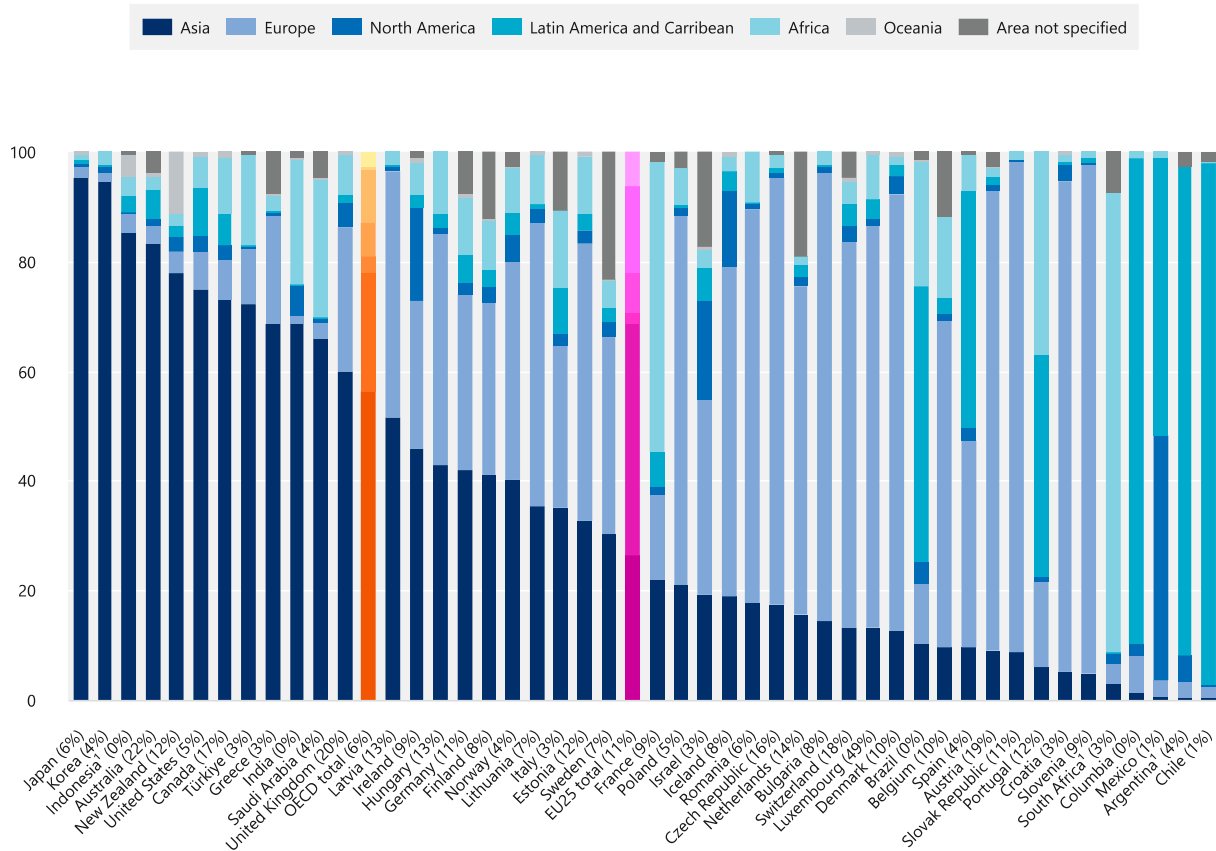
The second major region of origin of international students is Europe, with European international students making up 22% of all mobile students enrolled in OECD countries (Figure B6.2). European students represent 42% of all international students in Europe, compared with 27% in Asia, 16% in Africa and 7% in Latin America and the Caribbean. This is partly explained by the popularity of the Erasmus student exchange programme within the European Union. At least 8 out of 10 mobile students in Austria, Bulgaria, Croatia, the Slovak Republic and Slovenia come from other European countries (Figure B6.2).

Among OECD and partner countries, students from African countries only make up the majority of mobile students in South Africa, where 84% of mobile students come from other African countries, but they make up just over 3 out of 10 mobile students in Portugal and around 5 out of 10 in France. This could be the result of the colonial past of the latter two countries and the scholarships and financial aid provided to African students, but also the language of study: Portuguese is the official language in African countries such as Angola, Cape Verde and Mozambique, while French is the official language in Benin, Burkina Faso and Morocco. Student flows from Latin America and the Caribbean highlight the importance of proximity, as they make up the majority of mobile students in Argentina, Chile, Colombia and Costa Rica. More than 85% of international students in these countries are from Latin America and the Caribbean. They also highlight the importance of the language of study: more than 40% of mobile students in Portugal and Spain come from this region (Figure B6.2).

However, proximity is not always a criterion for mobility for international students. In Australia, Canada, New Zealand, the United Kingdom and the United States for example, the majority of international students do not come from their home region, with more than 6 out of 10 mobile students coming from Asia (Figure B6.2). English is the *lingua franca* of the globalised world, used by one in four people worldwide (Sharifian, 2013^[20]). Therefore, it is not surprising that English-speaking countries are the most attractive destinations for mobile students.


Figure B6.2. Distribution of international or foreign students studying in OECD and partner/accession countries by region of origin (2021)

In per cent



Note: The number in parentheses corresponds to the international or foreign student enrolment as a percentage of total tertiary enrolments in 2021. 1. Year of reference differs from 2021. Refer to the source table for more details.

Source: OECD/UIS/Eurostat (2023), Table B6.1 and Table B6.2. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023^[11]).

StatLink  <https://stat.link/szywm>

Box B6.1. International students in short-cycle tertiary education

International students account for only a small share of short-cycle tertiary students but their numbers are more significant in some countries. They make up 3% of total enrolment at that level, compared to 5% of total enrolment in bachelor's programmes and 24% of enrolment in doctoral programmes in 2021. Australia has the largest share of international students in short-cycle tertiary programmes, at 32%, more than the share of internationally mobile bachelor's students (13%). It is followed by Canada where 24% of short-cycle tertiary students are foreign. International students account for 19% of total enrolment in short-cycle tertiary programmes in Iceland, 13% in Portugal, 11% in Japan and 10% in Luxembourg (Table B6.2).

Trends over time

Between 2013 and 2021, the number of international students in short-cycle tertiary education increased by 1 percentage point on average across OECD countries. However, this concealed larger changes in individual countries. The share of international students at this level increased by 20 percentage points in Australia, from 12% to 32% of students enrolled in short-cycle tertiary programmes, and by 15 percentage points in Canada, from 9% to 24%. Conversely, in some countries the trend is downward. In New Zealand, the share of mobile students in short-cycle tertiary education fell by 12 percentage points, from 21% to 9%, between 2013 and 2021 but this decrease is largely explained by the pandemic as the drop was especially high between 2019 and 2021 (from 18% to 9%) (see *Education at a Glance Database*).

Fields of study

The most popular broad field of study among international short-cycle tertiary students was business, administration and law, chosen by 24%. In particular, 69% chose this field in Australia, 40% in Canada and 43% in Luxembourg. Other less popular fields are more dominant in some countries. While only 15% of international short-cycle tertiary students were enrolled in art and humanities in OECD countries overall, in Iceland, almost 9 out of 10 international students were in this field (89%). Notably, 40% of Iceland's international students enrolled in short-cycle tertiary came from the Philippines and were following Icelandic language courses (see *Education at a Glance Database*).

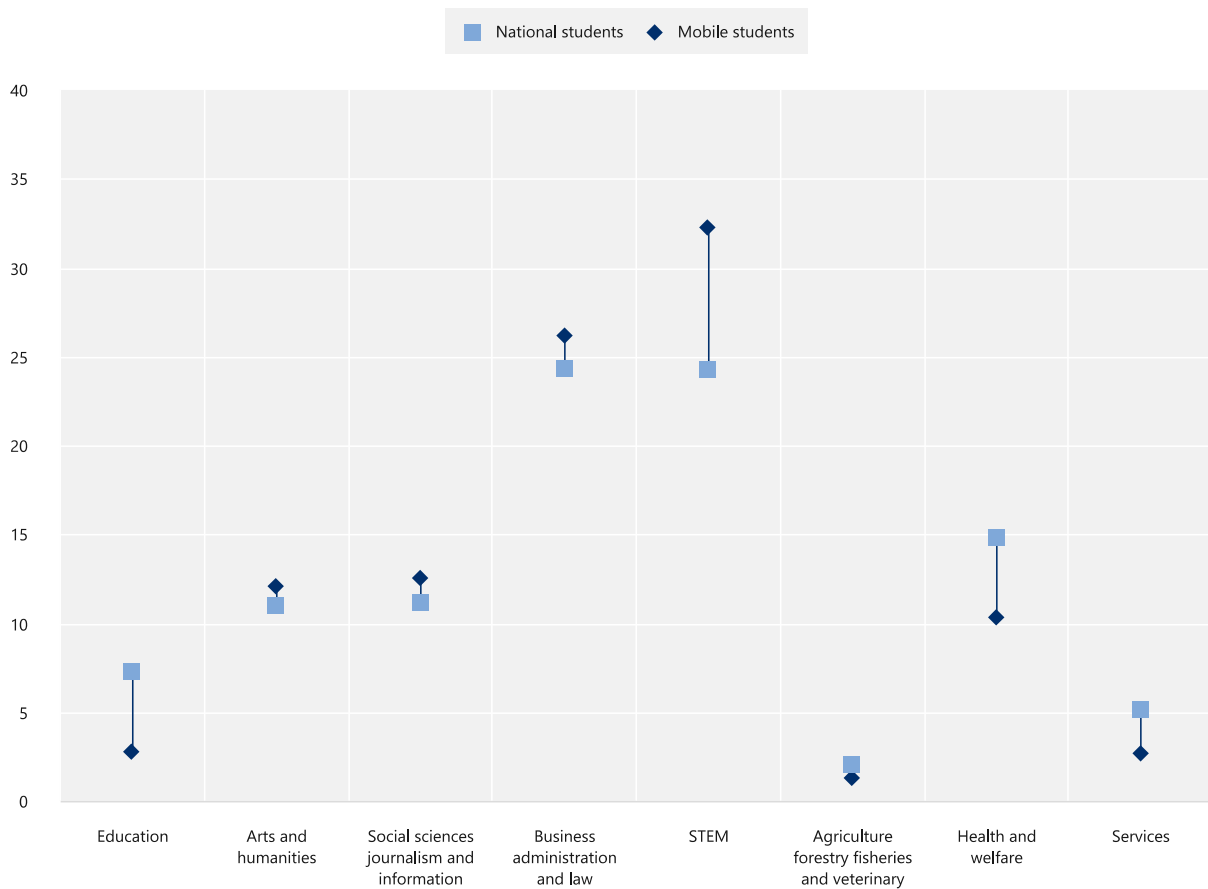
International mobility by field of study

Fields of study are a key consideration for students choosing to pursue a tertiary degree abroad and, across OECD countries, the distribution of national and mobile students by fields of study can differ considerably (Figure B6.3). The field of education attracts only 3% of mobile students, compared to 7% of national students, while the field of health and welfare attracts 10% of mobile students compared to 15% of national students. In Australia, for instance, 25% of national students were studying in the health field compared to only 13% of international students (Figure B6.3). Some countries devote more resources to research in certain fields and therefore benefit from strong international recognition, particularly at higher levels of tertiary education. Some programmes may prepare for jobs where students' career prospects do not depend on studying abroad or at a good university. Other programmes might only prepare students for jobs in the host country (e.g. for lawyers or accountants who have to know national law). They are then less attractive for students who are expecting to return to their home country or another country.

In contrast, internationally mobile students are more likely to enrol in STEM-related fields than national students in total across the OECD: 32% of mobile students chose a STEM subject, compared to 24% of national students. In Germany, Sweden and Türkiye, the difference between international and national students enrolled in STEM is more than 16 percentage points (Table B6.3). However, in certain disciplines, such as arts and humanities, the proportion of national and mobile students can be roughly equivalent. On average across OECD countries, around 12% of international and national students alike enrol in the art and humanities field (Figure B6.3).

Figure B6.3. Share of tertiary students enrolled in OECD countries, by field of study and mobility status (2021)

OECD average, in per cent



Note: Mobile students refer to students who are either international or foreign. STEM refers to the fields of science, technology, engineering and mathematics.

Source: OECD/UIS/Eurostat (2023), Table B6.3. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023^[11]).

StatLink  <https://stat.link/8zbjuk>

Box B6.2. Tertiary education in Luxembourg

Historical background and current situation

Tertiary education in Luxembourg is relatively young, only developing at a significant scale in the late 20th and early 21st centuries. At this time, successive governments pursued a deliberate and proactive policy of developing tertiary education, leading to a unprecedented expansion of the sector.

In 2003, the University of Luxembourg was created by merging four existing institutes: the Centre Universitaire de Luxembourg, the Institut Supérieur de Technologie, the Institut Supérieur d'Etudes et de Recherches Pédagogiques and the Institut d'Etudes Educatives et Sociales. The university's foundation law adopted the architecture recommended by the Bologna process. This has enabled Luxembourg to position itself firmly on the European academic scene and even play a pioneering role, as few other states had adapted their respective national legislation in this direction at the time. In 2009, the legal basis for short-cycle tertiary programmes, the *Brevet de technicien supérieur* (BTS), was created and programmes offered by specialised private tertiary institutions. In 2018, the University of Luxembourg Competence Centre was founded to provide continuous education at tertiary level.

The university today

The University of Luxembourg, which is still the only public university in the country, hosts close to 7 000 students from 135 countries. It offers 18 bachelor's programmes and 53 master's programmes in 3 faculties: the Faculty of Science, Technology and Medicine; the Faculty of Law, Economics and Finance; and the Faculty of Humanities, Education and Social Sciences. The programmes are closely tied to the labour-market needs of the country. Moreover, new programmes that contribute to the diversification of the economy are encouraged (e.g. an interdisciplinary space master's programme).

Before the university was founded, there were fears that the creation of a national university would mean resident students would no longer go abroad for their studies, but this fear turned out to be unfounded. As of 2023, 80% of the 20 000 resident students who applied for state financial aid for their studies were still studying abroad.

Short-cycle tertiary programmes

As of 2021/22, 856 students were enrolled in short-cycle tertiary programmes, and 336 degrees were awarded in 2022. Most programmes have a duration of two years and require 120 European Credit Transfer and Accumulation System (ECTS) credits. Courses take place in several high schools and focus on the following areas: business and management, industrial professions, craft trades, health professions, and applied arts and services. A school proposing a new BTS programme has to justify its expertise in the field and programmes are only accredited if they meet the labour-market needs of the country. Apart from the public BTS programmes, there are two specialised private institutions providing programmes in physiotherapy and sports as well as in business and management.

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. Therefore, for student mobility and bilateral comparisons, interpretations of data based on the concept of foreign students should be made with caution.

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 criteria of "country of upper

secondary education”, “country of prior education” or “country of usual residence” (see below). Depending on country-specific immigration legislation, mobility arrangements (such as the free mobility of individuals within the European Union and the European Economic Area) and data availability, international students may be defined as students who are not permanent or usual residents of their country of study, or alternatively as students who obtained their prior education in a different country.

Mobile students are students who are either international or foreign.

National students are students who are not internationally mobile. Their number is computed as the difference between the total number of students in each destination country and the number of international or foreign students.

The country of prior education is the country in which students obtained their upper secondary qualification (upper secondary or post-secondary non-tertiary completion with access to tertiary education programmes) or the qualification required to enrol in their current level of education. Where countries are unable to operationalise this definition, it is recommended that they use the country of usual or permanent residence to determine the country of origin. Where this too is not possible and no other suitable measure exists, the country of citizenship may be used.

Permanent or usual residence in the reporting country is defined according to national legislation. In practice, this means holding a student visa or permit, or electing a foreign country of domicile in the year prior to entering the education system of the country reporting the data. Country-specific operational definitions of international students are indicated in the tables as well as in (OECD, 2023^[11]), *Education at a Glance 2023 Sources, Methodologies and Technical Notes*, (<https://doi.org/10.1787/d7f76adc-en>).

Methodology

Defining and identifying mobile students, as well as their types of learning mobility, are a key challenge for developing international education statistics, since current international and national statistical systems only report domestic educational activities undertaken within national boundaries (OECD, 2018^[21]).

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 (MOOCs), students who commute from one country to another on a daily basis, and short-term exchange programmes that take place within an academic year and are therefore under the radar. Other concerns arise from the classification of students enrolled in foreign campuses and European schools in host countries’ student cohorts.

Current data for international students can only help track student flows involving OECD and partner countries as receiving countries. It is not possible to assess extra-OECD flows and, in particular, the contribution of South-South exchanges to global brain circulation.

For more information see the [OECD Handbook for Internationally Comparative Education Statistics](#) (OECD, 2018^[21]) and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[11]).

Source

Data refer to the 2020/21 academic year and are based on the UNESCO-Institute of Statistics (UIS)/OECD/Eurostat data collection on education statistics administered by the OECD in 2022. Data for some countries may have a different reference year. For more information see [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[11]).

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 periods not covered by OECD statistics (2005 and 2010-21).

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Indicator B6 Tables

Tables Indicator B6. What is the profile of internationally mobile students?

Table B6.1	Share of international or foreign students in tertiary education in OECD and partner/accession countries (2019, 2020 and 2021)
Table B6.2	Profile of international and foreign students (2021)
Table B6.3	Distribution of tertiary students enrolled by field of study, by mobility status (2021)
WEB Table B6.4	<i>Distribution of international and foreign students by country of origin (2021)</i>
WEB Table B6.5	<i>Distribution of international and foreign students by country of destination (2021)</i>

StatLink  <https://stat.link/30tgu7>

Cut-off date for the data: 17 June 2023. Any updates on data can be found on line at <http://dx.doi.org/10.1787/eqg-data-en>. More breakdowns can also be found at <http://stats.oecd.org/>, Education at a Glance Database.

Table B6.1. Share of international or foreign students in tertiary education in OECD and partner/accession countries (2019, 2020 and 2021)

Reading the fourth column of the upper section of the table (international): 22% 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 fourth column of the lower section of the table (foreign): 17% of all students in tertiary education in Canada are not Canadian citizens, and 4% 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 share
	2021	2020	2019	2021	2020	2019					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
OECD countries											
International students											
Australia	378	458	509	22	26	28	1	31	28	4	6
Austria	82	76	75	19	18	18	7	3	21	60	1
Belgium ¹	53	54	52	10	10	10	4	3	11	49	1
Chile	17	13	10	1	1	1	1	1	1	31	0
Czech Republic	51	48	46	16	15	14	4	4	18	46	1
Denmark	31	31	32	10	10	10	2	5	11	37	0
Estonia	5	6	5	12	12	11	8	1	12	34	0
Finland	25	24	24	8	8	8	4	2	8	12	0
France	253	252	246	9	9	9	4	2	9	13	4
Germany	376	369	333	11	11	10	4	3	12	14	6
Greece	24	22	28	3	3	3	5	1	3	72	0
Iceland	2	2	2	8	9	8	12	1	8	9	0
Ireland	23	24	25	9	10	11	7	1	10	8	0
Israel	14	13	11	3	3	3	6	1	5	9	0
Italy	72	59	55	3	3	3	4	1	3	17	1
Japan	216	223	203	6	6	5	1	7	6	54	3
Latvia	10	10	8	13	13	10	7	2	14	14	0
Lithuania	8	7	7	6	6	6	9	1	7	22	0
Luxembourg	4	4	3	49	48	49	78	0	22	47	0
Mexico	51	43	33	1	1	1	1	2	1	43	1
Netherlands	136	125	116	14	13	13	2	7	16	25	2
New Zealand	31	44	53	12	17	21	2	7	13	10	0
Norway	13	13	12	4	4	4	5	1	4	16	0
Poland	74	62	55	5	4	4	2	3	6	61	1
Portugal	47	44	36	12	12	10	6	2	12	2	1
Slovenia	8	6	5	9	8	7	4	2	10	47	0
Spain	81	82	77	4	4	4	2	2	4	29	1
Sweden	33	32	31	7	7	7	3	2	7	18	1
Switzerland	61	58	56	18	18	18	7	3	21	54	1
United Kingdom	601	551	489	20	20	19	2	15	25	8	9
Foreign students											
Canada	313	323	279	17	18	16	3	6	20	3	5
Colombia	5	5	5	0	0	0	2	0	0	69	0
Costa Rica	m	m	m	m	m	m	m	m	m	68	0
Hungary	38	38	35	13	13	13	5	3	14	21	1
Korea	119	112	99	4	4	3	3	1	4	52	2
Slovak Republic	15	14	13	11	10	9	20	0	10	62	0
Türkiye	224	185	155	3	2	2	1	4	3	51	4
United States	833	957	977	5	5	5	1	8	5	6	13
OECD total	4 325	4 389	4 201	6	7	6	2	3	7	20	68
Partner and/or accession countries											
International students											
Bulgaria	18	18	16	8	8	7	11	1	8	46	0
Croatia	4	5	6	3	3	3	6	0	3	60	0
Romania	34	33	30	6	6	6	6	1	6	42	1
Foreign students											
Argentina ²	m	122	116	m	4	4	m	m	m	48	2
Brazil	22	22	22	0	0	0	1	0	0	38	0
China	222	225	201	0	0	0	m	m	m	30	3
India	48	49	47	0	0	0	m	m	m	49	1
Indonesia ²	m	m	m	m	m	m	m	m	m	73	0
Peru	m	m	m	m	m	m	m	m	m	m	m
Saudi Arabia	63	69	73	4	4	4	m	m	m	39	1
South Africa ²	m	36	41	m	3	3	m	m	m	47	1
EU25 total	1 479	1 418	1 337	11	11	10	4	2	8	26	24

Note: See StatLink and Box B6.3 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023_[11]).

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

StatLink  <https://stat.link/ml9tis>

Table B6.2. Profile of international and foreign students (2021)

	International or foreign student enrolment as a percentage of total tertiary enrolment				Share of female students among international or foreign students					"Distribution of international or foreign students by region of origin"					
	Short-cycle tertiary	Bachelor's or equivalent	Master's or equivalent	Doctoral or equivalent	Short-cycle tertiary	Bachelor's or equivalent	Master's or equivalent	Doctoral or equivalent	All tertiary	Africa	North America	Latin America and Caribbean	Asia	Europe	Oceania
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD countries															
	International students														
Australia	32	13	38	33	46	50	50	45	49	2	1	5	84	3	1
Austria	2	19	25	39	69	54	55	49	54	2	1	2	9	84	0
Belgium ¹	6	7	17	26	74	64	55	44	59	15	1	3	10	59	0
Chile	2	1	4	24	59	53	54	49	55	0	0	95	0	2	0
Czech Republic	5	13	19	24	60	52	56	45	53	2	1	1	18	78	0
Denmark	9	5	20	36	52	55	55	47	54	1	3	2	13	80	1
Estonia	a	7	17	29	a	41	47	39	44	10	3	3	33	51	0
Finland	a	6	11	26	a	44	46	44	45	9	3	3	41	32	0
France	3	7	13	37	50	53	49	47	50	53	2	6	22	16	0
Germany	0	7	17	22	a	44	46	47	46	10	2	5	42	32	0
Greece	a	3	1	2	a	53	53	43	52	3	1	0	69	20	0
Iceland	19	5	11	39	64	69	63	49	64	3	14	4	19	60	0
Ireland	3	7	16	37	47	55	54	51	54	6	17	2	46	27	1
Israel	2	3	6	12	50	58	58	46	56	3	18	6	19	36	1
Italy	0	3	4	10	a	54	55	44	54	14	2	8	35	30	0
Japan	11	3	11	22	41	45	51	45	45	1	1	1	95	2	0
Latvia	1	11	27	13	26	25	45	30	35	2	1	0	52	45	0
Lithuania	a	5	14	8	a	45	49	43	47	9	2	1	36	52	0
Luxembourg	10	24	76	91	61	57	54	43	52	8	1	3	13	73	0
Mexico	1	1	3	8	m	m	m	m	m	1	45	51	1	3	0
Netherlands	3	12	20	48	51	55	56	45	55	2	2	2	16	60	0
New Zealand	9	9	23	47	36	52	56	50	50	2	3	2	78	4	11
Norway	1	2	7	22	46	54	48	43	49	8	5	4	40	40	1
Poland	9	5	5	10	56	51	53	51	51	7	1	1	21	67	0
Portugal	13	8	14	33	46	53	55	47	52	37	1	40	6	16	0
Slovenia	4	9	10	21	46	58	60	53	57	1	0	1	5	93	0
Spain	1	2	9	19	61	54	52	48	52	6	3	43	10	38	0
Sweden	0	3	12	36	45	60	50	44	51	5	2	3	30	36	0
Switzerland	0	10	30	57	a	50	52	47	50	4	3	4	14	70	0
United Kingdom	4	16	39	41	59	52	52	48	52	7	4	1	60	26	0
	Foreign students														
Canada	24	14	18	35	45	49	45	41	47	10	3	5	73	7	1
Colombia	0	0	1	2	48	53	52	35	52	1	2	89	2	7	0
Costa Rica	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Hungary	1	10	21	28	60	47	53	44	49	11	1	2	43	42	0
Korea	1	3	10	17	40	57	63	51	56	2	1	1	95	2	0
Slovak Republic	2	10	13	12	42	54	56	33	54	1	0	0	9	89	0
Türkiye	1	3	8	7	39	35	39	33	36	17	0	0	72	10	0
United States	1	4	11	22	52	47	47	34	46	5	3	9	75	7	1
OECD total	3	5	14	24	47	48	49	43	48	10	3	6	57	22	1
Partner and/or accession countries															
	International students														
Bulgaria	a	4	17	9	a	40	51	47	47	2	1	0	15	82	0
Croatia	0	2	3	8	a	52	58	51	55	1	3	1	6	89	0
Romania	a	4	11	4	a	51	49	37	49	9	1	0	18	72	0
	Foreign students														
Argentina ²	m	m	m	m	m	m	m	m	m	0	5	89	1	3	0
Brazil	0	0	1	2	0	47	38	38	45	23	4	50	10	11	0
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	0
India	m	m	m	m	m	m	m	m	m	23	6	0	69	2	0
Indonesia ²	m	m	m	m	m	m	m	m	m	4	0	3	86	3	4
Peru	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	25	1	0	66	3	0
South Africa ²	m	m	m	m	m	m	m	m	m	84	2	0	3	3	0
EU25 total	2	8	16	25	54	51	51	47	51	16	2	7	27	42	0

Note: See StatLink and Box B6.3 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023^[11]).

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

Table B6.3. Distribution of tertiary students enrolled by field of study, by mobility status (2021)

	Education		Arts and humanities		Social sciences, journalism and information		Business, administration and law		STEM		Agriculture, forestry, fisheries and veterinary		Health and welfare		Services	
	Mobile	National	Mobile	National	Mobile	National	Mobile	National	Mobile	National	Mobile	National	Mobile	National	Mobile	National
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
OECD countries																
	International students															
Australia	5	11	6	11	2	9	44	22	29	19	1	1	13	25	1	2
Austria	5	14	14	10	16	7	21	25	32	29	1	1	9	10	1	4
Belgium	3	9	13	8	11	10	13	24	19	19	5	2	35	25	1	2
Chile	5	10	4	4	6	5	34	22	27	27	2	3	19	24	4	5
Czech Republic	2	14	10	9	10	8	21	19	33	24	3	4	18	14	4	7
Denmark	2	8	9	9	9	9	27	23	38	22	2	1	9	25	4	2
Estonia	3	8	14	13	10	6	34	19	30	32	4	2	4	14	0	6
Finland	3	6	10	11	4	7	21	18	46	33	1	2	11	19	4	4
France	1	3	14	13	10	7	31	26	35	25	0	2	6	14	2	10
Germany	2	9	12	12	7	8	18	24	51	34	2	1	7	9	1	3
Greece	4	5	16	13	14	13	14	20	33	34	3	5	12	8	4	3
Iceland	10	16	40	8	10	17	6	20	25	18	2	1	5	17	1	3
Ireland	1	7	13	14	7	6	18	23	31	27	1	2	25	16	2	4
Israel	14	19	13	7	16	17	16	15	29	32	1	0	12	9	0	0
Italy	1	6	21	17	16	14	15	18	29	25	2	2	14	14	1	3
Japan ¹	m	8 ^d	m	17 ^d	m	29 ^d	m	x	m	19 ^d	m	3 ^d	m	18 ^d	m	6 ^d
Latvia	1	13	3	8	4	12	38	21	21	30	1	2	27	11	6	0
Lithuania	0	4	11	10	16	9	24	27	19	26	2	3	27	19	1	2
Luxembourg	4	19	6	12	13	10	36	25	31	22	6	0	2	12	1	0
Mexico	m	m	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	m	m
New Zealand	7	8	8	13	8	13	28	19	34	25	2	2	9	18	4	3
Norway	4	16	19	9	12	12	16	20	33	19	1	1	11	18	4	4
Poland	2	8	11	9	16	11	26	23	17	23	1	2	15	15	11	7
Portugal	4	3	11	10	13	11	25	22	27	29	2	2	13	16	5	7
Slovenia	4	10	8	9	14	9	24	18	34	29	1	3	7	15	8	8
Spain	4	11	10	11	12	10	25	20	21	25	3	1	22	16	4	6
Sweden	3	14	15	14	13	11	11	14	46	27	1	1	11	17	1	2
Switzerland	5	11	13	8	12	8	18	26	40	24	0	1	9	18	3	3
United Kingdom	2	5	12	13	13	13	34	22	29	22	1	1	9	21	0	0
	Foreign students															
Canada	1	6	7	10	10	12	28	20	41	27	1	1	6	17	5	5
Colombia	7	8	9	4	14	11	26	36	23	28	2	3	16	7	2	3
Costa Rica	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Hungary	m	13	m	8	m	9	m	26	m	25	m	3	m	9	m	6
Korea	3	6	22	16	13	6	31	13	16	34	0	2	4	15	11	9
Slovak Republic	8	14	8	7	7	10	13	19	19	22	3	2	38	18	4	7
Türkiye	5	3	12	13	14	14	17	33	31	13	2	2	15	14	4	8
United States	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
OECD total	3	7	12	11	13	11	26	24	32	24	1	2	10	15	3	5
Partner and/or accession countries																
	International students															
Bulgaria	3	12	5	9	6	9	8	22	10	26	4	3	59	11	5	8
Croatia	2	7	8	8	7	6	19	25	30	28	4	3	23	13	7	10
Romania	1	4	8	9	7	9	17	25	17	33	4	5	43	12	3	4
	Foreign students															
Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Brazil	12	18	8	3	8	6	16	29	29	17	5	3	17	21	4	3
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
Peru	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
EU25 total	3	9	11	10	9	10	22	22	29	27	2	2	19	15	3	5

Note: See StatLink and Box B6.3 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023_[11]).

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

StatLink  <https://stat.link/o1ic8z>

Box B6.3. Notes for Indicator B6 tables

Distribution of tertiary students enrolled by field of study, by mobility status (2021)

Table B6.1. Distribution of tertiary students enrolled by field of study, by mobility status (2021)

Additional columns showing the exact number of international or foreign students for each year are available for consultation on line (see StatLink).

1. Data on short-cycle tertiary programmes are based on nationality and refer to the Flemish community only.
2. Year of reference differs from 2021: 2020 for Argentina and South Africa; 2018 for Indonesia.

Table B6.2. Profile of international and foreign students (2021)

Additional columns showing the distribution of international or foreign students by region of origin and level of education are available for consultation on line (see StatLink).

1. Data on short-cycle tertiary programmes are based on nationality and refer to the Flemish community only.
2. Year of reference differs from 2021: 2020 for Argentina and South Africa; 2018 for Indonesia.

Table B6.3. Distribution of tertiary students enrolled by field of study, by mobility status (2021)

STEM refers to the fields of science, technology, engineering and mathematics. Mobile students refer to students who are either international or foreign. See Definitions and Methodology sections for more information. Additional columns showing data for students enrolled in natural sciences, mathematics and statistics; information and communication technologies; and engineering, manufacturing and construction are available for consultation on line (see StatLink).

1. All fields of study include the field of information and communication technologies and the field of social sciences, journalism and information includes business, administration and law.

For more information see *Definitions, Methodology and Source* sections and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[11]).

Data and more breakdowns are available in the Education at a Glance Database (<http://stats.oecd.org/>).

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

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

Classification of educational expenditure

According to the international framework for educational expenditure presented above, educational expenditure in this chapter is also classified into three dimensions:

- The first dimension – represented by the horizontal axis in the diagram below – relates to the location where spending occurs (within or outside educational institutions).
- The second dimension – represented by the vertical axis in the diagram below – classifies the type of goods and services that are purchased (core or peripheral goods and services).
- The third dimension – represented by the colours in the diagram below – distinguishes the sources from which funding originates. These include the funds from the public sector and international agencies (indicated by light blue), and the private funds such as funds from households and other private entities (indicated by medium blue). Where private expenditure on education is subsidised by public funds, this is indicated by grey cells. The uncoloured cells indicate the parts of the framework that are excluded from the coverage of the finance indicators in Education at a Glance.

		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 <i>e.g. public spending on instructional services in educational institutions</i>	Publicly subsidised private funds <i>e.g. subsidised private spending on books, materials or fees for private tutoring</i>	
		Publicly subsidised private funds <i>e.g. subsidised private spending on instructional services in educational institutions</i>	Private funds <i>e.g. private spending on books and other school materials or private tutoring</i>	
		Private funds <i>e.g. private spending on tuition fees</i>		
Educational peripheral goods and services	Spending on research and development	Public and international funds <i>e.g. public spending on university research</i>		
		Private funds <i>e.g. funds from private industry for research and development in educational institutions</i>		
	Spending on educational services other than instruction	Public and international funds <i>e.g. public spending on ancillary services such as meals, transport to schools, or housing on the campus</i>	Publicly subsidised private funds <i>e.g. subsidised private spending on student living costs or reduced prices for transport</i>	
		Publicly subsidised private funds <i>e.g. public subsidies for lodging, meals, health services, or other welfare services furnished to students by the educational institutions</i>		
		Private funds <i>e.g. private spending on fees for ancillary services</i>	Private funds <i>e.g. private spending on student living costs or transport</i>	

Accounting principle

In keeping with the system used by many countries to record government expenditures and revenues, educational expenditure data are compiled on a cash accounting rather than an accrual accounting basis. That is to say that expenditure (both capital and current) is recorded in the year in which the payments occurred. This means in particular that:

- Capital acquisitions are counted fully in the year in which the expenditure occurs.
- Depreciation of capital assets is not recorded as expenditure, although expenditure on repairs and maintenance is recorded in the year it occurs. This can result in sharp fluctuations in expenditure from year to year owing to the onset or completion of school building projects which, by their nature, are sporadic.
- Expenditure on student loans is recorded as the gross loan outlay in the year in which the loans are made, without subtracting repayments or interest payments from existing borrowers.

A notable exception to the cash accounting rules is the treatment of the retirement costs of educational personnel in situations where there are no (or only partial) ongoing employer contributions towards the future retirement benefits of the personnel. In these cases, countries are asked to impute these expenditures in order to arrive at a more internationally comparable cost of employing the personnel.

International educational finance indicators

This chapter provides a comprehensive and comparative analysis on education expenditure across OECD and partner countries, focusing on five aspects of educational spending:

- Financial resources invested in educational institutions, relative to the number of students (Indicator C1), and relative to national output (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).
- The factors that influence teachers' salary cost (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

- Across OECD countries, expenditure per student averages around USD 10 700 at the primary level, USD 11 900 at secondary and USD 18 100 at tertiary level. This reflects the fact that higher levels of education often require teachers to have more advanced qualifications and specialised knowledge which are usually accompanied by higher salaries.
- Vocational education and training (VET) programmes, which often require specific equipment and infrastructure, typically cost more per student than general programmes. On average across OECD countries, expenditure per student is about USD 11 400 in general upper secondary programmes, compared to about USD 13 200 in vocational programmes.
- On average expenditure per student in 2020, the first year of the COVID-19 pandemic, was similar to that of 2019 (0.4% increase). However, some countries reported a notable increase in total expenditure on primary to tertiary educational institutions per full-time equivalent student, such as Colombia (9.0%) and Lithuania (13.7%).

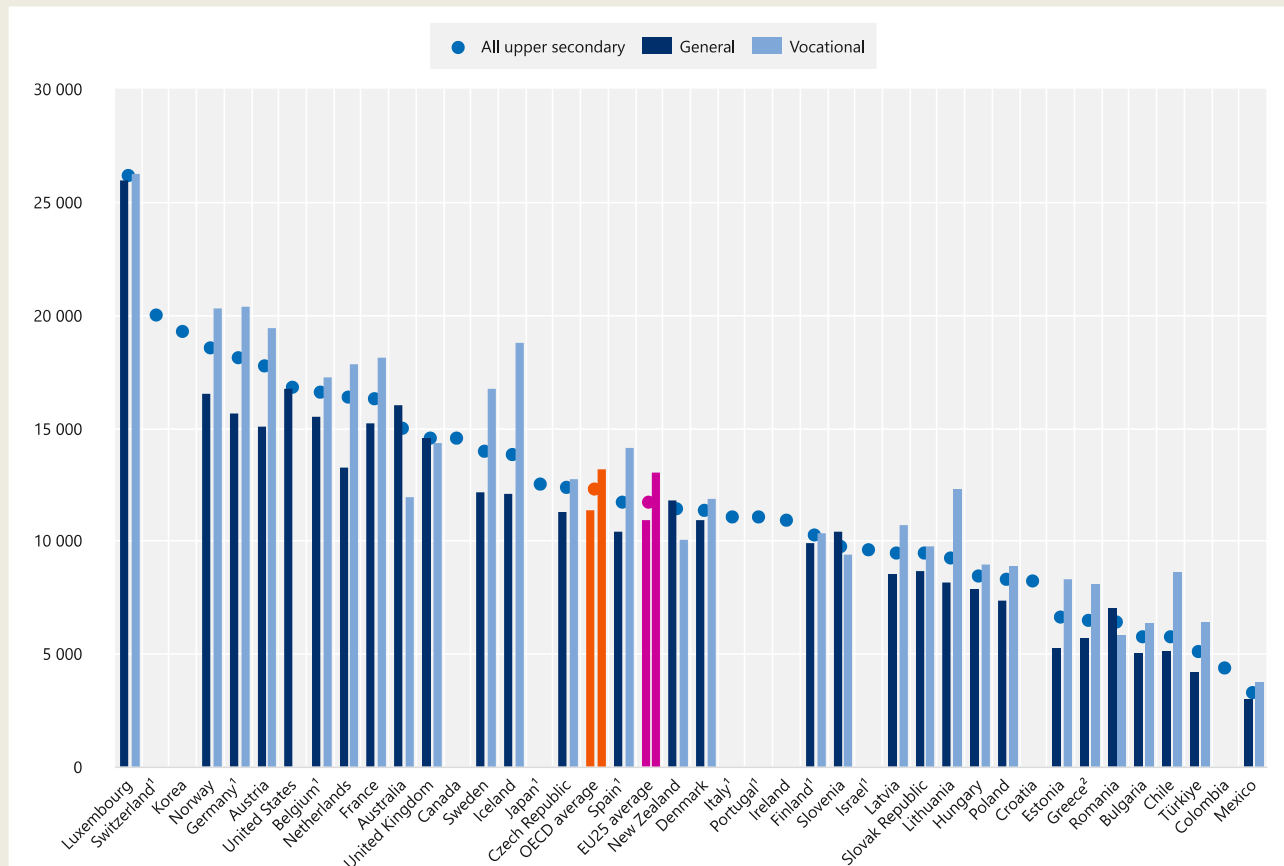
Context

The objective of policy makers to expand access to educational opportunities and to provide high-quality education can translate into higher costs which 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 is featured prominently in public debate. Although it is difficult to assess the optimal level of resources needed to prepare students 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 Indicator D4), the cost of teaching materials and facilities (see Indicator C6 in (OECD, 2022^[1])), 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 have also affected per-student expenditure. In some countries expenditure on ancillary services and R&D can also have great influence on the expenditure per student.

Figure C1.1. Total expenditure per full-time equivalent upper secondary education student, by programme orientation (2020)

In equivalent USD converted using PPPs, expenditure on educational institutions



1. Data on upper secondary includes another level of education. Refer to the source table for more details.

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

Countries are ranked in descending order of the total expenditure per full-time equivalent student in all upper secondary education.

Source: OECD/UIS/Eurostat (2023), Table C1.1. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[2]).

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Other findings

- Due to their hands-on nature, vocational programmes might be expected to have fewer students for every teaching staff member than general programmes, and consequently greater expenditure per student. However, the relationship is not easy to establish, especially because of complexities in reporting consistent enrolment and expenditure data for the work-based part of vocational education.
- Luxembourg stands out as the country with the highest expenditure across all programme orientations at upper secondary level (over USD 26 000 per student), with both vocational and general education receiving substantial funding. In contrast, Bulgaria, Chile, Colombia, Mexico and the Republic of Türkiye spend less than USD 6 000 per full-time equivalent upper secondary education student.
- The cumulative spending on each student between the age of 6 and the age of 15 adds up to a total of around USD 112 000 on average across OECD countries. This varies considerably across member and accession countries: Austria, Denmark, Iceland, Luxembourg and Norway spend over USD 150 000 per student over these years, while the figure is less than USD 50 000 in Colombia, Romania and Türkiye.

Analysis

Overall expenditure per student on educational institutions

Annual expenditure per student on primary to tertiary educational institutions provides an assessment of the investment made in each student. In 2020, the average annual spending per student from primary to tertiary education in OECD countries as a whole was around USD 12 500. But this average masks a broad range of spending across OECD countries. Annual spending per student ranged from around USD 3 200 in Mexico and USD 4 500 in Colombia to over USD 26 800 in Luxembourg (Table C1.1). The drivers of expenditure per student vary across countries and by level of education: in Luxembourg, for example, low ratios of students to teaching staff and high teachers' salaries at primary and secondary levels (see Indicator D3) are reflected in high levels of expenditure per student. In contrast, Colombia has one of the highest ratios of students to teaching staff, which tends to drive costs down (see Indicator D7). These differences can also be attributed to the diverse levels of Gross Domestic Product (GDP) and national wealth, with Colombia and Luxembourg representing the opposite ends among OECD countries (see Indicator C2).

Box C1.1. The challenges in collecting comparable expenditure data on general and vocational education programmes across OECD member and partner countries

Reporting expenditure data on education is a complex task that requires countries to collect data from multiple sources to accurately report on the financial resources allocated to different levels of education and programme orientation. Obtaining accurate and comprehensive expenditure data for vocational education and training (VET) poses various challenges across OECD countries that may affect the comparability of VET expenditure statistics.

Some countries are not able to report spending by programme orientation, while others need to employ various criteria and methodologies to divide expenditure between vocational and general education. These take into account factors such as levels of education, programme types and enrolment figures. This box aims to shed light on some of the challenges as well as the criteria employed by OECD countries for dividing expenditure data by level of education and programme orientation.

Challenges associated with the institutional setting

One of the significant challenges in accurately splitting expenditure data between general and vocational education is that teachers might teach in both programme orientations and at multiple levels within the same educational institution. For instance, when teachers deliver courses in both general and vocational programmes, allocating their salaries between these two orientations becomes a complex task. Expenditure on salaries may not have a direct and clear demarcation between the time spent teaching in general education and vocational education. A similar problem can arise when the same teachers are involved in teaching at different levels of education. Countries may face difficulties in accurately allocating teachers' salaries between different levels of education when teachers are responsible for instruction in both lower and upper secondary education.

In the case of vocational programmes, an additional difficulty arises when considering expenditure related to work-based settings. While institutions report on students in vocational education, gathering information on the expenditure incurred by the companies or organisations where they undertake their internships or apprenticeships is more challenging. This relates for example to the expenditure on staff responsible for training the apprentices in companies. The coverage of work-based expenditure varies from country to country; less than half of countries report that the data they provide on VET each year partly or fully cover expenditure related to work-based training (see Box C4.1).

Individual country challenges to reporting VET expenditure

A common approach in reporting VET expenditure data is to estimate spending by programme orientation by using enrolment figures to distribute expenditure between general and vocational education programmes. Australia, Belgium, Chile, Denmark, Estonia, France, Germany, Latvia, Lithuania, New Zealand, Norway, Spain and Sweden all report doing this at least to some extent.

In Canada and the United States, only vocational programmes at post-secondary non-tertiary or short-cycle tertiary level are typically classified as vocational. This separation of vocational education from upper secondary education reduces the complexity associated with estimating expenditure data across different levels of education. However, in Canada, each province/territory has its own funding mechanism for VET programmes, making it significantly harder to collect national evidence. The Canadian Financial Information of Community Colleges and Vocational Schools (FINCOL) surveys only cover public institutions, therefore capturing only a limited part of the complex system of VET financing.

Accurately reporting expenditure is challenging when data sources are incomplete, specific programme-level information is not available, or when it is difficult to break down the structure of the education system and its associated finances into the different levels of education identified by the 2011 International Standard Classification of Education (ISCED-2011). This may explain why countries such as Brazil, Colombia and Japan, are unable to report expenditure data on VET separately, or why expenditure on upper secondary vocational education might include expenditure from other levels of education, as in Switzerland.

In conclusion, it is important to acknowledge the diverse approaches and challenges associated with dividing expenditure data between vocational and general education. Even though many countries can estimate spending by programme orientation using enrolment figures, some may still encounter difficulties in reporting VET expenditure, especially when data sources are incomplete or specific programme-level information is lacking. Furthermore, even when expenditure data on VET are available, differences in coverage and estimation methods can introduce discrepancies and potentially reduce the relevance of cross-country comparisons. Therefore, it is important to promote standardised methodologies for reporting VET expenditure data to produce accurate analyses and support informed decision making.

Expenditure per student on educational institutions by level of education and programme orientation

The way resources are allocated varies widely from level to level and largely reflects the structure of the education systems. However, 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 10 700 per student at the primary level, USD 11 900 at secondary level and USD 18 100 at tertiary level (Table C1.1). At the secondary level, particularly at upper secondary, 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.

On average across OECD countries, expenditure per student in general upper secondary programmes is about USD 11 400, compared to about USD 13 200 in vocational programmes. Luxembourg stands out as the country with the highest expenditure per student across all programme orientations at upper secondary education (over USD 26 000), with both vocational and general education receiving substantial funding. Korea and Switzerland also demonstrate significant investment in upper secondary education (over USD 19 000 per student), although no breakdown by programme orientation is available. In contrast, Bulgaria, Chile, Colombia, Mexico and Türkiye spend less than USD 6 000 per full-time equivalent upper secondary education student. Except for Colombia, where data by programme orientation are not available, all these countries spend more per vocational upper

secondary student, with the greatest difference in Chile where expenditure amounts to around USD 8 600 per student in vocational programmes compared to around USD 5 100 in general programmes (Figure C1.1).

In Iceland, students in upper secondary vocational education receive significantly higher funding than those in upper secondary general education: over USD 6 500 more per student, the largest difference among countries with data available. Similarly, Austria, Germany, Lithuania, the Netherlands and Sweden also record a considerable difference, investing over USD 4 000 more per student in vocational programmes. Some countries are at the other end of the spectrum where the difference is reversed. For instance, Australia spends about USD 4 100 more per general upper secondary student than per vocational student, while New Zealand spends about USD 1 700 more. Slovenia and the United Kingdom also spend slightly more on each general upper secondary student than on each vocational one (Figure C1.1).

The lower spending per vocational upper secondary student in Australia is possibly linked to the limited availability of data for private vocational institutions, resulting in expenditure per full-time equivalent student in vocational programmes being underestimated. Due to the use of multiple data sources, it is not possible for Australia to perfectly match enrolments to expenditure.

As well as highlighting some of the caveats required when reporting expenditure data for general and vocational education (Box C1.1), these data also illustrate the priorities and investments of different countries. Understanding differences between countries in the resources they invest per student can offer insights into their educational strategies and policies and their approach to equipping students with the skills most needed on the labour market.

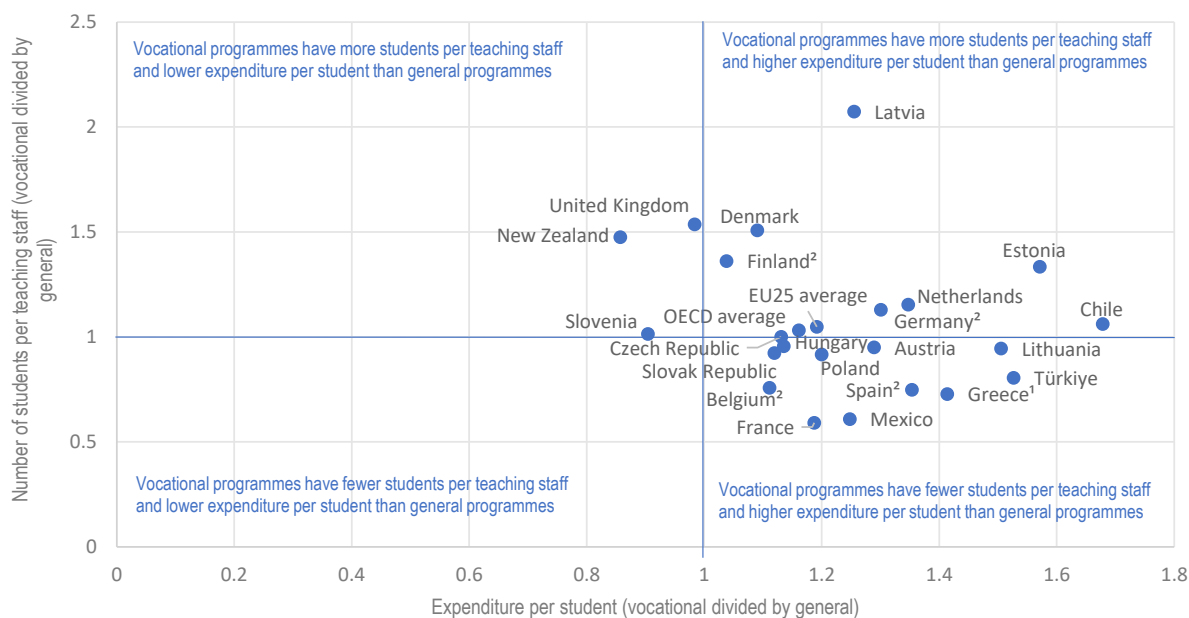
Relationship between expenditure per student and the number of students per teaching staff

The relationship between expenditure per student and the number of students per teaching staff in general and vocational programmes can provide valuable insights into the educational resources allocated to each student. Greater expenditure per student coupled with a lower student-to-teaching staff ratio may indicate a greater investment in individualised attention and support for students. This can be particularly important in vocational programmes, which generally emphasise practical and hands-on training.

Vocational programmes might be expected to have lower student-to-teaching staff ratios than general programmes because of this hands-on nature, driving the expenditure per student upwards. However, no strong correlation is found when plotting differences in the expenditure per student (using information from the UNESCO, OECD and Eurostat (UOE) finance questionnaire) with the differences in the number of students per teaching staff (using information from the *Education at a Glance database* (OECD, 2023^[3])). Only 11 out of the 22 countries with available data report that upper secondary vocational programmes have smaller number of students per teaching staff member than general programmes, and these 11 countries are not necessarily those with the greatest difference in expenditure per student between vocational and general education. In other words, although the student-to-teaching staff ratio is indeed lower in vocational programmes in some instances, it does not consistently correlate with higher expenditure per student (Figure C1.2). This is potentially explained by an under-coverage of expenditure on staff in the work-based setting of vocational programmes.

Figure C1.2. Differences by programme orientation in expenditure per full-time equivalent student and number of students per teaching staff (2020)

Upper secondary education



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

2. Data on upper secondary includes another level of education. Refer to the source table for more details.

Source: OECD/UIS/Eurostat (2023), Table C1.1 and the *Education at a Glance database*. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[2]).

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Latvia is an interesting case where upper secondary vocational programmes have twice as many students per teacher as upper secondary general programmes, the largest difference across countries with data. This may be due to the fact that vocational programmes are significantly work-based, so vocational students spend a considerable amount of time outside of school while still enrolled (see Indicator D7). Despite the much higher ratio of students per teacher in vocational programmes in Latvia, expenditure per student in upper secondary vocational programmes is still higher than in general ones, with a ratio comparable to the OECD average. This could be related to the fact that Latvia captures expenditure associated to the work-based component, while other countries may not be able to report this information.

Expenditure per student on staff

Staff expenditure encompasses the salaries, pensions and other benefits earned by teaching and non-teaching staff and represents the largest category of expense in education budgets across all OECD countries. Attracting and retaining highly qualified professionals in the education sector requires competitive compensation packages. The investment in staff therefore reflects the level of recognition of the critical role personnel play in delivering quality education.

On average across OECD countries, expenditure on staff per full-time equivalent student is about USD 7 700 at primary level, USD 8 700 at secondary level and USD 11 200 at tertiary level, reflecting the increase in salaries with increasing levels of education (Table C1.4). This is partly because higher levels of education often require

more advanced qualifications and specialised knowledge. For example, professors in tertiary education typically hold doctoral degrees, which require additional years of education. The acquisition of higher qualifications is usually accompanied by higher salaries to reflect the greater level of expertise and educational attainment. Furthermore, unlike in lower levels of education, tertiary education staff include personnel involved in research and development activities, increasing staff expenditure per student at tertiary level.

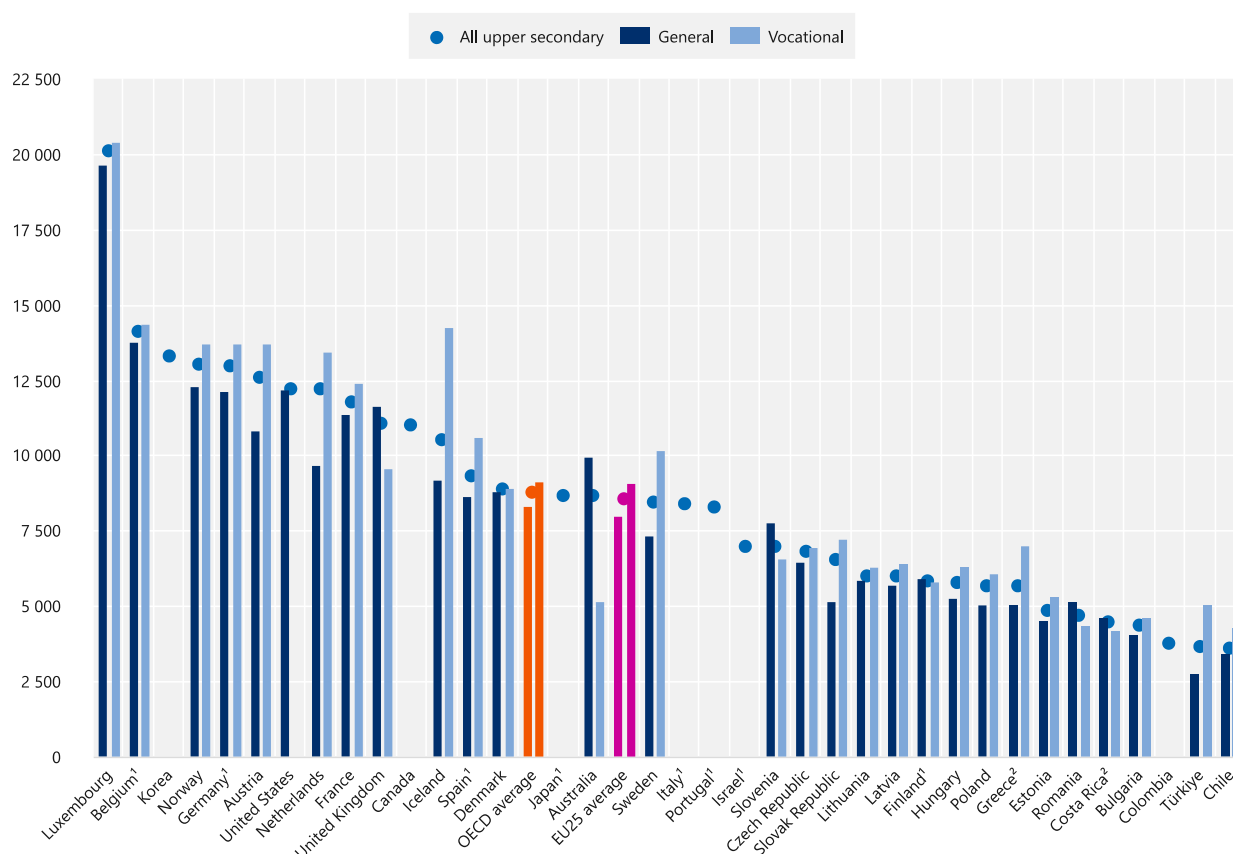
At upper secondary level, expenditure on staff per full-time equivalent student amounts to about USD 8 800 on average across OECD countries: USD 8 400 per student in general programmes and USD 9 200 in vocational programmes (Figure C1.3). Luxembourg again stands out for its high staff expenditure of around USD 20 000 per upper secondary student, which is about twice the OECD average and significantly more than any other OECD country. It surpasses Belgium, the country with the second highest expenditure, by approximately USD 6 000 for both general and vocational upper secondary education. In contrast, in Chile, Colombia and Türkiye, expenditure on staff is below USD 4 000 per full-time equivalent upper secondary student. Despite low levels of expenditure per student, the difference between general and vocational education remains significant in Türkiye: about USD 2 800 per upper secondary student in general programmes and about USD 5 000 in vocational programmes.

Iceland has the largest difference in expenditure on staff per full-time equivalent student by programme orientation in upper secondary education. In general programmes, this expenditure is approximately USD 9 200, while in vocational programmes, it rises to around USD 14 300. Austria, the Netherlands and Sweden also have substantial differences in staff expenditure in favour of upper secondary vocational education, with gaps of over USD 2 500 per student (Figure C1.3). Data on the remuneration of teachers and school heads can partly explain some of these differences (see Indicator D3). For example, in the Netherlands, for the most prevalent teacher qualification, the starting salary of teachers in general upper secondary programmes is USD 48 662 while it is USD 54 232 in vocational upper secondary programmes.

Vocational programmes might be expected to have lower student-to-teaching staff ratios than general programmes because of this hands-on nature, driving the expenditure per student upwards. However, no strong correlation is found when plotting differences in the expenditure per student (using information from the UNESCO, OECD and Eurostat (UOE) finance questionnaire) with the differences in the number of students per teaching staff (using information from the *Education at a Glance database* (OECD, 2023^[3])). Only 10 out of the 23 countries with available data report that upper secondary vocational programmes have smaller number of students per teaching staff member than general programmes, and these 10 countries are not necessarily those with the greatest difference in expenditure per student between vocational and general education. In other words, although the student-to-teaching staff ratio is indeed lower in vocational programmes in some instances, it does not consistently correlate with higher expenditure per student (Figure C1.2). This is potentially explained by an under-coverage of expenditure on staff in the work-based setting of vocational programmes.

Figure C1.3. Expenditure on staff per full-time equivalent student in upper secondary education, by programme orientation (2020)

In equivalent USD converted using PPPs for GDP



1. Data on upper secondary includes another level of education. Refer to the source table for more details.

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

Countries are ranked in descending order of expenditure on staff in all upper secondary education per full-time equivalent student.

Source: OECD/UIS/Eurostat (2023), Table C1.4 available on line. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[2]).

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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 just the annual expenditure per student, but also cumulative expenditure over the total period students are expected to spend at a given educational level. High expenditure per student, for example, might be offset by shorter programmes or fewer students accessing education at certain levels. On the other hand, a seemingly inexpensive education system per student might prove more costly overall if enrolment is high and students spend longer in school.

Primary and secondary education are usually compulsory across the OECD, and adding up the expenditure per student between the ages of 6 and 15 at these levels gives the theoretical cumulative expenditure per student for compulsory education. On average across OECD countries, the cumulative spending on each student between these ages adds up to a total of around USD 112 100. This total varies considerably across countries:

Austria, Denmark, Iceland, Luxembourg and Norway spend over USD 150 000 per student over these years, while the figure is less than USD 50 000 in Colombia, Romania and Türkiye (Table C1.6, available on line).

Total and public expenditure on educational institutions per student, by type of institution

The way resources are allocated to public and private institutions varies widely across educational levels, although both types of institutions have similar average levels of expenditure per student. On average across OECD countries, total expenditure on public institutions from primary to tertiary level amounts to about USD 12 600 per student, compared to under USD 13 000 in private ones. However, the differences are more substantial in countries such as Bulgaria, Latvia, the Netherlands and Türkiye, where expenditure per student on private institutions is at least 70% higher than expenditure on public ones. In contrast, in countries such as the Czech Republic, Luxembourg and New Zealand, expenditure on private institutions is at least 40% lower than on public institutions (Table C1.2).

Government funding for education is generally spent on public institutions but some countries spend a large part of the public budget on private educational institutions. On average across OECD countries, government expenditure per student on public educational institutions from primary to tertiary level (about USD 11 600) is nearly twice the government expenditure per student on private institutions (about USD 6 700). However, the gap varies at different levels of education. At non-tertiary levels, average government expenditure per student on public institutions is about USD 10 900, about 40% more than government expenditure on private institutions (about USD 7 600), whereas at tertiary level it averages about USD 14 800 on public institutions, more than three times the expenditure on private institutions (about USD 4 700) (Table C1.2).

Change in expenditure per student on educational institutions between 2019 and 2020

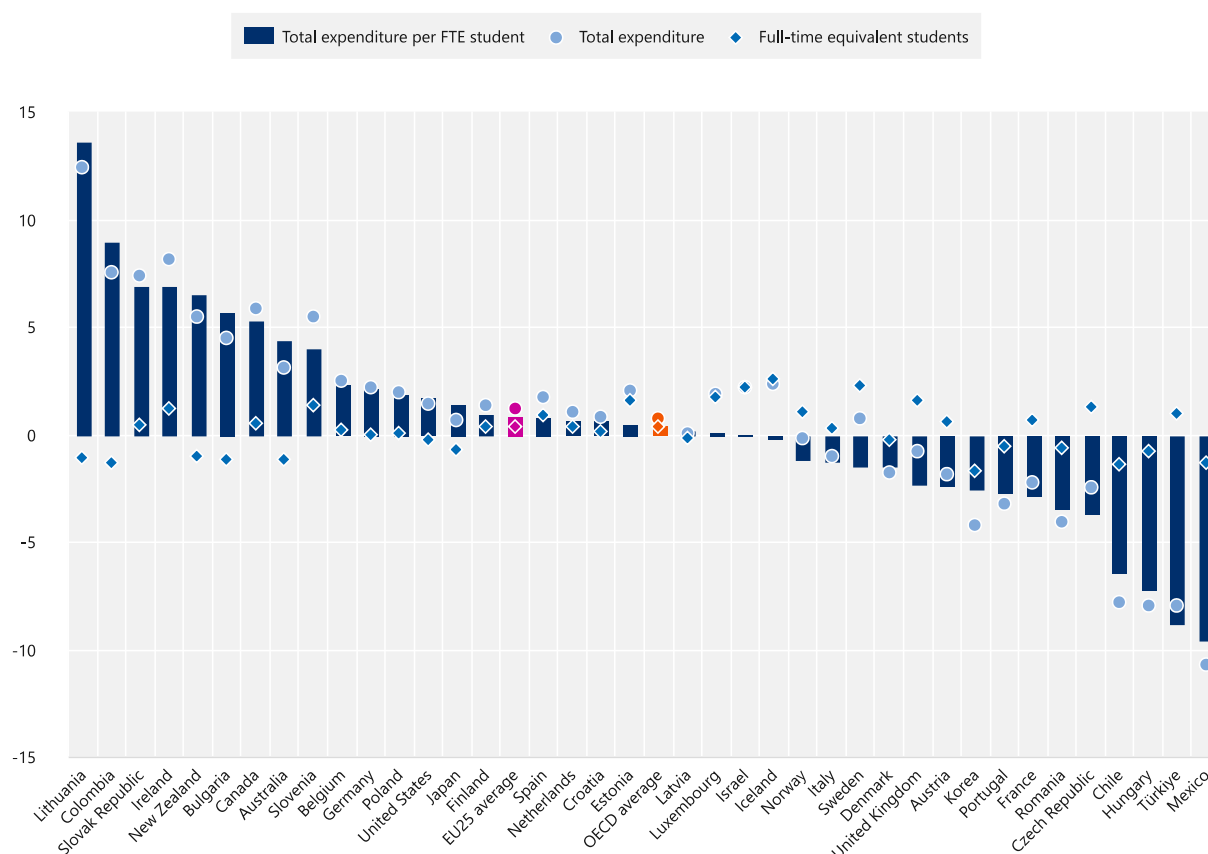
The regular UOE data collection on education finance now covers the year 2020, providing an opportunity to examine how education finance changed in response to the COVID-19 pandemic across OECD countries. As schools were closed for extended periods in 2020, it was important to ensure that adequate resources were made available for remote learning and to maintain and expand student support programmes, and once schools reopened, it was critical to allocate additional funding to educational institutions (Al-Samarrai, Gangwar and Gala, 2020^[5]). Widespread school closures due to the COVID-19 pandemic in 2020 was associated with an education expenditure increase in most countries (Figure C1.4). This can be attributed to several factors that influenced expenditure patterns during this challenging period.

For example, education systems had to rapidly adapt to remote learning and implement alternative educational strategies. Education authorities had to provide resources and support to ensure students had continued access to education (OECD, 2021^[6]; OECD, 2021^[7]). Teachers' salaries and staff-related expenses, which constitute the main expenditures in education systems, were maintained during the pandemic as education staff played a vital role in delivering remote education and supporting students' learning.

On average across OECD countries, the total expenditure on primary to tertiary educational institutions per full-time equivalent student increased by 0.4% between 2019 and 2020. This reflects a 0.3% increase in the number of full-time-equivalent students and a 0.7% increase in expenditure. This apparent stability masks important differences among OECD countries. For example, in Colombia and Lithuania expenditure on primary to tertiary educational institutions increased by more than 7.0% between 2019 and 2020 despite falling enrolments of full-time equivalent students. This change resulted in an increase in expenditure per student of 9.0% in Colombia and 13.7% in Lithuania. The increase reached 10.9% for primary to post-secondary non-tertiary students in Colombia and 18.6% for tertiary students in Lithuania. In contrast, in Chile, Hungary, Mexico and Türkiye, expenditure per student on primary to tertiary institutions fell by more than 6% during the same period (Figure C1.4 and Table C1.3).

Figure C1.4. Change in total expenditure on primary to tertiary educational institutions per full-time equivalent student (2019 to 2020)

In per cent, 2015 constant prices and constant PPPs



Countries are ranked in descending order of growth in total expenditure on primary to tertiary educational institutions per full-time equivalent student.

Source : OECD/UIS/Eurostat (2023), Table C1.3. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[2]).

StatLink  <https://stat.link/xdif0z>

Provisional data on education expenditure in 2021 are available for a small number of countries. These figures are useful for a comparative look at the trends going into the second year of the COVID-19 health crisis (Box C1.2).

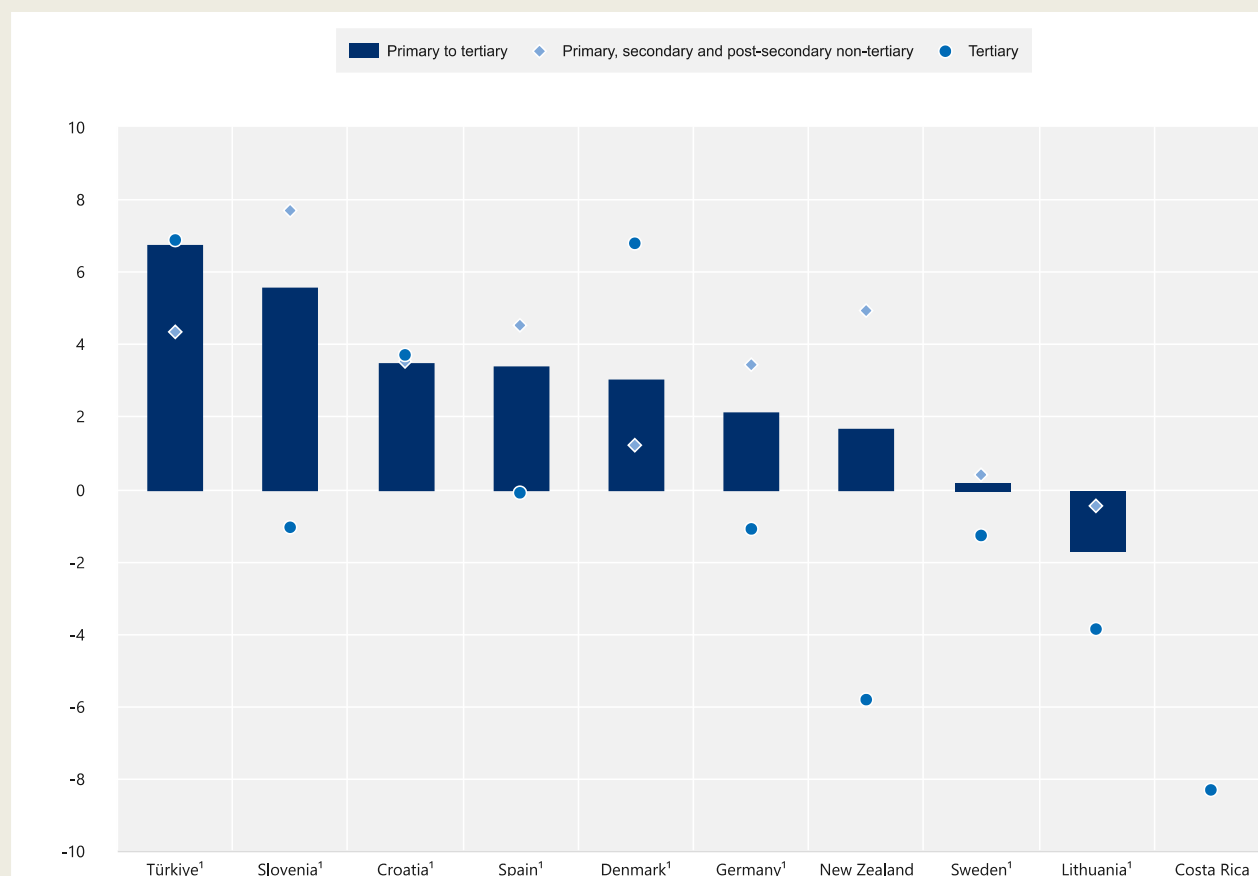
Box C1.2. Provisional data on the change in expenditure per student in 2021

Between 2020 and 2021, expenditures per student in primary to tertiary education increased in Denmark, Germany, New Zealand, Slovenia, Spain and Türkiye, decreased in Croatia and Lithuania, and was stable in Sweden. For primary to post-secondary non-tertiary education, except for Lithuania (-0.5%), all countries with data report an increase in expenditure per student, ranging from 0.4% in Sweden to 7.7% in Slovenia. The opposite is observed for tertiary education where most countries with data report a decrease in expenditure per student. Costa Rica reports the highest drop (-8.3%). Croatia, Denmark and Türkiye are the only countries

where expenditure per student increased for both primary to post-secondary non-tertiary education and for tertiary education. In contrast, expenditure decreased for both groups in Lithuania.

Figure C1.5. Change in total expenditure on educational institutions per full-time equivalent student, by level of education (2020 to 2021)


In per cent, 2015 constant prices and constant PPPs



1. Provisional data for 2021.

Countries are ranked in descending order of growth in total expenditure on primary to tertiary educational institutions per full-time equivalent student.

Source: OECD/Eurostat (2023). For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[2]).

StatLink  <https://stat.link/tux2d7>

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 transport 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 compensation to students or apprentices.

Please see the *OECD Handbook for Internationally Comparative Education Statistics* (OECD, 2018^[8]) for more information and (OECD, 2023^[2]), *Education at a Glance 2023 Sources, Methodologies and Technical Notes*, (<https://doi.org/10.1787/d7f76adc-en>), for country-specific notes.

Source

Data refer to the financial year 2020 (unless otherwise specified) and are based on the UNESCO, OECD and Eurostat (UOE) data collection on education statistics administered by the OECD in 2022 (for details see (OECD, 2023^[2]), *Education at a Glance 2023 Sources, Methodologies and Technical Notes*, (<https://doi.org/10.1787/d7f76adc-en>). Data from Argentina, China, India, Indonesia, Peru, Saudi Arabia and South Africa are from the UNESCO Institute of Statistics (UIS).

The data on expenditure for 2019 to 2021 were updated based on a survey in 2022-23 and adjusted to the methods and definitions used in the current UOE data collection. Provisional data on educational expenditure in 2021 are based on an ad-hoc data collection administered by the OECD and Eurostat in 2022.

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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 (2020)
Table C1.2	Government and total expenditure on educational institutions per full-time equivalent student, by type of institution (2020)
Table C1.3	Change in total expenditure on educational institutions per full-time equivalent student (2019 to 2020)
WEB Table C1.4	<i>Expenditure on staff per full-time equivalent student (2020)</i>
WEB Table C1.5	<i>Total expenditure on educational institutions per full-time equivalent student, by source of funds (2020)</i>
WEB Table C1.6	<i>Cumulative expenditure on educational institutions per full-time equivalent student between the age of 6 and 15 (2020)</i>
WEB Table C1.7	<i>Change in total and government expenditure on educational institutions per full-time equivalent student (2020 to 2021)</i>

StatLink  <https://stat.link/df17me>

Cut-off date for the data: 15 June 2023. 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 (2020)

In equivalent USD converted using PPPs for GDP, direct expenditure within educational institutions, by level of education

		Secondary					Post-secondary non-tertiary	Primary, secondary and post-secondary non-tertiary	Tertiary				Primary to tertiary	Primary to tertiary (excluding R&D)
	Primary	Lower secondary	Upper secondary			All secondary			Short-cycle tertiary	Bachelor's, master's and doctoral or equivalent	All tertiary	All tertiary (excluding R&D)		
			General programmes	Vocational programmes	All programmes									
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Australia	12 673	15 714	16 068	12 000	14 947	15 437	10 167	13 849	11 980	24 325	22 204	14 817	15 620	14 054
Austria	14 029	17 307	15 101	19 469	17 695	17 478	4 626	16 004	18 947	22 251	21 753	13 711	17 744	15 310
Belgium	12 813	16 635	15 579 ^d	17 315 ^d	16 543 ^d	16 576 ^d	x(3, 4, 5, 6)	14 920	13 659	22 917	22 555	14 791	16 429	14 894
Canada ^{1,2}	11 533 ^a	x(1)	x(5)	x(5)	14 520	14 520	m	12 460	16 632	28 707	24 363	m	15 443	m
Chile	5 917	6 153	5 147	8 639	5 720	5 868	a	5 893	5 296	12 252	10 458	10 082	7 184	7 077
Colombia ²	4 364	4 335	x(5)	x(5)	4 357	4 341	m	4 352	x(11)	x(11)	4 981	m	4 481	m
Costa Rica ³	m	m	m	m	m	m	a	m	x(11)	x(11)	13 776	m	m	m
Czech Republic	8 466	12 760	11 313	12 799	12 374	12 579	2 221	10 858	31 028	16 190	16 237	10 067	11 846	10 713
Denmark	14 273	17 402	10 959	11 947	11 344	14 125	a	14 193	13 681	24 608	23 432	10 852	16 312	13 427
Estonia	10 309	10 563	5 318	8 357	6 584	8 522	9 686	9 426	a	17 930	17 930	10 982	11 088	9 730
Finland	11 212	17 726	9 973	10 352 ^d	10 238 ^d	12 849 ^d	x(4, 5, 6)	12 181	a	19 583	19 583	10 832	13 705	11 903
France	9 673	12 139	15 279	18 142	16 266	13 874	11 787	12 119	17 468	19 315	18 880	13 385	13 545	12 386
Germany ⁴	11 587	14 197	15 681	20 394 ^d	18 098 ^d	15 614	13 788	14 343	7 981	20 788	20 760	11 708	15 767	13 758
Greece ^{2,5}	7 467	7 364	5 749	8 127	6 458	6 901	m	7 175	a	4 300	4 300	2 603	6 146	5 539
Hungary	7 928	7 155	7 910	8 983	8 409	7 772	10 269	7 921	2 914	12 477	12 098	9 164	8 612	8 126
Iceland	15 206	17 077	12 148	18 829	13 822	15 242	18 191	15 262	16 128	16 128	16 128	m	15 444	m
Ireland	9 589	11 880	x(5)	x(5)	10 891	11 379	37 694	11 090	x(11)	x(11)	17 400	12 231	12 194	11 286
Israel	10 182	x(5)	x(5)	x(5)	9 562 ^d	9 562	523	9 823	5 571	15 617	12 314	8 731	10 279	9 624
Italy	12 008	9 760	x(5)	x(5)	11 059 ^d	10 569 ^d	x(5, 6)	11 096	4 697	12 746	12 663	8 691	11 439	10 570
Japan	10 057	11 618	x(5)	x(5)	12 458 ^d	12 047 ^d	x(5, 6, 9, 10, 11)	11 076	13 974 ^d	21 153 ^d	19 676 ^d	m	13 006	m
Korea	13 278	14 805	x(5)	x(5)	19 239	17 038	a	15 148	6 776	13 601	12 225	9 648	14 113	13 200
Latvia	7 142	7 157	8 572	10 760	9 460	8 302	11 433	7 765	12 543	13 121	13 043	9 966	8 907	8 241
Lithuania	8 173	8 128	8 204	12 351	9 260	8 426	12 535	8 463	a	13 629	13 629	9 767	9 622	8 756
Luxembourg	22 990	27 112	26 036	26 275	26 182	26 617	3 607	24 864	7 420	60 279	53 421	34 741	26 833	25 545
Mexico	2 750	2 411	3 033	3 785	3 296	2 770	a	2 760	x(11)	x(11)	5 887	5 193	3 239	3 132
Netherlands	11 188	15 364	13 260	17 865	16 324	15 848	a	13 855	12 485	21 779	21 642	13 715	15 714	13 822
New Zealand	8 438	9 286	11 819	10 133	11 425	10 223	8 067	9 350	12 053	20 747	19 567	15 471	11 119	10 410
Norway	15 631	15 631	16 573	20 353	18 527	17 229	24 488	16 484	21 086	24 474	24 374	15 218	18 207	16 208
Poland	11 872	8 696	7 420	8 903	8 251	8 485	5 841	9 415	7 474	14 490	14 488	9 936	10 447	9 521
Portugal	9 340	11 715	x(5)	x(5)	11 032 ^d	11 358 ^d	x(5, 6)	10 449	5 660	12 414	12 104	8 099	10 816	9 929
Slovak Republic	8 853	7 949	8 737	9 781	9 436	8 546	10 751	8 674	10 880	14 694	14 637	11 023	9 626	9 049
Slovenia	10 714	11 398	10 430	9 434	9 752	10 450	a	10 579	7 769	19 166	17 795	14 553	11 878	11 294
Spain	9 077	10 658	10 482	14 188 ^d	11 668 ^d	11 159 ^d	x(4, 5, 6)	10 173	10 770	15 354	14 361	10 795	11 123	10 314
Sweden	13 997	13 857	12 198	16 797	13 939	13 902	8 263	13 865	7 011	28 443	26 215	12 391	15 994	13 611
Switzerland	m	m	x(5)	x(5)	19 973 ^d	m	x(5)	m	m	m	m	m	m	m
Türkiye	4 108	4 037	4 248	6 485	5 109	4 603	a	4 446	x(11)	x(11)	9 288	7 418	5 352	5 002
United Kingdom	12 513	12 716	14 609	14 370	14 539	13 695	a	13 141	29 292	29 552	29 534	23 814	16 052	15 036
United States	14 321	15 302	16 775	a	16 775	16 018	15 774	15 186	x(11)	x(11)	36 172	31 795	19 973	18 974
OECD average	10 658	11 941	11 379	13 216	12 312	11 942	m	11 352	12 266	19 775	18 105	12 693	12 647	11 576
Partner and/or accession countries														
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
Bulgaria	5 211	6 918	5 077	6 379	5 729	6 232	18 225	5 882	a	11 048	11 048	10 571	6 983	6 881
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	7 317 ^d	x(1)	x(5)	x(5)	8 230	8 230	a	7 604	x(11)	x(11)	9 865	m	8 150	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
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	3 188	6 817	7 035	5 899	6 382	6 600	2 096	5 163	a	9 602	9 602	9 581	5 956	5 953
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
EU25 average	10 337	12 111	10 967	13 072	11 664	11 696	10 855	11 123	11 317	18 571	17 578	11 840	12 275	11 273
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See StatLink and Box C1.3 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[2]).StatLink  <https://stat.link/nyek0g>

Table C1.2. Government and total expenditure on educational institutions per full-time equivalent student, by type of institution (2020)

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			
	Government		Total expenditure (government and private sources)		Government		Total expenditure (government and private sources)		Government		Total expenditure (government 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	12 416	10 567	12 979	15 345	9 807	110	25 824	5 794	11 742	9 346	16 299	14 229
Austria	16 144	8 701	16 376	12 923	22 671	8 497	23 790	14 534	17 939	8 606	18 415	13 679
Belgium	16 501	12 912	16 871	13 562	21 926	16 745	25 448	20 522	17 579	13 667	18 574	14 933
Canada ¹	12 260 ^d	2 827 ^d	12 689 ^d	9 737 ^d	12 433	a	24 363	a	12 306 ^d	2 827 ^d	15 794 ^d	9 737 ^d
Chile	6 774	3 742	6 774	5 372	9 892	3 041	16 178	9 349	7 233	3 501	8 158	6 742
Colombia	4 269	458	4 275	4 652	3 078	0	8 466	1 337	4 099	282	4 874	3 374
Costa Rica ²	4 958	3 725	m	m	12 636	m	13 776	m	5 851	3 725	m	m
Czech Republic	10 616	3 751	11 164	7 114	13 553	599	17 543	5 229	11 140	2 996	12 304	6 662
Denmark	13 162	15 099	13 207	19 264	19 563	2 308	23 431	23 728	14 836	15 020	15 881	19 292
Estonia	9 265	6 353	9 389	10 062	13 807	412	18 729	6 561	10 144	5 015	11 197	9 274
Finland	12 366	10 066	12 423	10 247	26 126	9 403	28 998	10 324	14 105	9 708	14 518	10 289
France	m	m	m	m	m	m	m	m	m	m	m	m
Germany	m	m	m	m	m	m	m	m	m	m	m	m
Greece ³	7 021	116	7 022	9 903	3 211	a	4 300	a	5 609	116	6 013	9 903
Hungary	6 586	7 340	6 825	12 091	9 453	5 867	12 798	8 502	7 083	7 142	7 860	11 608
Iceland	15 163	10 701	15 585	11 664	15 959	9 433	17 882	10 226	15 308	10 163	16 005	11 054
Ireland	9 910	a	11 129	5 275	12 588	a	17 309	20 669	10 371	a	12 191	12 399
Israel	8 865	9 706	9 023	13 054	2 052	7 979	2 110	14 378	8 559	8 870	8 712	13 695
Italy	11 178	1 907	11 518	5 405	9 233	1 235	13 247	10 036	10 794	1 622	11 859	7 371
Japan	m	m	m	m	m	m	m	m	m	m	m	m
Korea	14 525	13 358	15 116	15 323	14 632	2 972	21 488	9 928	14 537	5 675	15 843	11 332
Latvia	7 400	4 270	7 593	12 399	11 108	7 269	12 265	13 112	7 485	6 898	7 700	13 024
Lithuania	8 168	5 673	8 359	10 725	10 474	1 518	14 480	6 618	8 658	3 948	9 660	9 020
Luxembourg	26 370	8 858	26 370	16 928	48 250	a	53 421	a	28 142	8 858	28 561	16 928
Mexico	2 702	8	2 784	2 565	6 137	0	6 479	4 826	3 099	5	3 210	3 403
Netherlands	12 312	a	12 707	62 877	16 488	a	21 373	24 025	13 247	a	14 647	40 289
New Zealand	8 808	5 225	9 712	6 021	12 063	4 076	20 485	10 592	9 374	5 035	11 587	6 776
Norway	15 551	23 014	15 551	31 541	25 310	7 825	26 422	14 329	17 481	16 212	17 701	23 833
Poland	8 457	6 197	9 217	11 215	14 889	2 403	17 475	6 328	9 562	4 645	10 636	9 216
Portugal	10 643	1 148	10 986	7 459	9 002	329	12 299	11 279	10 293	933	11 266	8 465
Slovak Republic	8 132	7 165	8 725	8 251	11 784	546	15 351	7 197	8 727	6 286	9 804	8 111
Slovenia	9 572	17 351	10 299	23 889	15 442	5 749	18 109	15 186	10 550	11 162	11 601	19 246
Spain	10 819	4 736	11 228	7 836	12 169	909	15 310	11 381	11 149	4 026	12 225	8 493
Sweden	14 093	12 674	14 098	12 767	23 262	14 393	27 519	17 955	15 734	12 914	16 500	13 491
Switzerland	17 333	20 172	m	m	31 368	10 374	m	m	20 075	18 011	m	m
Türkiye	3 607	405	3 701	14 641	7 649	0	8 574	12 913	4 299	261	4 534	14 024
United Kingdom	12 064	10 945	12 458	13 691	a	7 285	a	29 534	12 064	9 918	12 458	18 136
United States	15 194	1 580	15 389	13 079	16 500	6 403	32 196	45 927	15 438	3 958	18 534	29 275
OECD average	10 949	7 598	11 259	13 239	14 839	4 748	18 710	13 411	11 560	6 707	12 580	12 949
Partner and/or accession countries												
Argentina	3 975	1 638	m	m	m	m	m	m	m	m	m	m
Brazil	3 583	a	m	m	14 735	a	m	m	4 306	a	m	m
Bulgaria	5 820	0	5 833	8 106	7 584	36	10 116	18 645	6 169	21	6 680	14 176
China	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	7 307	4 264	7 580	9 068	7 851	719	10 177	6 631	7 431	2 031	8 172	7 533
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
Peru	m	m	m	m	m	m	m	m	m	m	m	m
Romania	5 129	3 455	5 218	3 561	9 693	3 656	10 327	4 182	5 884	3 543	6 063	3 833
Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m
South Africa	3 085	m	m	m	x(9)	m	m	m	3 578	m	m	m
EU25 average	10 738	6 764	11 049	13 084	15 223	4 347	18 427	12 507	11 419	6 150	12 275	12 488
G20 average	m	m	m	m	m	m	m	m	m	m	m	m

Note: See StatLink and Box C1.3 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[2]).

StatLink  <https://stat.link/t0xwfk>

Table C1.3. Change in total expenditure on educational institutions per full-time equivalent student (2019 to 2020)

GDP deflator 2015 = 100, 2015 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		Change between 2019 and 2020 (%)			Total expenditure per student in constant prices and constant PPPs		Change between 2019 and 2020 (%)			Total expenditure per student in constant prices and constant PPPs		Change between 2019 and 2020 (%)		
	2019	2020	Number of students	Total expenditure	Total expenditure per student	2019	2020	Number of students	Total expenditure	Total expenditure per student	2019	2020	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	11 313	11 960	-0.3	5.4	5.7	18 673	19 176	-4.4	-1.9	2.7	12 926	13 490	-1.2	3.1	4.4
Austria	13 946	13 704	0.3	-1.4	-1.7	19 346	18 628	1.1	-2.6	-3.7	15 571	15 194	0.6	-1.9	-2.4
Belgium	12 162	12 510	-0.3	2.6	2.9	18 873	18 912	2.0	2.2	0.2	13 464	13 775	0.2	2.5	2.3
Canada ¹	11 058 ^d	11 453 ^d	-0.2 ^d	3.4 ^d	3.6 ^d	20 921	22 394	2.6	9.8	7.0	13 480 ^d	14 195 ^d	0.5 ^d	5.8 ^d	5.3 ^d
Chile	5 488	5 071	-0.4	-8.0	-7.6	9 363	9 000	-3.8	-7.5	-3.9	6 611	6 183	-1.4	-7.8	-6.5
Colombia	3 238	3 591	-1.2	9.5	10.9	3 986	4 110	-1.7	1.3	3.1	3 393	3 698	-1.3	7.5	9.0
Costa Rica	m	m	-0.5	m	m	m	12 918	m	m	m	m	m	m	m	m
Czech Republic	9 227	9 182	1.4	0.9	-0.5	15 608	13 731	0.9	-11.3	-12.0	10 404	10 017	1.3	-2.5	-3.7
Denmark	12 088	12 011	-0.4	-1.0	-0.6	20 530	19 830	0.2	-3.2	-3.4	14 015	13 804	-0.3	-1.8	-1.5
Estonia	8 053	8 061	1.9	2.0	0.1	15 023	15 334	0.0	2.1	2.1	9 436	9 482	1.6	2.0	0.5
Finland	10 337	10 402	0.0	0.7	0.6	16 502	16 723	1.7	3.0	1.3	11 590	11 703	0.4	1.3	1.0
France	10 364	10 021	0.1	-3.3	-3.3	16 028	15 611	3.0	0.3	-2.6	11 532	11 200	0.7	-2.2	-2.9
Germany	11 917	12 251	-0.2	2.6	2.8	17 665	17 732	0.8	1.2	0.4	13 182	13 467	0.0	2.2	2.2
Greece	6 482	m	m	m	m	3 885	m	m	m	m	5 552	m	m	m	m
Hungary	7 614	7 050	-0.3	-7.7	-7.4	11 450	10 768	-3.1	-8.9	-6.0	8 264	7 665	-0.8	-8.0	-7.2
Iceland	13 594	13 746	1.2	2.3	1.1	15 338	14 526	8.3	2.5	-5.3	13 941	13 909	2.6	2.3	-0.2
Ireland	9 524	10 391	0.8	10.0	9.1	16 283	16 304	2.7	2.8	0.1	10 689	11 425	1.2	8.1	6.9
Israel	9 056	9 236	2.0	4.1	2.0	12 397	11 578	2.8	-4.0	-6.6	9 664	9 665	2.2	2.2	0.0
Italy	9 326	9 217	-0.8	-2.0	-1.2	10 752	10 519	4.3	2.0	-2.2	9 626	9 502	0.3	-1.0	-1.3
Japan	10 444	10 756	-1.0	2.0	3.0	19 470	19 108	0.1	-1.8	-1.9	12 452	12 631	-0.8	0.7	1.4
Korea	14 754	14 026	-1.9	-6.8	-4.9	10 957	11 320	-1.4	1.9	3.3	13 414	13 068	-1.7	-4.3	-2.6
Latvia	6 762	6 742	0.2	-0.1	-0.3	11 114	11 325	-1.5	0.3	1.9	7 717	7 734	-0.2	0.0	0.2
Lithuania	6 571	7 351	-0.4	11.4	11.9	9 978	11 838	-3.3	14.7	18.6	7 353	8 357	-1.1	12.4	13.7
Luxembourg	21 991	22 064	1.6	1.9	0.3	48 608	47 405	4.2	1.6	-2.5	23 784	23 812	1.7	1.9	0.1
Mexico	2 759	2 594	-2.1	-8.0	-6.0	6 908	5 533	3.5	-17.1	-19.9	3 365	3 044	-1.3	-10.7	-9.6
Netherlands	11 758	11 933	-0.7	0.8	1.5	19 083	18 639	3.9	1.5	-2.3	13 448	13 534	0.4	1.0	0.6
New Zealand	7 431	8 058	-0.8	7.6	8.5	16 395	16 865	-1.9	0.9	2.9	8 997	9 583	-1.0	5.4	6.5
Norway	14 560	14 621	0.1	0.5	0.4	23 033	21 619	4.7	-1.8	-6.1	16 347	16 149	1.0	-0.2	-1.2
Poland	8 323	8 412	0.9	2.0	1.1	12 306	12 945	-3.1	1.9	5.2	9 160	9 334	0.0	1.9	1.9
Portugal	9 376	9 121	-1.9	-4.6	-2.7	10 919	10 565	4.4	1.0	-3.2	9 701	9 441	-0.6	-3.2	-2.7
Slovak Republic	7 984	8 511	0.5	7.2	6.6	13 285	14 361	0.0	8.1	8.1	8 834	9 445	0.5	7.4	6.9
Slovenia	8 836	8 985	1.1	2.8	1.7	13 673	15 114	2.4	13.2	10.5	9 698	10 088	1.4	5.4	4.0
Spain	8 835	8 999	0.3	2.1	1.9	12 992	12 704	3.1	0.8	-2.2	9 758	9 840	0.9	1.7	0.8
Sweden	12 319	12 223	1.5	0.7	-0.8	24 308	23 110	5.9	0.7	-4.9	14 313	14 099	2.2	0.7	-1.5
Switzerland	m	m	0.7	m	m	m	m	3.0	m	m	m	m	1.1	m	m
Türkiye	5 087	4 530	1.1	-10.0	-11.0	9 848	9 463	0.5	-3.4	-3.9	5 982	5 453	1.0	-8.0	-8.8
United Kingdom	11 542	11 398	0.7	-0.5	-1.2	27 377	25 617	5.4	-1.3	-6.4	14 250	13 923	1.5	-0.8	-2.3
United States	13 675	13 972	-0.3	1.9	2.2	32 946	33 281	-0.2	0.9	1.0	18 066	18 377	-0.3	1.4	1.7
OECD average	9 939	10 119	0.1	0.9	0.8	16 273	16 350	1.3	0.3	-0.9	11 111	11 322	0.3	0.7	0.4
OECD average for countries with data available for the reference years	10 038	10 119	0.1	0.9	0.8	16 627	16 448	1.3	0.3	-0.9	11 269	11 322	0.3	0.7	0.4
Partner and/or accession countries															
Argentina	m	m	1.0	m	m	m	m	4.1	m	m	m	m	1.8	m	m
Brazil	m	m	-1.1	m	m	m	m	1.0	m	m	m	m	-0.7	m	m
Bulgaria	4 402	4 810	-1.4	7.8	9.3	9 137	9 034	-0.4	-1.5	-1.1	5 403	5 710	-1.2	4.4	5.7
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	6 285	6 462	-1.0	1.8	2.8	8 853	8 384	4.0	-1.5	-5.3	6 882	6 926	0.1	0.8	0.6
India	m	m	m	m	m	m	m	3.5	m	m	m	m	m	m	m
Indonesia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Peru	m	m	2.7	m	m	m	m	m	m	m	m	m	m	m	m
Romania	4 172	4 067	-1.2	-3.7	-2.5	8 127	7 563	2.1	-5.0	-6.9	4 859	4 691	-0.6	-4.0	-3.5
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
EU25 average	9 546	9 770	0.1	1.4	1.3	15 373	15 712	1.5	1.0	-0.4	10 569	10 844	0.4	1.2	0.9
G20 average	m	m	m	m	m	m	m	2	m	m	m	m	m	m	m

Note: See StatLink and Box C1.3 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[2]).

StatLink  <https://stat.link/efqcy>

Box C1.3. Notes for Indicator C1 Tables

Table C1.1 Total expenditure on educational institutions per full-time equivalent student (2020)

1. Primary education includes pre-primary programmes.
2. Post-secondary non-tertiary figures are treated as negligible.³
3. Year of reference 2021.
4. Upper secondary vocational programmes include lower secondary vocational programmes.
5. Year of reference 2019.

Table C1.2 Government and total expenditure on educational institutions per full-time equivalent student, by type of institution (2020)

Data on upper secondary general and vocational education (Columns 13 to 20) are available on line (see StatLink).

1. Primary education includes pre-primary programmes. Post-secondary non-tertiary figures are treated as negligible.
2. Year of reference 2021.
3. Year of reference 2019.

Table C1.3 Change in total expenditure on educational institutions per full-time equivalent student (2019 to 2020)

1. Primary education includes pre-primary programmes.

For more information see *Definitions, Methodology* and *Source* sections and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[2]).

Data and more breakdowns are available in the Education at a Glance Database (<http://stats.oecd.org/>).

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

Indicator C2. What proportion of national output is spent on educational institutions?

Highlights

- In 2020, OECD countries spent an average of 5.1% of their gross domestic product (GDP) on primary to tertiary educational institutions. Upper secondary general programmes received 0.6% of GDP, and vocational ones 0.5% of GDP on average. Belgium spent the largest share of its output on vocational programmes at this level, at 1.0% of GDP, but it includes spending from post-secondary non-tertiary education.
- Upper secondary vocational programmes receive between 3% (Australia) and 17% (Belgium, the Czech Republic and the Netherlands) of all funding for primary to tertiary educational institutions. Post-secondary non-tertiary programmes, which are often vocational, receive as much as 7% of funding (in Ireland) and short-cycle tertiary as much as 10% (in Canada).
- Average government expenditure on education across OECD countries grew by over 65% between 2000 and 2020, while GDP increased at a lower pace (by 59%). In the same period, the number of full-time equivalent students decreased by 5%.

Context

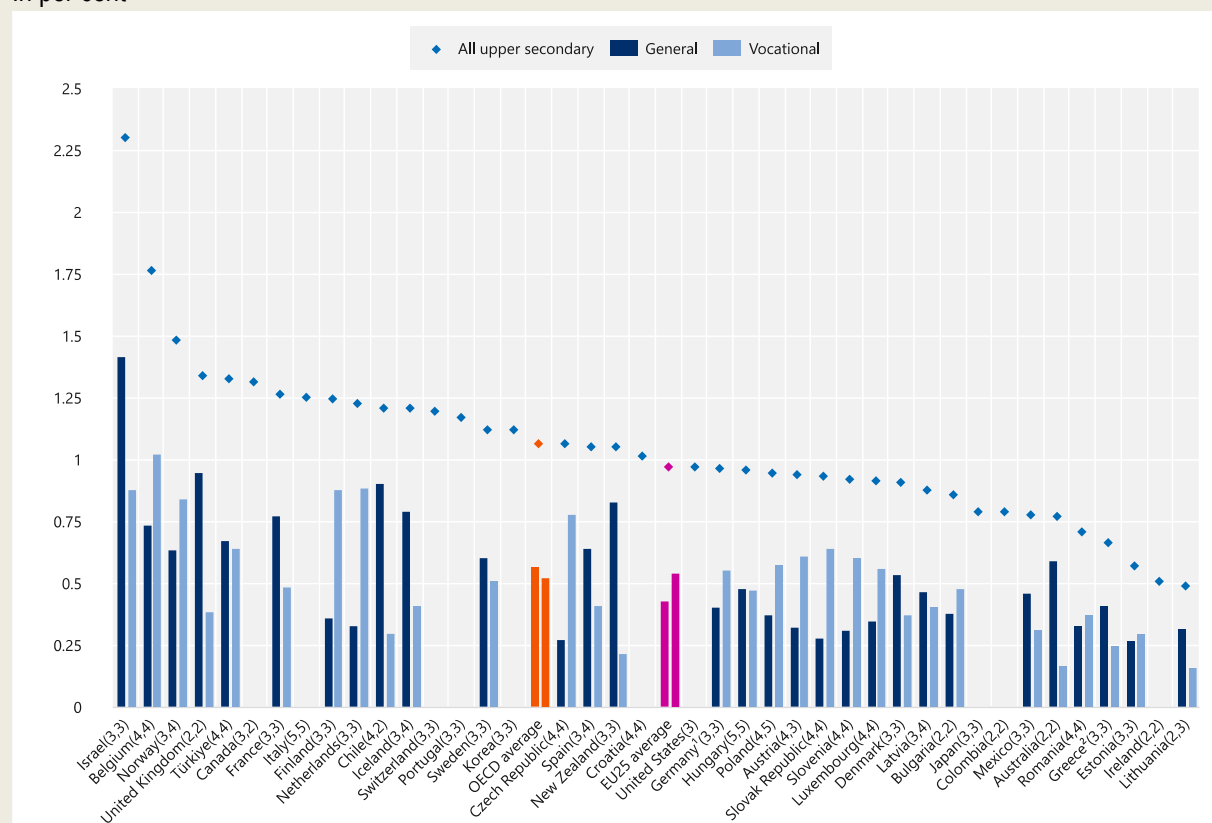
Countries invest in education to help foster economic growth, enhance productivity, contribute to personal and social development, and reduce social inequality, among other reasons. The level of expenditure on educational institutions is affected by the size of a country's school-age population, enrolment rates, the levels of teachers' salaries and the organisation of education systems. 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, when 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 output that is invested in educational institutions. This measure demonstrates the priority given to educational institutions relative to a country's overall resources. National output 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 (including on research and development), 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 funding for 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 funding in areas such as teachers' salaries and educational facilities with other areas of investment.

Figure C2.1. Total expenditure on upper secondary educational institutions as a percentage of GDP, by programme orientation (2020)

In per cent



Note: The numbers in parentheses correspond to the theoretical duration of upper secondary general programmes and vocational programmes respectively.

1. Upper secondary vocational programmes include lower secondary vocational programmes.

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

Countries are ranked in descending order of total expenditure on all upper secondary institutions.

Source: OECD/UIS/Eurostat (2023), Table C2.1. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink <https://stat.link/bc63dm>

Other findings

- Between 2019 and 2020, on average across OECD countries, funding for educational institutions from all sources increased by 1.0% at primary and lower secondary levels, by 0.5% at upper secondary and post-secondary non-tertiary level and by 0.3% at tertiary level. The sharpest increases were by 10% or more in Colombia and Lithuania at primary level, 19% in Poland at lower secondary level, 14% in Ireland at upper secondary non-tertiary level and 15% in Lithuania at tertiary level.
- Between 2020 and 2021, expenditure on educational institutions increased in most countries with available provisional data and as much as 8% in Slovenia.
- In OECD countries, total expenditure per student on educational institutions from primary to tertiary levels averaged 27% of annual GDP per capita in 2020.
- On average, after transfers to the private sector, government expenditure on primary to tertiary educational institutions amounts to 4.3% of GDP, while the private sector contributes 0.8% of GDP and non-domestic (international) sources about 0.1% of GDP. Government transfers to the private sector correspond to about 0.2% of GDP on average across OECD countries.

Analysis

Overall investment relative to GDP

All OECD member and partner countries devote a large share of national financial resources to educational institutions. In 2020, OECD countries spent on average 5.1% of their GDP on educational institutions from primary to tertiary levels (Table C2.1). Expenditure on primary to tertiary educational institutions ranges from 6.6% of GDP or more in Colombia and Norway to 3.4% or less in Ireland, Luxembourg and Romania. Many factors influence countries' relative expenditure on this measure, including the number of students enrolled, the duration of studies and the effective allocation of funds. Funding also depends on the field of study and programme orientation.

Expenditure on educational institutions by level of education

On average, OECD countries allocate 2.0% of GDP to funding for secondary education. This is much more than is devoted to primary and tertiary education, which account for an average of 1.5% of GDP each (Table C2.1). In 2020, Belgium, Colombia and France devoted 2.6% or more of their GDP to secondary education, the largest share across OECD countries, whereas Canada, Croatia and Ireland devoted 1.3% or less of their GDP to this level of education.

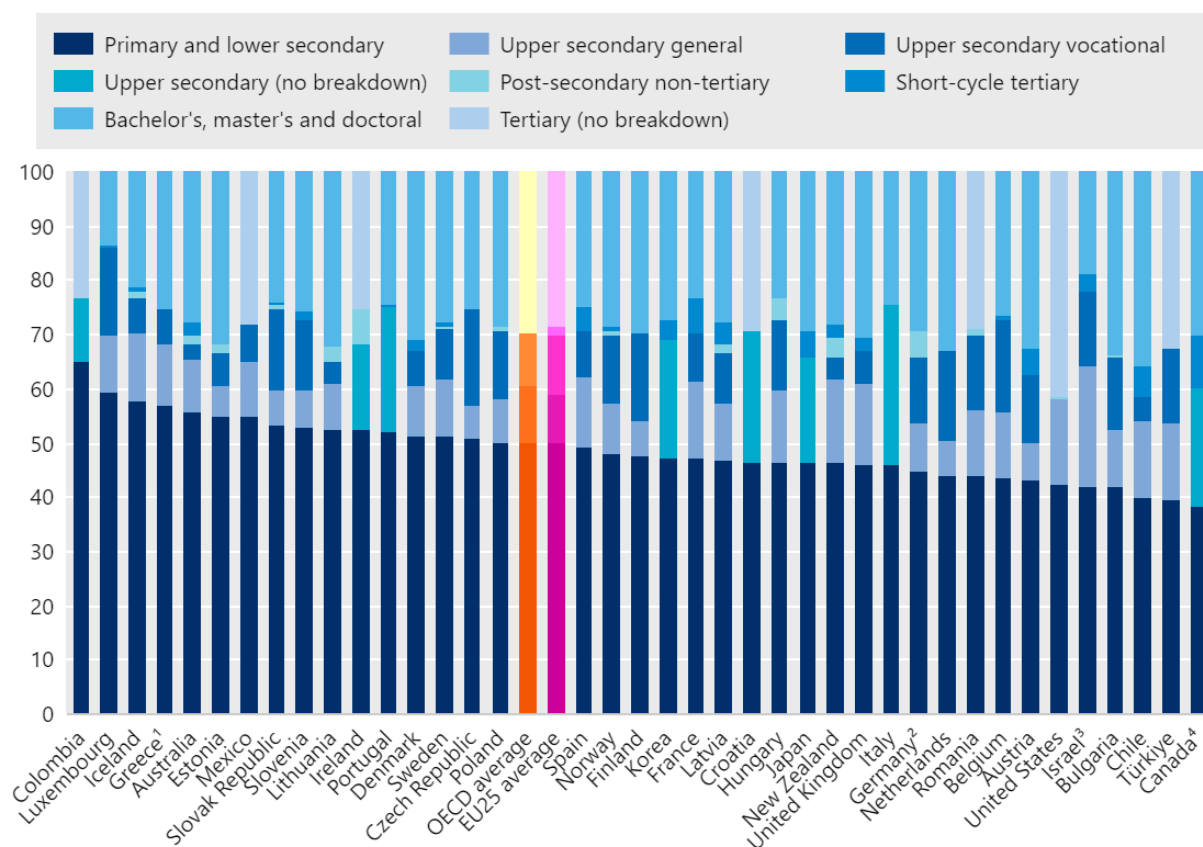
Education funding at upper secondary level may be influenced by programme orientation. On average across OECD countries with available data, a similar share of national resources is spent on general and vocational programmes: 0.6% of GDP on general upper secondary education and 0.5% of GDP on vocational (Figure C2.1). However, this hides large cross-country differences. Chile, New Zealand and the United Kingdom allocate a much larger share to general programmes than to vocational ones, while the opposite is the case in the Czech Republic, Finland and the Netherlands. Such differences are sometimes due to the characteristics of the programmes. For example, Finland's figures for upper secondary vocational programmes also include some funding for post-secondary non-tertiary education, while in Chile the first two years of upper secondary education consists of general programmes for all students, with students only deciding between general and vocational tracks for the final two years. In Poland vocational programmes at upper secondary level receive more funding than general ones because their theoretical duration is one year longer.

Funding for upper secondary vocational programmes ranges between 3% of all funding for primary to tertiary educational institutions (in Australia) and 17% (in Belgium, the Czech Republic and the Netherlands). A few countries also dedicate resources to post-secondary programmes that are most often – but not exclusively – vocational in nature: Ireland, for example, allocates 7% of education expenditure to post-secondary non-tertiary programmes and Canada devotes 10% of education expenditure to short-cycle tertiary programmes (Figure C2.2).

The share of national resources devoted to educational institutions also reflects the duration and relative size of various programmes. These figures vary widely between countries and depend on the demographic structure of the population (see Indicator C1 for the analysis of expenditure per student by level of education): countries which have experienced relatively low fertility rates in recent decades are more likely to spend a smaller share of their wealth on primary and lower secondary education, because of reduced demand for education at those levels, competing spending priorities and reduced economic incentives to invest in education (Pritchett and Viarengo, 2015^[2]). Some countries' tertiary education systems have lower enrolment rates either because students need fewer years of study to complete a programme or because they enrol abroad. On average across OECD countries, 3.6% of GDP – or 71% of total expenditure on educational institutions – is directed to non-tertiary levels while 1.5% of GDP – or 29% of expenditure – is allocated to tertiary levels (Figure C2.2).

Figure C2.2. Total expenditure on primary to tertiary educational institutions, by level of education (2020)

In per cent



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

2. Upper secondary vocational programmes include lower secondary vocational programmes.

3. Upper secondary programmes include lower secondary programmes.

4. Primary education includes pre-primary programmes.

Countries are ranked in descending order of total expenditure on primary and lower secondary institutions.

Source: OECD/UIS/Eurostat (2023), Table C2.1. For more information see [Source section](#) and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/5eq3t1>

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 that compares levels of education funding to national income per person. Since access to education in most OECD countries is universal (and usually compulsory) at lower levels of schooling, the amount of funds available per student as a share of GDP per capita can indicate whether the resources per student are proportionate to a country's ability to pay.

In OECD countries, total expenditure per student on educational institutions from primary to tertiary levels averaged 27% of annual GDP per capita in 2020. The share of per-capita GDP allocated to education expenditure ranges from less than 15% in Ireland to 33% in the United Kingdom, or 31% if expenditure on research and development is excluded (Table C2.5, available on line).

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 at most educational levels and its GDP per capita are both below the OECD average (see Indicator C1), but it spends a larger share of its GDP per capita on education than the OECD average.

Expenditure on educational institutions by source of funds

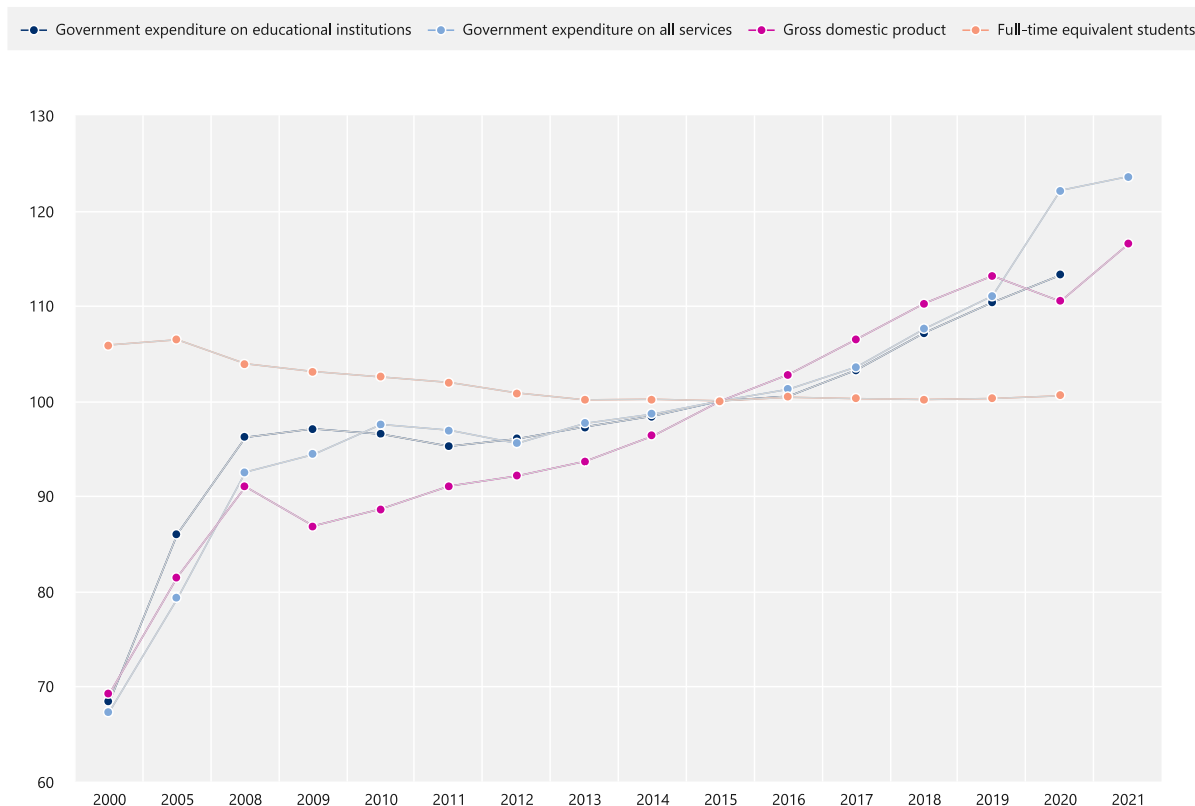
Governments remain the main source of educational funding in OECD countries. On average, government expenditure on educational institutions from primary to tertiary educational levels (after transfers to the private sector) amounts to 4.3% of GDP, while the private sector contributes 0.8% of GDP and non-domestic (international) sources about 0.1%. Private expenditure on education is supported by government transfers to households (such as scholarships and loans to students for tuition and other fees) and subsidies to other private entities (such as to private companies hosting apprenticeship programmes); the private sector as a whole receives the equivalent of 0.2% of GDP in transfers from government for education on average across OECD countries. Government transfers to the private sector account for 0.3% of GDP or more in Australia, Chile, Korea and New Zealand and reach 0.6% in the United Kingdom (Table C2.3).

Long-term trends in educational expenditure

Long-term trends show an overall increase in education expenditure over time: between 2000 and 2020, expenditure statistics reveal a slow increase in expenditure both as a share of GDP and per student, while the share of government expenditure dedicated to education was relatively stable at least up to 2019. Several factors have influenced the growth of education expenditure over time, including economic growth, demographic change, technological advances, policy reforms, and globalisation. Since 2000, average government expenditure on education in those countries with data for the entire time period grew by over 65% (after adjusting for inflation). Overall government expenditure on all services grew at a similar rate, while GDP increased at a slower pace (by 59%) and the number of full-time equivalent students fell by 5% (Figure C2.3).

Figure C2.3. Trends in the OECD average for government expenditure on educational and all services, GDP and number of students (2000, 2005 and 2008 to 2021)

Index (2015=100, constant prices)



Source: OECD/UIS/Eurostat (2023), Education at a Glance Database, <http://stats.oecd.org/>. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/m6prh8>

The COVID-19 pandemic did not have major consequences for education expenditure on average across OECD countries. In 2020, spending on education continued to grow in line with the trend of previous years, even as GDP fell strongly and other government expenditure increased sharply to address the consequences of the pandemic (Figure C2.3).

Considering more recent periods, with wider data availability, total expenditure on primary to tertiary educational institutions grew most rapidly in Colombia, Hungary and the Republic of Türkiye (by 25% or more) during 2012-16 while in 2016-20 it grew fastest in Bulgaria, the Czech Republic, Romania and the Slovak Republic (Table C2.2). In all these countries, increases in government expenditure drove the overall increase in education funding (Table C2.4, available on line).

Expenditure on educational institutions from all sources has evolved differently across education levels and countries. Between 2012 and 2020, Bulgaria and Romania had highest growth rate in funding for non-tertiary educational institutions while Luxembourg had the fastest growth in funding for tertiary educational institutions. This also corresponds to changes in resourcing between education levels. For example, Luxembourg experienced much faster growth in tertiary expenditure (by 41% compared to 12% for non-tertiary institutions), whereas in Bulgaria, Colombia, the Czech Republic, Israel, the Slovak Republic and Romania it was expenditure on non-tertiary levels which increased strongly, by 40% or more. Meanwhile, funding for tertiary institutions either fell (in Colombia and the Czech Republic) or increased more slowly (by 35% in Bulgaria, 10% in Israel, 19% in Romania, and 22% in the Slovak Republic) (Table C2.2).

Recent changes in educational expenditure

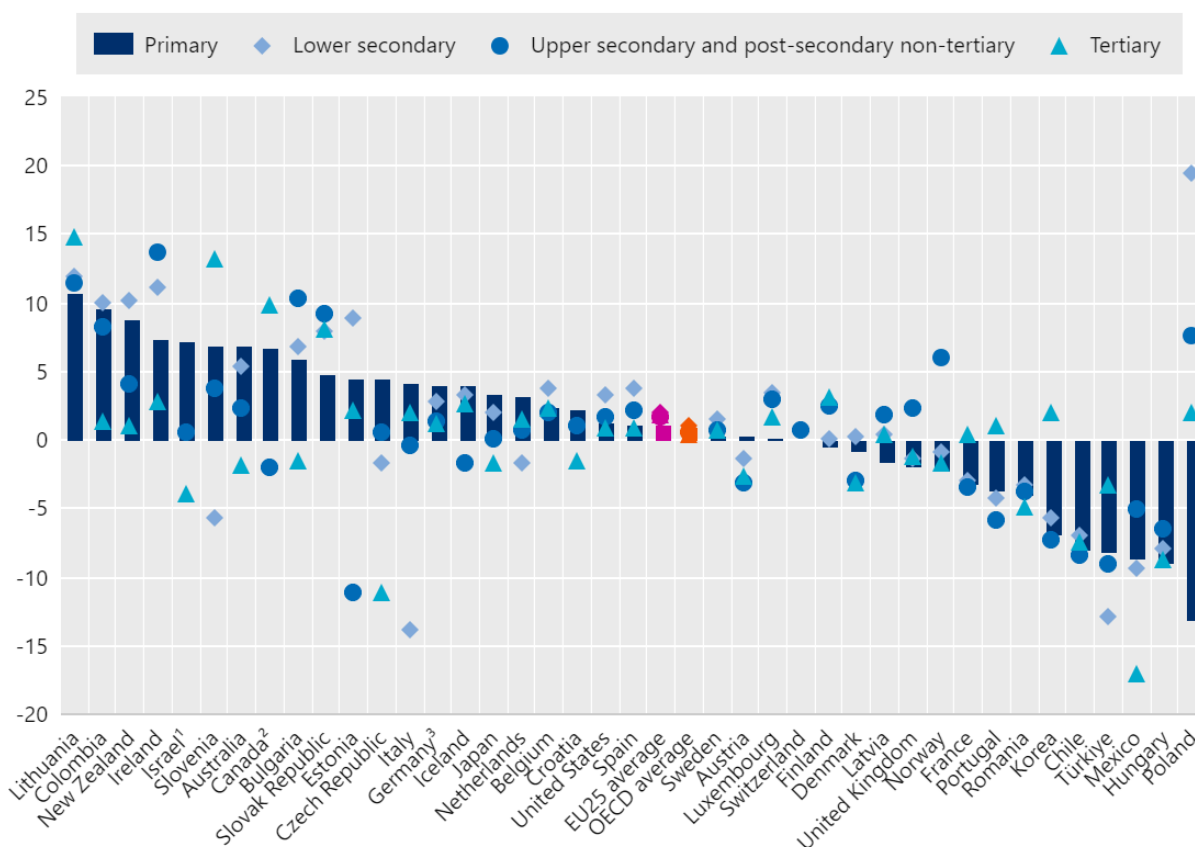
Changes in education expenditure in 2020 were affected not just by the usual factors behind the allocation of government and private funding, such as economic growth and demographic change, but also by unforeseen events such as the recession linked to the COVID-19 pandemic. While GDP shrank by an average 2.4% in real terms across the OECD between 2019 and 2020, total expenditure on educational institutions increased by 1.0% at primary and lower secondary levels, 0.5% at upper secondary and post-secondary non-tertiary levels, and 0.3% at tertiary level (Figure C2.4).

Average growth rates mask large cross-country variations and shifts of resources between education levels within the same country. Changes in funding for primary institutions range from a fall of 13% in Poland between 2019 and 2020 to increases of 10% or more in Colombia and Lithuania. Lower secondary funding fell in a small number of countries (by 13% or more in Italy and Türkiye) but rose by 19% in Poland, the country with the sharpest increase. Expenditure changes on upper secondary and post-secondary non-tertiary educational institutions range from a fall of 11% in Estonia to an increase of 14% in Ireland. The range is even wider at tertiary level: from -17% in Mexico to 15% in Lithuania (Figure C2.4).

Finally, provisional figures for a smaller number of countries indicate that funding for primary to tertiary education increased slightly in 2021, while GDP rebounded after 2020. Expenditure increased in most countries and as much as 8% in Slovenia: increases and decreases in all countries were driven by changes in government expenditure on educational institutions and highlighted a lower growth rate than for GDP overall, except for New Zealand and Slovenia (Table C2.6, available on line).

Figure C2.4. Change in total expenditure on educational institutions, by level of education (2019 to 2020)

In percentage points



1. Upper secondary programmes include lower secondary programmes.

2. Primary education includes pre-primary programmes.

3. Upper secondary vocational programmes include lower secondary vocational programmes.

Countries are ranked in descending order of the change in expenditure on primary institutions.

Source: OECD/UIS/Eurostat (2023), Education at a Glance Database, <http://stats.oecd.org/>. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/20fxi9>

Definitions

Expenditure on educational institutions refers to government, 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 government spending includes both direct government 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 government subsidies. **Initial non-domestic (international) spending** includes both direct non-domestic expenditure for educational institutions (for example a research grant from a foreign corporation to a public university) and international transfers to governments.

Final government spending includes direct government 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 government 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 non-domestic (international) spending** includes direct non-domestic payments to educational institutions such as research grants or other funds from non-domestic sources paid directly to educational institutions.

Government transfers to households and other private entities for educational institutions include 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 government 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 government 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).

Expenditure per student on educational institutions relative to GDP per capita is calculated by dividing expenditure per student on educational institutions (see Indicator C1) 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).

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 domestic government and non-domestic expenditure for display purposes. As the share of non-domestic expenditure is relatively small compared to other sources, its integration into government sources does not affect the analysis of the share of government funding.

Not all funding for 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. Government subsidies for educational expenditure outside institutions are discussed in Indicator C4.

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^[3]) and (OECD, 2023^[1]), [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), for country-specific notes.

Source

Data refer to the financial year 2020 (unless otherwise specified) and are based on the UNESCO, OECD and Eurostat (UOE) data collection on education statistics administered by the OECD in 2022 (for details see (OECD, 2023^[1]), [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#). Data from Argentina, China, India, Indonesia, Peru, Saudi Arabia and South Africa are from the UNESCO Institute of Statistics (UIS).

The data on expenditure for 2000 to 2021 were updated based on a survey in 2022-23 and adjusted to the methods and definitions used in the current UOE data collection. Provisional data on educational expenditure in 2021 are based on an ad-hoc data collection administered by the OECD and Eurostat in 2022.

References

- OECD (2023), *Education at a Glance 2023 Sources, Methodologies and Technical Notes*, OECD Publishing, Paris, <https://doi.org/10.1787/d7f76adc-en>. [1]
- OECD (2018), *OECD Handbook for Internationally Comparative Education Statistics 2018*, OECD Publishing, Paris, <https://doi.org/10.1787/9789264304444-en>. [3]
- Pritchett, L. and M. Viarengo (2015), "The State, Socialisation, and Private Schooling: When Will Governments Support Alternative Producers?", *The Journal of Development Studies*, Vol. 51/7, pp. 784-807, <https://doi.org/10.1080/00220388.2015.1034109>. [2]

Indicator C2 tables

Tables Indicator C2. What proportion of national wealth is spent on educational institutions?

Table C2.1	Total expenditure on educational institutions as a percentage of GDP (2020)
Table C2.2	Change in total expenditure on educational institutions as a percentage of GDP (2012, 2016 and 2020)
Table C2.3	Total expenditure on educational institutions as a percentage of GDP, by source of funds (2020)
WEB Table C2.4	<i>Change in government expenditure on educational institutions as a percentage of GDP (2012, 2016 and 2020)</i>
WEB Table C2.5	<i>Total expenditure on educational institutions per full-time equivalent student relative to GDP per capita (2020)</i>
WEB Table C2.6	<i>Change in total and government expenditure on educational institutions compared to GDP (2019 to 2021)</i>

StatLink  <https://stat.link/xp0rmn>

Cut-off date for the data: 15 June 2023. 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 (2020)

Direct expenditure within educational institutions, by level of education

	Primary	Secondary					Post-secondary non-tertiary	Primary, secondary and post-secondary non-tertiary	Tertiary				Primary to tertiary	Primary to tertiary (excluding R&D)
		Lower secondary	Upper secondary			All secondary			Short-cycle tertiary	Long-cycle tertiary	All tertiary	All tertiary (excluding R&D)		
			General programmes	Vocational programmes	All programmes									
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Australia	2.1	1.4	0.6	0.2	0.8	2.2	0.1	4.3	0.2	1.7	1.9	1.3	6.2	5.6
Austria	1.0	1.2	0.3	0.6	0.9	2.1	0.0	3.1	0.2	1.6	1.8	1.1	4.9	4.2
Belgium	1.7	1.0	0.7 ^d	1.0 ^d	1.8 ^d	2.7 ^d	x(3, 4, 5, 6)	4.4	0.0	1.6	1.6	1.1	6.0	5.5
Canada ^{1, 2}	2.3 ^d	x(1)	x(5)	x(5)	1.3	1.3	m	3.6	0.6	1.8	2.4	m	6.0	m
Chile	1.9	0.7	0.9	0.3	1.2	1.9	a	3.8	0.3	2.3	2.7	2.6	6.4	6.3
Colombia ²	2.4	2.0	x(5)	x(5)	0.8	2.7	m	5.1	x(11)	x(11)	1.5	m	6.6	m
Costa Rica ³	m	m	m	m	m	m	a	m	m	m	m	m	m	m
Czech Republic	1.1	1.2	0.3	0.8	1.1	2.3	0.0	3.4	0.0	1.1	1.1	0.7	4.5	4.1
Denmark	1.8	1.2	0.5	0.4	0.9	2.1	a	3.9	0.1	1.8	1.9	0.9	5.8	4.8
Estonia	1.8	0.9	0.3	0.3	0.6	1.4	0.1	3.3	a	1.5	1.5	0.9	4.8	4.2
Finland	1.4	1.2	0.4	0.9 ^d	1.2 ^d	2.4 ^d	x(4, 5, 6)	3.8	a	1.6	1.6	0.9	5.4	4.7
France	1.3	1.3	0.8	0.5	1.3	2.6	0.0	3.9	0.4	1.3	1.6	1.1	5.5	5.0
Germany ⁴	0.7	1.3	0.4	0.6	1.0	2.3	0.2	3.3	0.0	1.3	1.3	0.8	4.6	4.0
Greece ⁵	1.4	0.7	0.4	0.2	0.7	1.4	m	2.8	a	0.9	0.9	0.6	3.7	3.4
Hungary	0.9	0.8	0.5	0.5	1.0	1.8	0.1	2.8	0.0	0.8	0.9	0.6	3.7	3.5
Iceland	2.5	1.2	0.8	0.4	1.2	2.4	0.1	4.9	0.0	1.3	1.4	m	6.3	m
Ireland	1.2	0.5	x(5)	x(5)	0.5	1.0	0.2	2.4	x(11)	x(11)	0.8	0.6	3.2	3.0
Israel	2.7	x(3, 4, 5)	1.4 ^d	0.9 ^d	2.3 ^d	2.3	0.0	5.0	0.2	1.2	1.4	1.0	6.4	6.0
Italy	1.3	0.7	x(5)	x(5)	1.2 ^d	1.9 ^d	x(5, 6)	3.2	0.0	1.0	1.0	0.7	4.2	3.9
Japan ⁶	1.2	0.7	x(5)	x(5)	0.8 ^d	1.5 ^d	x(5, 6, 9, 10, 11)	2.7	0.2 ^d	1.2 ^d	1.4 ^d	m	4.1	m
Korea	1.5	0.8	x(5)	x(5)	1.1	2.0	a	3.5	0.2	1.4	1.6	1.2	5.1	4.7
Latvia	1.4	0.7	0.5	0.4	0.9	1.5	0.1	3.0	0.2	1.2	1.4	1.1	4.3	4.0
Lithuania	0.9	1.2	0.3	0.2	0.5	1.7	0.1	2.7	a	1.2	1.2	0.9	3.9	3.5
Luxembourg	1.2	0.8	0.4	0.6	0.9	1.7	0.0	3.0	0.0	0.5	0.5	0.3	3.4	3.3
Mexico	1.6	0.8	0.5	0.3	0.8	1.6	a	3.2	x(11)	x(11)	1.2	1.1	4.5	4.3
Netherlands	1.2	1.1	0.3	0.9	1.2	2.4	a	3.6	0.0	1.7	1.8	1.1	5.4	4.7
New Zealand	1.4	1.1	0.8	0.2	1.1	2.1	0.2	3.8	0.1	1.5	1.6	1.3	5.4	5.1
Norway	2.3	1.0	0.6	0.8	1.5	2.5	0.0	4.8	0.1	1.9	2.0	1.2	6.8	6.0
Poland	1.2	1.1	0.4	0.6	0.9	2.0	0.0	3.3	0.0	1.3	1.3	0.9	4.6	4.2
Portugal	1.5	1.1	x(5)	x(5)	1.2 ^d	2.3 ^d	x(5, 6)	3.8	0.0	1.2	1.3	0.8	5.1	4.7
Slovak Republic	1.1	1.2	0.3	0.6	0.9	2.1	0.0	3.3	0.0	1.0	1.1	0.8	4.3	4.1
Slovenia	1.7	0.8	0.3	0.6	0.9	1.7	a	3.4	0.1	1.2	1.2	1.0	4.6	4.4
Spain	1.5	1.0	0.6	0.4 ^d	1.1 ^d	2.0 ^d	x(4, 5, 6)	3.5	0.2	1.2	1.5	1.1	5.0	4.6
Sweden	2.0	0.9	0.6	0.5	1.1	2.0	0.0	4.1	0.0	1.6	1.6	0.8	5.7	4.8
Switzerland	m	m	x(5)	x(5)	1.2 ^d	m	x(5)	m	m	m	m	m	m	m
Türkiye	0.9	0.9	0.7	0.6	1.3	2.3	a	3.2	x(11)	x(11)	1.5	1.2	4.7	4.4
United Kingdom	1.9	1.0	1.0	0.4	1.3	2.4	a	4.2	0.1	1.9	2.1	1.7	6.3	5.9
United States	1.7	0.9	1.0	a	1.0	1.9	0.0	3.6	x(11)	x(11)	2.5	2.2	6.1	5.8
OECD average	1.5	1.0	0.6	0.5	1.1	2.0	m	3.6	0.1	1.4	1.5	1.0	5.1	4.6
Partner and/or accession countries														
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
Bulgaria	0.7	0.8	0.4	0.5	0.9	1.6	0.0	2.4	a	1.2	1.2	1.1	3.6	3.5
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	2.0 ^d	x(1)	x(5)	x(5)	1.0	1.0	a	3.0	x(11)	x(11)	1.2	m	4.2	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
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	0.4	0.8	0.3	0.4	0.7	1.5	0.0	1.9	x(11)	x(11)	0.8	0.8	2.7	2.7
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
EU25 average	1.3	1.0	0.4	0.5	1.0	1.9	0.1	3.2	0.1	1.3	1.3	0.9	4.5	4.1
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: : See StatLink and Box C2.1 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).StatLink  <https://stat.link/dikx6f>

Table C2.2. Change in total expenditure on educational institutions and change in GDP (2012, 2016 and 2020)

Final source of funds, index of change (2015=100, constant prices), by level of education

	Change in total expenditure on educational institutions									Change in gross domestic product		
	Primary, secondary and post-secondary non-tertiary			Tertiary			Primary to tertiary					
	2012	2016	2020	2012	2016	2020	2012	2016	2020	2012	2016	2020
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Australia	m	m	m	m	m	m	m	m	m	m	m	m
Austria	98	102	100	99	102	106	98	102	102	98	102	101
Belgium	99	102	107	97	103	114	98	102	109	96	101	101
Canada ¹	96 ^d	102 ^d	111 ^d	98	110	120	97 ^d	105 ^d	114 ^d	92	100	107
Chile	110	115	121	112	137	133	111	124	126	93	102	102
Colombia	86	102	128	96	131	90	89	111	117	88	102	102
Costa Rica	m	m	m	m	m	m	m	m	m	91	104	109
Czech Republic	96	97	138	115	84	107	102	93	129	93	103	108
Denmark	m	m	m	m	m	m	m	m	m	95	103	108
Estonia	103	102	131	86	91	101	96	98	120	94	103	117
Finland	99	100	103	108	100	99	102	100	102	101	103	106
France	99	101	102	96	100	109	98	100	104	97	101	99
Germany	100	101	111	96	101	113	99	101	112	96	102	103
Greece	105	100	m	95	m	m	102	m	m	102	100	95
Hungary	82	114	112	129	124	110	93	117	111	91	102	112
Iceland	91	103	124	94	108	124	92	104	124	90	106	111
Ireland	m	103	127	m	100	107	m	102	121	73	102	135
Israel	91	106	131	104	107	115	94	106	127	90	105	116
Italy	100	92	100	103	98	105	100	93	101	101	101	95
Japan	101	98	101	102 ^d	99 ^d	101 ^d	101	99	101	98	103	104
Korea	m	100	110	m	99	101	m	100	107	91	103	111
Latvia	80	96	99	85	71	102	81	88	100	93	102	110
Lithuania	104	105	126	106	75	96	105	94	115	91	103	116
Luxembourg	102	97	115	72	96	102	98	97	113	92	105	109
Mexico	92	99	83	86	99	87	90	99	84	93	103	98
Netherlands	100	100	106	94	101	109	98	101	107	97	102	105
New Zealand	99	101	115	91	100	104	97	101	111	93	103	119
Norway	94	100	107	85	111	118	91	103	110	94	101	104
Poland	98	102	121	89	89	112	95	98	118	91	103	117
Portugal	113	101	100	103	91	100	110	98	100	98	102	102
Slovak Republic	86	97	126	60	66	73	77	86	107	92	102	108
Slovenia	108	101	115	112	103	135	109	102	120	96	103	112
Spain	98	103	112	95	100	111	97	102	112	96	103	98
Sweden	94	107	120	96	102	107	94	106	116	92	102	106
Switzerland	m	m	m	m	m	m	m	m	m	94	102	105
Türkiye	84	110	114	86	109	101	85	110	109	83	103	118
United Kingdom	93	100	99	86	100	112	91	100	103	93	101	103
United States	96	103	112	100	102	107	98	103	110	93	102	109
OECD average	97	102	113	96	100	107	97	101	111	93	102	108
Partner and/or accession countries												
Argentina	m	m	m	m	m	m	m	m	m	98	98	87
Brazil	m	m	m	m	m	m	m	m	m	100	97	95
Bulgaria	92	103	141	82	97	111	88	101	129	96	103	109
China	m	m	m	m	m	m	m	m	m	81	107	132
Croatia	m	m	m	m	m	m	m	m	m	98	104	104
India	m	m	m	m	m	m	m	m	m	81	108	119
Indonesia	m	m	m	m	m	m	m	m	m	86	105	119
Peru	m	m	m	m	m	m	m	m	m	89	104	101
Romania	77	91	128	97	91	115	83	91	124	93	103	118
Saudi Arabia	m	m	m	m	m	m	m	m	m	90	102	100
South Africa	m	m	m	m	m	m	m	m	m	95	100	96
EU25 average	97	101	115	96	95	107	97	99	112	95	102	108
G20 average	m	m	m	m	m	m	m	m	m	92	102	106

Note: : See StatLink and Box C2.1 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/98pl3o>

Table C2.3. Total expenditure on educational institutions as a percentage of GDP, by source of funds (2020)

By level of education

	Primary, secondary and post-secondary non-tertiary						Tertiary						Primary to tertiary					
	Initial funds (before government transfers to the private sector)			Final funds (after government transfers to the private sector)			Initial funds (before government transfers to the private sector)			Final funds (after government transfers to the private sector)			Initial funds (before government transfers to the private sector)			Final funds (after government transfers to the private sector)		
	Government	Private	Non- domestic	Government	Private	Non- domestic	Government	Private	Non- domestic	Government	Private	Non- domestic	Government	Private	Non- domestic	Government	Private	Non- domestic
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Australia	3.7	0.6	0.0	3.7	0.7	0.0	1.0	0.8 ^d	x(8)	0.7	1.2 ^d	x(11)	4.8	1.5 ^d	x(14)	4.4	1.9 ^d	x(17)
Austria	3.0	0.1	a	3.0	0.1	a	1.6	0.2	a	1.6	0.2	a	4.6	0.3	a	4.6	0.3	a
Belgium	4.3	0.1	0.0	4.2	0.1	0.0	1.4	0.2	0.1	1.4	0.2	0.1	5.7	0.3	0.1	5.6	0.3	0.1
Canada ¹	m	m	m	3.4 ^d	0.3 ^d	x(5)	m	m	m	1.2	1.2 ^d	x(11)	m	m	m	4.6 ^d	1.4 ^d	x(17)
Chile	3.1	0.7	a	3.1	0.7	a	1.3	1.3	a	1.1	1.6	a	4.5	2.0	a	4.2	2.3	a
Colombia	m	m	0.0	4.1	1.0	0.0	m	m	0.0	0.5	1.0	0.0	m	m	0.0	4.6	2.0	0.0
Costa Rica ²	m	m	m	4.0	m	m	m	m	m	1.3	m	m	m	m	m	5.4	m	m
Czech Republic	3.1	0.2	0.0	3.1	0.2	0.0	0.8	0.2	0.1	0.8	0.2	0.1	4.0	0.4	0.1	4.0	0.4	0.1
Denmark	3.7	0.2	0.0	3.7	0.2	0.0	1.6	0.2	0.1	1.6	0.2	0.1	5.3	0.4	0.1	5.3	0.4	0.1
Estonia	3.0	0.1	0.2	3.2	0.1	0.0	0.9	0.2	0.3	1.1	0.2	0.2	3.9	0.3	0.5	4.3	0.3	0.2
Finland	3.8	0.0	0.0	3.8	0.0	0.0	1.5	0.1	0.1	1.4	0.1	0.1	5.3	0.1	0.1	5.3	0.1	0.1
France	3.6	0.2	0.0	3.5	0.3	0.0	1.2	0.4	0.0	1.2	0.4	0.0	4.8	0.6	0.0	4.7	0.7	0.0
Germany	m	m	m	2.9	0.4	0.0	m	m	m	1.1	0.2	0.0	m	m	m	4.0	0.6	0.0
Greece ³	m	m	0.0	2.6	0.2	0.0	0.7	0.1	0.1	0.7	0.1	0.1	m	m	0.2	3.3	0.3	0.1
Hungary	m	m	0.0	2.4	0.4	0.0	m	m	0.0	0.6	0.2	0.0	m	m	0.0	3.0	0.6	0.0
Iceland	4.8	0.2	0.0	4.8	0.2	0.0	1.2	0.1	0.0	1.2	0.1	0.0	6.0	0.3	0.0	6.0	0.3	0.0
Ireland	2.1	0.3	0.0	2.1	0.3	a	0.7	0.0	0.0	0.6	0.2	0.0	2.9	0.3	0.0	2.7	0.5	0.0
Israel	4.6	0.4	0.0	4.6	0.4	0.0	m	m	0.0	0.8	0.6	0.0	m	m	0.0	5.4	1.0	0.0
Italy	3.0	0.1	0.0	3.0	0.1	0.0	0.7	0.2	0.0	0.6	0.4	0.0	3.8	0.4	0.0	3.6	0.5	0.0
Japan	m	m	0.0	2.5	0.2	0.0	m	m	0.0	0.5 ^d	0.9 ^d	0.0	m	m	0.0	3.0	1.1	0.0
Korea	3.4	0.1 ^d	x(2)	3.3	0.2 ^d	x(5)	0.9	0.6 ^d	x(8)	0.7	0.9 ^d	x(11)	4.3	0.8 ^d	x(14)	4.0	1.1 ^d	x(17)
Latvia	m	m	0.1	2.8	0.2	0.0	m	m	0.3	0.8	0.5	0.1	m	m	0.4	3.6	0.6	0.1
Lithuania	2.4	0.1	0.2	2.5	0.1	0.0	0.7	0.3	0.2	0.9	0.3	0.0	3.1	0.4	0.4	3.4	0.5	0.0
Luxembourg	2.8	0.1	0.1	2.8	0.1	0.1	0.4	0.0	0.0	0.4	0.0	0.0	3.3	0.1	0.1	3.2	0.1	0.1
Mexico	2.9	0.4	0.0	2.8	0.4	0.0	0.8	0.4	0.0	0.8	0.4	0.0	3.7	0.8	0.0	3.7	0.8	0.0
Netherlands	m	m	0.0	3.1	0.5	0.0	m	m	0.1	1.2	0.5	0.1	m	m	0.1	4.3	1.0	0.1
New Zealand	3.4	0.3	0.0	3.4	0.4	0.0	1.2	0.4	0.0	1.0	0.7	0.0	4.6	0.8	0.0	4.3	1.1	0.0
Norway	4.8	0.0	0.0	4.7	0.1	0.0	1.9	0.1	0.0	1.8	0.1	0.0	6.7	0.1	0.0	6.5	0.3	0.0
Poland	2.9	0.3	0.1	2.9	0.4	0.1	1.1	0.1	0.0	1.0	0.2	0.0	4.0	0.5	0.2	4.0	0.6	0.1
Portugal	3.4	0.5	0.0	3.4	0.5	0.0	0.7	0.4	0.1	0.8	0.4	0.1	4.1	0.8	0.1	4.1	0.8	0.1
Slovak Republic	3.0	0.2	0.1	3.0	0.2	0.0	0.8	0.2	0.1	0.8	0.3	0.0	3.8	0.4	0.2	3.8	0.5	0.0
Slovenia	3.1	0.2	0.1	3.1	0.3	0.0	1.0	0.2	0.1	1.0	0.2	0.1	4.0	0.4	0.2	4.1	0.4	0.1
Spain	3.1	0.4	0.0	3.1	0.4	0.0	1.0	0.4	0.0	1.0	0.5	0.0	4.1	0.9	0.0	4.0	0.9	0.0
Sweden	4.1	0.0	0.0	4.1	0.0	0.0	1.3	0.2	0.1	1.3	0.2	0.1	5.4	0.2	0.1	5.4	0.2	0.1
Switzerland	m	m	m	m	m	m	1.4	m	0.0	1.3	m	0.0	m	m	m	m	m	m
Türkiye	2.4	0.8	0.0	2.4	0.8	0.0	1.1	0.5	0.0	1.1	0.5	0.0	3.5	1.2	0.0	3.5	1.2	0.0
United Kingdom	3.8	0.4	0.0	3.7	0.5	0.0	1.1	0.9	0.1	0.5	1.5	0.1	4.9	1.4	0.1	4.2	2.0	0.1
United States ⁴	m	m	a	3.3	0.3	a	m	m	a	0.9	1.6	a	m	m	a	4.2	1.9	a
OECD average	3.4	0.3	0.0	3.3	0.3	0.0	1.1	0.3	0.1	1.0	0.5	0.0	4.4	0.6	0.1	4.3	0.8	0.1
Partner and/or accession countries																		
Argentina	m	m	m	3.4	m	m	m	m	m	1.1	m	m	m	m	m	4.5	m	m
Brazil	m	m	m	3.6	m	m	m	m	m	1.0	m	m	m	m	m	4.6	m	m
Bulgaria	2.2	0.1	0.1	2.3	0.1	0.0	0.7	0.4	0.0	0.7	0.4	0.0	2.9	0.5	0.1	3.0	0.5	0.0
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	2.8	0.1	0.1	2.8	0.1	0.0	0.8	0.3	0.2	0.9	0.3	a	3.5	0.4	0.2	3.7	0.5	0.0
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
Peru ⁵	m	m	m	m	m	m	0.5	m	0.0	0.5	m	m	m	m	m	m	m	m
Romania	1.9	0.0	0.0	1.9	0.0	0.0	0.7	0.0	0.0	0.7	0.0	0.0	2.6	0.0	0.1	2.6	0.0	0.1
Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
South Africa ³	m	m	m	4.4	m	m	m	m	m	0.7	m	m	m	m	m	5.0	m	m
EU25 average	3.1	0.2	0.0	3.0	0.2	0.0	1.0	0.2	0.1	1.0	0.3	0.1	4.1	0.4	0.1	4.0	0.5	0.1
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See StatLink and Box C2.1 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/kmz2bg>

Box C2.1 Notes for Indicator C2 Tables

Table C2.1 Total expenditure on educational institutions as a percentage of GDP (2020)

1. Data on early childhood education and care and all ISCED levels combined are available on line (see StatLink).
2. Primary education includes pre-primary programmes.
3. Post-secondary non-tertiary figures are treated as negligible.
3. Year of reference 2021.
4. Upper secondary vocational programmes include lower secondary vocational programmes.
5. Year of reference 2019.
6. Data do not cover day care centres and integrated centres for early childhood education.

Table C2.2 Change in total expenditure on educational institutions and change in GDP (2012, 2016 and 2020)

1. Primary education includes pre-primary programmes.

Table C2.3 Total expenditure on educational institutions as a percentage of GDP, by source of funds (2020)

Some levels of education are included with others. Refer to "x" code in Table C2.1 for details.

1. Primary education includes pre-primary programmes.
2. Year of reference 2021.
3. Year of reference 2019.
4. Figures are for net student loans rather than gross, thereby underestimating public transfers.

For more information see *Definitions, Methodology and Source* sections and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

Data and more breakdowns are available in the Education at a Glance Database (<http://stats.oecd.org/>).

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

Indicator C3. How much public and private investment in educational institutions is there?

Highlights

- In 2020, on average across OECD countries, 84% of the funding for primary to tertiary educational institutions came directly from government sources, 15% from private sources and 1% from non-domestic (international) sources.
- On average across OECD countries, upper secondary education relies more on private funding (11%) than lower secondary education (8%) and primary education (7%). Private sources contribute a similar share of the funds for upper secondary general and vocational programmes (11% and 10% respectively).
- On average across OECD countries, households provide 9% of the total funding for upper secondary general programmes and other private sources (e.g. companies and non-profit organisations) provide 2% of the total funding. In upper secondary vocational programmes, households account for a lower share of funding (5%) while funding from other private entities (5%) is relatively more important than it is for general programmes.

Context

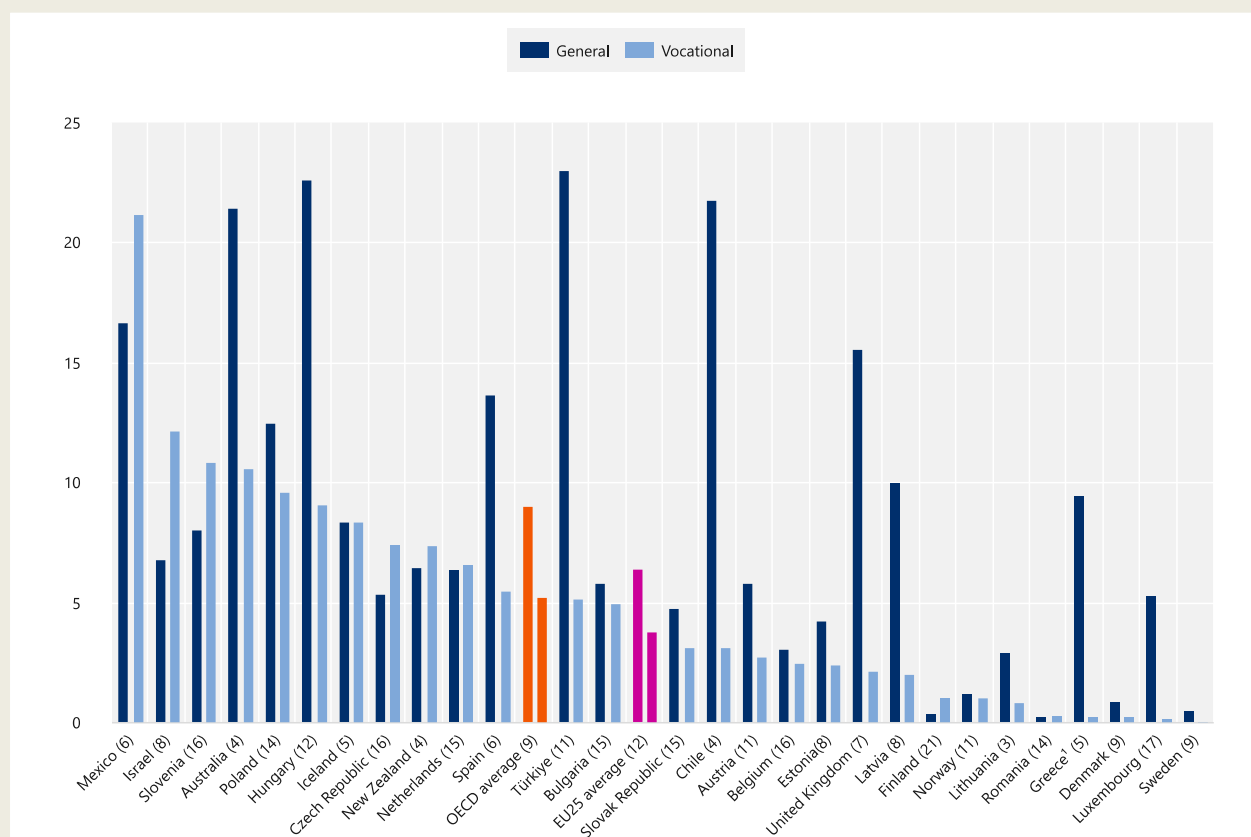
Today, more people than ever before are participating in a wide range of educational programmes offered by an increasing number of providers. Many governments increased their funding for education to provide the necessary resources to support this increased demand for education through public funds alone. At the same time, advocates of private funding argue that those who benefit the most from education – the individuals who receive it – should bear at least some of the costs. Both government and private funding are in competition to finance countries' education systems; as a result the overall balance of public and private sources has been relatively stable in the long term.

Government sources dominate much of the funding of primary and secondary education, which is compulsory in most countries. Across OECD countries, the balance between public and private financing varies the most at the pre-primary and tertiary levels of education, where full or nearly full government 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 government, private and non-domestic (international) funding allocated to educational institutions at different levels of education. It also breaks down private funding into funding from 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 importance of government transfers provided to private institutions and individual students and their families to meet the costs of tertiary education.

Figure C3.1. Share of expenditure on upper secondary institutions coming from households, by programme orientation (2020)

After government transfers to the private sector, by level of education, in per cent




Note: The number in parentheses corresponds to the number of full-time equivalent students in upper secondary vocational programmes as a share of the number of full-time equivalent students in primary to tertiary programmes.

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 households' funding for upper secondary vocational programmes.

Source: OECD/UIS/Eurostat (2023), Table C3.1. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/bg9fad>

Other findings

- At upper secondary vocational level, households receive the large majority of government transfers, which reach more than USD 3 000 per student annually in Germany and the Netherlands (Figure C3.3). Government transfers to other private entities are sizeable in Norway.

- In all the OECD and partner countries with data, governments make financial transfers to the educational institutions where the school-based component of their main Vocational Education and Training (VET) programme takes place. Most countries also transfer funds directly to students and households as well as to the companies that host the work-based component of VET.
- On average, the share of private expenditure on primary to tertiary educational institutions remained stable since 2012 and the COVID-19 pandemic did not have a major effect on private funding either. Two-thirds of countries observed a slight decrease in the relative importance of private funds in the first year of the COVID-19 crisis, but this was often due to an increase in public funding instead of a decline in private funding.
- Government transfers to the private sector (e.g. to support payment of tuition or to subsidise companies offering apprenticeships) increase with education levels: they average 2% for upper secondary vocational education, 3% for post-secondary non-tertiary programmes, 4% for short-cycle tertiary education and 5% for bachelor's, master's and doctoral degrees combined.

Analysis

Share of government and private expenditure on educational institutions

The largest share of funding on primary to tertiary educational institutions in OECD countries comes from government sources, although private funding is substantial at the tertiary level. Within this overall OECD average, however, the shares of government, private and international (non-domestic) funding vary widely across countries. In 2020, on average across OECD countries, 84% of the funding for primary to tertiary educational institutions came directly from government sources and 15% from private sources. In Finland and Romania, private sources contribute 2% or less of expenditure on educational institutions whereas they make up over one-third of educational expenditure in Chile. 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% in Estonia (Table C3.1).

Government funding dominates non-tertiary education in all OECD countries. In 2020, private funding accounted for only 9% of expenditure at primary to post-secondary non-tertiary levels on average across OECD countries, although it exceeded 20% in the Republic of Türkiye. In most countries, the largest share of private expenditure at these levels comes from households and goes mainly towards tuition fees (Table C3.1). The share of private expenditure on educational institutions varies across countries and according to the level of education. On average across OECD countries, 7% of expenditure on educational institutions at the primary level and 8% at the lower secondary level comes from private sources. At lower secondary level, private expenditure accounts for less than 10% of total expenditure in over two-thirds of OECD countries for which data are available. In contrast, it reaches 20% or more in Australia and Türkiye (OECD, 2023^[2]).

Upper secondary education relies more on private funding than primary and lower secondary levels, reaching an average of 11% across OECD countries. Private sources contribute a similar share to the funding for general and vocational programmes (11% and 10% respectively). However, in Germany and the Netherlands, the share of private funding for vocational upper secondary education is at least 30 percentage points higher than for general education. In Germany, private companies have a long tradition of being involved in the provision of dual training (combined school- and work-based programmes), helping to improve the availability of skilled individuals needed in the labour market. In contrast, in Türkiye, the share of private funding of general programmes exceeds that of vocational programmes by 37 percentage points (OECD, 2023^[2]). In several countries, the share of government funds currently devoted to vocational programmes is the result of 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^[3]).

Most private expenditure on primary to post-secondary non-tertiary levels of education comes from households. At upper secondary level, households and other private entities each provide 5% of the total funding for vocational programmes: private entities other than households (e.g. companies and non-profit organisations) make a significant contribution to the financing of vocational programmes in some countries. This is the case in the Netherlands where 34% of total expenditure for upper secondary VET comes from private sources other than households. The situation is slightly different for general programmes at the same level, where households account for a larger share on average (9%) and other private entities contribute only 2%. The average for general programmes is driven by a larger share of household funding in a few countries, especially in Australia, Chile, Hungary and Türkiye (Table C3.2).

Private expenditure on educational institutions often finances private institutions: on average 53% of private funds for primary to tertiary education go towards the financing of government-dependent or independent private institutions (Table C3.4). The share of private funding for private institutions is even higher at upper secondary level but there is not a large difference between general (88% of private expenditure) and vocational programmes (85%). However, private funding figures may have been underestimated and this is especially the case for vocational programmes, which rely more on private institutions and (public or private) companies. For example, apprentices' remuneration is a relevant component of VET expenditure but is excluded from official statistics on education expenditure (see Indicator C1 on coverage of private expenditure).

Government 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 funding education through scholarships, grants or loans. Transfers to the private sector include those made directly to students, households or other private entities. Channelling funding for institutions through students increases competition among institutions and pushes them to improve their effectiveness.

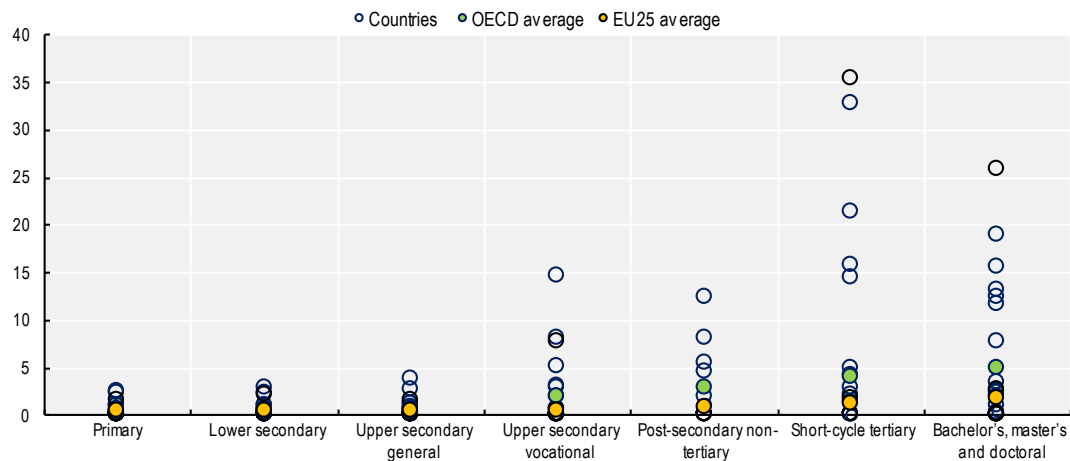
At the non-tertiary levels of education, the share of government transfers to the private sector is very small. In 2020, on average across OECD countries, government transfers represented less than 1% of the total funds devoted to primary and lower secondary education as well as those for upper secondary general programmes. Government transfers become more relevant for education levels that are closer to the labour market or academia: average transfers reach 2% of total funding for upper secondary vocational education, 3% for post-secondary non-tertiary programmes, 4% for short-cycle tertiary education and 5% for bachelor's, master's and doctoral degrees combined (Figure C3.2). A few countries are driving up the overall average, in particular Australia, Ireland, New Zealand and the United Kingdom, while Chile, Italy and Korea are also making significant transfers at tertiary levels (Table C3.2).

Although there is no single allocation model across OECD countries (OECD, 2017^[4]), private expenditure is largely backed by government financial transfers in some countries, where they play an important role in financing vocational programmes and tertiary education (Figure C3.2), and are seen as a means of expanding access for lower income students. While government transfers to the private sector may seem small, they form a substantial share of the overall amount of private funding. For example, government transfers represent over half of the private sector's expenditure in Australia (from upper secondary vocational to short-cycle tertiary programmes), Norway and the United Kingdom (upper secondary vocational and short-cycle tertiary).


Government transfers to households cover two categories of transfers: government scholarships and other grants, and government student loans. Transfers also include special transfers (e.g., linked to specific spending for transport, medical expenses or study material), family or child allowances contingent upon student status, and government loans to students and/or households contingent upon student status. Government transfers target

the purchase of educational core and peripheral goods and services both within and outside educational institutions. Government transfers to other private entities relate to the provision of training at the workplace as part of combined school and work-based programmes (including apprenticeship programmes). They also include interest rate subsidies or default guarantee payments to private financial institutions that provide student loans.¹

Figure C3.2. Government transfers to the private sector as a share of total expenditure on educational institutions by ISCED level and country (2020)



Source: OECD/UIS/Eurostat (2023), Table C3.2. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/j2ypu8>

Types of government transfers

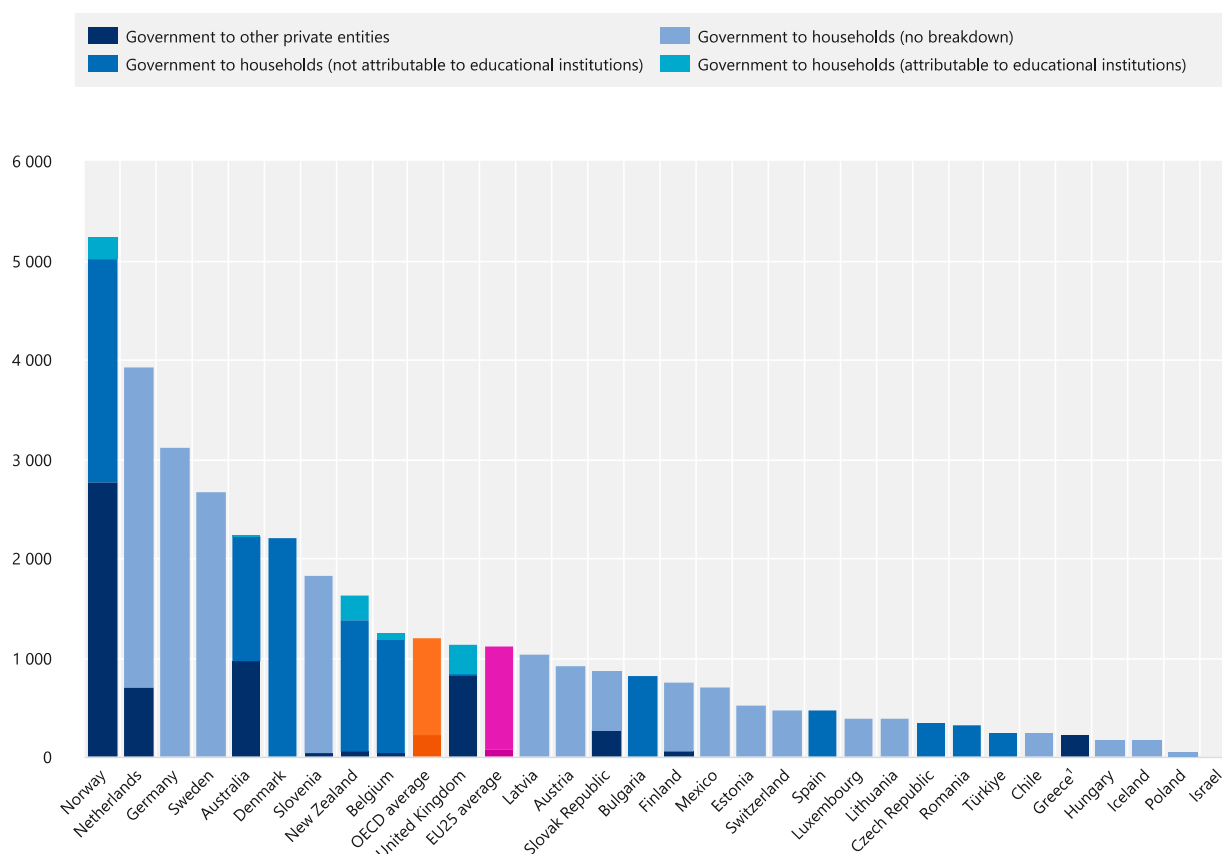
When looking at how households spend the transfers received, they can either use them as payments to educational institutions or finance other expenses like study material or students' living expenses. This latter type of transfers that are not attributable to educational institutions needs to be excluded from the analysis of how much public and private sectors contribute to finance educational institutions. However, the average amount per student of transfers that are not spent on educational institutions can be quite substantial in some countries.

At upper secondary vocational level, households receive the large majority of government transfers, which total more than USD 3 000 per student annually in Germany and the Netherlands (Figure C3.2). The majority of government transfers received by students and households are not attributable to educational institutions. In other words, beneficiaries do not have to spend them on educational institutions (through tuition fees, for example) but can use them to finance students' living costs or learning materials, equipment (e.g. computers or learning software) and extra learning activities. Transfers to other private entities are sizeable in Norway, reaching almost USD 2 800 per student, due to large government subsidies to private companies for VET apprenticeships.

¹ As a rule, data providers have to determine first if receiving entities should be classified as educational institutions or as private entities that are out of the scope of educational institutions as defined by UNESCO, OECD and Eurostat.

Figure C3.3. Government transfers to the private sector per full-time equivalent student, by type of transfer (2020)

Upper secondary vocational education, in equivalent USD converted using PPPs



Note: This figure gives an overview of all the government transfers related to education. Values might differ from tables and charts of this indicator as they focus on the share of transfers attributable to educational institutions.

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

Countries are ranked in descending order of the total government transfers to the private sector per full-time equivalent student in upper secondary vocational programmes.

Source: OECD/UIS/Eurostat (2023), Education at a Glance Database. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/34ifr0>

Figure C3.3 shows the funding flows related to VET. Most of the 22 countries with data available report making financial transfers to the vocational educational institutions where the school-based component takes place. A large majority of countries report that government transfers are also made to students and households as well as to the companies that host the work-based component of VET. Central, regional and local government transfers generally finance school-based VET by supporting educational institutions' overall expenditure, rather than earmarking funding for specific activities, while transfers to companies, students and households are usually more tightly targeted. For example, transfers might contribute to paying teachers' salaries in the company (e.g. in Korea and Latvia) or be used to pay apprentices either directly (e.g. in Latvia) or indirectly through the company (e.g. in Denmark).

The most common type of transfer from students and apprentices is to educational institutions, mostly to cover tuition and other education-related fees. In addition, countries reported that students may make transfers to pay

back educational institutions or companies if they take student loans or if companies advanced other costs (e.g. ancillary services). Educational institutions generally only receive transfers rather than make them, with a few exceptions. In a few countries, they cover at least some of the cost of apprentices' remuneration or specific expenditure items like hardware and software (e.g. in Lithuania). Public and private companies transfer funds in about half of the responding countries, often to cover a portion of educational institutions' cost of training (e.g. in Australia and New Zealand) or provide generic funding for a programme (e.g. in Austria, Latvia and Lithuania). In the United Kingdom, a universal levy is applied to companies, and employers who pay the levy to the government are topped up with a 10% contribution from the government, contingent on the offer of apprenticeships to 16-18 year-olds (Kis, 2020^[5]). In about two-thirds of the responding countries, companies directly finance trainees or apprentices' remuneration, although the terminology used may differ across countries (i.e. wage, compensation, stipends or salaries) (see Box C3.1).


Figure C3.4. Financial transfers to support vocational education and training programmes (2023)

Out of 22 countries that provided answers

		G Government			Els Educational Institutions			C Public/private companies			HS Households/students		
		G	G	G	Els	Els	Els	C	C	C	HS	HS	HS
		↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
OECD countries		Els	C	HS	G	C	HS	G	Els	HS	G	Els	C
Australia		✓	✓	✓		✓	✓		✓	✓	✓	✓	
Austria	School-based VET	✓	✓	✓					✓			✓	✓
	Apprenticeship	✓	✓	✓					✓	✓			✓
Chile		✓	✓	✓								✓	
Colombia		✓										✓	
Denmark		✓	✓	✓						✓			
Estonia		✓	✓	✓			✓			✓			
Finland		✓	✓	✓		✓				✓	✓	✓	
France		✓	✓	✓				✓	✓	✓		✓	
Germany		✓	✓	✓						✓		✓	
Japan		✓		✓								✓	
Korea	Meister High Schools	✓	✓	✓		✓	✓			✓			
	Junior College	✓		✓			✓		✓	✓		✓	
Latvia		✓	✓	✓		✓	✓		✓			✓	
Lithuania		✓				✓	✓		✓			✓	
New Zealand		✓	✓	✓		✓			✓	✓		✓	✓
Norway	Upper secondary	✓	✓	✓					✓	✓		✓	
	Post-secondary	✓		✓								✓	
Spain		✓		✓						✓		✓	
Sweden		✓		✓			✓		✓				
Switzerland		✓	✓	✓						✓			
Türkiye		✓	✓		✓		✓		✓	✓	✓	✓	✓
United States	Post-secondary non-tertiary	✓		✓			✓		✓	✓	✓	✓	✓
Other participants													
Flemish Comm. (Belgium)		✓	✓	✓						✓		✓	
French Comm. (Belgium)	School-based VET	✓		✓								✓	
	Dual system	✓		✓				✓		✓		✓	
Partner and/or accession country													
Brazil		✓										✓	
Total		22	15	18	1	6	8	2	12	15	4	18	4

Note: The survey responses refer to the main VET programmes in each country, which may be classified at different levels of education.

Source: OECD (2023). For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/2loju4>

Box C3.1. Government transfers to companies offering work-based learning

Many countries offer support to companies that offer work-based learning in the context of VET. The details of implementation vary considerably as do the amounts and underlying rationales. Funding mechanisms include universal subsidies (available to all companies offering work-based learning) and/or targeted subsidies (e.g. companies that host apprentices with certain characteristics). For example, in Australia, Austria and France financial incentives are offered to encourage companies to offer work-based learning, with both universal and targeted incentives. Switzerland has a large apprenticeship system without universal subsidies offered to employers, although some professional sectors have established a levy. In addition, cantons provide funding towards in-company trainers and branch courses (sector-specific training courses offered to apprentices). The Norwegian model is based on the idea that companies bear the burden of educating young people and therefore receive the equivalent of the cost of one year of school-based education and training. The Danish approach is based on employer contributions, with a bonus system for companies that host enough apprentices (paid for by companies that miss the targets). Further details on some systems are provided below.

Australia

VET funding is a joint responsibility of the Australian Government (Commonwealth) and State and Territory governments (states). The Commonwealth provides funding to states, which are responsible for the allocation of funding within their own systems using a combination of Commonwealth funding and their own resources. In addition, the Commonwealth also directly funds and administers some relatively small programmes and provides income contingent loans to eligible ISCED 5 students towards tuition fees.

The Commonwealth provides financial incentives to employers of Australian apprentices to help improve apprentice completion rates and address current and future skills gaps. The Australian Apprenticeships Incentives System commenced in July 2022, replacing the Australian Apprenticeships Incentives Program. The new Incentives System includes targeted subsidies, such as the Priority Wage Subsidy offered to employers who take on apprentices in priority occupations, and the Disability Australian Apprentice Support Wage which aims to encourage employers to provide Australian Apprenticeship to people with a disability. Employers of Australian apprentices in occupations that are not priority occupations may also be eligible for a hiring incentive.

Denmark

Companies that host an apprentice and pay them wages during time spent in school-based settings receive a subsidy (wage reimbursement) from the Employers' Education Contribution (AUB). According to estimates, after the reimbursement companies bear 10-19% of the total cost of VET (including a mostly school-based one-year basic course and the main course delivered through apprenticeship).

The AUB is an independent institution, established in 1977 (under the name AER), designed to encourage the provision of work-based learning in VET. The AUB is managed by a board of 16 social partner representatives, and a chairman who is not connected to employer or employee organisations. It manages various schemes in relation to VET. To encourage the provision of apprenticeships, a "target training ratio" per skilled employee was established through a tripartite agreement. Companies that meet their training ratio receive an additional subsidy (student grant) as a bonus. The bonus is funded by contributions from companies that fail to meet their target (DKK 27 000 per "lacking apprentice") (Ministry of Children and Education, 2023^[6]).

Norway

The main apprenticeship model involves two years at school and two years spent entirely with an employer. The two years spent at a company are estimated to involve work half of the time and training half of the time. The financing scheme is based on the intention that government funding should cover the costs of education and training (both at school and in work-based learning), while employers should pay apprentices in compensation for the value of their work.

The national government provides a lump sum grant to counties. Counties then use this grant to finance subsidies to companies that provide work-based learning to apprentices. The subsidy is a fixed sum per apprentice and contributes to the cost of hosting an apprentice (e.g., the wages of trainers). In line with the underlying rationale (employers provide about one year of training, which should be covered by public funding), the subsidy is approximately equivalent to the cost of one year of education in school-based settings. In addition, there used to be an earmarked grant that targeted apprentices that are "difficult to employ", which is now transferred to regional government.

Source: (Ministry of Children and Education, 2023^[6])

Trends in the share of government and private expenditure on educational institutions

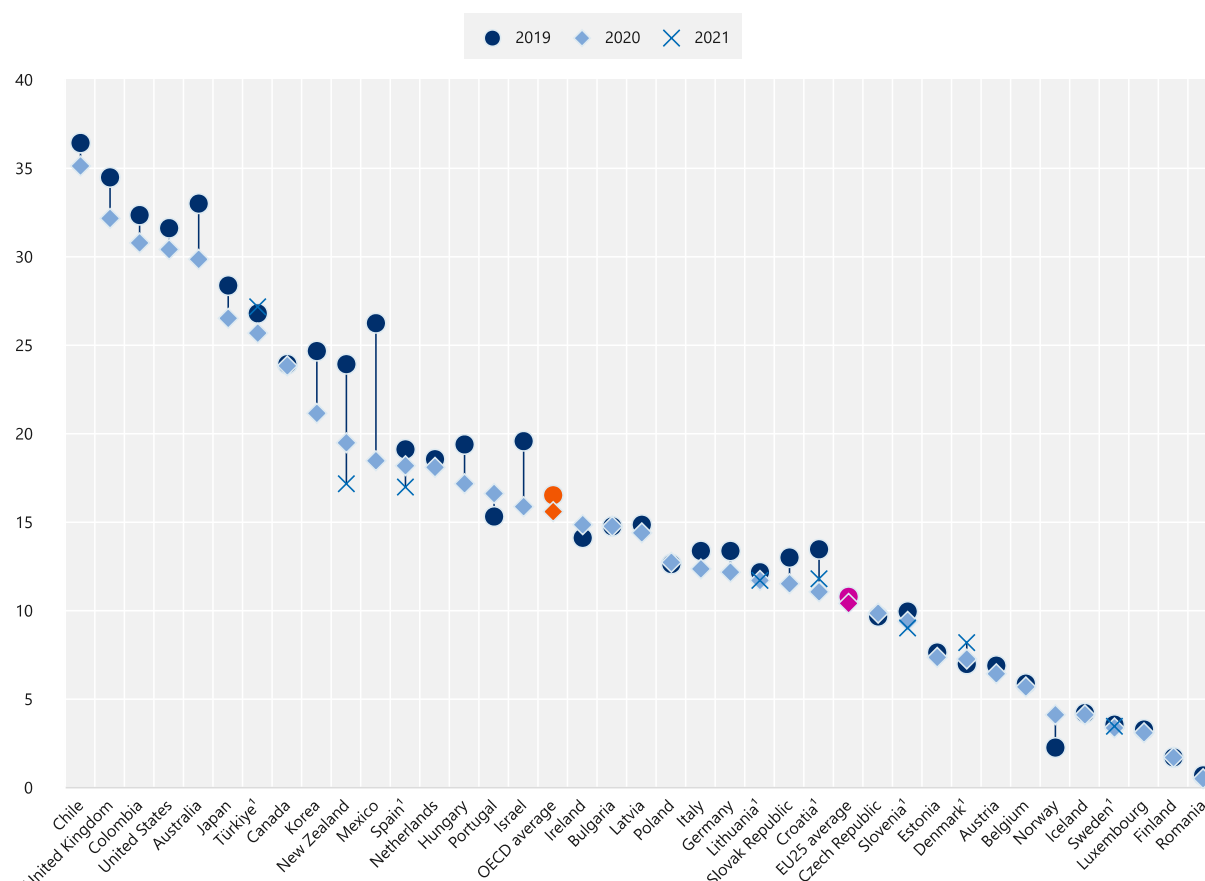
The average shares of government and private expenditure on primary to tertiary educational institutions have tended to be stable over time across the OECD, but these averages disguise changes at the country level. Almost half of OECD countries saw increases in the share of private funding between 2012 and 2020, with the United Kingdom showing the largest rise (9 percentage points, mostly between 2012 and 2016). In contrast, Chile experienced the largest fall in the share of private spending (8 percentage points) between 2012 and 2020, balanced by an equivalent increase from government sources (Table C3.3).

Despite this longer-term stability, some countries observed a decrease in the share of private funds in 2020 (Figure C3.5). The share of private funds for primary to tertiary education remained at 16% in 2019 and 2020. Two-thirds of countries with available data observed a slight decrease in the relative importance of private funds in the first year of the COVID-19 crisis, partly due to increased support to education from government funding. In Israel, Korea, Mexico and New Zealand, the share of private financing was at least 4 percentage points lower in 2020 than in 2019, while private funding grew in relative importance in Ireland and Norway. Provisional figures for 2021 are available for a smaller number of countries and they indicate the share of private funding has remained similar to 2020 overall, with a few exceptions: the share increased by 1 percentage point in Croatia, Denmark and Türkiye but continued to decline in Spain, by 1 percentage point, and in New Zealand, by 2 percentage points (Figure C3.5). In New Zealand, a significant reduction in fee revenue from international students due to the COVID-19-related border closure was also a factor in the reduction of the share of private funding in 2020 and 2021.

Between 2012 and 2020, the share of private funding fell slightly at non-tertiary levels (by 1 percentage point on average across OECD countries) and increased slightly at tertiary levels (1 percentage point). The largest increases at non-tertiary level were in Hungary (9 percentage points) while at tertiary level they were in the United Kingdom (30 percentage points). The largest falls at non-tertiary level were observed in New Zealand (6 percentage points) and in Hungary at the tertiary level (21 percentage points). A large portion of New Zealand's drop in the share of private funding was at upper secondary level, mostly for vocational programmes (19 percentage points between 2012 and 2020) rather than general programmes. The share of private funding for upper secondary general programmes increased by 18 percentage points in Hungary and by 10 percentage points in Latvia, but this was not markedly the case for vocational programmes (Table C3.3).

Figure C3.5. Share of private funding for primary to tertiary education in 2019, 2020 and 2021

Final source of funds, in per cent



1. Provisional data for 2021.

Countries are ranked in descending order of the share of private funding in 2020.

Source: OECD/UIS/Eurostat (2023), Education at a Glance Database and OECD/Eurostat provisional data collection. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023_[1]).

StatLink  <https://stat.link/429nhm>

Definitions

Initial government (public), private and international (non-domestic) shares of educational expenditure are the percentages of total education spending originating in, or generated by, the government, private and non-domestic sectors before transfers have been taken into account. **Initial government funding** includes both direct public expenditure on educational institutions and transfers to the private sector, and excludes transfers from the non-domestic sector. **Initial private funding** includes tuition fees and other student or household payments to educational institutions, minus the portion of such payments offset by government subsidies. **Initial non-domestic funding** includes both direct expenditure for educational institutions from non-domestic sources (for example, a research grant from a foreign corporation to a public university) and transfers to governments from non-domestic sources.

Final government (public), private and (non-domestic) international shares are the percentages of educational funds expended directly by government, private and non-domestic purchasers of educational

services after the flow of transfers. **Final government funding** includes direct purchases of educational resources and payments to educational institutions by the government. **Final private funding** includes all direct expenditure on educational institutions (tuition fees and other private payments to educational institutions), whether partially covered by government subsidies or not. Private funding also includes expenditure by private companies on the work-based element of school- and work-based training of apprentices and students. **Final non-domestic funding** includes direct international payments to educational institutions such as research grants or other funds from non-domestic 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).

Government subsidies include government and non-domestic 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. Government subsidies for educational expenditure outside institutions are discussed in Indicator C4.

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 government 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 government funding.

For more information, please see the *OECD Handbook for Internationally Comparative Education Statistics 2018* (OECD, 2018^[7]) and (OECD, 2023^[1]), *Education at a Glance 2023 Sources, Methodologies and Technical Notes* for country-specific notes <https://doi.org/10.1787/d7f76adc-en>.

Source

Data refer to the financial year 2020 (unless otherwise specified) and are based on the UNESCO, OECD and Eurostat (UOE) data collection on education statistics administered by the OECD in 2022 (for details see Annex

3 at https://www.oecd.org/education/education-at-a-glance/EAG2022_X3-C.pdf). Data from Argentina, China, India, Indonesia, Peru, Saudi Arabia and South Africa are from the UNESCO Institute of Statistics (UIS).

The data on expenditure for 2012 to 2020 were updated based on the UOE data collection in 2022 and adjusted to the methods and definitions used in the current UOE data collection. Provisional data on educational expenditure in 2021 are based on an ad-hoc data collection administered by the OECD and Eurostat in 2022.

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Indicator C3 Tables

Tables Indicator C3. How much public and private investment in educational institutions is there?

Table C3.1	Relative share of government, private and non-domestic expenditure on educational institutions, by final source of funds (2020)
Table C3.2	Relative share of government, private and non-domestic expenditure on educational institutions, by source of funds and government transfers to the private sector (2020)
Table C3.3	Trends in the share of government, private and non-domestic expenditure on educational institutions (2012, 2016 and 2020)
Table C3.4	Distribution of total private expenditure from primary to tertiary education (2020)
WEB Table C3.5	Percentage of expenditure on educational institutions from private sources (2019 to 2021)

StatLink  <https://stat.link/r7kxqj>

Cut-off date for the data: 15 June 2023. 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 government, private and non-domestic expenditure on educational institutions, by final source of funds (2020)

After government transfers to the private sector, by level of education

	Primary, secondary and post-secondary non-tertiary					Tertiary					Primary to tertiary				
	Government	Private sources			Non-domestic sources	Government	Private sources			Non-domestic sources	Government	Private sources			Non-domestic sources
		Household expenditure	Expenditure by other private entities	All private sources			Household expenditure	Expenditure by other private entities	All private sources			Household expenditure	Expenditure by other private entities	All private sources	
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Australia	85	14	1	15	0	36	52	12 ^a	64 ^d	x(8, 9)	70	25	4 ^a	30 ^d	x(13, 14)
Austria	96	4	1	4	a	90	4	7	10	a	94	4	3	6	a
Belgium	96	3	0	3	1	84	7	5	13	3	93	4	2	6	1
Canada ¹	93 ^d	4 ^d	4 ^d	7 ^d	x(3, 4)	51	24	25 ^d	49 ^d	x(8, 9)	76 ^d	12 ^d	12 ^d	24 ^d	x(13, 14)
Chile	83	17	0	17	a	40	57	4	60	a	65	33	2	35	a
Colombia	80	20	0	20	0	32	68	0	68	0	69	31	0	31	0
Costa Rica ²	m	m	m	m	m	92	4	4	8	0	m	m	m	m	m
Czech Republic	93	5	2	7	0	75	7	11	18	7	88	5	5	10	2
Denmark	95	4	1	5	0	83	0	12	12	5	91	3	4	7	2
Estonia	97	2	1	3	0	72	7	10	16	12	89	4	4	7	4
Finland	99	1	0	1	0	90	0	4	4	5	97	0	1	2	2
France	91	6	2	9	0	73	12	14	25	2	86	8	6	14	1
Germany	89	x(4)	x(4)	11	0	83	x(9)	x(9)	16	2	87	x(14)	x(14)	12	1
Greece ³	93	7	0	7	0	75	13	a	13	12	88	9	0	9	3
Hungary	85	15	x(4)	15	0	73	x(9)	x(9)	25	2	82	17	x(14)	17	0
Iceland	97	3	0	3	0	90	7	1	8	3	95	4	0	4	1
Ireland	89	8	3	11	a	70	24	2	26	4	84	12	3	15	1
Israel	92	6	2	8	0	57	21	22	43	0	84	9	6	16	0
Italy	95	4	0	5	0	61	33	4	36	2	87	11	1	12	1
Japan	93	5	2	7	0	36 ^d	51 ^d	13 ^d	64 ^d	0 ^d	73	21	6	27	0
Korea	95	3	2 ^d	5 ^d	x(3, 4)	43	39	18 ^d	57 ^d	x(8, 9)	79	14	7 ^d	21 ^d	x(13, 14)
Latvia	94	4	1	6	1	58	23	10	33	9	83	10	4	14	3
Lithuania	95	3	1	4	0	70	17	10	27	3	87	8	4	12	1
Luxembourg	95	2	0	3	3	90	1	4	5	4	94	2	1	3	3
Mexico	87	13	0	13	0	67	33	0	33	0	82	18	0	18	0
Netherlands	87	4	9	13	0	68	15	13	28	3	81	8	10	18	1
New Zealand	90	5	5	10	0	58	31	11	42	0	81	13	7	19	0
Norway	97	1	2	3	0	92	4	3	7	2	95	2	2	4	0
Poland	87	10	1	11	2	80	13	5	18	2	85	11	2	13	2
Portugal	88	12	0	12	0	61	27	4	31	9	81	16	1	17	2
Slovak Republic	93	5	3	7	0	74	11	13	24	2	88	6	5	11	1
Slovenia	92	7	1	7	1	81	11	3	14	5	89	8	1	9	2
Spain	88	11	1	12	0	66	30	2	32	2	81	17	1	18	1
Sweden	100	0	0	0	0	84	1	10	11	4	95	0	3	3	1
Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Türkiye	76	15	8	24	0	69	14	16	30	1	74	15	11	26	1
United Kingdom	87	8	5	13	0	25	54	17	72	3	67	23	9	32	1
United States ⁴	92	8	0	8	a	38	43	20	62	a	70	22	8	30	a
OECD average	91	7	2	9	0	67	22	9	30	3	84	12	4	15	1
Partner and/or accession countries															
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
Bulgaria	97	3	0	3	0	61	37	1	38	1	85	14	0	15	0
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	95	3	1	5	0	73	18	9	27	a	89	7	4	11	0
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
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	98	0	0	0	1	94	1	0	1	6	97	0	0	0	3
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
EU25 average	93	5	1	7	0	76	14	7	20	5	88	8	3	10	2
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See StatLink and Box C3.2 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/unh3mx>

Table C3.2. Relative share of government, private and non-domestic expenditure on educational institutions, by source of funds and government transfers to the private sector (2020)

By level of education and source of funding

	Primary, secondary and post-secondary non-tertiary						Tertiary						Primary to tertiary					
	Initial funds (before government transfers to the private sector)			Final funds (after government transfers to the private sector)			Initial funds (before government transfers to the private sector)			Final funds (after government transfers to the private sector)			Initial funds (before government transfers to the private sector)			Final funds (after government transfers to the private sector)		
	Government	Private sources	Non-domestic sources	Government	Private sources	Non-domestic sources	Government	Private sources	Non-domestic sources	Government	Private sources	Non-domestic sources	Government	Private sources	Non-domestic sources	Government	Private sources	Non-domestic sources
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
OECD countries																		
Australia	86	14	0	85	15	0	55	45 ^a	x(8)	36	64 ^a	x(11)	77	23 ^a	x(14)	70	30 ^a	x(17)
Austria	96	4	a	96	4	a	90	10	a	90	10	a	94	6	a	94	6	a
Belgium	97	3	1	96	3	1	85	11	4	84	13	3	94	5	2	93	6	1
Canada ¹	m	m	m	93 ^d	7 ^a	x(5)	m	m	m	51	49 ^a	x(11)	m	m	m	76 ^d	24 ^a	x(17)
Chile	83	17	a	83	17	a	51	49	a	40	60	a	69	31	a	65	35	a
Colombia	m	m	0	80	20	0	m	m	0	32	68	0	m	m	0	69	31	0
Costa Rica ²	m	m	m	m	m	m	m	m	m	92	8	0	m	m	m	m	m	m
Czech Republic	93	7	0	93	7	0	75	18	7	75	18	7	88	10	2	88	10	2
Denmark	95	5	0	95	5	0	83	12	5	83	12	5	91	7	2	91	7	2
Estonia	91	3	6	97	3	0	62	16	22	72	16	12	82	7	11	89	7	4
Finland	100	0	0	99	1	0	91	4	5	90	4	5	97	1	2	97	2	2
France	94	6	0	91	9	0	75	23	2	73	25	2	88	11	1	86	14	1
Germany	m	m	m	89	11	0	m	m	m	83	16	2	m	m	m	87	12	1
Greece ³	m	m	2	93	7	0	71	13	16	75	13	12	m	m	5	88	9	3
Hungary	m	m	0	85	15	0	m	m	2	73	25	2	m	m	0	82	17	0
Iceland	97	3	0	97	3	0	90	8	3	90	8	3	95	4	1	95	4	1
Ireland	89	11	0	89	11	a	91	5	4	70	26	4	89	10	1	84	15	1
Israel	93	7	0	92	8	0	m	m	0	57	43	0	m	m	0	84	16	0
Italy	95	5	0	95	5	0	74	24	2	61	36	2	90	9	1	87	12	1
Japan	m	m	0	93	7	0	m	m	0 ^d	36 ^d	64 ^d	0 ^d	m	m	0	73	27	0
Korea	96	4 ^a	x(2)	95	5 ^a	x(5)	59	41 ^a	x(8)	43	57 ^a	x(11)	84	16 ^a	x(14)	79	21 ^a	x(17)
Latvia	m	m	3	94	6	1	m	m	21	58	33	9	m	m	9	83	14	3
Lithuania	89	4	6	95	4	0	57	27	16	70	27	3	79	11	9	87	12	1
Luxembourg	95	3	3	95	3	3	91	4	4	90	5	4	94	3	3	94	3	3
Mexico	88	12	0	87	13	0	68	32	0	67	33	0	83	17	0	82	18	0
Netherlands	m	m	0	87	13	0	m	m	3	68	28	3	m	m	1	81	18	1
New Zealand	91	9	0	90	10	0	73	27	0	58	42	0	86	14	0	81	19	0
Norway	100	0	0	97	3	0	94	4	2	92	7	2	98	1	0	95	4	0
Poland	86	11	4	87	11	2	87	10	3	80	18	2	86	10	3	85	13	2
Portugal	88	12	0	88	12	0	59	31	10	61	31	9	81	17	3	81	17	2
Slovak Republic	91	5	4	93	7	0	73	20	6	74	24	2	87	9	5	88	11	1
Slovenia	91	7	2	92	7	1	77	14	9	81	14	5	87	9	4	89	9	2
Spain	88	12	0	88	12	0	68	30	2	66	32	2	82	18	1	81	18	1
Sweden	100	0	0	100	0	0	84	11	4	84	11	4	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
Türkiye	76	24	0	76	24	0	69	30	1	69	30	1	74	26	1	74	26	1
United Kingdom	89	11	0	87	13	0	51	45	3	25	72	3	77	22	1	67	32	1
United States ⁴	m	m	a	92	8	a	m	m	a	38	62	a	m	m	a	70	30	a
OECD average	92	7	1	91	9	0	74	21	5	67	30	3	86	12	2	84	15	1
Partner and/or accession countries																		
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
Bulgaria	94	3	3	97	3	0	59	38	4	61	38	1	82	15	3	85	15	0
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	93	5	2	95	5	0	62	24	14	73	27	a	84	10	5	89	11	0
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
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	98	0	1	98	0	1	94	1	6	94	1	6	97	0	3	97	0	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
EU25 average	93	5	2	93	7	0	77	17	7	76	20	5	88	9	3	88	10	2
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See StatLink and Box C3.2 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023_[1]).


StatLink  <https://stat.link/4t1ovq>

Table C3.3. Trends in the share of government, private and non-domestic expenditure on educational institutions (2012, 2016 and 2020)

Final source of funds

	Primary, secondary and post-secondary non-tertiary Share of private expenditure on educational institutions (%)					Tertiary Share of private expenditure on educational institutions (%)					Primary to tertiary Share of private expenditure on educational institutions (%)				
	2012	2016	2020	Percentage point difference between 2012 and 2016	Percentage point difference between 2016 and 2020	2012	2016	2020	Percentage point difference between 2012 and 2016	Percentage point difference between 2016 and 2020	2012	2016	2020	Percentage point difference between 2012 and 2016	Percentage point difference between 2016 and 2020
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD countries															
Australia ¹	m	m	15	m	m	m	m	64 ^d	m	m	m	m	30 ^d	m	m
Austria	4	5	4	0	0	5	6	10	2	4	4	5	6	1	1
Belgium	3	3	3	0	0	13	14	13	2	-2	6	6	6	0	0
Canada ^{1,2}	9 ^d	9 ^d	7 ^d	1 ^d	-2 ^d	41	47	49	6	2	21 ^d	24 ^d	24 ^d	3 ^d	0 ^d
Chile	22	17	17	-5	1	76	69	60	-7	-9	43	39	35	-4	-4
Colombia	23	24	20	1	-5	55	64	68	9	4	33	38	31	5	-8
Costa Rica	m	m	m	m	m	m	m	9	m	m	m	m	m	m	m
Czech Republic	9	9	7	0	-2	18	24	18	6	-5	12	13	10	1	-3
Denmark	m	5	5	5	0	m	8	12	8	4	m	6	7	6	2
Estonia	1	7	3	6	-4	16	12	16	-4	4	6	9	7	3	-1
Finland	1	1	1	0	0	4	3	4	0	1	2	2	2	0	0
France	9	9	9	0	m	20	21	25	1	m	12	13	14	1	m
Germany	13	13	11	-1	-2	14	15	16	2	0	14	14	12	0	-1
Greece	8	7	m	-1	m	10	m	m	m	m	9	m	m	m	m
Hungary	6	11	15	6	3	46	35	25	-10	-11	19	17	17	-1	0
Iceland	4	4	3	0	-1	8	8	8	0	-1	5	5	4	0	-1
Ireland	m	11	11	m	0	m	29	26	m	-3	m	16	15	m	-1
Israel	11	11	8	1	-3	48	46	43	-2	-3	21	20	16	-1	-4
Italy	4	5	5	0	0	33	36	36	3	0	11	13	12	1	0
Japan	7	8	7	1	-1	67 ^d	69 ^d	64 ^d	2 ^d	-5 ^d	28	29	27	1	-2
Korea ¹	m	14 ^d	5 ^d	m	-9 ^d	m	62 ^d	57 ^d	m	-6 ^d	m	30 ^d	21 ^d	m	-8 ^d
Latvia	2	2	6	0	3	34	31	33	-3	2	13	10	14	-3	5
Lithuania	3	5	4	2	0	25	31	27	6	-4	11	12	12	1	-1
Luxembourg	2	3	3	1	0	5	6	5	1	-1	3	3	3	1	0
Mexico	17	19	13	2	-6	30	31	33	1	2	21	22	18	2	-4
Netherlands	13	12	13	-2	1	29	29	28	1	-1	18	18	18	-1	0
New Zealand	15	14	10	-1	-4	46	49	42	3	-7	25	25	19	1	-6
Norway	0	0	3	0	3	4	6	7	2	1	1	2	4	1	2
Poland	8	8	11	1	2	22	18	18	-3	0	12	11	13	-1	2
Portugal	14	11	12	-2	1	42 ^d	32	31	-10	-1	20 ^d	16	17	-4	1
Slovak Republic	12	10	7	-2	-3	26	28	24	3	-4	16	15	11	-1	-4
Slovenia	9	9	7	0	-2	13	14	14	1	0	10	11	9	0	-1
Spain	11	14	12	2	-1	27	33	32	6	0	16	19	18	3	-1
Sweden	m	a	0	m	m	10	12	11	1	0	3	3	3	0	0
Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Türkiye	25	25	24	0	-1	25	25	30	1	5	25	25	26	0	1
United Kingdom	16	15	13	-1	-2	42	69	72	27	3	23	31	32	8	1
United States ¹	9	9	8	0	-1	62	65	62	3	-2	32	32	30	1	-2
OECD average	9	10	9	0	-1	29	31	30	2	-1	15	16	16	1	-1
Partner and/or accession countries															
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
Bulgaria	3	4	3	0	0	45	53	38	8	-15	18	22	15	4	-7
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	2	7	5	5	-2	31	25	27	-6	2	11	12	11	1	-1
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
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	1	1	0	0	-1	8	1	1	-7	-1	4	1	0	-3	-1
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
EU25 average	6	7	7	1	0	21	22	20	0	-1	11	11	11	0	-1
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See StatLink and Box C3.2 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).


StatLink  <https://stat.link/6zw7jf>

Table C3.4. Distribution of total private expenditure from primary to tertiary education (2020)

Final source of funds

	Primary to tertiary									
	Distribution of total private expenditure in %					Distribution of total private expenditure in USD PPP (in millions)				
	Payments to public institutions	Payments to private institutions			Total: Payments to all educational institutions	Payments to public institutions	Payments to private institutions			Total: Payments to all educational institutions
		Payments to government-dependent private institutions	Payments to independent private institutions	Total private			Payments to government-dependent private institutions	Payments to independent private institutions	Total private	
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Australia ¹	66	x(4)	x(4)	34	100	17 038	x(9)	x(9)	8 914	25 952
Austria	36	x(4)	x(4)	64	100	563	x(9)	x(9)	992	1 556
Belgium	37	62	1	63	100	796	1 341	24	1 364	2 160
Canada ^{1,2}	89	2	9	11	100	23 597	509	2 382	2 891	26 488
Chile	11	32	56	89	100	1 239	3 474	6 094	9 568	10 807
Colombia	41	a	59	59	100	6 511	a	9 235	9 235	15 746
Costa Rica ³	m	m	a	m	m	m	m	a	m	m
Czech Republic	74	19	7	26	100	1 501	385	132	517	2 018
Denmark	54	46	a	46	100	798	682	a	682	1 480
Estonia	72	18	10	28	100	132	33	18	52	183
Finland	77	23	a	23	100	200	60	a	60	260
France	m	m	m	m	m	m	m	m	m	m
Germany	36	x(4)	x(4)	64	100	9 402	x(9)	x(9)	16 865	26 267
Greece ⁴	38	a	62	62	100	414	a	673	673	1 088
Hungary	39	x(4)	x(4)	61	100	826	x(9)	x(9)	1 269	2 095
Iceland	84	16	a	16	100	43	8	a	8	51
Ireland	93	a	7	7	100	2 088	a	158	158	2 245
Israel	6	43	51	94	100	244	1 600	1 910	3 510	3 754
Italy	62	0	38	38	100	8 214	0	5 022	5 022	13 236
Japan	14	a	86	86	100	8 367	a	49 766	49 766	58 133
Korea ¹	27	5	68	73	100	6 704	1 288	16 781	18 069	24 773
Latvia	10	54	36	90	100	38	210	141	352	390
Lithuania	74	a	26	26	100	376	a	132	132	508
Luxembourg	24	8	68	76	100	19	6	54	60	79
Mexico	16	a	84	84	100	3 062	a	16 257	16 257	19 320
Netherlands	41	a	59	59	100	4 154	a	5 936	5 936	10 091
New Zealand	92	6	2	8	100	2 229	141	48	189	2 418
Norway	16	59	25	84	100	140	501	214	715	855
Poland	54	x(4)	x(4)	46	100	4 280	x(9)	x(9)	3 620	7 900
Portugal	33	6	61	67	100	998	186	1 858	2 044	3 042
Slovak Republic	83	9	8	17	100	736	82	74	156	892
Slovenia	74	11	15	26	100	276	40	55	95	371
Spain	35	x(4)	x(4)	65	100	5 682	x(9)	x(9)	10 570	16 252
Sweden	86	14	0	14	100	941	159	0	159	1 100
Switzerland	m	m	m	m	m	m	m	m	m	m
Türkiye	14	a	86	86	100	3 856	a	24 454	24 454	28 311
United Kingdom	3	78	20	97	100	1 831	50 633	12 821	63 455	65 285
United States ⁵	44	a	56	56	100	173 473	a	219 502	219 502	392 974
OECD average	47	m	38	53	100	8 308	m	14 375	13 637	21 945
Partner and/or accession countries										
Argentina	m	m	m	m	m	m	m	m	m	m
Brazil	m	m	m	m	m	m	a	m	m	m
Bulgaria	45	a	55	55	100	413	a	507	507	919
China	m	m	m	m	m	m	m	m	m	m
Croatia	79	a	21	21	100	442	a	114	114	557
India	m	m	m	m	m	m	m	m	m	m
Indonesia	m	m	m	m	m	m	m	m	m	m
Peru	m	m	m	m	m	m	m	m	m	m
Romania	85	a	15	15	100	71	a	13	13	83
Saudi Arabia	m	m	m	m	m	m	m	m	m	m
South Africa	m	m	m	m	m	m	m	m	m	m
EU25 average		m	29	44	100	1 807	m	877	2 142	3 949
G20 average	m	m	m	m	m	m	m	m	m	m

Note: See StatLink and Box C3.2 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).StatLink  <https://stat.link/nk3pxj>

Box C3.2. Notes for Indicator C3 Tables

Table C3.1 Relative share of government, private and non-domestic expenditure on educational institutions, by final source of funds (2020)

Some levels of education are included with others. Refer to "x" code in Table C3.1 for details. Private expenditure figures include tuition fee loans and scholarships (subsidies attributable to payments to educational institutions received from government). Loan repayments from private individuals are not taken into account, and so the private contribution to education costs may be under-represented. Government expenditure figures presented here exclude undistributed programmes.

1. Primary education includes pre-primary programmes.
2. Year of reference 2021.
3. Year of reference 2019.
4. Figures are for net student loans rather than gross, thereby underestimating public transfers.

Table C3.2 Relative share of government, private and non-domestic expenditure on educational institutions, by source of funds and government transfers to the private sector (2020)

Public to private transfers at primary to post-secondary non-tertiary levels as well as at tertiary levels are available for consultation on line (see StatLink).

1. Primary education includes pre-primary programmes.
2. Year of reference 2021.
3. Year of reference 2019.
4. Figures are for net student loans rather than gross, thereby underestimating public transfers.

Table C3.3 Trends in the share of government, private and non-domestic expenditure on educational institutions (2012, 2016 and 2020)

Private expenditure figures include tuition fee loans and scholarships (subsidies attributable to payments to educational institutions received from government sources). Loan repayments from private individuals are not taken into account, and so the private contribution to education costs may be under-represented. Data on the share of government and non-domestic (international) expenditure are available for consultation on line (see StatLink). Government expenditure figures presented here exclude undistributed programmes.

1. Private expenditure includes international expenditure.
2. Primary education includes pre-primary programmes.
3. Figures are for net student loans rather than gross, thereby underestimating public transfers.

Table C3.4 Distribution of total private expenditure from primary to tertiary education (2020)

Private expenditure figures include tuition fee loans and scholarships (subsidies attributable to payments to educational institutions received from government sources). Loan repayments from private individuals are not taken into account, and so the private contribution to education costs may be under-represented. Data on the share of government and non-domestic (international) expenditure are available for consultation on line (see StatLink). Government expenditure figures presented here exclude undistributed programmes.

1. Private expenditure includes international expenditure.
2. Primary education includes pre-primary programmes.
3. Year of reference 2021.
4. Year of reference 2019.
5. Figures are for net student loans rather than gross, thereby underestimating public transfers.

For more information see *Definitions, Methodology and Source* sections and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023_[1]).

Data and more breakdowns are available in the Education at a Glance Database (<http://stats.oecd.org/>).

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

Indicator C4. What is the total government spending on education?

Highlights

- Total government spending on education (from primary to tertiary level) averages 10% of total government expenditure across OECD countries, ranging from around 6% to 16%. The largest share of government funding is devoted to primary and secondary levels, explained by near-universal enrolment rates at those levels of education and the greater contribution of private sources at tertiary level.
- Between 2019 and 2020, even where government expenditure on education increased, it fell as a share of other government spending. The proportion of government expenditure devoted to education fell by 6.5% on average across OECD countries. This is due to the COVID-19 pandemic that pushed governments to spend a considerable share of their budget to support their economies.
- At upper secondary level, OECD and partner countries are more or less evenly divided between those allocating a greater share of government expenditure to general education and those allocating a greater share to vocational education. On average, each programme orientation receives 1.1% of total government expenditure.

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 about 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, governments need to fund educational services to ensure that education is not beyond the reach of some members of society.

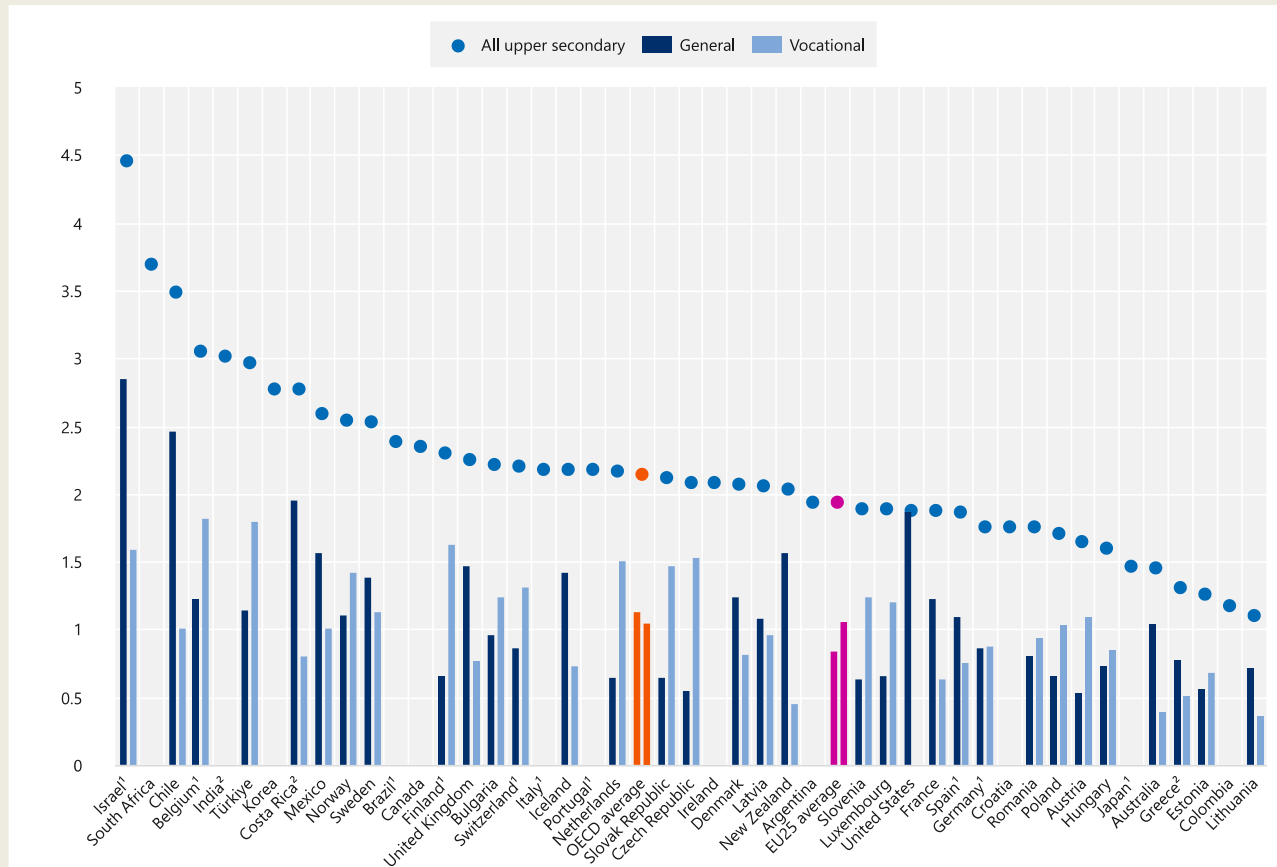
Policy choices and external shocks, such as demographic changes or economic trends, can have an influence on how government funds are spent. Like the financial crisis in 2008, the COVID-19 pandemic had significant economic effects on societies, and education was one of the sectors hit. Past economic crises have put pressure on public budgets, resulting in less government 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 times when investment in education is important to support learning acquisition and economic growth.

This indicator compares total government 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 government funding in education (central, regional and local governments) and transfers of funds between these levels of government. Finally, it covers how government expenditure has changed over time.

In contrast to Indicators C1, C2 and C3, which focus only on spending on educational institutions, government 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.

Figure C4.1. Government expenditure on upper secondary education as a percentage of total government expenditure, by programme orientation (2020)

In per cent, initial sources of funds




1. Data on upper secondary includes another level of education. Refer to the source table for more details.

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

Countries are ranked in descending order of government expenditure on all upper secondary education as a percentage of total government expenditure.

Source: OECD/UIS/Eurostat (2023), Table C4.1. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/cg6qfl>

Other findings

- Government expenditure can represent a large share of GDP, also beyond the education sector. While government expenditure on education does not exceed 8.0% of gross domestic product (GDP) in any OECD country, over a third of OECD countries reported that total government expenditure (on all services) accounted for more than half of GDP in 2020.
- At upper secondary level, central governments provide the largest share of government funding in most OECD countries even after transfers between government levels. On average, central

governments provide more than 60% of government funding in upper secondary vocational education, compared with 53% in upper secondary general programmes.

- On average across OECD countries, the tertiary level accounted for 27% of total government expenditure on education. The share is the lowest in Luxembourg (14%) due to the significant share of national tertiary students who are enrolled abroad.

Analysis

Government resources invested in the different levels of education

In 2020, total government expenditure on primary to tertiary education as a percentage of total government expenditure for all services averaged 10% in OECD countries. However, this share varies across OECD and partner countries, ranging from around 6% in Hungary to nearly 16% in Chile (Table C4.1).

Overall, most government funding was devoted to non-tertiary levels of education in 2020. In most countries, and on average across OECD countries, roughly three-quarters of total government expenditure on primary to tertiary education (7.3% of total government expenditure) was devoted to non-tertiary education (i.e. primary, secondary and post-secondary 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 shorter duration of tertiary education relative to the combined length of primary and secondary education, and the fact that in OECD countries, on average, the funding of tertiary education depends more on private sources than it does at non-tertiary levels.

Early childhood education (ECE) is generally excluded from statistics on the total government expenditure on education because of the very diverse nature of systems across OECD countries. There are variations in the targeted age groups, the governance structures, 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 (see Indicator B2). On average across OECD countries with data, ECE represents 1.6% of total government expenditure, ranging from 0.3% in Japan to 3.6% in Iceland. The varying nature of the organisation of ECE systems can help explain this wide range (Table C4.1, available on line).

In all OECD countries with data, except in Denmark and Norway, government expenditure on pre-primary education exceeds the expenditure devoted to early childhood educational development programmes (Table C4.1, available on line). In Norway, governmental expenditure is equivalent at both levels even if more children are enrolled in pre-primary education, while in Denmark more governmental expenditure goes to early childhood educational development programmes even if it enrolls less children than pre-primary education.

In 2020, on average across OECD countries, general and vocational upper secondary education each received 1.1% of total government expenditure. This apparent similarity masks differences in the countries themselves. Across OECD member and partner countries, about the same number of countries allocate a larger share of government expenditure to general upper secondary education as allocate a larger share to upper secondary vocational education. The countries allocating the largest shares of government expenditure to vocational programmes are Belgium and the Republic of Türkiye (each 1.8%). Conversely, the countries devoting the largest share to upper secondary general education are Israel (2.9%) and Chile (2.5%) (Table C4.1 and Figure C4.1). This reflects the importance of the different programme orientations in these countries. For example, in Belgium, 56% of enrolment in upper secondary education in 2020 was in vocational programmes, partly explaining why government spending on upper secondary vocational programmes is higher than on general ones (OECD, 2023^[2]).

The share of government education expenditure devoted to tertiary education also varies widely across countries, often influenced by the varying levels of investment in research and development. On average, government expenditure in OECD countries on tertiary education, including expenditure on research and development, amounted to 27% of total government expenditure on primary to tertiary education. Across OECD and partner

countries, the share ranges from below 14% in Luxembourg to over 38% in Austria and Denmark (Table C4.1). Over three-quarters of Luxembourg's national tertiary students are enrolled abroad (see Indicator B6), explaining the low share of government expenditure devoted to tertiary education.

When considering government expenditure on education as a share of total government expenditure, the relative sizes of public budgets should also be taken into account. The share of total government expenditure as a proportion of GDP varies greatly among countries (Table C4.1, available on line). In 2020, over one-third of OECD countries reported that their total government expenditure on all services amounted to more than half of GDP. A large share of total government expenditure devoted to education does not necessarily translate into a large share relative to a country's GDP. For example, Ireland allocates 12% of its total government expenditure to primary to tertiary education (more than the OECD average of 10%), but relative to GDP its expenditure is relatively low (3.2% compared to the OECD average of 4.7%). This could be linked to Ireland's GDP being inflated by the large number of tech companies which have their legal headquarters in Ireland for tax purposes (Table C4.1, available on line).

Sources of government funding invested in education

The division of responsibility for education funding across levels of government (central, regional and local) is an important aspect of education policy. Decisions on education funding are taken both at the level of government where the funds originate, and at the level of government where they are ultimately spent. The originating level of government decides on the amount of funding and imposes conditions on the use of funds, while the ultimate spending level of government has varying levels of discretion over how funds are spent.

Education funding may be mostly centralised or decentralised with funds transferred between levels of government. High levels of centralisation can cause delays in decision making and decisions that are taken far from those affected can fail to address local needs. Conversely, in highly decentralised systems, different geographical areas may spend different amounts of educational resources on students, either due to differences in priorities related to education or to differences in their ability to raise funding. Wide variations in educational standards and resources can also lead to unequal educational opportunities in highly decentralised systems. However, the results of the OECD Programme for International Student Assessment (PISA) suggest that when autonomy and accountability are appropriately combined, they tend to be associated with better student performances (OECD, 2016^[3]). 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.

Different government levels tend to be responsible for funding different levels of education. Typically, government funding on tertiary education is more centralised than for lower levels of education. In 2020, on average across OECD countries, 59% of government funds for non-tertiary education came from the central government (before transfers to the various levels of government), compared to 88% of government funds for tertiary education (Table C4.2).

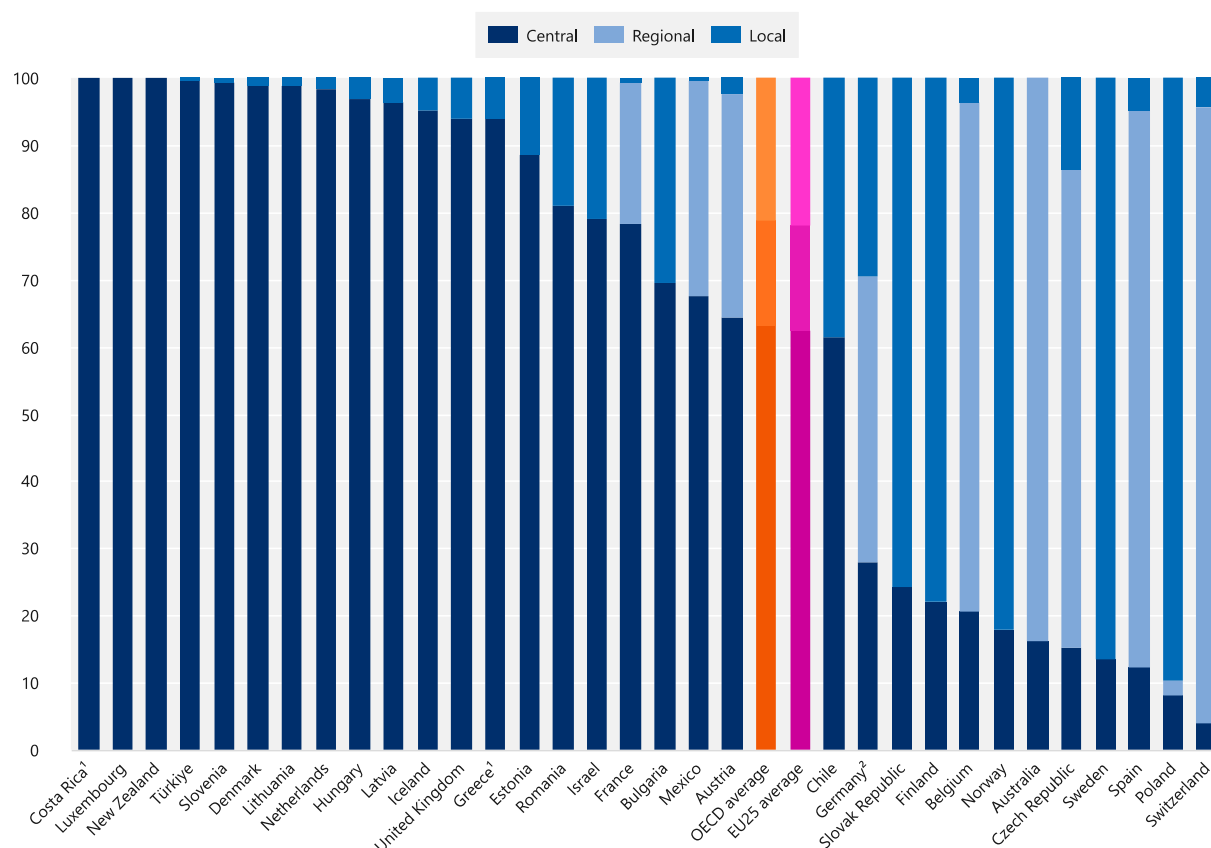
A large share of central government funds for primary and secondary education are transferred to lower levels of government. On average across OECD countries, the share of government funds for non-tertiary education provided by the central government falls from 59% to 45% after transfers to other levels of government have been accounted for, while the share of local funds rises from 25% to 40%. There is a great deal of variation in how much the sources of funds change 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 Austria, Chile and Latvia, the difference is more than 30 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).

For upper secondary vocational education, central governments provide the largest share of government funding even after transfers in most OECD countries. On average, central government accounts for 63% of government funding in upper secondary vocational education after transfers, while in upper secondary general programmes

it is only 53%. The difference is particularly large in Latvia where the central government provides 12% of government expenditure on general programmes, but 96% of government expenditure on vocational ones (Figure C4.2).

Figure C4.2. Distribution of funding between levels of government for upper secondary vocational education (2020)

In per cent, after transfers between levels of government



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

2. Upper secondary vocational programmes include lower secondary vocational programmes.

Countries are ranked in descending order of the share of government funding of upper secondary vocational education coming from central government.

Source: OECD/UIS/Eurostat (2023), Table C4.2. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/wso5ca>

On average, the regional level of government make the smallest contributions of the three levels of government to upper secondary vocational education (16%). However, in Australia, Belgium, the Czech Republic, Germany, Spain and Switzerland regional governments are responsible for the largest part of government funding. After transfers, local governments make a significant contribution to upper secondary funding, accounting for 33% of government spending on general education and 21% on vocational education. In Finland, Norway, Poland, the Slovak Republic and Sweden, local governments are the largest government contributors to upper secondary vocational education with over 70% of government expenditure coming from this level after transfers between levels of government. As well as transfers between levels of government, private companies may also receive

financial transfers from the government for the work-based component of VET programmes (Box C4.1 and Box C3.1).

In most OECD and partner countries with available data, central government directly provides more than 60% of government funds in tertiary education; in 37 out of 41 countries with data, the central government is the main source of both initial and final funding. In contrast, in Spain, as well as federal countries such as Belgium, Germany and Switzerland, over 65% of tertiary-level funding comes 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 both initial and final government funds on average, with the exception of the United States where local governments provide 9% of total expenditure at this level (Table C4.2).

Box C4.1. Funding sources for the school-based and work-based components of VET

School-based component

Governments are the main funding source for VET teachers' salaries in Austria, Belgium (French and Flemish community), Brazil, Chile, Denmark, Estonia, France, Germany, Japan, Korea, New Zealand, Sweden and Switzerland. In another group of countries, VET teachers are paid through a combination of funding from government and private educational institutions (Colombia, Finland, Latvia, Lithuania, Norway, Spain, Türkiye and the United States (at post-secondary non-tertiary level)). Capital expenditure, such as IT and machinery in VET schools (or other provider institutions) are funded in a similar manner in most countries: either the government is the main source of funding, or a combination of the government and private educational institutions. Public and private companies make limited financial contributions to the school-based component of vocational programmes. Very few countries report companies as a funding source; one exception is Sweden, where companies may sometimes supply instructors or provide machinery to support school-based learning (Figure C4.3).

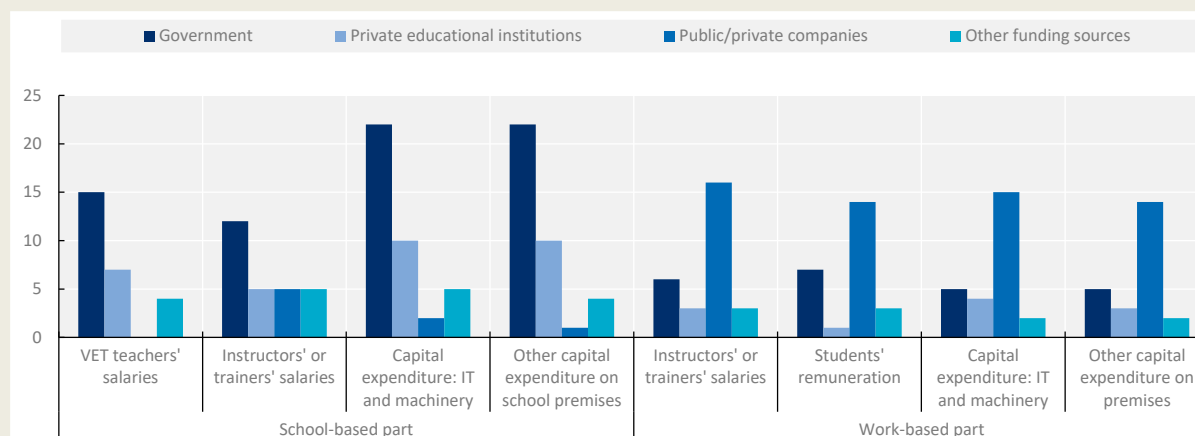
Work-based component

According to the UNESCO-OECD-Eurostat (UOE) classification of educational expenditure, educational core goods and services include training in the context of combined school- and work-based programmes. Expenditure by private companies and public subsidies towards such work-based learning should be regarded as expenditure by independent private educational institutions. This should include the salaries of instructors (and other personnel) and the cost of instructional material and equipment, but exclude apprentices' wages or other compensation paid to students. In practice, constraints on data availability mean there is a great deal of variation in how countries report expenditure within companies. Most countries lack data on expenditure on the wages of in-company trainers or instructional material and equipment (apprentices' wages are not reported either, but those should be excluded according to UOE guidance).


Even among countries where apprentices account for one-quarter or more of upper secondary VET students (see Box B1.3), there is much variation in reporting. Germany and Switzerland are the only countries that provide estimates of expenditure on the work-based component (including trainers' wages and equipment). Norway only reports subsidies in the context of expenditure on work-based learning, as do Finland and Spain, which make less use of work-based learning. In Norway, the amount of the subsidy is based on the rationale that of the two years spent in a company, the apprentice will spend half the time learning and half the time working. Companies therefore receive a grant from the government as compensation for the cost of taking on the instruction of apprentices. Finally, many countries report no data on expenditure within companies. These include Austria and France, despite relatively large apprenticeship programmes (enrolling over one-quarter of VET students), as well as the French Community of Belgium, Norway and Sweden.

Figure C4.3. Main funding sources for the school-based and the work-based parts of VET programmes (2023)

Number of countries



Source: INES qualitative data collection on VET financing (2023). For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/wpr46j>

Trends in government expenditure on education, 2019-20

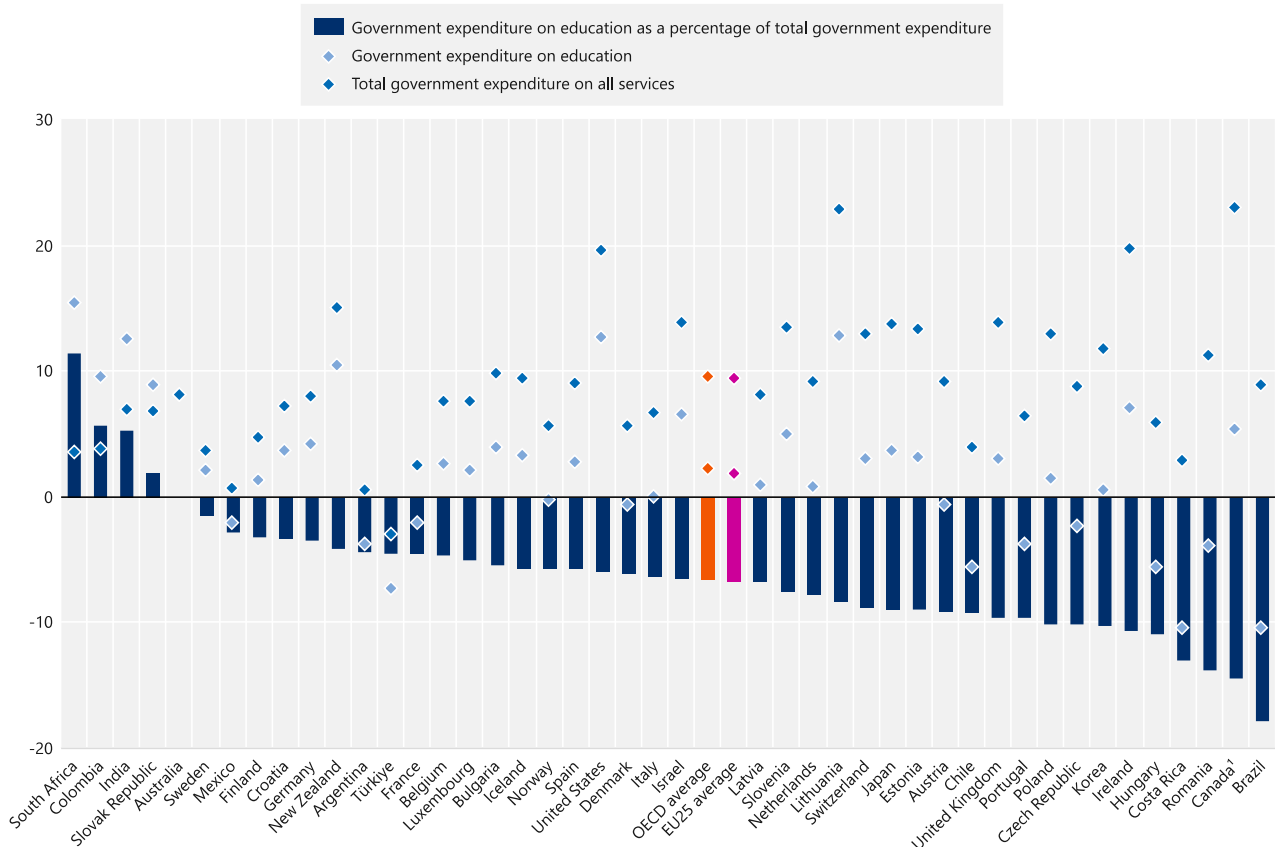
Between 2019 and 2020, total government expenditure and government expenditure on education both increased in most OECD countries. On average, government spending on primary to tertiary education increased by 2.1%, while total government expenditure on all services increased by 9.5% (Figure C4.4). Total government expenditure increased due to several factors during the COVID-19 pandemic. For example, governments implemented fiscal stimulus measures to support businesses, industries and individuals affected by lockdowns and circulation restrictions. The emergency healthcare response involved expanding testing and vaccination capabilities, acquiring medical supplies and equipment, and providing healthcare workers with necessary resources, contributing to the overall increase in total government spending.

On the education side, governments invested in various aspects of remote learning infrastructure, including technology, online learning platforms and teacher training for virtual instruction. Governments have allocated funds to support students and educational institutions by providing devices or Internet access to disadvantaged students to bridge the digital divide, and supporting schools in implementing health and safety protocols. These financial support mechanisms have contributed to the increase in government expenditures on education.

However, there are some notable exceptions: Brazil, Chile, Costa Rica, Hungary, and Türkiye, all reported reductions of at least 5% in government spending on education between 2019 and 2020, in constant prices (Figure C4.4). Türkiye is the only country where total government expenditure also fell over this period. Although its total government expenditure increased in nominal terms, the increase was lower than the inflation rate, resulting in a reduction in constant prices. This is likely to remain the case in 2021, 2022 and 2023, when inflation was very high in Türkiye (Central Bank of the Republic of Türkiye, 2023^[4]).

Figure C4.4. Change in government expenditure on primary to tertiary education and on all government services between 2019 and 2020

In per cent, initial sources of funds, 2015 constant prices, including R&D



1. Primary education includes pre-primary programmes.

Countries are ranked in descending order of the change in government expenditure on education as a percentage of total government expenditure between 2019 and 2020.

Source: OECD/UIS/Eurostat (2023), Table C4.3. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

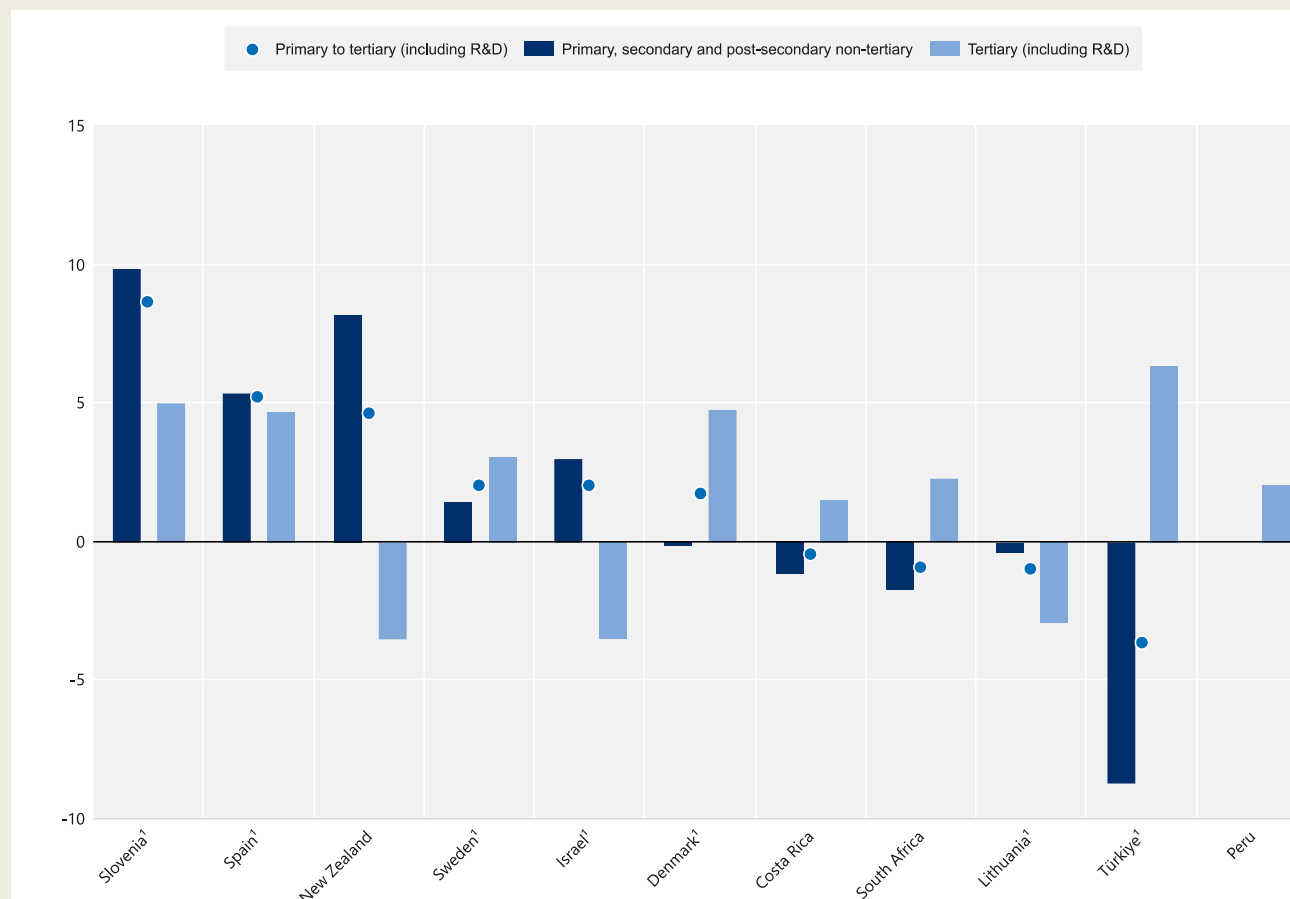
StatLink  <https://stat.link/6e5nid>

Box C4.2. Provisional data on the change in government resources invested in the different levels of education in 2021

Eleven OECD member and partner countries have data on government expenditure on education for 2021. The figures show that most governments continued to increase their support for education into the second year of the COVID-19 pandemic. In Slovenia and Spain, government expenditure on primary to tertiary education increased by more than 5% between 2020 and 2021. In contrast, government expenditure on education decreased in Costa Rica, Lithuania, South Africa and Türkiye over this period (Figure C4.5).

Figure C4.5. Change in government expenditure on education between 2020 and 2021


In per cent, 2015 constant prices and constant PPPs



1. Provisional data for 2021.

Countries are ranked in descending order of the change in government expenditure on primary to tertiary education between 2020 and 2021.

Source: OECD/Eurostat (2023). For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/oa5x03>

Breaking down overall expenditure by level of education shows interesting trends, with increases for primary, secondary and post-secondary non-tertiary surpassing those for tertiary education by at least 5 percentage points in Israel, New Zealand and Slovenia. The largest difference in favour of tertiary education is observed in Türkiye where the gap reaches 15 percentage points, while the largest difference in favour of primary, secondary and post-secondary non-tertiary education is observed in New Zealand (12 percentage points) (Figure C4.5). In New Zealand, the declining figure for tertiary education is caused by a decline of government transfers in the form of student loans, if student loans were excluded, government expenditure on tertiary education would be increasing by 4% between 2020 and 2021.

It is often difficult to find a simple explanation for the differences in changes in expenditure across OECD countries. Although the COVID-19 pandemic may have contributed to some of it, changes in education spending are driven by multiple other factors. For example, demographic changes leading to a falling student population may lead to reductions in expenditure on education. Changes in education policies, such as expanding

educational infrastructure or increasing teachers' salaries, also have an impact on education spending. A small number of countries have provisional data on government expenditure on education in 2021, providing an opportunity to have a comparative look at the trends going into the second year of the COVID-19 health crisis (Box C4.2).

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.

Government 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. Government expenditure on education includes expenditure by all government 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 government money for education. Government funds may flow directly to institutions or may be channelled to institutions via government programmes or via households. Government 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 government expenditure on educational institutions (as defined above), as well as government 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).

Government 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, 2019^[5]).

Expenditure on debt servicing (e.g. interest payments) is included in total government expenditure, but it is excluded from government expenditure on education, because some countries cannot separate interest payments for education from those for other services. This means that government 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 (OECD, 2023^[1]), [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), for country-specific notes.

Source

Data refer to the financial year 2020 (unless otherwise specified) and are based on the UNESCO, OECD and Eurostat (UOE) data collection on education statistics administered by the OECD in 2022 (for details see (OECD, 2023^[1]), [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#)).

Data from Argentina, China, India, Indonesia, Peru, Saudi Arabia and South Africa are from the UNESCO Institute of Statistics (UIS).

The data on expenditure for 2019-20 were updated based on a survey in 2022-23 and adjusted to the methods and definitions used in the current UOE data collection. Provisional data on educational expenditure in 2021 are based on an ad-hoc data collection administered by the OECD and Eurostat in 2022.

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Indicator C4 tables

Tables Indicator C4. What is the total government spending on education?

Table C4.1	Total government expenditure on education as a percentage of total government expenditure (2020)
Table C4.2	Distribution of sources of total government funds devoted to education, by level of government (2020)
Table C4.3	Change in government expenditure on education as a percentage of total government expenditure between 2019 and 2020
WEB Table C4.3	<i>Change in total government expenditure on education compared to total government expenditure on all services (2020 to 2021)</i>

StatLink  <https://stat.link/0p6rmz>

Cut-off date for the data: 15 June 2023. 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 government expenditure on education as a percentage of total government expenditure (2020)

Initial sources of funds, by level of education

	Primary	Secondary					Post-secondary non-tertiary	Primary, secondary and post-secondary non-tertiary	Tertiary				Primary to tertiary (including R&D)		Primary to tertiary (excluding R&D)
		Lower secondary	Upper secondary			All secondary			Short-cycle tertiary	Long-cycle tertiary	All tertiary	All tertiary (excluding R&D)	Total	Of which: government transfers and payments to the non-educational private sector	
			General programmes	Vocational programmes	All programmes										
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Australia	4.2	2.6	1.1	0.4	1.5	4.1	0.2	8.5	0.4	2.2	2.6	1.4	11.1	1.4	9.9
Austria	1.7	2.0	0.6	1.1	1.6	3.6	0.0	5.3	0.4	2.8	3.3	2.2	8.6	0.5	7.5
Belgium	2.7	1.6	1.2 ^d	1.8 ^d	3.1 ^d	4.7 ^d	x(3, 4, 5, 6)	7.4	0.1	2.7	2.7	2.0	10.2	0.6	9.5
Canada ^{1,2}	4.1 ^d	x(1)	x(5)	x(5)	2.3	2.3	m	6.5 ^d	0.9	2.1	3.1	m	9.5 ^d	m	m
Chile	5.4	2.0	2.5	1.0	3.5	5.5	a	10.9	0.7	4.3	5.0	4.7	15.9	1.5	15.6
Colombia ²	3.8	3.2	x(5)	x(5)	1.2	4.4	m	8.2	x(11)	x(11)	1.6	m	9.8	0.6	m
Costa Rica ³	4.4	2.2	2.0	0.8	2.8	5.0	a	9.4	m	m	3.1	m	12.5	a	m
Czech Republic	2.1	2.5	0.6	1.5	2.1	4.6	0.0	6.8	0.0	1.8	1.8	1.1	8.6	0.2	7.8
Denmark	3.3	2.1	1.2	0.8	2.1	4.1	a	7.4	0.3	4.2	4.5	3.2	11.9	2.0	10.6
Estonia	3.8	1.9	0.6	0.7	1.3	3.1	0.2	7.1	a	2.5	2.5	1.6	9.6	0.2	8.7
Finland	2.5	2.0	0.7	1.6 ^d	2.3 ^d	4.3 ^d	x(4, 5, 6)	6.8	a	2.8	2.8	1.8	9.6	0.4	8.6
France	2.0	2.1	1.2	0.6	1.9	3.9	0.0	6.0	0.4	1.7	2.1	1.5	8.1	0.4	7.5
Germany ⁴	1.5	2.6	0.9	0.9 ^d	1.8 ^d	4.4	0.3	6.1	0.0	2.7	2.7	1.8	8.9	0.9	7.9
Greece ⁵	2.7	1.4	0.8	0.5	1.3	2.7	0.0	5.4	a	1.5	1.5	1.0	6.9	0.0	6.4
Hungary	1.5	1.4	0.7	0.9	1.6	3.0	0.3	4.8	0.0	1.5	1.5	1.1	6.2	0.3	5.9
Iceland	4.9	2.2	1.4	0.7	2.2	4.4	0.1	9.4	0.1	2.8	2.9	m	12.3	0.5	m
Ireland	4.2	1.8	x(5)	x(5)	2.1	3.9	0.3	8.4	x(11)	x(11)	3.1	2.4	11.5	1.6	10.8
Israel	5.8	x(3, 4, 5)	2.9 ^d	1.6 ^d	4.5 ^d	4.5	0.0	10.2	0.4	1.6	2.0	2.0	12.2	0.3	m
Italy	2.1	1.1	x(5)	x(5)	2.2 ^d	3.3 ^d	x(5, 6)	5.4	0.0	1.5	1.5	1.1	7.0	0.6	6.5
Japan ⁶	2.6	1.5	x(5)	x(5)	1.5 ^d	2.9 ^d	x(5, 6, 9, 10, 11)	5.6	0.2 ^d	1.4 ^d	1.6 ^d	m	7.1	0.5	m
Korea	4.0	2.2	x(5)	x(5)	2.8	5.0	a	9.0	0.3	2.1	2.4	1.8	11.4	0.9	10.7
Latvia	3.1	1.5	1.1	1.0	2.1	3.6	0.1	6.8	0.3	1.7	2.0	1.4	8.8	0.3	8.2
Lithuania	1.9	2.7	0.7	0.4	1.1	3.8	0.3	6.0	a	2.2	2.2	1.5	8.2	0.2	7.5
Luxembourg	2.5	1.7	0.7	1.2	1.9	3.6	0.0	6.1	0.0	1.0	1.0	0.7	7.1	0.1	6.8
Mexico	5.2	2.6	1.6	1.0	2.6	5.2	a	10.4	x(11)	x(11)	3.2	2.7	13.6	1.2	13.1
Netherlands	2.6	2.3	0.7	1.5	2.2	4.4	0.0	7.0	0.0	3.5	3.5	2.5	10.5	1.5	9.5
New Zealand	2.9	2.1	1.6	0.5	2.0	4.2	0.4	7.4	0.3	3.0	3.3	2.9	10.7	1.5	10.3
Norway	3.4	1.6	1.1	1.4	2.5	4.1	0.1	7.6	0.1	3.9	4.0	3.0	11.7	1.8	10.6
Poland	2.3	2.0	0.7	1.0	1.7	3.8	0.1	6.1	0.0	2.4	2.4	1.7	8.5	0.3	7.8
Portugal	2.9	2.2	x(5)	x(5)	2.2 ^d	4.4 ^d	x(5, 6)	7.3	0.0	1.7	1.8	1.1	9.1	0.7	8.4
Slovak Republic	2.4	2.5	0.6	1.5	2.1	4.6	0.1	7.2	0.0	2.0	2.0	1.5	9.2	0.6	8.6
Slovenia	3.1	1.5	0.6	1.2	1.9	3.4	a	6.5	0.1	2.1	2.3	1.9	8.8	0.7	8.4
Spain	2.5	1.7	1.1	0.8 ^d	1.9 ^d	3.6 ^d	x(4, 5, 6)	6.0	0.4	1.7	2.1	1.5	8.1	0.3	7.5
Sweden	3.8	1.8	1.4	1.1	2.5	4.3	0.1	8.3	0.2	3.4	3.6	2.4	11.9	1.5	10.7
Switzerland	4.1	2.4	0.9 ^d	1.3 ^d	2.2 ^d	4.6 ^d	x(3, 4, 5, 6)	8.7	x(11)	x(11)	3.7	1.9	12.4	0.3	10.6
Türkiye	2.2	2.2	1.2	1.8	3.0	5.2	a	7.4	x(11)	x(11)	3.7	3.1	11.1	0.8	10.5
United Kingdom	3.5	1.8	1.5	0.8	2.3	4.1	a	7.6	0.2	2.8	3.1	2.6	10.7	2.3	10.2
United States	3.3	1.8	1.9	a	1.9	3.7	0.1	7.1	x(11)	x(11)	3.9	3.5	10.9	1.9	10.6
OECD average	3.2	2.0	1.1	1.1	2.1	4.1	m	7.3	0.2	2.4	2.7	2.0	10.0	0.8	9.2
Partner and/or accession countries															
Argentina	3.7	2.4	x(5)	x(5)	1.9	4.3	a	8.0	x(11)	x(11)	2.6	2.6	10.6	0.0	m
Brazil	3.3	3.0	x(5)	x(5)	2.4 ^d	5.4 ^d	x(5, 6)	8.7	x(11)	x(11)	2.8	2.5	11.5	0.6	11.1
Bulgaria	2.2	2.1	1.0	1.2	2.2	4.4	0.0	6.5	a	2.0	2.0	1.9	8.5	1.3	8.4
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	3.5 ^d	x(1)	x(5)	x(5)	1.8	1.8	a	5.2	x(11)	x(11)	1.8	1.8	7.0	0.1	m
India ³	3.5	1.9	m	m	3.0	5.0	0.0	8.5	m	m	4.4	4.4	12.9	m	m
Indonesia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Peru ³	6.4	m	m	m	m	m	m	m	m	m	3.0	3.0	m	m	m
Romania	1.1	1.8	0.8	0.9	1.8	3.6	0.1	4.7	a	1.9	1.9	1.9	6.7	0.3	6.6
Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
South Africa ³	7.3	2.2	x(5)	x(5)	3.7	5.9	0.4	13.6	x(11)	x(11)	3.5	3.5	17.1	m	m
EU25 average	2.6	1.9	0.8	1.1	1.9	3.8	0.1	6.4	0.1	2.2	2.3	1.7	8.8	0.6	8.2
G20 average	3.4	2.1	m	m	2.3	4.3	m	7.8	m	m	2.8	2.4	10.6	m	m

Note: See StatLink and Box C4.3 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[11]).

StatLink  <https://stat.link/g20stn>

Table C4.2. Distribution of sources of total government funds devoted to education, by level of government (2020)

Percentage of total government expenditure, before and after transfers, by level of education

	Primary, secondary and post-secondary non-tertiary						Tertiary (including R&D)						Primary to tertiary (including R&D)					
	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
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Australia	32	68 ^d	x(2)	19	81 ^d	x(5)	91	9 ^d	x(8)	89	11 ^d	x(11)	46	54 ^d	x(14)	35	65 ^d	x(17)
Austria	76	12	11	37	51	12	96	3	0	97	3	0	84	9	7	60	33	7
Belgium	23	75	3	23	73	4	17	82	1	16	83	2	21	77	2	21	76	3
Canada ¹	5 ^d	78 ^d	18 ^d	4 ^d	11 ^d	85 ^d	m	m	m	m	m	m	m	m	m	m	m	m
Chile	98	a	2	63	a	37	100	a	0	100	a	0	98	a	2	75	a	25
Colombia	88	3	9	88	3	9	93	7	0	93	7	0	88	4	8	88	4	8
Costa Rica ²	100	a	a	100	a	a	100	a	0	100	a	0	100	a	0	100	a	0
Czech Republic	10	66	24	9	67	24	96	2	1	96	2	1	28	52	19	28	53	19
Denmark	32	0	68	39	0	61	100	0	0	100	0	0	58	0	42	62	0	38
Estonia	61	a	39	32	a	68	100	a	0	100	a	0	71	a	29	50	a	50
Finland	33	a	67	9	a	91	98	a	2	98	a	2	52	a	48	35	a	65
France	75	15	10	74	15	11	88	8	5	88	7	5	78	13	9	78	13	9
Germany ³	9	72	19	5	70	24	28	69	2	20	77	3	15	71	14	10	73	18
Greece ⁴	100	a	0	93	a	7	100	a	a	100	a	a	100	a	0	95	a	5
Hungary	92	a	8	92	a	8	100	a	0	100	a	0	94	a	6	94	a	6
Iceland	25	a	75	24	a	76	100	a	0	100	a	a	42	a	58	42	a	58
Ireland	100	a	a	100	a	a	100	a	a	100	a	a	100	a	a	100	a	a
Israel	92	a	8	70	a	30	97	a	3	97	a	3	93	a	7	74	a	26
Italy	88	6	6	87	6	7	85	15	0	82	17	0	87	8	5	86	8	6
Japan ⁵	19	51	29	1	29	70	90 ^d	10 ^d	0 ^d	89 ^d	10 ^d	0 ^d	35	42	23	20	25	55
Korea	80	18	2	1	41	58	96	3	2	96	3	2	83	14	2	21	33	46
Latvia	60	a	40	19	a	81	100	a	0	100	a	0	69	a	31	37	a	63
Lithuania	77	a	23	24	a	76	99	a	1	99	a	1	83	a	17	44	a	56
Luxembourg	91	a	9	91	a	9	100	a	0	100	a	0	93	a	7	93	a	7
Mexico	80	20	0	27	73	0	82	18	0	79	20	0	80	20	0	40	60	0
Netherlands	94	0	6	92	0	8	100	0	a	100	0	a	96	0	4	94	0	6
New Zealand	100	0	0	100	0	0	100	0	0	100	0	0	100	0	0	100	0	0
Norway	12	a	88	10	a	90	99	a	1	99	a	1	42	a	58	40	a	60
Poland	61	1	39	4	2	95	100	0	0	100	0	0	72	1	28	31	1	68
Portugal	82	7	11	82	7	11	100	0	0	100	0	0	85	5	9	85	5	9
Slovak Republic	80	a	20	27	a	73	100	a	0	99	a	1	84	a	16	43	a	57
Slovenia	90	a	10	90	a	10	99	a	1	99	a	1	92	a	8	92	a	8
Spain	11	83	6	11	83	6	18	81	1	18	81	1	13	83	4	13	83	4
Sweden	7	a	92	7	a	92	98	2	0	98	2	0	35	1	64	35	1	64
Switzerland	3	62	35	1	60	39	35	65	0	18	82	0	13	63	25	6	67	28
Türkiye	99	a	1	99	a	1	100	a	0	100	a	0	99	a	1	99	a	1
United Kingdom	60	a	40	60	a	40	100	a	0	100	a	0	72	a	28	72	a	28
United States	9	43	48	1	2	97	63	29	9	63	29	9	28	38	34	23	11	66
OECD average	59	16	25	45	15	40	88	11	1	87	12	1	68	14	18	57	15	28
Partner and/or accession countries																		
Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Brazil	15	42	43	7	44	48	75	24	1	75	24	1	29	38	33	24	39	37
Bulgaria	95	a	5	31	a	69	100	a	0	100	a	0	96	a	4	48	a	52
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	84	16	m	84	16	m	99	a	1	99	a	1	88	12	0	88	12	0
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
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	81	a	19	81	a	19	100	a	0	100	a	0	86	a	14	86	a	14
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
EU25 average	64	12	23	50	13	38	89	10	1	88	11	1	71	13	16	60	13	27
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See StatLink and Box C4.3 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023_[11]).


StatLink  <https://stat.link/e4nat6>

Table C4.3. Change in government expenditure on education as a percentage of total government expenditure between 2019 and 2020

In per cent, initial sources of funds, by level of education and year; reference year 2015 = 100, constant prices

	Primary, secondary and post-secondary non-tertiary		Tertiary (including R&D)		Primary to tertiary (including R&D)		Change in total government expenditure (all services)
	Change in government expenditure on education	Change in government expenditure on education as a percentage of total government expenditure	Change in government expenditure on education	Change in government expenditure on education as a percentage of total government expenditure	Change in government expenditure on education	Change in government expenditure on education as a percentage of total government expenditure	
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Australia	8.4	0.2	7.0	-1.0	8.1	0.0	8.1
Austria	-1.5	-9.7	0.7	-7.7	-0.6	-9.0	9.2
Belgium	2.9	-4.3	1.6	-5.5	2.5	-4.6	7.5
Canada ¹	6.4	-13.5	3.2	-16.1	5.3	-14.3	22.9
Chile	-5.9	-9.4	-5.0	-8.6	-5.7	-9.1	3.8
Colombia	11.4	7.4	1.0	-2.6	9.6	5.7	3.7
Costa Rica	-10.9	-13.4	-8.9	-11.4	-10.4	-12.9	2.9
Czech Republic	0.8	-7.2	-12.5	-19.5	-2.3	-10.1	8.7
Denmark	-0.5	-5.8	-1.1	-6.4	-0.7	-6.0	5.6
Estonia	3.0	-9.1	3.6	-8.5	3.1	-9.0	13.3
Finland	0.8	-3.7	2.5	-2.1	1.3	-3.2	4.7
France	-2.0	-4.3	-2.5	-4.8	-2.1	-4.5	2.5
Germany ²	4.0	-3.6	4.4	-3.2	4.2	-3.5	7.9
Greece	m	m	m	m	m	m	13.6
Hungary	-6.5	-11.7	-2.7	-8.1	-5.7	-10.9	5.9
Iceland	2.3	-6.4	6.3	-2.8	3.2	-5.6	9.3
Ireland	8.0	-9.8	4.5	-12.7	7.0	-10.6	19.7
Israel	7.2	-5.8	3.1	-9.4	6.5	-6.4	13.8
Italy	-0.7	-6.9	2.6	-3.8	0.0	-6.3	6.7
Japan ³	2.5	-9.9	7.7	-5.3	3.6	-8.9	13.7
Korea	-2.1	-12.4	11.4	-0.4	0.4	-10.1	11.8
Latvia	0.9	-6.6	0.6	-6.9	0.8	-6.7	8.1
Lithuania	11.4	-9.3	16.5	-5.1	12.7	-8.2	22.8
Luxembourg	2.3	-4.8	1.1	-6.0	2.1	-5.0	7.5
Mexico	-2.6	-3.1	-0.9	-1.4	-2.2	-2.7	0.6
Netherlands	1.1	-7.4	0.0	-8.3	0.7	-7.7	9.1
New Zealand	12.0	-2.7	7.0	-7.0	10.4	-4.1	15.1
Norway	-1.2	-6.5	1.4	-4.0	-0.3	-5.6	5.6
Poland	1.4	-10.2	1.7	-10.0	1.5	-10.1	12.9
Portugal	-5.1	-10.8	1.7	-4.4	-3.8	-9.6	6.4
Slovak Republic	7.9	1.1	12.1	5.0	8.8	2.0	6.7
Slovenia	3.7	-8.5	8.6	-4.2	4.9	-7.5	13.4
Spain	3.1	-5.4	1.8	-6.5	2.8	-5.7	8.9
Sweden	1.5	-2.1	3.5	-0.1	2.1	-1.5	3.7
Switzerland	2.6	-9.1	3.8	-8.0	3.0	-8.8	12.9
Türkiye	-8.8	-5.9	-4.2	-1.2	-7.3	-4.4	-3.0
United Kingdom	3.0	-9.5	3.0	-9.5	3.0	-9.5	13.9
United States	2.7	-14.2	36.8	14.3	12.6	-5.8	19.6
OECD average	1.7	-6.9	3.3	-5.5	2.1	-6.5	9.5
Partner and/or accession countries							
Argentina	-5.7	-6.2	2.5	2.0	-3.8	-4.3	0.5
Brazil	-9.1	-16.5	-14.6	-21.6	-10.5	-17.8	8.9
Bulgaria	5.4	-4.0	-0.7	-9.5	3.9	-5.4	9.8
China	m	m	m	m	m	m	6.6
Croatia	3.9	-3.0	2.9	-4.0	3.6	-3.3	7.1
India	10.6	3.6	16.1	8.7	12.5	5.3	6.8
Indonesia	m	m	m	m	m	m	11.0
Peru	m	m	-6.4	-16.2	m	m	11.7
Romania	-4.0	-13.7	-4.1	-13.8	-4.0	-13.7	11.2
Saudi Arabia	m	m	m	m	m	m	11.3
South Africa	16.2	12.3	11.7	7.9	15.3	11.4	3.5
EU25 average	1.7	-6.7	2.0	-6.5	1.8	-6.7	9.3
G20 average	1.5	-6.0	5.6	-2.4	2.6	-5.0	8.5

Note: See StatLink and Box C4.3 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/nmold3>

Box C4.3. Notes for Indicator C4 Tables

Table C4.1 Total government expenditure on education as a percentage of total government expenditure (2020)

The government expenditure presented in this table includes both government 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 government spending on institutions found in Indicators C1, C2 and C3. Data on government expenditure on early childhood education (Columns 16 to 18) and on government expenditure as a share of GDP (Columns 19 to 22) are available for consultation on line (see StatLink).

1. Primary education includes pre-primary programmes.
2. Post-secondary non-tertiary figures are treated as negligible.
3. Year of reference 2021.
4. Upper secondary vocational programmes include lower secondary vocational programmes.
5. Year of reference 2019.
6. Data do not cover day care centres and integrated centres for early childhood education.

Table C4.2 Distribution of sources of total government funds devoted to education, by level of government (2020)

Some levels of education are included with others. Refer to "x" code in Table C4.1 for details. Data on early childhood education (Columns 19 to 36) and on upper secondary general and vocational education (Columns 37 to 42) are available for consultation on line (see StatLink below).

1. Primary education includes pre-primary programmes.
2. Year of reference 2021.
3. Upper secondary vocational programmes include lower secondary vocational programmes.
4. Year of reference 2019.
5. Data do not cover day care centres and integrated centres for early childhood education.

Table C4.3 Change in government expenditure on education as a percentage of total government expenditure between 2019 and 2020

The government expenditure presented in this table includes both government 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 government spending on institutions found in Indicators C1, C2 and C3. Data on early childhood education (Columns 8 to 13) and on upper secondary general and vocational education (Columns 14 to 17) are available for consultation on line (see StatLink below).

1. Primary education includes pre-primary programmes.
2. Upper secondary vocational programmes include lower secondary vocational programmes.
3. Data do not cover day care centres and integrated centres for early childhood education.

For more information see *Definitions, Methodology and Source* sections and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023_[1]).

Data and more breakdowns are available in the Education at a Glance Database (<http://stats.oecd.org/>).

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

Indicator C7. Which factors influence teachers' salary cost?

Highlights

- Spending on teaching staff makes up the largest share of education expenditure, and this depends on at least four factors: students' instruction hours, teachers' teaching hours, theoretical class size and teachers' salaries (see *Definitions* section). These four factors combined determine the level of teachers' salary cost per student.
- Higher education levels tend to have higher teachers' salary costs per student. On average across OECD countries, they rise from USD 3 614 per student in primary education to USD 4 424 in lower secondary education. This is mostly due to a combination of higher teachers' salaries and instruction time, and shorter teaching hours.
- The two main factors influencing annual teachers' salary costs are teachers' salaries and theoretical class sizes. Between 2015 and 2021, teachers' salaries in primary education increased in almost all OECD countries with data, and overall by 11% in real terms on average. This additional cost was often compounded by a decline of 2% in theoretical class size over this period.

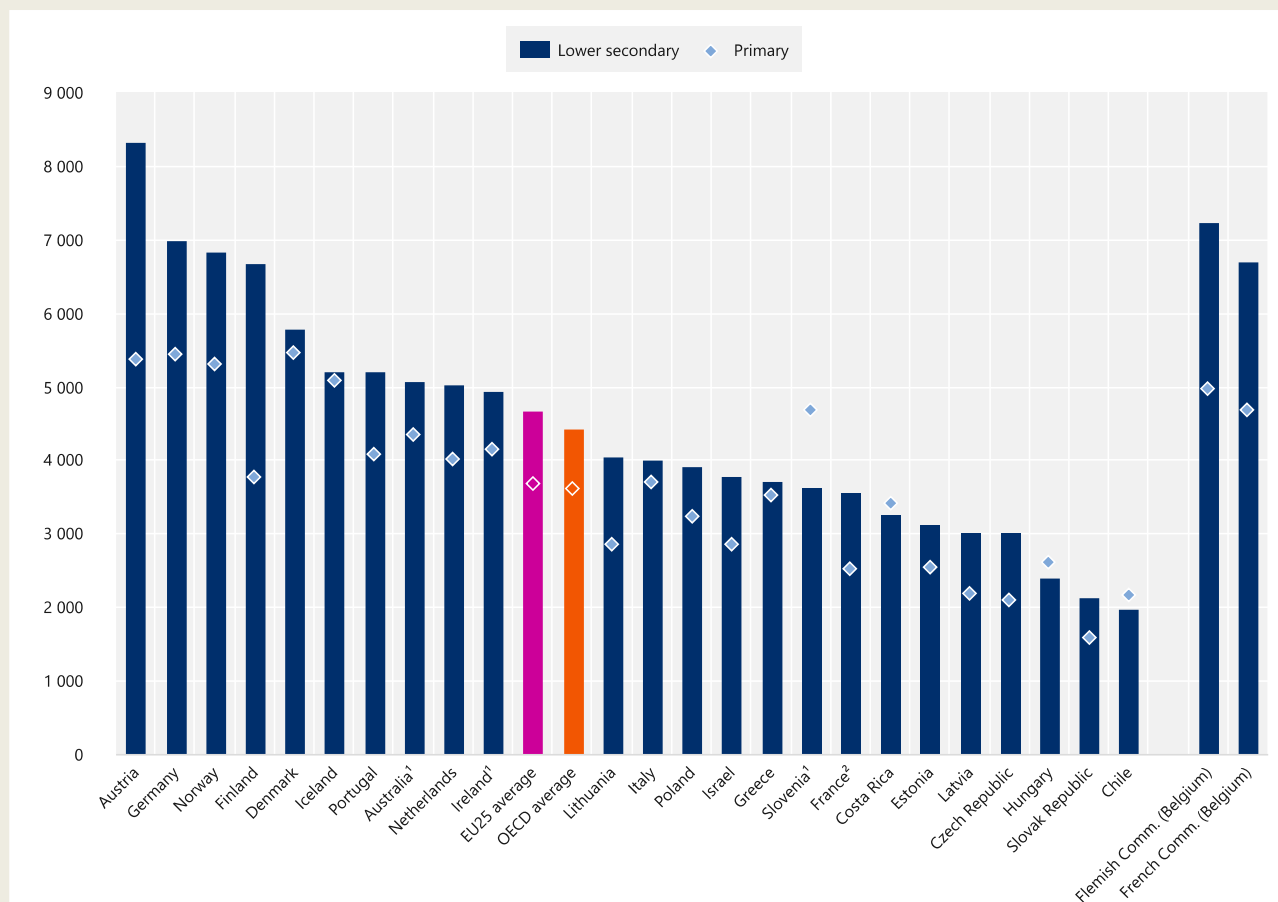
Context

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 populations, 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 (see Box C7.2). The salary costs of teachers per student, as calculated in this indicator, is a function of students' instruction time, teachers' teaching time, actual teachers' salaries and theoretical class sizes (see *Methodology* section below and Box C7.1).

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 overall teachers' salary costs. Salary costs of teachers per student can be affected by other variables not directly assessed in this indicator, such as demographic changes. In countries where enrolment has been declining in recent years, class sizes would also be expected to shrink (assuming all other factors remain constant). However, there may not have been a simultaneous fall in the number of teachers (see Box C7.3). This indicator does not distinguish between a reduction in class size due to demographic changes or to a deliberate policy decision.

Figure C7.1. Annual salary cost of teachers per student in public institutions, by level of education (2021)

USD converted using PPPs for private consumption




1. Lower secondary and upper secondary education are combined for the calculation of the student-teacher ratio.

2. Reference year 2020.

Countries and other participants are ranked in descending order of the annual salary cost of teachers per student in lower secondary education.

Source: OECD (2023), Table C7.1. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/2iou9c>

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' actual salaries in France are about twice as high as in Hungary. France has six more students on average per class (based on the theoretical class size) than Hungary, which more than makes up for the higher salary levels.
- For a few countries, their ranking changes considerably when teachers' salary costs per student are expressed as a percentage of gross domestic product (GDP) per capita rather than in absolute USD terms. At the primary level in 2021, Denmark had the highest absolute costs (USD 5 458) but ranked only 9th with respect to its relative costs (8.4% of GDP per capita). On average across OECD countries,

the salary costs of teachers per student are equivalent to 7.3% of GDP per capita at primary level and 7.9% at lower secondary level.

- In most countries, the financial resources allocated to primary education increased during the period 2015-21, as a result of demographic changes and/or political decisions. Only 7 of the 42 countries with data available saw the number of students per teacher increase between 2015 and 2021.

Note

Teachers' salary cost per student is estimated based on values for teachers' gross actual salaries (see Indicator D3), the theoretical instruction time for students (see Indicator D1) and teachers' statutory teaching time (see Indicator D4).

The use of actual salaries means that this indicator takes into account the actual level of qualifications and the seniority of the teaching workforce. As the actual salary does not include the employer's contribution to social security nor pensions, it does not represent the full cost incurred by the employer (i.e. the government). As a result, this measure is not fully comparable to the indicator on expenditure on teacher compensation (see Indicator C6 of Education at a Glance 2022).

Analysis

Contribution of each factor to teachers' salary cost per student

The four factors determining salary costs per student affect the value 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 it 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 be needed to reduce class sizes while keeping everything else constant. Although linked, theoretical class sizes do not directly reflect statutory class sizes (see *Methodology* section).

By comparing salary costs to the OECD average, it is possible to determine the contribution of each of the four factors to any difference from the average. In other words, it is possible to assess whether a given salary cost is above average, for example, because of higher salaries, longer instruction time, shorter teaching hours, smaller class sizes or any combination of these four factors. Changing one of these factors may require compensatory trade-offs among the other factors in order to keep total salary cost constant.

Variation in teachers' salary cost per student by level of education

On average across OECD countries and economies, teachers' salary costs amount to USD 3 614 per primary student and USD 4 424 per lower secondary student (Figure C7.1). These averages mask a wide range of costs across countries. For example, in primary education, the salary cost per student in Denmark (USD 5 458) is over three times that in the Slovak Republic (USD 1 587).

The higher costs at lower secondary compared to primary education are mainly due to three factors: higher teachers' salaries, longer instruction times for students and shorter teaching times. In 2021, the OECD average annual salary for 25-64 year-old teachers was USD 49 115 at lower secondary level, around USD 2 300 more than the average at primary level. The average annual instruction time in lower secondary education was 105 hours longer than in primary education, while average teaching time was 65 hours shorter. This means more teachers are needed to teach a given number of students in lower secondary than in primary education (Tables C7.4 and C7.5, available on line).

Theoretical class sizes run counter to these other three factors, increasing from an average of 13.6 students at primary level to 14.4 at lower secondary level, which slightly offsets the increase in cost from the other factors. In general, however, the effect of larger class sizes is not enough to offset the other increases, although exceptions exist. Chile, Costa Rica, Hungary and Slovenia are the four OECD countries where teachers' salary costs per student are lower in lower secondary than in primary education (Tables C7.2 and C7.3 and Figure C7.1). This is mainly due to significant increases in theoretical class sizes at lower secondary level.

Variation in teachers' salary cost per student relative to countries' wealth

As the salary costs of teachers per student are positively correlated with countries' GDP per capita, it is important to also take wealth levels into account when comparing countries. On average across OECD countries, the salary cost of teachers per student corresponds to 7.3% of GDP per capita at primary level and 7.9% at lower secondary level (Table C7.1).

The interpretation of teachers' salary cost per student can change when national output is taken into account. Some countries devote a greater share of their GDP to teachers' salary costs, even though the absolute value may be low. For example, Costa Rica's salary cost of teachers in primary education is USD 3 400 per student, below the OECD average. However, this corresponds to 15.0% of the country's GDP per capita, which is 7.7 percentage points above the OECD average. In contrast, in the Netherlands, where the salary cost of teachers per student in primary education (USD 4 015) is significantly higher than the OECD average, it is only 6.3% of its GDP per capita, well below the OECD average (Table C7.1).

Box C7.1. Methodological limitations and potential future developments

It is important to consider the limitations of this indicator's methodology when interpreting the results. First, the indicator is calculated using statutory values for teaching and instruction time. This means the results presented in this indicator are theoretical in nature, and do not reflect the actual time teachers spend teaching. 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.

Last, the breakdown of costs between primary and lower secondary is estimated in few countries because students are enrolled in the same schools, as in Norway, for example. For these countries, estimation methods may vary, so the breakdown of costs should be interpreted with caution.

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 were more data to become available. One relates to improving the precision when estimating the cost of teachers. To this end, it would also be relevant in the future to take into account the full cost of teachers' salaries for governments, including costs that do not go directly to teachers, such as employers' 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.

Different policies in countries with similar spending

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 each factor makes 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 4 336, which is USD 722 higher than the OECD average. This difference is the result of the following contributory effects: above-average teachers' salaries add USD 1 165 above-average instruction time adds USD 896, above-average teaching time subtracts USD 489 and above-average theoretical class sizes subtract USD 851 (Table C7.2).

Higher levels of expenditure on education cannot automatically be equated with better performance by education systems. This can be seen when comparing the average performance of 15-year-olds on the OECD Programme for International Student Assessment (PISA) 2018 reading literacy scale with cumulative spending per student between the ages of 6 and 15 in 2018 (OECD, 2020^[2]). This is not surprising, as expenditure figures do not necessarily account for structural factors affecting learning outcomes (such as demographic changes). In addition, countries spending similar amounts on education do not necessarily have similar education policies and practices. For example, France and Hungary have nearly the same teachers' salary costs per primary student, but teachers' actual salaries in France are about twice those than in Hungary, which is more than balanced out by classes in France having about six more students on average (based on the theoretical class size). To illustrate the wide range of policy choices that countries have made despite similar spending levels, the countries shown in Figure C7.2 are divided into four groups with similar teachers' salary costs per student (see *Methodology* section).

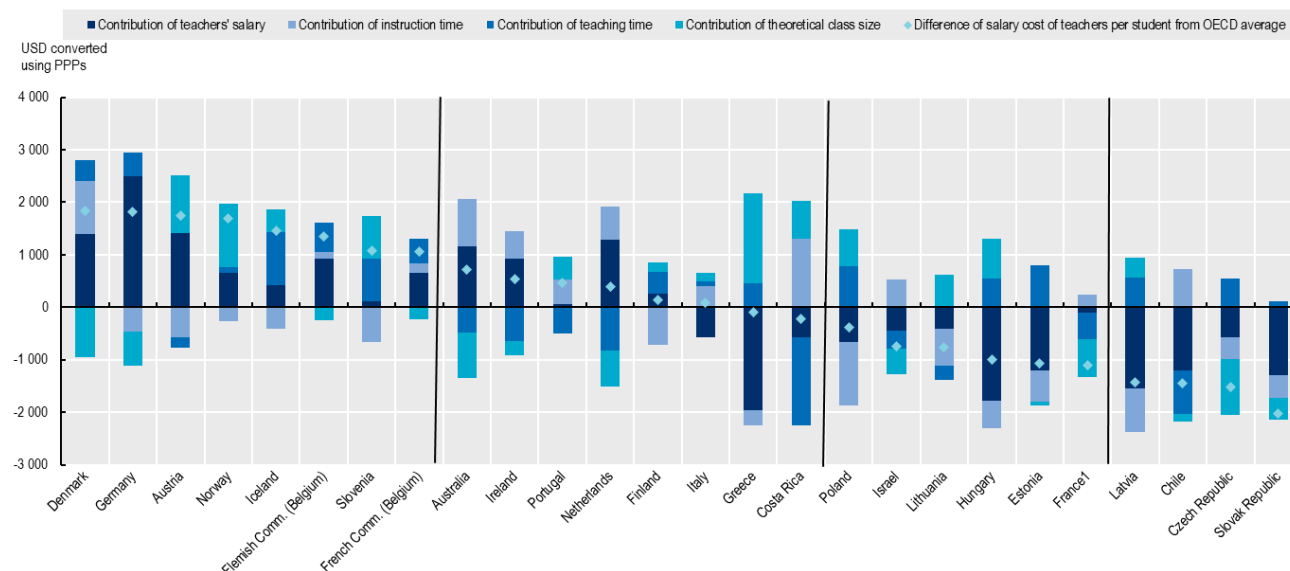
Group 1: High teachers' salary cost per student in primary education

This group, which has the highest salary cost of teachers per student in primary education, comprises eight countries and other participants (Figure C7.2). Teachers' salary costs in this group range from USD 4 682 per student to USD 5 458. These salary costs per student represent between 8.0% and 10.7% of their respective GDP per capita (Table C7.1).

As mentioned, the four factors analysed in this indicator affect salary costs per student in different ways, allowing them to counterbalance each other. However, the high-spending countries in this group tend to share more similarities between the four factors than the countries in other groups. They all pay above-average teacher salaries and all of them except Austria have below-average teaching time. However, the drivers behind these high teachers' salary costs per student still differ across the group. In Austria, Denmark and Germany, the high cost is mostly the result of high teachers' salaries whereas in Norway it mainly stems from small theoretical class sizes, and in Iceland and Slovenia from shorter teaching time.

Figure C7.2. Contribution of various factors to salary cost of teachers per student in public institutions, primary education (2021)

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 Austria, the salary cost of teachers per student is USD 1 748 higher than the OECD average. Austria has a smaller theoretical class size (+ USD 1 099) and above-average teachers' salaries (+ USD 1 416) than the OECD average, both of which push the salary cost of teachers up. However, Austria also has above-average teaching time (- USD 199) and below-average instruction time (- USD 569), which push the cost down.

1. Reference year 2020.

Countries and other participants are ranked in descending order of the difference between the salary cost of teachers per student and the OECD average.

Source: OECD (2023), Table C7.2. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/xstmlc>

Group 2: Moderately high or average teachers' salary cost per student in primary education

There are eight countries with close-to-average or above-average salary costs (Figure C7.2). Salary costs per student in this group range from USD 3 400 to USD 4 336 (Table C7.1). The countries in this group differ widely in terms of GDP per capita and education expenditure, illustrating the variety of policy choices that countries with similar salary costs can make.

In all of these countries, except Finland and Portugal, teachers' salary costs per student reflect the result of a trade-off between teachers' salaries and theoretical class size. Australia, Ireland and the Netherlands have above-average teachers' salaries, which push the salary cost up, but these are partly offset by above-average theoretical class sizes. On the other hand, Costa Rica, Greece and Italy have significantly below-average teachers' salaries which are offset by small theoretical class sizes.

A second trade-off observed in all these countries except Italy, is between students' required instruction time and teachers' teaching time. In five countries, above-average instruction time, which increases salary costs per student, is more than entirely offset by above-average teaching time, reducing the number of teachers that need to be hired. In Costa Rica, instruction time is 43% longer than the OECD average, but this is more than fully counterbalanced by teaching time which is 59% above the OECD average.

Group 3: Moderately low teachers' salary costs per student in primary education

This group is composed of six countries with below-average salary cost of teachers per student (Figure C7.2). Teachers' salary costs in this group range from USD 2 518 per student to USD 3 238 (Table C7.1).

They all have lower than average teacher salaries. However, there are also differences between these six countries. In four of them, the below-average salary cost per student stems from a combination of low teachers' salaries and shorter instruction time. These six countries differ in how the other two factors are combined. In Estonia, Hungary and Poland, lower teachers' salaries are partially compensated by shorter teaching time, and by below-average theoretical class sizes in Hungary and Poland. This is not the case in the other three countries – France, Israel and Lithuania – where teaching time is longer than the OECD average.

Group 4: Low teachers' salary costs per student in primary education

This group is composed of the four countries with the lowest salary cost of teachers per student in primary education (Figure C7.2). Teachers' salary costs per student in this group range from USD 1 587 to USD 2 181 (Table C7.1). These countries all have below-average GDP per capita.

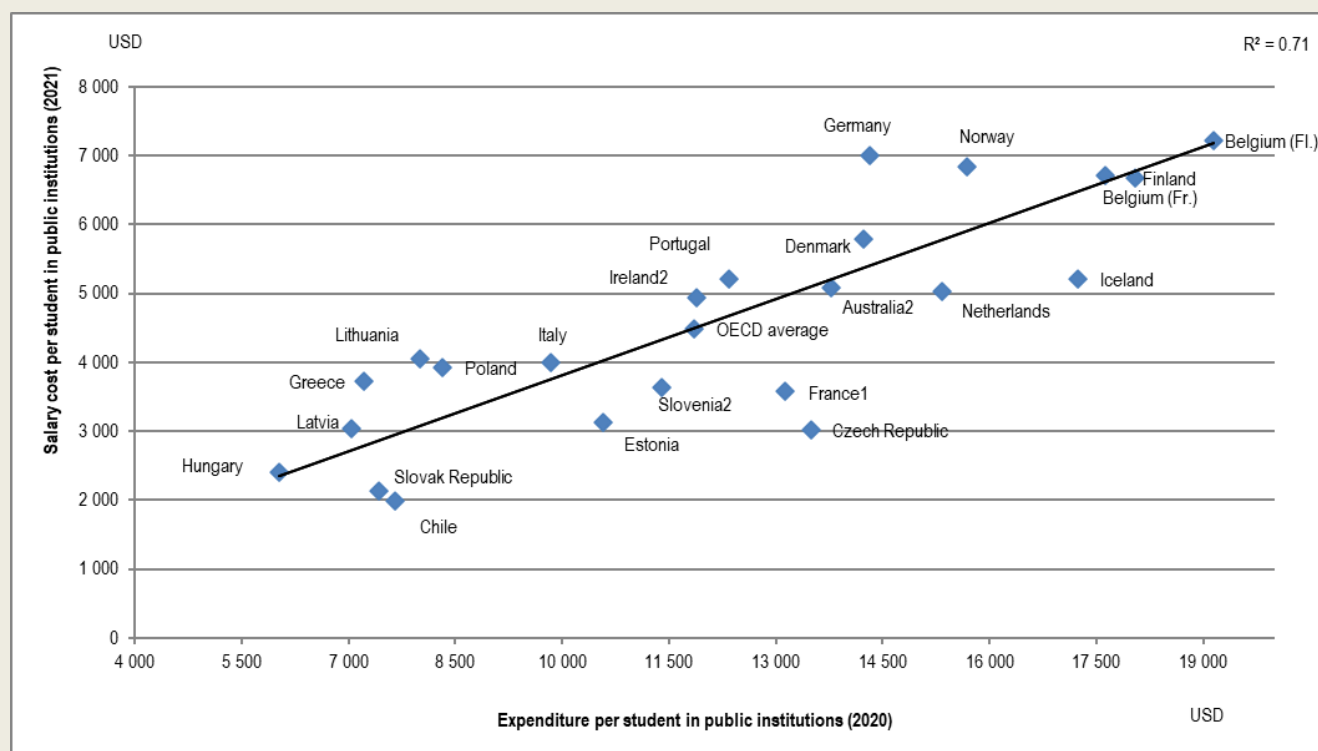
These countries have certain characteristics in common: they all have lower than average teacher salaries, shorter instruction hours (except in Chile) and larger than average theoretical class sizes (except in Latvia). The combined effect of these three factors leads to a significant reduction in the salary cost of teachers per student. However, these countries have still made different policy choices. The salary cost per student in Latvia is 37% higher than in Slovak Republic, even though teachers' salaries in both countries are fairly similar (USD 27 387 in Latvia and USD 27 610 in Slovak Republic). The difference in salary cost mainly stems from Slovak Republic having larger theoretical class sizes, with around 4 more students per class than in Latvia. In contrast, the Czech Republic has similar salary costs per student to Chile, as higher salaries in the Czech Republic are counterbalanced by larger theoretical class sizes.

Box C7.2. Relationship between salary cost per student and expenditure per student

Expenditure per student reflects structural and institutional factors, such as the organisation of schools and curricula. Current expenditure on educational institutions can be broken down into staff compensation and other expenditure (such as maintenance of school buildings, providing students' meals and rental of school buildings and other facilities). Teacher compensation usually constitutes the largest part of current expenditure and therefore of expenditure on education (see Indicator C6 of Education at a Glance 2022). As a result, the level of teacher compensation divided by the number of students – the salary cost of teachers per student – makes up the largest share of expenditure per student.

Figure C7.3. Relationship between salary cost per student and expenditure per student in lower secondary public institutions (2020 and 2021)

Salary cost converted in USD using PPPs for private consumption and expenditure converted using PPPs for GDP



1. Reference year 2020.

2. Lower secondary and upper secondary education are combined for the calculation of the student-teacher ratio.

Source: OECD (2023), Table C7.1 and *Education at a Glance Database*, <http://stats.oecd.org>. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).


StatLink  <https://stat.link/52dwmr>

Figure C7.3 plots the salary cost of teachers per student against expenditure per student in public institutions in lower secondary education. The figure shows that, as expected, there is a strong positive relationship between the two measures. However, salary costs per student can vary considerably even among countries with a similar level of expenditure per student. Greece and the Slovak Republic, for example, both spend around USD 7 000 per student in public institutions, but teachers' salary cost per student in Greece is almost twice that of the Slovak Republic.

These differences highlight the fact that countries have to decide not only how to best allocate salary cost resources across the four factors (instruction time, teaching time, teachers' salaries and theoretical class size), but also how much of their total education expenditure to dedicate to teachers' salary costs. This decision in itself implies trade-offs with other potential types of expenditure not explored in this indicator, such as non-salary compensation of teachers, salaries of non-teaching staff and infrastructure improvements.

Evolution of theoretical class sizes and teachers' salaries

Between 2015 and 2021, the salary costs of teachers per student in primary and lower secondary education increased in constant prices terms in all OECD countries except Austria (for both levels), Denmark and Slovenia (for lower secondary education only). On average among countries with data for both years, they increased by 15% (from USD 3 135 to USD 3 614) at primary level and by 6% (from USD 4 166 to USD 4 424) at lower secondary level.

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 (Tables C7.4 and C7.5, available on line). In fact, controlling for the total salary cost of teachers, countries with higher teachers' salaries tend to have larger class sizes (OECD, 2018^[3]). Variations in the other two factors, instruction time and teaching time, are usually smaller both across countries and within countries over time, but the average is influenced by large variations in some countries.

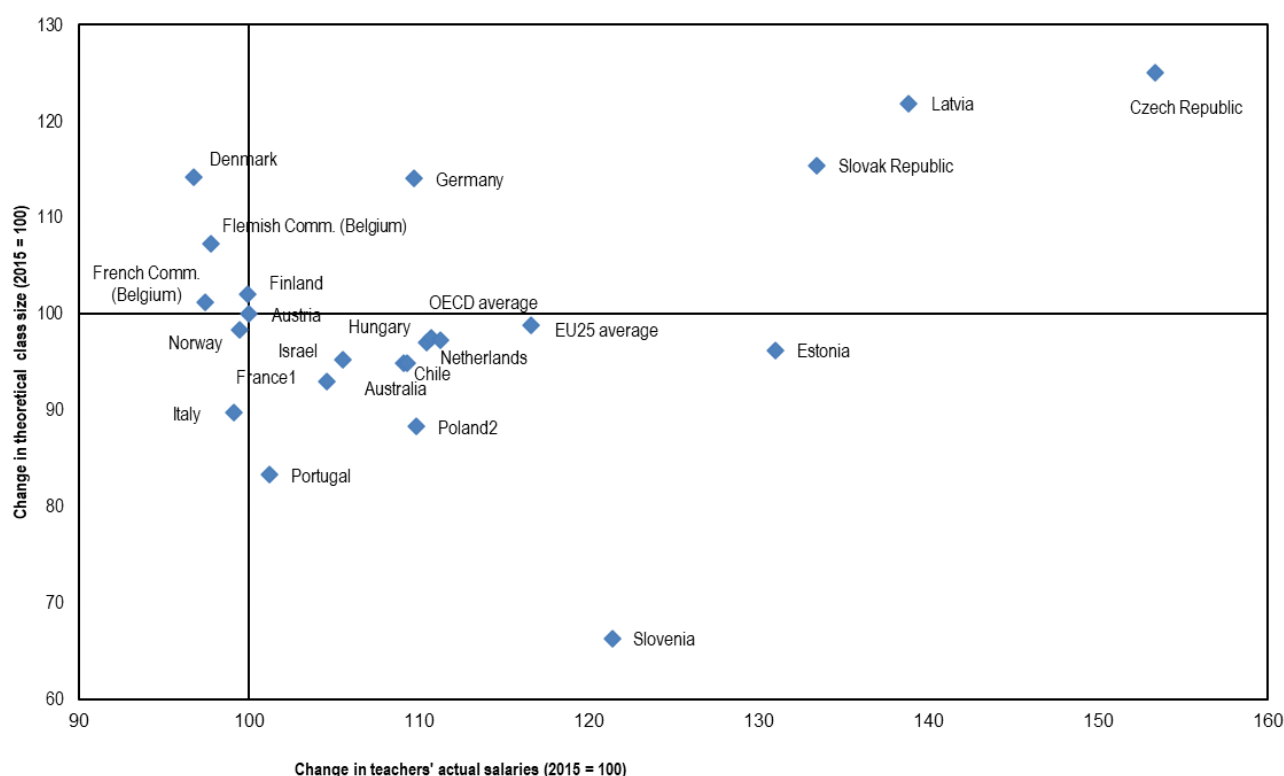
Figure C7.4 plots the evolution of teachers' actual salaries and theoretical class sizes between 2015 and 2021. During this period, among countries with available data for both years, teachers' salaries increased in real terms by 11% at the primary level, while theoretical class sizes fell by 2%. Most countries have increased teachers' salaries over this period, by more than 30% in some Eastern European countries (the Czech Republic, Estonia, Latvia and the Slovak Republic). While the 2000s were marked by budget freezes or even cuts that had an impact on teachers' salaries, many countries appear to have made a gradual upward adjustment since 2015.

Figure C7.4 groups countries into four different categories, each represented in a quadrant of the chart. Countries in the top-right and bottom-left quadrants have made a trade-off between increasing teachers' salaries or decreasing theoretical class sizes over this period. For instance, those in the top-right quadrant increased theoretical class sizes (bringing the salary cost of teachers per student down) and increased teachers' salaries (pushing the cost up). The most notable examples are the Czech Republic and Latvia, where theoretical class sizes increased by more than 20% between 2015 and 2021, offsetting the impact of teachers' salaries, which increased by over 35%. Only two countries (Italy and Norway) made the opposite choice, with theoretical class sizes falling but somewhat compensated for by falling teachers' salaries. It is important to note that although these changes have opposite effects on salary costs, they are not necessarily made in response to each other. In Italy, for example, the reduction in the theoretical class size was mainly due to demographic changes (see Figure C7.5 in Box C7.3).

No particular trade-off between these two variables seems to have been made in the countries in the top-left and bottom-right quadrants. Those in the top-left quadrant increased theoretical class sizes and reduced teachers' salaries between 2015 and 2021, both measures that push down teachers' salary costs. In contrast, countries in the bottom-right quadrant reduced theoretical class sizes and increased teachers' salaries, both measures that increase salary costs. Globally, the size of the change in each variable differs across countries, with teachers' salaries increasing by over 30% in the Czech Republic, Estonia, Latvia and the Slovak Republic while theoretical class sizes fell by nearly 35% in Slovenia (Figure C7.4).

Figure C7.4. Index of change in teachers' salaries and in theoretical class size in primary education between 2015 and 2021

Public institutions only, 2021 constant prices



1. The index of change for teachers' actual salaries covers the period 2016-2020 instead of 2015-2021.

2. The index of change for teachers' actual salaries covers the period 2015-2022 instead of 2015-2021.

Source: OECD (2023), Table C7.5. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023_[11]).

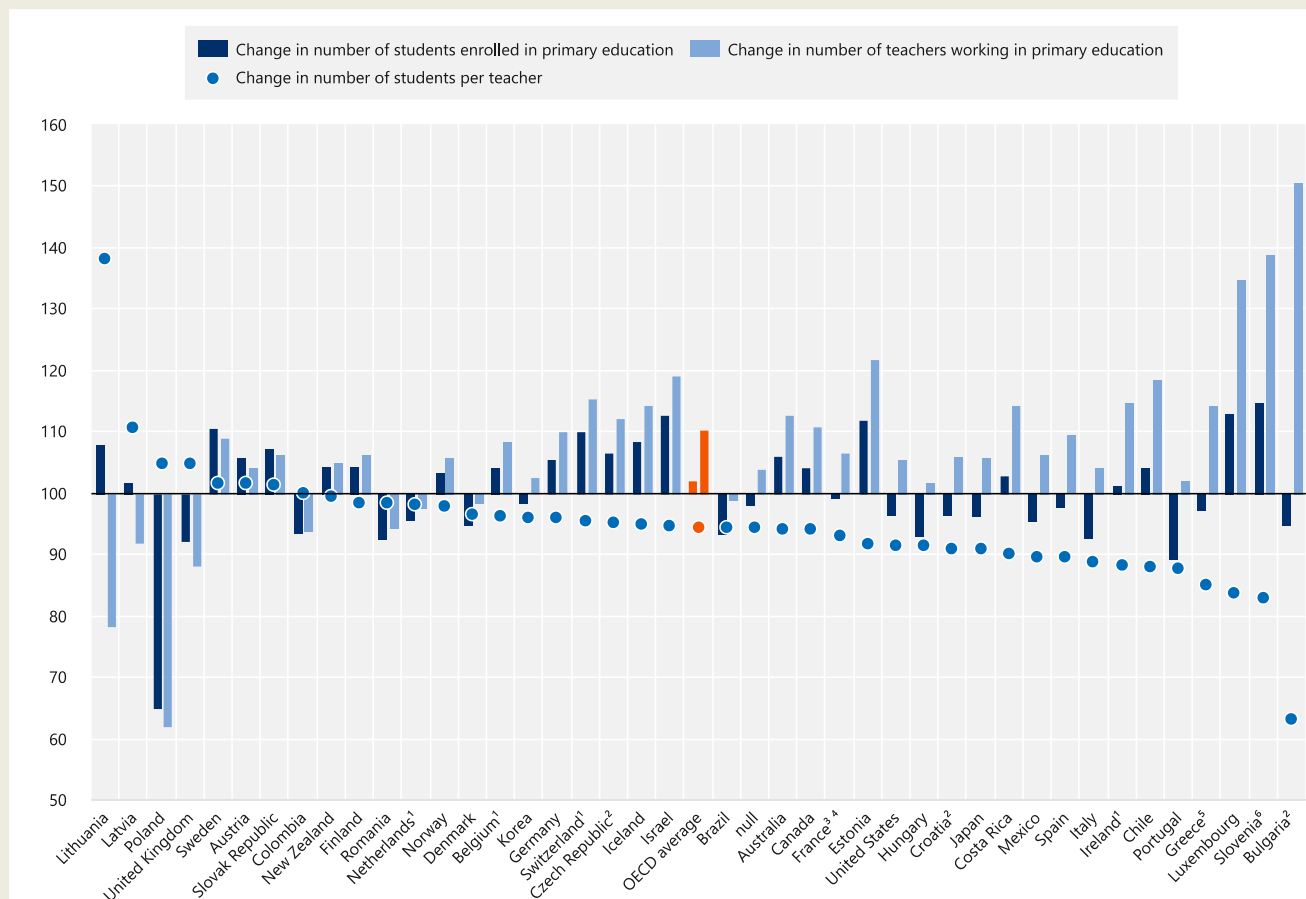
StatLink  <https://stat.link/2ab613>

Box C7.3. What is the impact of demographic changes on the staffing resources allocated to primary education?

Although there are large variations across countries, 20 of the 42 countries with data available experienced a decline in primary school enrolment between 2015 and 2021. This led to the number of students enrolled in primary education overall to increase by less than 2% between 2015 and 2021. These demographic changes have had very little impact on teacher recruitment, as the number of teachers working in primary education continued to increase in 33 of the 42 countries between 2015 and 2021. Together, these trends led to a significant reduction in the number of students per teacher. Only 7 of the 42 countries with data saw the number of students per teacher increase between 2015 and 2021 (Figure C7.5).


Figure C7.5. Change in number of students per teacher between 2015 and 2021

Primary education, 2015 = 100



1. Public institutions only.
2. Year of reference 2020 instead of 2021.
3. Year of reference 2016 instead of 2015.
4. Public institutions and government-dependent private institutions.
5. Year of reference 2014 instead of 2015.
6. Primary and lower secondary education together.

Source: OECD (2023), Education at a Glance Database, <http://stats.oecd.org>. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

StatLink  <https://stat.link/i18x0r>

The fall in the number of students per teacher between 2015 and 2021 stems from three main channels. First, in 17 countries, the number of teachers increased faster than the number of students. This evolution may stem from demographic changes or deliberate policy decisions. In Ireland for example, a Teacher Supply Action Plan was implemented in 2018 to promote the teaching profession, increase the numbers of teacher graduates and review school placement guidelines (EC, 2019^[4]). These policy choices can also be understood as a catch-up effect compensating for expenditure cuts implemented in the aftermath of the 2008 financial crisis. In Slovenia for example, funding cuts in education had led to reductions in teachers' salaries and eventually to their freezing (EC, 2019^[5]). However, teachers' strikes in 2018 opened the path to increases in public sector salaries and to

additional measures to increase resources for primary education. Second, in five countries – Brazil, Colombia, Denmark, the Netherlands and Romania - the number of teachers fell between 2015 and 2021, but more slowly than the number of students. Third, 13 countries experienced both a decrease in the number of students and an increase in the number of teachers in primary education. In Croatia for instance, this took place in the context of reforms to increase the required instruction time and introduce whole-day schooling (EC, 2021^[6]).

Of the seven countries where the student-to-teaching-staff ratio increased, only two – Latvia and Lithuania - had declining numbers of teachers and increasing numbers of students. In Lithuania, for example, teacher shortages were mainly linked to its ageing teaching workforce, although, unlike in most other EU countries, teachers do not have to retire on reaching the standard pension age. In addition to its teacher age profile, less than 15% of graduates from initial teacher education actually entered the profession (EC, 2019^[7]). In the remaining countries, the increase in the number of students per teachers in primary education was driven by the number of teachers either increasing more slowly or decreasing faster than the number of students (Figure C7.5).

In some countries, the Covid-19 pandemic led to significant changes in both students' enrolment and teacher populations in primary education. The evolution in the number of students per teacher between 2015 and 2021 thus may also reflect more recent demographic trends.

Definitions

The data refer to public institutions only.

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 of Education at a Glance 2022).

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., converted to USD using purchasing power parity (PPP) for private consumption (see Indicator D3). 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 (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:

$$SCS = \text{Teacher salary} * \text{Instruction time} * \frac{1}{\text{Teaching time}} * \frac{1}{\text{Theoretical Class Size}}$$

Where theoretical class size is calculated as:

$$\text{Theoretical class size} = \frac{\text{Instruction time}}{\text{Teaching time}} * \frac{\text{Students}}{\text{Teachers}}$$

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^[8]). 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.

Countries are grouped in four clusters with respect to their teachers' salary cost per student. The cluster analysis allows countries within a group to be more similar to each other than to countries in other groups. On the other hand, countries across groups are as dissimilar as possible.

Please see the *OECD Handbook for Internationally Comparative Education Statistics 2018* (OECD, 2018^[9]) for more information and *Education at a Glance 2023 Sources, Methodologies and Technical Notes*, <https://doi.org/10.1787/d7f76adc-en> for country-specific notes.

Source

Data referring to the 2022 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 2022.

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Indicator C7 Tables

Tables Indicator C7. Indicator title

Table C7.1	Salary cost of teachers per student, by level of education (2015 and 2021)
Table C7.2	Contribution of various factors to salary cost of teachers per student in primary education (2021)
Table C7.3	Contribution of various factors to salary cost of teachers per student in lower secondary education (2021)
WEB Table C7.4	<i>Factors used to compute the salary cost of teachers per student in primary education (2021)</i>
WEB Table C7.5	<i>Factors used to compute the salary cost of teachers per student in lower secondary education (2021)</i>

StatLink  <https://stat.link/asz6e5>

Cut-off date for the data: 17 June 2023. 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 (2015 and 2021)

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

	2021				2015		Index of change over the period 2015-2021 In salary cost of teachers per student (2015=100)	
	Salary cost of teachers per student (in USD)		Salary cost of teachers per student (in percentage of GDP per capita)		Salary cost of teachers per student (in USD, 2021 constant prices)			
	Primary	Lower secondary	Primary	Lower secondary	Primary	Lower secondary	Primary	Lower secondary
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Australia ¹	4 336	5 086	7.4	8.6	3 748	4 567	116	111
Austria	5 362	8 341	8.9	13.9	5 480	8 776	98	95
Canada	m	m	m	m	m	m	m	m
Chile	2 159	1 991	7.7	7.1	1 666	1 536	130	130
Colombia	m	m	m	m	m	m	m	m
Costa Rica	3 400	3 282	15.0	14.5	m	m	m	m
Czech Republic	2 099	3 024	4.7	6.7	1 304	2 094	161	144
Denmark	5 458	5 784	8.4	8.9	5 483	5 910	100	98
Estonia	2 541	3 131	5.8	7.2	1 784	2 514	142	125
Finland	3 763	6 687	6.9	12.2	3 703	6 173	102	108
France ²	2 518	3 574	4.9	7.0	2 239	3 498	112	102
Germany	5 441	7 004	9.3	11.9	4 749	6 147	115	114
Greece	3 529	3 728	11.3	11.9	m	m	m	m
Hungary	2 612	2 406	7.1	6.6	2 151	2 293	121	105
Iceland	5 075	5 207	8.7	8.9	m	m	m	m
Ireland ¹	4 152	4 948	3.9	4.6	m	m	m	m
Israel	2 862	3 788	6.5	8.6	2 624	3 570	109	106
Italy	3 695	4 002	7.9	8.6	3 309	3 480	112	115
Japan	m	m	m	m	m	m	m	m
Korea	m	m	m	m	m	m	m	m
Latvia	2 181	3 040	6.2	8.7	1 747	2 357	125	129
Lithuania	2 853	4 048	6.5	9.3	m	m	m	m
Luxembourg	m	m	m	m	m	m	m	m
Mexico	m	m	m	m	m	m	m	m
Netherlands	4 015	5 032	6.3	7.9	3 567	4 632	113	109
New Zealand	m	m	m	m	m	m	m	m
Norway	5 311	6 839	8.4	10.8	5 218	5 671	102	121
Poland	3 238	3 921	8.6	10.4	3 105	3 688	104	106
Portugal	4 074	5 206	11.1	14.2	3 498	4 804	116	108
Slovak Republic	1 587	2 131	4.7	6.3	1 203	1 778	132	120
Slovenia ¹	4 688	3 632	10.7	8.3	2 497	4 765	188	76
Spain	m	m	m	m	m	m	m	m
Sweden	m	m	m	m	m	m	m	m
Switzerland	m	m	m	m	m	m	m	m
Türkiye	m	m	m	m	m	m	m	m
United States	m	m	m	m	m	m	m	m
Other participants								
Flemish Comm. (Belgium)	4 964	7 229	8.4	12.3	4 880	6 368	102	114
French Comm. (Belgium)	4 682	6 706	8.0	11.4	4 621	6 057	101	111
England (UK)	m	m	m	m	m	m	m	m
Scotland (UK)	m	m	m	m	m	m	m	m
OECD average ³	3 614	4 424	7.3	7.9	3 135	4 166	115	106
Partner and/or accession countries								
Argentina	m	m	m	m	m	m	m	m
Brazil	m	m	m	m	m	m	m	m
Bulgaria	m	m	m	m	m	m	m	m
China	m	m	m	m	m	m	m	m
Croatia	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
Peru	m	m	m	m	m	m	m	m
Romania	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
EU25 average	3 673	4 679	7.5	9.4	3 254	4 431	113	106
G20 average	m	m	m	m	m	m	m	m

Note: See Box C7.4 and StatLink for the notes related to this Table. For more information see Source section and Education at a Glance 2023 Sources, Methodologies and Technical Notes (OECD, 2023^[1])

Table C7.2. Contribution of various factors to salary cost of teachers per student in primary education (2021)

Public institutions only, in equivalent USD, converted using PPPs for private consumption

	Salary cost of teachers per student (2021)	Difference (in USD) from the 2021 OECD average of USD 3 614	Contribution of the underlying factors to the difference from the OECD average			
			Effect (in USD) of actual teachers' salary below/above the 2021 OECD average of USD 46 816	Effect (in USD) of instruction time (for students) below/above the 2021 OECD average of 800 hours	Effect (in USD) of teaching time (for teachers) below/above the 2021 OECD average of 762 hours	Effect (in USD) of theoretical class size below/above the 2021 OECD average of 13.6 students per class
OECD countries	(1)	(2) = (3)+(4)+(5)+(6)	(3)	(4)	(5)	(6)
Australia	4 336	722	1 165	896	-489	-851
Austria	5 362	1 748	1 416	-569	-199	1 099
Canada	m	m	m	m	m	m
Chile	2 159	-1 455	-1 210	731	-824	-153
Colombia	m	m	m	m	m	m
Costa Rica	3 400	-214	-571	1 310	-1 670	718
Czech Republic	2 099	-1 515	-567	-416	544	-1 077
Denmark	5 458	1 844	1 395	1 009	391	-951
Estonia	2 541	-1 073	-1 207	-591	793	-69
Finland	3 763	149	261	-710	419	179
France ¹	2 518	-1 096	-99	237	-506	-727
Germany	5 441	1 827	2 496	-458	447	-658
Greece	3 529	-85	-1 958	-291	452	1 712
Hungary	2 612	-1 002	-1 775	-525	538	760
Iceland	5 075	1 461	429	-404	1 007	430
Ireland	4 152	538	921	526	-652	-257
Israel	2 862	-752	-446	520	-338	-487
Italy	3 695	81	-576	397	89	171
Japan	m	m	m	m	m	m
Korea	m	m	m	m	m	m
Latvia	2 181	-1 433	-1 541	-837	563	382
Lithuania	2 853	-762	-409	-697	-279	624
Luxembourg	m	m	m	m	m	m
Mexico	m	m	m	m	m	m
Netherlands	4 015	401	1 282	626	-816	-692
New Zealand	m	m	m	m	m	m
Norway	5 311	1 697	647	-267	124	1 193
Poland	3 238	-376	-670	-1 197	774	717
Portugal	4 074	460	54	476	-505	434
Slovak Republic	1 587	-2 027	-1 290	-431	111	-418
Slovenia	4 688	1 074	121	-665	808	810
Spain	m	m	m	m	m	m
Sweden	m	m	m	m	m	m
Switzerland	m	m	m	m	m	m
Türkiye	m	m	m	m	m	m
United States	m	m	m	m	m	m
Other participants						
Flemish Comm. (Belgium)	4 964	1 350	917	131	555	-253
French Comm. (Belgium)	4 682	1 068	648	181	470	-231
England (UK)	m	m	m	m	m	m
Scotland (UK)	m	m	m	m	m	m
OECD average	3 614	0	0	0	0	0
Partner and/or accession countries						
Argentina	m	m	m	m	m	m
Brazil	m	m	m	m	m	m
Bulgaria	m	m	m	m	m	m
China	m	m	m	m	m	m
Croatia	m	m	m	m	m	m
India	m	m	m	m	m	m
Indonesia	m	m	m	m	m	m
Peru	m	m	m	m	m	m
Romania	m	m	m	m	m	m
Saudi Arabia	m	m	m	m	m	m
South Africa	m	m	m	m	m	m
EU25 average	3 673	58	-29	-190	200	78
G20 average	m	m	m	m	m	m

Note: See Box C7.4 and StatLink for the notes related to this Table. For more information see Source section and Education at a Glance 2023 Sources, Methodologies and Technical Notes (OECD, 2023^[1])

Table C7.3. Contribution of various factors to salary cost of teachers per student in lower secondary education (2021)

Public institutions only, in equivalent USD, converted using PPPs for private consumption

	Salary cost of teachers per student (2021)	Difference (in USD) from the 2021 OECD average of USD 4 424	Contribution of the underlying factors to the difference from the OECD average			
			Effect (in USD) of actual teachers' salary below/above the 2021 OECD average of USD 49 115	Effect (in USD) of instruction time (for students) below/above the 2021 OECD average of 904 hours	Effect (in USD) of teaching time (for teachers) below/above the 2021 OECD average of 697 hours	Effect (in USD) of the theoretical class size below/above the 2021 OECD average of 14.4 students per class
OECD countries	(1)	(2) = (3)+(4)+(5)+(6)	(3)	(4)	(5)	(6)
Australia ¹	5 086	662	1 191	555	-884	-200
Austria	8 341	3 918	2 346	-30	706	896
Canada	m	m	m	m	m	m
Chile	1 991	-2 432	-1 381	521	-1 154	-418
Colombia	m	m	m	m	m	m
Costa Rica	3 282	-1 142	-93	849	-2 267	369
Czech Republic	3 024	-1 399	-941	-50	377	-785
Denmark	5 784	1 360	1 381	1 455	54	-1 531
Estonia	3 131	-1 293	-1 657	-360	518	206
Finland	6 687	2 264	689	-628	869	1 334
France ²	3 574	-849	120	231	-128	-1 073
Germany	7 004	2 581	3 423	-54	491	-1 280
Greece	3 728	-695	-2 204	-664	707	1 465
Hungary	2 406	-2 018	-2 031	-451	271	193
Iceland	5 207	783	247	-363	698	202
Ireland ¹	4 948	525	1 053	101	-16	-613
Israel	3 788	-636	-447	369	-40	-518
Italy	4 002	-422	-580	384	579	-804
Japan	m	m	m	m	m	m
Korea	m	m	m	m	m	m
Latvia	3 040	-1 383	-1 962	-523	-369	1 471
Lithuania	4 048	-376	-750	-350	-874	1 599
Luxembourg	m	m	m	m	m	m
Mexico	m	m	m	m	m	m
Netherlands	5 032	608	2 322	491	-157	-2 048
New Zealand	m	m	m	m	m	m
Norway	6 839	2 415	549	-191	281	1 777
Poland	3 921	-502	-967	-700	1 513	-348
Portugal	5 206	783	-291	-386	212	1 248
Slovak Republic	2 131	-2 293	-1 800	-318	253	-427
Slovenia ¹	3 632	-791	-18	-668	429	-534
Spain	m	m	m	m	m	m
Sweden	m	m	m	m	m	m
Switzerland	m	m	m	m	m	m
Türkiye	m	m	m	m	m	m
United States	m	m	m	m	m	m
Other participants						
Flemish Comm. (Belgium)	7 229	2 806	937	289	707	873
French Comm. (Belgium)	6 706	2 282	489	-57	641	1 209
England (UK)	m	m	m	m	m	m
Scotland (UK)	m	m	m	m	m	m
OECD average	4 424	0	0	0	0	0
Partner and/or accession countries						
Argentina	m	m	m	m	m	m
Brazil	m	m	m	m	m	m
Bulgaria	m	m	m	m	m	m
China	m	m	m	m	m	m
Croatia	m	m	m	m	m	m
India	m	m	m	m	m	m
Indonesia	m	m	m	m	m	m
Peru	m	m	m	m	m	m
Romania	m	m	m	m	m	m
Saudi Arabia	m	m	m	m	m	m
South Africa	m	m	m	m	m	m
EU25 average	4 679	255	-22	-114	339	53
G20 average	m	m	m	m	m	m

Note: See Box C7.4 and StatLink for the notes related to this Table. For more information see Source section and Education at a Glance 2023 Sources, Methodologies and Technical Notes (OECD, 2023^[1])

StatLink  <https://stat.link/lu7pw1>

Box C7.4. Notes for Indicator C7 Tables

Table C7.1. Salary cost of teachers per student, by level of education (2015 and 2021)

Teachers' salaries used in the calculation of this indicator refer to the annual actual teachers' salaries in public institutions (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 C7.4 and C7.5, available on line, for notes on each factor.

1. Lower secondary and upper secondary education are combined for the calculation of the student-teacher ratio.
2. Reference years 2020 instead of 2021 and 2016 instead of 2015.
3. The OECD average only includes OECD countries and other participants with data for all factors used to calculate salary cost.

Table C7.2. Contribution of various factors to salary cost of teachers per student in primary education (2021)

Teachers' salaries used in the calculation of this indicator refer to the annual actual teachers' salaries in public institutions (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 C7.4 and C7.5, available on line, for notes on each factor.

1. Reference year 2020.

Table C7.3. Contribution of various factors to salary cost of teachers per student in lower secondary education (2021)

Teachers' salaries used in the calculation of this indicator refer to the annual actual teachers' salaries in public institutions (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 C7.4 and C7.5, available on line, for notes on each factor.

1. Lower secondary and upper secondary education are combined for the calculation of the student-teacher ratio.
2. Reference years 2020.

For more information see *Definitions, Methodology and Source* sections and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1]).

Data and more breakdowns are available in the Education at a Glance Database (<http://stats.oecd.org/>).

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

Chapter D: Teachers, the learning environment and the organisation of schools

Indicator D1. How much time do students spend in the classroom?

Highlights

- Students across the OECD receive an average of 7 634 hours of compulsory instruction during their primary and lower secondary education, ranging from 5 245 hours in Poland to double that in Australia (11 000 hours).
- Compulsory instruction time for primary students averages 805 hours per year across the OECD, while lower secondary students receive an average of 111 more hours of compulsory education per year than primary students (916 hours).
- Across the OECD, instruction in reading, writing and literature and in mathematics represents 41% of compulsory instruction time for primary school students, but only 27% of compulsory instruction time for lower secondary school students.

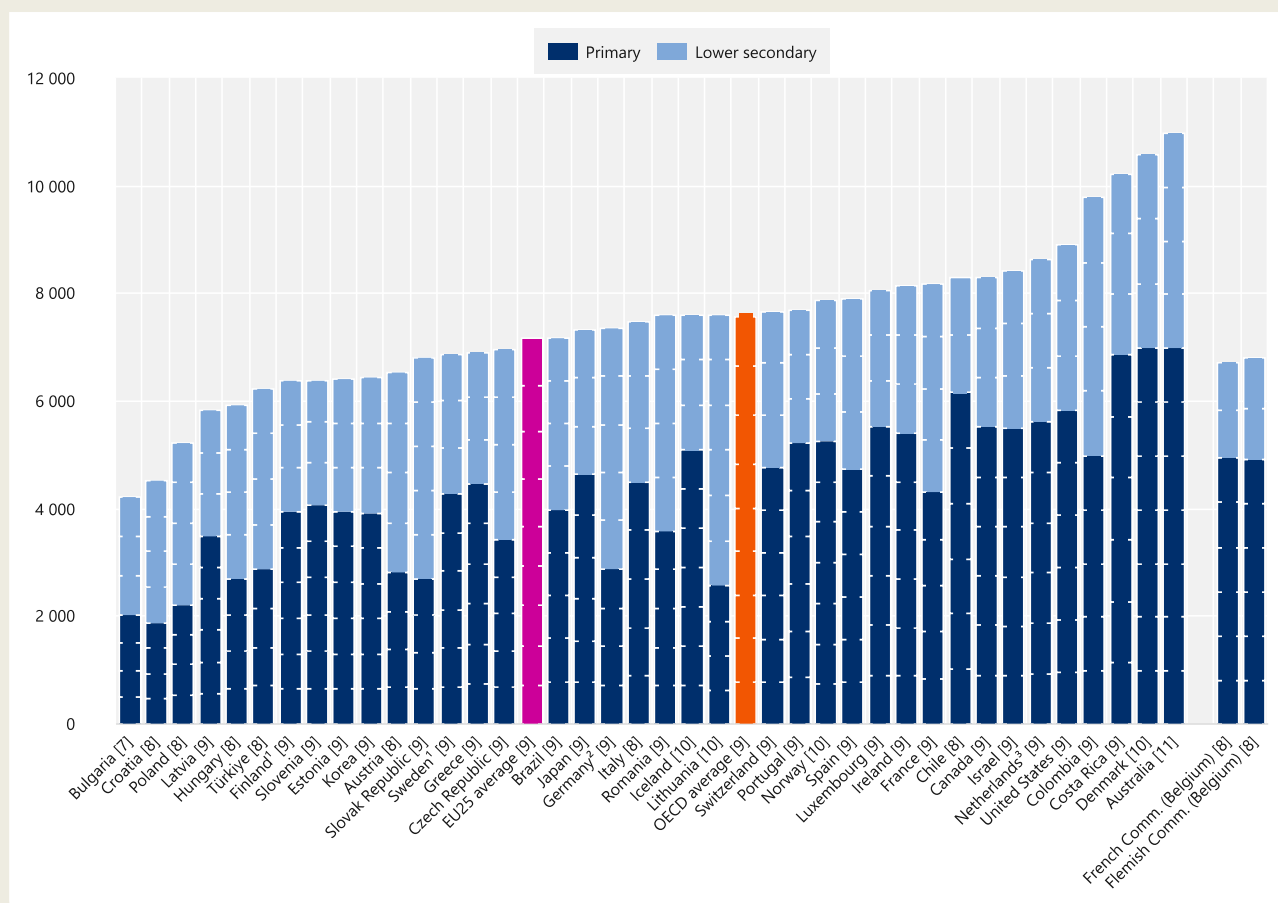
Context

Providing instruction in formal classroom settings accounts for a large portion of public investment in education. Countries make various choices about 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 <https://doi.org/10.1787/d7f76adc-en> (OECD, 2023^[2]) 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 account for 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 in OECD (2021^[3])). 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 or after the school day or during school holidays, but these activities (as well as examination periods) are outside the scope of this indicator.

Figure D1.1. Compulsory instruction time in general education (2023)

In hours, in primary and lower secondary education, in public institutions



Note: Instruction hours for each grade refer to average hours per grade for the level of education. 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 2022.

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 other participants are ranked in ascending order of the total number of compulsory instruction hours.

Source: OECD (2023), Table D1.1. For more information see *Source* section and <https://doi.org/10.1787/d7f76adc-en> (OECD, 2023_[2]).

StatLink  <https://stat.link/s40p3f>

Other findings

- Primary education lasts six years on average across the OECD, ranging from four to seven years, while lower secondary general education lasts three years on average, ranging from two to six years. In three out of five OECD and partner countries and other participants, at least one year of upper secondary education forms part of compulsory full-time general education.
- Apart from a few countries where the compulsory curriculum is mostly devoted to subjects with a flexible timetable, one-half of the countries do not devote instruction time to flexible subjects chosen by schools and only few countries devote some compulsory instruction time for primary and lower

secondary students to compulsory subjects with a flexible timetable (4-9% at the primary level and 5-28% at lower secondary level). On average, 3% of compulsory instruction time at both the primary level and at the lower secondary level is devoted to flexible subjects chosen by schools.

- In more than one-quarter of countries with available data, the 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.

Analysis

Compulsory general education

Both annual instruction time and the length of compulsory education have an impact on the total duration of instruction over the course of compulsory education. In some countries, where compulsory education is shorter, students could face a heavier annual workload to meet the country's 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 (in public institutions). However, 25 OECD and partner countries have at least one year of compulsory pre-primary education, so the starting age for compulsory education is younger than the starting age for primary education (see Figure X3.D1.1 in <https://doi.org/10.1787/d7f76adc-en> (OECD, 2023^[2]), for more details on the number of years of compulsory education). Moreover, in around three-fifths of countries and other participants with available data, compulsory full-time education extends into at least one year of upper secondary education (Table D1.1). In most countries a large majority of students remain enrolled after the end of compulsory education (see Indicator B1).

In nearly three-quarters of countries and other participants with available data, students are required to start primary education at the age of 6. In eight other countries and other participants, primary education does not start until children are 7. Only in Australia, England (United Kingdom), New Zealand and Scotland (United Kingdom) does primary education start at age 5 (Table D1.2).

There are also substantial variations in the duration of primary and lower secondary education. On average across OECD countries and other participants, primary education lasts six years, but it ranges from four to seven years. Lower secondary education averages three years, but ranges from two to six years (Table D1.2). The number of grades allocated to each level of compulsory education may also differ within countries, across subnational entities, for example in federal countries such as Canada and the United States (Box D1.2).

Countries and other participants 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 and other participants, in part because countries organise holidays differently (Box D1.1). The distribution of instruction time during the week also varies. For example, although students go to primary and lower secondary school five days per week in most countries and other participants, students in Belgium and France typically do not attend school on Wednesday afternoon (see Box D1.2 in *Education at a Glance 2019* (OECD, 2019^[4]). Countries and other participants also differ in the way they organise recesses and breaks within the school day (see Box D1.2 in *Education at a Glance 2020* (OECD, 2018^[5]).

Box D1.1. Organisation of breaks within the school year in primary education (2023)

The length of the school year varies greatly between countries and other participants, implying that there is also wide variation in the number of weeks students are not at school. Countries and other participants organise the school year in different ways, both in the frequency and the length of school breaks.

In 26 out of 40 OECD countries and other participants, the total length of school breaks is harmonised across the whole country, ranging from about 11 weeks in Costa Rica and Denmark to more than 17 weeks in Latvia, with an average of 14 weeks. However, the distribution of breaks during the school year might be flexible across subnational entities. For example, dates for school breaks are defined according to three zones in France (see Figure X3.D1.2 in <https://doi.org/10.1787/d7f76adc-en> (OECD, 2023^[2]), for the organisation of the school year at primary level).

In another 11 OECD countries, the total length and the distribution of school breaks can differ between subnational entities (especially in federal countries) and/or individual schools (e.g. Italy), although decisions related to these school breaks may still need to be based on guidelines from a higher level of government. For example, schools in Italy autonomously organise school breaks under regional guidelines.

In all countries and other participants, the longest break is the one between two successive school years. This ranges in length from 4 weeks in some cantons in Switzerland to 13 weeks or more in some regions in Italy and Latvia. In nearly all countries and other participants with available information, the 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 two to four shorter holiday periods during the school year, although England (United Kingdom) and Luxembourg as well as some Länder in Germany offer a fifth break.

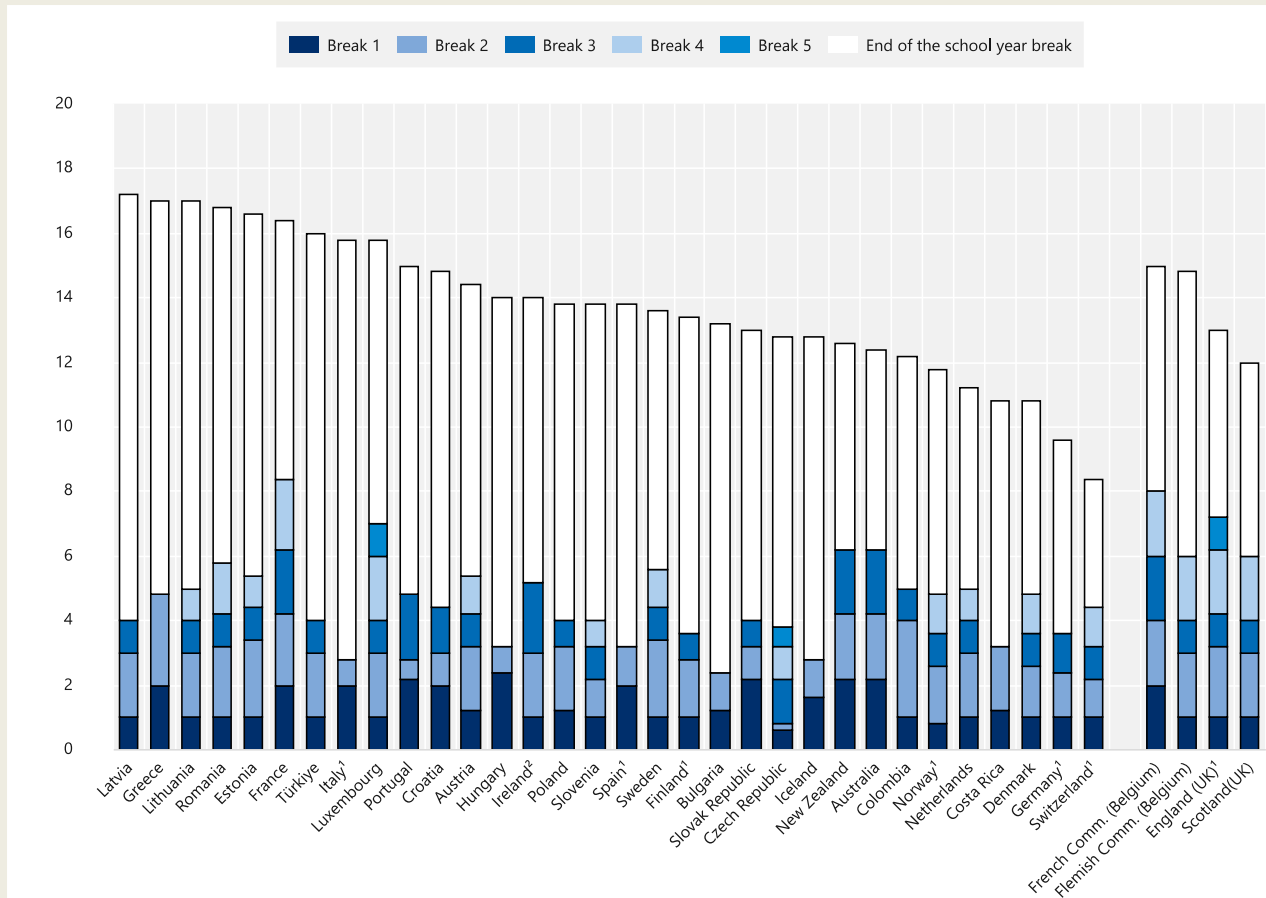
The timing of the breaks during the school year differ, but the main common break period is at the end of calendar year, corresponding to either an approximately two-week break in the northern hemisphere, or the end of the school year break in the southern hemisphere.

For most countries and other participants the length of the different breaks varies from a few days to more than two weeks. Exceptions to this pattern are countries with only one-week breaks (four in Slovenia) one-week and one-day breaks (two in Bulgaria) or two-week breaks (Australia and the French Community of Belgium). The Flemish Community of Belgium, Latvia, Lithuania, Luxembourg, the Netherlands, Scotland (United Kingdom) and the Republic of Türkiye alternate one-week and two-week breaks during the school year (Figure D1.2).

In most countries and other participants, the organisation of breaks is usually similar at primary and lower secondary levels. However, the breaks at the end of the school year are two weeks shorter at lower secondary level than at primary level in Lithuania while they are about two weeks longer in Portugal, and four weeks longer in Ireland (see Figure X3.D1.3 in <https://doi.org/10.1787/d7f76adc-en> (OECD, 2023^[2]), for the organisation of school year at the lower secondary level).

Figure D1.2. School breaks in compulsory primary education (2023)

In weeks, in public institutions



Note: Breaks exclude public/religious days, except if these days are included in longer breaks.

1. Minimum length of breaks. Length of breaks may vary by region, by programme and/or by individual school.

2. End-of-year break includes examination periods.

Countries and other participants are ranked in descending order of the total number of weeks of breaks for a school year.

Source: OECD (2023). For more information see Source section and <https://doi.org/10.1787/d7f76adc-en> (OECD, 2023^[2]).

StatLink  <https://stat.link/g8ozu2>

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, the total statutory number of hours of intended and/or compulsory instruction time are defined at the national level (i.e. uniform across the country). The total statutory hours of intended and/or compulsory instruction time are defined at the subnational level in some federal countries (e.g. Belgium, Canada, Germany and the United States) and in some countries with a decentralised education system (e.g. Spain and the United Kingdom) (Box D1.2).

Box D1.2. Subnational variation in instruction time at the primary and lower secondary levels (2023)

Even if all children within a country are enrolled in compulsory education for the same number of years, they do not necessarily receive the same amount of instruction time within each country. Subnational data provided by five countries (for 2023 for Belgium, Spain, the United Kingdom and the United States, and 2022 for Canada) show how instruction time can vary significantly across subnational entities within a single country.

In four of these countries, the number of grades in primary and lower secondary education is the same for all subnational entities (Belgium, Canada, Spain and the United States). In the United Kingdom, the total number of grades at the primary and lower secondary levels differ by one year between subnational entities with available information (England and Scotland). Primary education ranges from six years (in England) to seven years (in Scotland), while lower secondary is three years for both. As the number of grades of compulsory education at upper secondary level also varies between one and two years, the total length of compulsory education is 11 years in both subnational entities.

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 different degrees. At the primary level, the number of compulsory instruction hours per year varies by less than 1% in Belgium (5 hours, from 821 hours in the Flemish Community to 826 hours in the French Community), by 2% in Spain (15 hours, from 788 hours in most subnational entities to 802 hours in the *Comunidad Foral de Navarra*) and by 75% in the United States (540 hours, from an estimated minimum of 720 hours in New Jersey to 1 260 hours in Texas). These variations can add up to significant differences in the total number of hours of instruction over the whole course of primary education. They range from a total difference of 28 hours between the French and Flemish Communities in Belgium (4 958 hours compared with 4 928 hours) to 88 hours in Spain, 688 hours in Canada (for intended instruction time, considering compulsory and non-compulsory intended instruction hours) and 3 240 hours in the United States.

The differences are similar at the lower secondary level: the annual number of compulsory instruction hours varies by about 7% in Belgium, 2% in Spain and 75% in the United States. Differences in the total number of compulsory instruction hours at the lower secondary level between subnational entities range from 129 hours in Belgium to 70 hours in Spain and 1 620 hours in the United States. In Canada, intended instruction time varies by 6% (168 hours) across subnational entities.

The extent of these variations may reflect differences in the number of annual days of instruction at both the primary and lower secondary levels, except in Spain, where the number of instruction days does not vary across subnational entities. In 2022, the annual number of instruction days at the primary level varied by 1% in Belgium (1 day, from 176 days in the Flemish Community to 177 days in the French Community), by 6% in Canada (10 days, from 180 days in Quebec to 190 days in Saskatchewan) and 16% in the United States (26 days, from 160 days in Colorado to 186 days in Kansas). Similar differences are found 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, but 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. These lessons might take the form of remedial catch-up classes or enrichment courses, with individual tutors or in group lessons provided by school teachers, or other independent courses (see Box D1.2 in *Education at a Glance 2017* (OECD, 2017^[6])).

and Organisation of the School Day in <https://doi.org/10.1787/d7f76adc-en> (OECD, 2023^[2]), for more information).

Compulsory instruction time

Compulsory instruction time refers to the amount of instruction time that almost every public school must provide and almost all public sector students must attend, and how it is allocated, in line with public regulations.

Across OECD countries and other participants, total compulsory instruction time in primary and lower secondary general education averages 7 634 hours spanning across 9 years on average. This ranges from 5 245 hours in Poland (in 8 years) to 11 000 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 (in New Zealand) or for long enough to deliver a broad and balanced curriculum that meets all statutory requirements (in England and Scotland [United Kingdom]).

On average across OECD countries and other participants, students receive 4 561 hours of compulsory instruction over 6 years of primary education and 3 073 hours during 3 years of lower secondary general education. The average annual number of compulsory instruction hours tend to increase with the level of education in most countries and other participants (from 805 hours in primary education to 916 hours in lower secondary general programmes on average), except in Costa Rica (2% decrease between primary and lower secondary hours), Luxembourg (9% decrease) and Portugal (6% decrease) (Table D1.1.).

Compulsory instruction time per year also generally increases with age on average: 779 hours for 7-year-olds, rising to 846 hours for 10-year-olds and 924 hours for 13-year-olds. In Bulgaria, Croatia, Korea, Latvia, Poland and Romania, average annual compulsory instruction hours increase by more than 40% between the ages of 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). It does not show the actual number of hours of instruction that students receive (for example, adjustment in the organisation of instruction during the COVID-19 pandemic (OECD/UIS/UNESCO/UNICEF/WB, 2021^[7]) and nor does it cover learning outside the formal classroom setting.

Non-compulsory instruction time

About three-quarters of countries and other participants with available data have no non-compulsory instruction time, so intended and compulsory instruction time are the same for primary and lower secondary students. In another one-quarter of the countries and other participants (eight countries at primary level and nine at lower secondary level), 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). Non-compulsory instruction time might cover various subjects, for example moral and religious education at the primary level in Portugal, or remedial instruction or work on specific projects at the secondary level in Greece (Table D1.1 and <https://doi.org/10.1787/d7f76adc-en> (OECD, 2023^[2]), for more information).

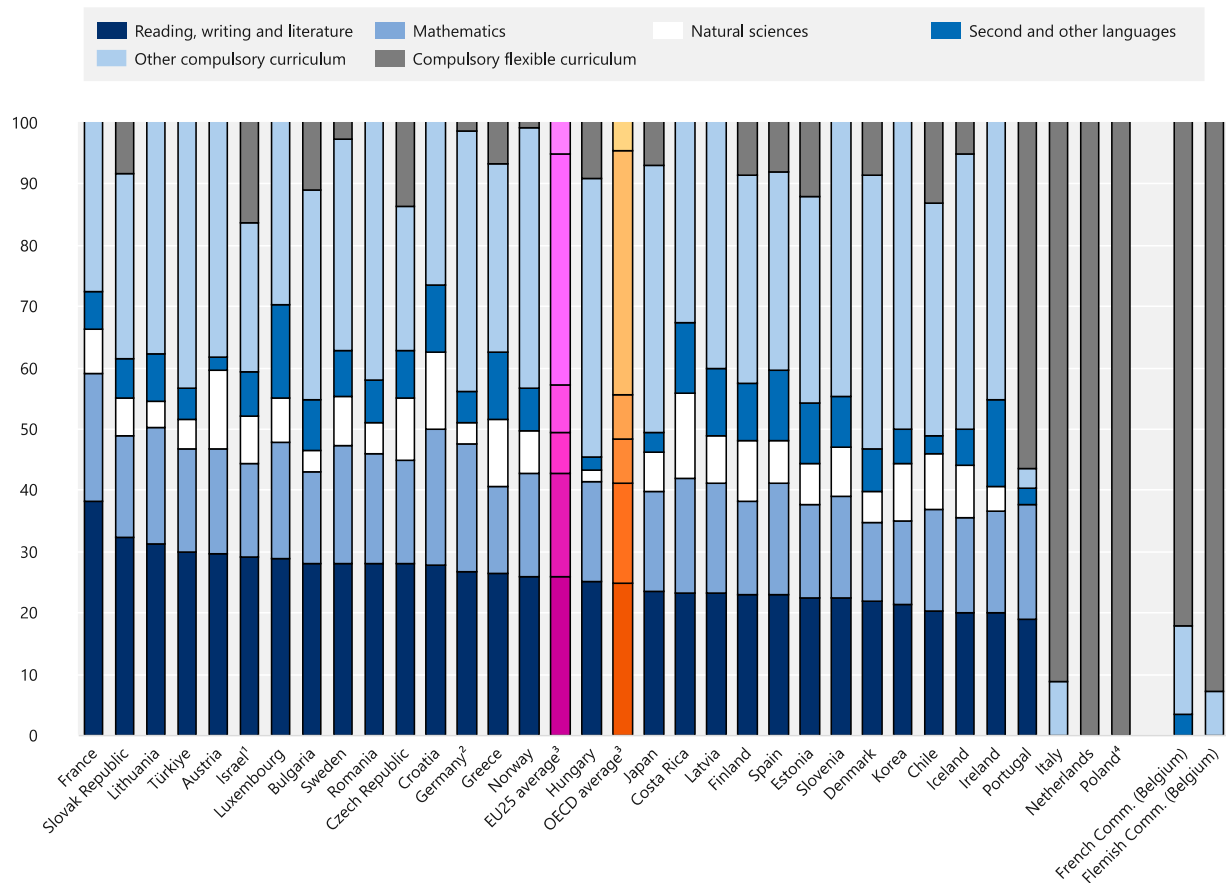
In a few of the countries with available data, non-compulsory instruction time amounts to over 20% of compulsory instruction time. At the primary level, it accounts for 21% of total compulsory instruction time in Slovenia, 25% in Croatia and 52% in Greece. At the lower secondary level, non-compulsory time accounts for 23% of total compulsory instruction time in Slovenia, and 29% in France and Greece (Table D1.3 and Table D1.4). However these values need to be interpreted with caution. In France, for example, there are a wide variety of courses in non-compulsory curriculum at the lower secondary level, and students could not physically attend all the subjects and hours offered.

Instruction time per subject

On average across OECD countries, 41% of compulsory instruction time at primary level is devoted to providing students with fundamental skills in literacy and numeracy: 25% on reading, writing and literature and 16% on mathematics. Croatia, France and Lithuania specifically allocate at least half of compulsory instruction time to reading, writing and literature (first language), and mathematics; Ireland and Luxembourg could also be considered to do the same, as the instruction time devoted to second languages includes other national languages. Together with arts (11%), physical education and health (10%), natural sciences (7%), second and other languages (7%), and social sciences (6%), these seven study areas account for 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). The remainder of the non-flexible compulsory curriculum at the primary level is taken up by religion, ethics and moral education; information and communication technologies (ICT); technology; practical and vocational skills; and other subjects, accounting for about 13% of compulsory instruction time on average across OECD countries (Table D1.3).

Figure D1.3. Instruction time per subject in primary education (2023)

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 2022.

3. Excludes 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 other participants are ranked in descending order of the proportion of instruction hours devoted to reading, writing and literature.

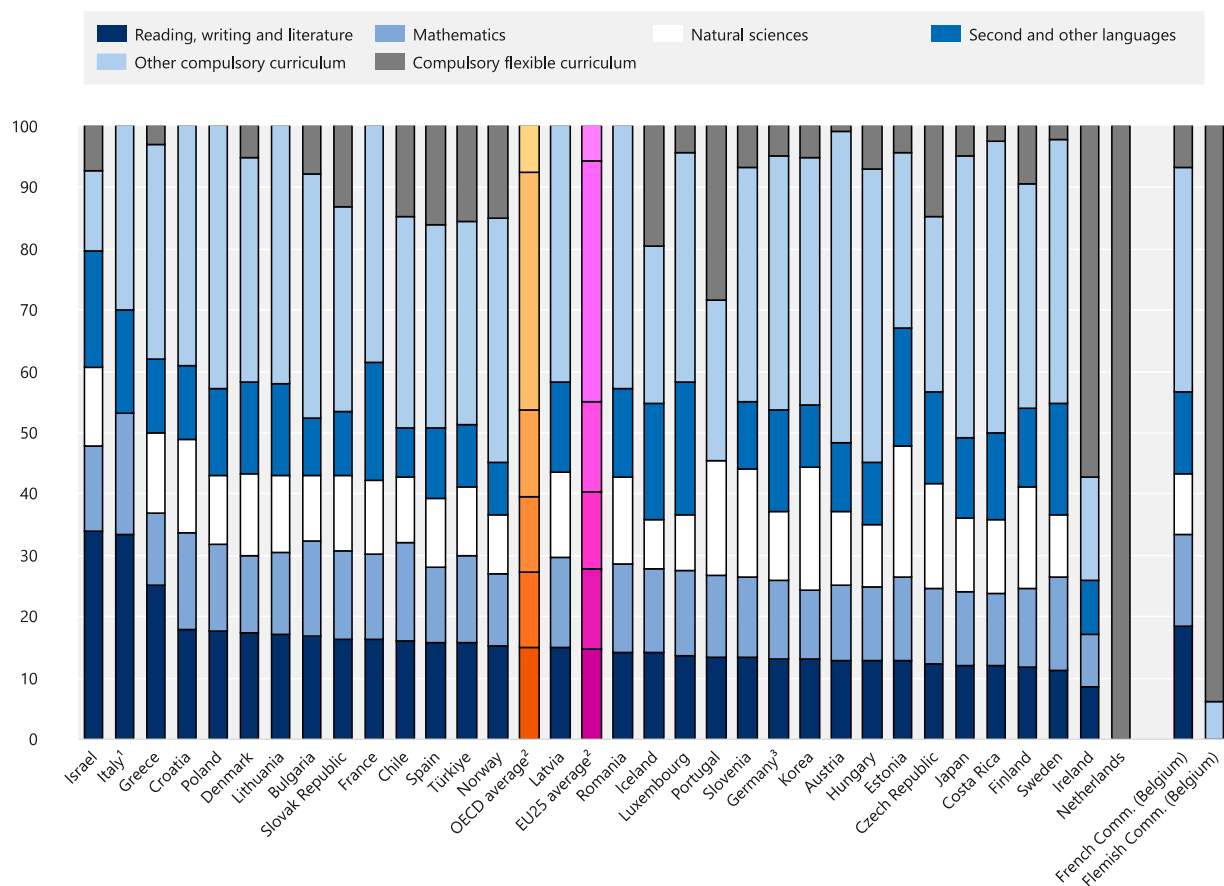
Source: OECD (2023), Table D1.3. For more information see Source section and <https://doi.org/10.1787/d7f76adc-en> (OECD, 2023^[2]).

StatLink  <https://stat.link/fsvyzp>

At lower secondary level, the same seven major study areas at the primary level continue to account for the majority of compulsory curriculum hours (80%), but with a significant shift in the allocation of time within those subjects as the curriculum generally becomes more subject specific. On average across OECD countries where instruction time per subject is specified, reading, writing and literature (15%) and mathematics (13%) make up 27% of the compulsory curriculum; 14 percentage points lower than in primary education. The share of time allocated to physical education and health falls by 2 percentage points (to 8%) and to the arts by 4 percentage points (to 7%) compared to primary education. Conversely, the proportion of compulsory instruction time spent on natural sciences (12%) and social sciences (11%) each rise by 5 percentage points, while the time devoted to second and other languages climbs by 7 percentage points (to 14%). The remaining subjects make up about the same share of the curriculum as they do at primary level (Figure D1.4, Table D1.3 and Table D1.4, and Box D1.3 explores the teaching of vocational subjects in compulsory general education).

Figure D1.4. Instruction time per subject in general lower secondary education (2023)

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 sciences. Mathematics includes natural sciences.

2. Excludes the Flemish Community (Belgium), the French Community (Belgium), Ireland and the Netherlands.

3. Year of reference 2022.

Countries and other participants are ranked in descending order of the proportion of instruction hours devoted to reading, writing and literature.

Source: OECD (2023), Table D1.4. For more information see Source section and <https://doi.org/10.1787/d7f76adc-en> (OECD, 2023_[2]).

StatLink  <https://stat.link/p2wtiq>

Box D1.3. Vocational subjects in compulsory general education (2023)

Compulsory general education at primary and lower secondary levels is mostly devoted to general academic subjects, which prepare students for their future studies and careers but some subjects may also provide practical knowledge and vocational experiences. These subjects can help students better understanding how their learning is connected to the world of work.

The data collection on instruction time gathers data on the intended instruction time devoted to vocational subjects such as technology and practical and vocational skills. “Technology” refers to subjects providing knowledge on the practical use of scientific or technological discoveries that use specific instruments and processes, covering subjects such as construction, electricity, electronics, graphics and design. “Practical and vocational skills” refers to subjects preparing students for specific occupations, including accounting, entrepreneurship education or business studies, career guidance, clothing and textiles, driving and road security, home economics, nursing, secretarial studies, tourism and hospitality, woodworking, metalwork, and sewing. The coverage of these subjects varies across countries and other participants. For example, in Greece and Slovenia, the subject categorised as practical and vocational skills at the primary level refers to home economics, while in Sweden it refers to home and consumer studies. In some countries, such as France, practical and vocational skills include career guidance.

On average among OECD countries and other participants, only a small part of the compulsory curriculum is devoted to these subjects. About 3% of instruction time at primary level and 4% at lower secondary level is devoted to technology and practical and vocational skills combined.

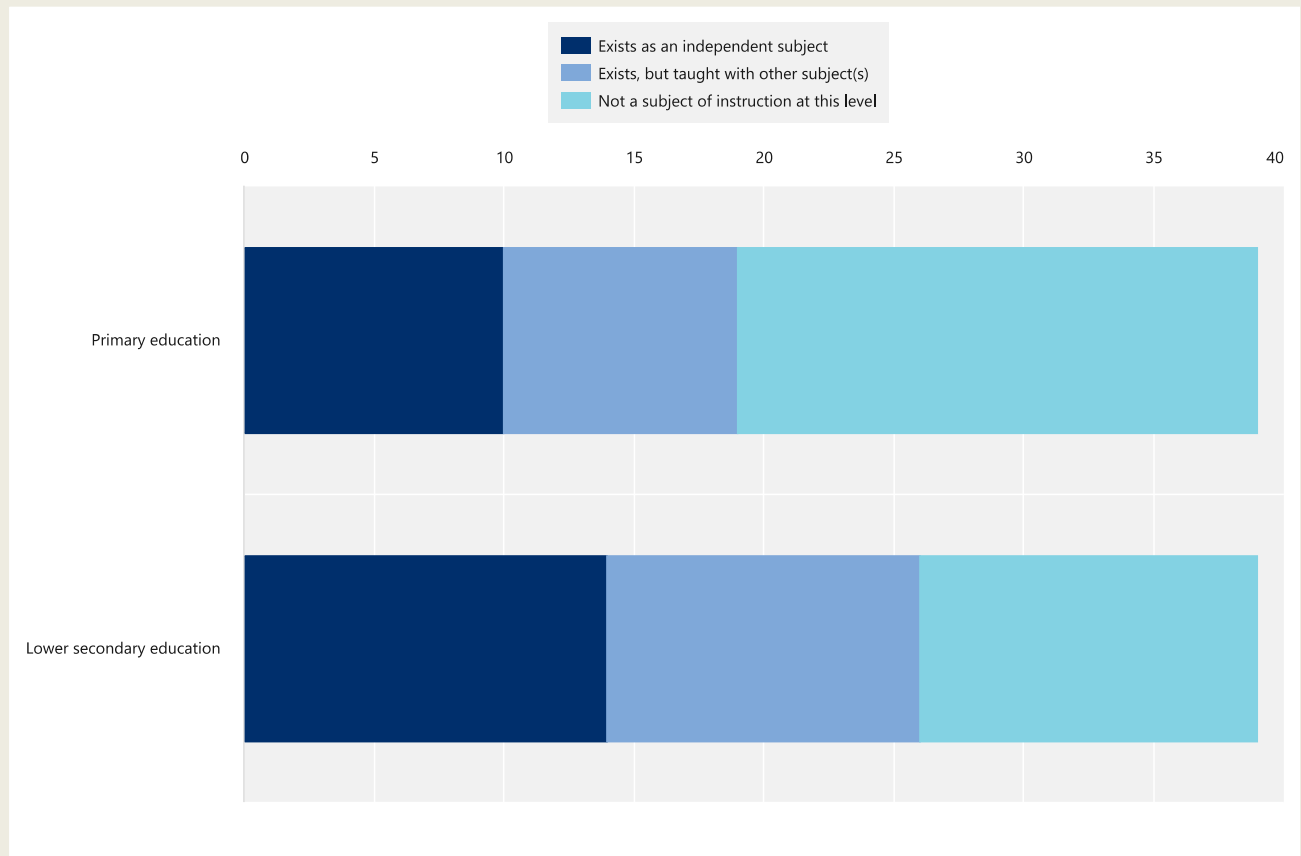
However, not all countries include these subjects in their compulsory instruction time or define a specific number of compulsory instruction hours for them (i.e. as independent subjects in their own right). For example, vocational and practical skills are part of the compulsory curriculum in nearly half of the 38 countries and other participants with available information at primary level and about two-thirds of them at lower secondary level. Even when they are included in the curriculum, only about half of these countries and other participants consider them independent subjects, while the other half teach them alongside other subjects (Figure D1.5).

The fact that technology and practical and vocational skills are taught with other subjects may be due to them combining different skills and topics. For example, in Austria, *Textiles Werken* (technical and textile shop) is reported as a practical and vocational skills subject, although some aspects of it relates to the arts.

Vocational subjects can also be a compulsory part of the flexible curriculum, meaning that different schools can offer different subjects across the country. For example, in Slovenia, basic schools providing lower secondary education have the autonomy to offer different choices of subjects within compulsory options for students, which may include vocational subjects like technology, woodworking, embroidery, bobbin lace, beekeeping and agriculture as well as academic subjects. In Norway, practical crafts is offered as one of the compulsory subject options at lower secondary level.

Figure D1.5. Instruction time dedicated to practical and vocational skills in compulsory general education (2023)

Number of countries and other participants



Source: OECD (2023), Tables D1.3 and D1.4. For more information see *Source* section and <https://doi.org/10.1787/d7f76adc-en> (OECD, 2023^[2]).

StatLink  <https://stat.link/b16ozc>

At the lower secondary level, there is substantial variation in how countries and other participants 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 Costa Rica, the Czech Republic, Finland, Ireland, Japan and Sweden, but more than 25% in Greece, Israel and Italy (in Israel and Italy, this also includes time devoted to social sciences). In Ireland, reading, writing and literature are taught in two national languages, with the combined instruction time of the two languages reaching around 17% of the total compulsory instruction time. Natural sciences account for 10% or less of compulsory instruction time in the French Community of Belgium, Iceland, Luxembourg and Norway, but 20% or more 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 and other participants. 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, Japan, Latvia and Luxembourg. More than two-fifths of countries with available data allocate some compulsory instruction time to instruction in a further language (Figure D1.4, Table D1.3 and Table D1.4).

As the differences between the primary and lower secondary levels show, there are significant differences in how time is allocated to school subjects as students grow older. For example, on average across OECD countries and other participants, 27% of instruction time is devoted to reading, writing and literature for 7-year-olds, 18% for 11-year-olds, and 12% for 15-year-olds. In contrast, an average of 4% of instruction time for 7-year-olds is devoted to a second language, and this rises to 11% for 11-year-olds (and 1% of time spent studying other languages), while for 15-year-olds, the percentages are 10% for second languages and 5% for other languages. The share of instruction time devoted to other subjects also changes in similar ways across ages (Table D1.6, available on line).

Flexibility in the curriculum

In most countries and other participants, 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 to organise instruction time or choose subjects.

In more than one-quarter of countries and other participants with available data, the allocation of instruction time across grades is flexible in primary and lower secondary general education. In these countries and other participants, the instruction time for a specific subject is defined for a certain number of grades or even the whole of compulsory education, but the time to be allocated to each grade is not specified. In such cases, schools or local authorities are free to decide how much time should be allocated within each grade (Table D1.2).

Setting compulsory subjects within a flexible timetable is the practice for most subjects in a few countries and other participants. 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 the Netherlands and Poland (in each of the first three grades), the entire curriculum at the primary level is organised as a flexible timetable. In Italy, primary schools have autonomy on the allocation of instruction time across subjects in all but a few subjects. The picture is similar at the lower secondary level in the Flemish Community of Belgium and the Netherlands. In these countries and other participants, 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), some compulsory subjects are specified at both primary and lower secondary levels, but total instruction time is the responsibility of local authorities and schools themselves. Excluding these countries and other participants, compulsory subjects with flexible timetables account for only 1% of the compulsory instruction time at both primary and lower secondary levels on average, even if they are a significant part of the curriculum in some countries and other participants (Table D1.3 and Table D1.4).

Flexibility in the choice of subjects is less common across OECD countries and other participants. On average, 3% of compulsory instruction time at the primary level is allocated to subjects chosen by schools. At the lower secondary level, 3% of compulsory instruction time is allocated to subjects chosen by schools and another 3% to subjects chosen by students. However, some countries and other participants 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 Flemish Community of Belgium (lower secondary), Israel (primary), the Slovak Republic (lower secondary) and Spain (lower secondary). At least 20% of compulsory instruction time is allocated in this way in Ireland (57% at lower secondary level). In Iceland, Norway and Türkiye, 15-20% of compulsory instruction time is allocated to subjects chosen by lower secondary students (Table D1.3 and Table D1.4).

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 chosen 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 students 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 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 and other participants 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 *Education at a Glance 2007* (OECD, 2007^[8])).

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 and other participants 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 <https://doi.org/10.1787/9789264304444-en> (OECD, 2018^[9]) and <https://doi.org/10.1787/d7f76adc-en> (OECD, 2023^[2]).

Source

Data on instruction time are from the 2022 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 2022/23. Data on school calendars are from the 2022 Joint Eurydice-OECD data collection on school calendars and refer to dates on holiday periods for students at primary and (lower and upper) secondary education for the school year 2022/23.

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Indicator D1 Tables

Tables Indicator D1. How much time do students spend in the classroom?

Table D1.1	Instruction time in compulsory general education (2023)
Table D1.2	Organisation of compulsory general education (2023)
Table D1.3	Instruction time per subject in primary education (2023)
Table D1.4	Instruction time per subject in general lower secondary education (2023)
WEB Table D1.5	<i>Instruction time in compulsory general education, by age (2023)</i>
WEB Table D1.6	<i>Instruction time per subject for 6-17 year-olds (2023)</i>

StatLink  <https://stat.link/5bxmfa>

Cut-off date for the data: 15 June 2023. 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 education¹ (2023)

By level of education, in public institutions

	Number of grades that are part of compulsory education	Primary						Number of grades that are part of compulsory education	Lower secondary					
		Average hours per year			Total number of hours				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
OECD countries	(1)	(2)	(3)	(4)=(2)+(3)	(5)	(6)	(7)=(5)+(6)	(8)	(9)	(10)	(11)=(9)+(10)	(12)	(13)	(14)=(12)+(13)
Australia	7	1 000	m	m	7 000	m	m	4	1 000	m	m	4 000	m	m
Austria	4	705	m	m	2 820	m	m	4	930	m	m	3 720	m	m
Canada	6	922	m	m	5 531	m	m	3	925	m	m	2 774	m	m
Chile	6	1 028	a	1 028	6 165	a	6 165	2	1 066	a	1 066	2 132	a	2 132
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	687	a	687	3 434	a	3 434	4	888	a	888	3 550	a	3 550
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	968	279	1 247	3 872	1 116	4 988
Germany ^{4,5}	4	724	a	724	2 896	a	2 896	5	896	a	896	4 480	a	4 480
Greece	6	747	392	1 139	4 483	2 349	6 832	3	811	238	1 049	2 433	715	3 148
Hungary	4	679	a	679	2 718	a	2 718	4	803	a	803	3 212	a	3 212
Iceland	7	729	a	729	5 100	a	5 100	3	839	a	839	2 516	a	2 516
Ireland	6	903	a	903	5 415	a	5 415	3	918	a	918	2 755	a	2 755
Israel	6	918	a	918	5 511	a	5 511	3	976	a	976	2 929	a	2 929
Italy	5	904	a	904	4 521	a	4 521	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	584	m	m	3 506	m	m	3	778	m	m	2 334	m	m
Lithuania	4	644	54	698	2 576	216	2 792	6	842	119	961	5 053	713	5 766
Luxembourg	6	924	a	924	5 544	a	5 544	3	845	a	845	2 535	a	2 535
Mexico	m	m	m	m	m	m	m	m	m	m	m	m	m	m
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	558	56	613	2 230	223	2 453	4	754	64	817	3 015	254	3 270
Portugal	6	874	144	1 018	5 245	864	6 108	3	818	25	843	2 455	74	2 529
Slovak Republic	4	677	a	677	2 707	a	2 707	5	823	a	823	4 117	a	4 117
Slovenia	6	682	140	822	4 091	840	4 931	3	766	179	944	2 298	536	2 833
Spain	6	792	a	792	4 754	a	4 754	3	1 057	a	1 057	3 171	a	3 171
Sweden ²	6	714	m	m	4 283	m	m	3	869	m	m	2 607	m	m
Switzerland	6	799	m	m	4 792	m	m	3	963	m	m	2 889	m	m
Türkiye	4	720	a	720	2 880	a	2 880	4	843	a	843	3 371	a	3 371
United States	6	974	m	m	5 841	m	m	3	1 023	m	m	3 068	m	m
Other participants														
Flemish Comm. (Belgium)	6	821	a	821	4 928	a	4 928	2	949	a	949	1 899	a	1 899
French Comm. (Belgium)	6	826	a	826	4 956	a	4 956	2	885	a	885	1 770	a	1 770
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	805	m	m	4 561	m	m	3	916	m	m	3 073	m	m
Partner and/or accession countries														
Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Brazil	5	800	m	m	4 000	m	m	4	800	m	m	3 200	m	m
Bulgaria	4	507	81	588	2 028	325	2 353	3	736	92	828	2 207	277	2 484
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	4	473	118	591	1 890	473	2 363	4	663	131	794	2 651	525	3 176
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
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	5	720	a	720	3 600	a	3 600	4	1 001	a	1 001	4 002	a	4 002
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
EU25 average	5	738	m	m	3 943	m	m	4	876	m	m	3 070	m	m
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See Statlink and Box D1.4 for the notes related to this Table.

Source: OECD (2023). For more information see Source section and <https://doi.org/10.1787/d7f76adc-en> (OECD, 2023^[2])StatLink  <https://stat.link/4e5nwd>

Table D1.2. Organisation of compulsory general education¹ (2023)

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
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
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	181	No	2	12	180	No
Colombia	5	6	200	No	4	11	200	No
Costa Rica	6	6	200	No	3	12	200	No
Czech Republic	5	6	194	Yes	4	11	194	Yes
Denmark	7	6	200	No	3	13	200	No
Estonia	6	7	175	Yes	3	13	175	Yes
Finland ¹	6	7	187	Yes	3	13	187	Yes
France	5	6	180	No	4	11	180	No
Germany ^{2,3}	4	6	188	No	5	10	188	No
Greece	6	6	174	No	3	12	164	No
Hungary	4	6	183	No	4	10	183	No
Iceland	7	6	170	Yes	3	13	170	Yes
Ireland	6	6	181	No	3	12	164	No
Israel	6	6	209	No	3	12	201	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 ⁴	6	7	169	Yes	3	13	173	Yes
Lithuania	4	7	175	Yes	6	11	185	Yes
Luxembourg	6	6	180	No	3	12	169	No
Mexico	m	m	m	m	m	m	m	m
Netherlands ⁵	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	177	No	4	11	177	No
Portugal	6	6	173	No	3	12	164	No
Slovak Republic	4	6	188	No	5	10	188	No
Slovenia	6	6	190	No	3	12	185	No
Spain	6	6	175	No	3	12	175	No
Sweden	6	7	178	Yes	3	13	178	Yes
Switzerland	6	6	188	No	3	12	188	No
Türkiye	4	6	180	No	4	10	180	No
United States	6	6	180	m	3	12	180	m
Other participants								
Flemish Comm. (Belgium)	6	6	176	No	2	12	178	No
French Comm. (Belgium)	6	6	177	No	2	12	177	No
England (UK)	6	5	188	m	3	11	188	m
Scotland (UK)	7	5	190	m	3	12	190	m
OECD average	6	6	186	a	3	12	184	a
Partner and/or accession countries								
Argentina	m	m	m	m	m	m	m	m
Brazil	5	6	200	No	4	11	200	No
Bulgaria	6	7	187	No	3	13	187	No
China	m	m	m	m	m	m	m	m
Croatia	4	7	175	No	4	11	175	No
India	m	m	m	m	m	m	m	m
Indonesia	m	m	m	m	m	m	m	m
Peru	m	m	m	m	m	m	m	m
Romania	5	6	180	No	4	11	179	No
Saudi Arabia	m	m	m	m	m	m	m	m
South Africa	m	m	m	m	m	m	m	m
EU25 average	5	6	182	a	4	12	180	a
G20 average	m	m	m	m	m	m	m	m

Note: See Statlink and Box D1.4 for the notes related to this Table.

Source: OECD (2023). For more information see Source section and <https://doi.org/10.1787/d7f76adc-en> (OECD, 2023_[2])StatLink  <https://stat.link/khwrdc>

Table D1.3. Instruction time per subject in primary education (2023)

As a percentage of total compulsory instruction time, in public institutions

	Reading, writing and literat ure	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 time table	Compulsory options chosen by the students	Compulsory flexible subjects chosen by schools	Total compulsory curriculum	Non-compulsory curriculum
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Australia	x(17)	x(17)	x(17)	x(17)	x(17)	a	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	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	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	100	m
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
Finlan ^d	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	26	14	11	5	9	2	9	10	3	3	a	a	a	a	a	7	100	52
Hungary	25	16	2	a	2	a	20	16	4	1	4	a	a	a	a	9	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	29 ^d	15	8 ^d	x(1)	7	x(16)	x(12)	x(12)	8	a	x(3)	16 ^d	a	a	a	16 ^d	100	a
Italy ⁴	x(14)	x(14)	x(14)	x(14)	x(14)	a	1	x(14)	7	a	x(14)	a	a	91 ^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	23	18	8	6	11 ^d	x(5)	11	14	m	8 ^d	x(10)	x(10)	1	a	a	a	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	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
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 ⁶	19	19	x(14)	x(14)	3	a	3	x(14)	a	x(17)	x(14)	a	x(16)	52 ^d	a	4 ^d	100	16
Slovak Rep ublic	32	17	6	3	6	a	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	11	x(16)	10	9	6	a	a	a	1	a	x(16)	8 ^d	100	a
Sweden	28	19	8	12	7	1	7	7	a	a	3	5	a	a	3	a	100	m
Switzerland	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	a	a	a	a	100	m
Türkiye	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
Other participants																		
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)	4	a	7	x(14)	7	a	x(14)	a	a	82 ^d	a	a	100	a
England (UK)	m	m	m	m	a	a	m	m	m	m	m	a	a	a	a	a	m	a
Scotland (UK)	m	m	m	m	m	a	m	m	m	m	m	m	a	a	a	a	m	a
OECD average ^d	25	16	7	6	7	0	10	11	5	1	1	2	4	1	0	3	100	3
Partner an d/or accession countries																		
Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Brazil	x(17)	x(17)	x(17)	x(17)	a	a	x(17)	x(17)	x(17)	a	a	a	a	a	x(17)	x(17)	100	m
Bulgaria	28	15	3	5	8	a	9	14	x(15)	2	x(12)	4 ^d	a	a	11 ^d	a	100	16
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	28	22	13 ^d	x(3)	11	a	15	11	a	a	a	a	a	a	a	a	100	25
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
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	28	18	5	4	7	a	12	9	5	a	a	a	12	a	a	a	100	a
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
EU25 average ^d	26	17	7	5	8	0	10	11	5	1	2	1	3	1	1	3	100	7
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See Statlink and Box D1.4 for the notes related to this Table.

Source: OECD (2023). For more information see Source section and <https://doi.org/10.1787/d7f76adc-en> (OECD, 2023[2])

Table D1.4. Instruction time per subject in general lower secondary education (2023)

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	x(17)	x(17)	x(17)	x(17)	x(17)	a	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	100	m
Austria	13	12	12	11	11	x(15)	11	12	6	3	a	7	x(15)	a	1 ^a	a	100	m
Canada	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	100	m
Chile	16	16	11	11	8	x(16)	5	8	5	x(16)	3	x(16)	3	a	a	15 ^a	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 ^a	x(11)	x(16)	a	x(16)	15 ^a	100	a
Denmark	18	13	13	8	8	8	5	x(15)	3	x(15)	x(15)	2	19	a	5 ^a	a	100	a
Estonia	13	14	21	11	10	10	6	6	x(16)	x(16)	5	a	a	a	a	4 ^a	100	a
Finland ^d	12	13	16	8	8	5	12	7	4	x(17)	a	6	a	6	a	4	100	11
France ²	16	14	12	12 ^a	12	7	12	7	x(4)	x(17)	4	1	2	a	a	a	100	29
Germany ³	13	13	11	12	12	5	9	9	5	1	3	2	2	a	5	a	100	a
Greece	25	12	13	9	6	6	6	6	6	4	3	1	a	a	a	3	100	29
Hungary	13	12	10	10	10	a	17	8	3	3	3	a	3	a	a	7	100	a
Iceland	14	14	8	8 ^a	19 ^a	x(5, 15)	8	8 ^a	x(4)	2	a	x(8)	a	a	20 ^a	x(15)	100	a
Ireland ^{4,5}	9	9	x(16)	10	9	x(16)	5	x(16)	x(16)	x(16)	x(16)	x(16)	3	a	a	57 ^a	100	a
Israel	34 ^a	14	13 ^a	x(1)	11	8	x(12)	x(16)	2	x(3)	x(3)	11 ^a	a	a	a	7 ^a	100	a
Italy	33 ^a	20 ^a	x(2)	x(1)	10	7	7	13	3	a	7	a	a	a	a	a	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 ^a	15 ^a	10	a	8	8	x(4)	x(3)	x(12)	x(3)	9	a	x(16)	5 ^a	100	a
Latvia	15	15	14	15	15 ^a	x(5)	9	7	m	10 ^a	x(10)	x(10)	1	a	a	a	100	m
Lithuania	17	13	13	14	10	5	9	7	3	3	5	a	1	a	a	a	100	14
Luxembourg ⁴	14	14	9	11	14	7	8	7	5	2	a	a	4	a	4	a	100	a
Mexico	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Netherlands ⁵	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 ^a	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 ^a	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	28 ^a	a	a	a	100	3
Slovak Republic	16	14	12	11	10	x(16)	7	6	3	3	a	3	x(16)	a	x(16)	13 ^a	100	a
Slovenia	13	13	17	15 ^a	11	x(15)	9	8	x(4)	x(17)	4	a	2	a	7 ^a	a	100	23
Spain	16	12	11	10	11	x(16)	7	9	4	a	x(16)	a	3	a	x(16)	16 ^a	100	a
Sweden	11	15	10	14	8	10	11	7	a	a	3	9	a	a	2	a	100	m
Switzerland	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	x(17)	a	a	x(17)	a	100	m
Türkiye	16	14	11	8	10	x(15)	5	6	8	3	3	1	a	a	16 ^a	a	100	a
United States	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Other participants																		
Flemish Comm. (Belgium) ⁵	x(14)	x(14)	x(14)	x(14)	x(14)	x(14)	x(14)	x(14)	6	x(14)	x(14)	a	x(14)	75 ^a	x(16)	19 ^a	100	a
French Comm. (Belgium) ⁵	18	15	10	13	13	a	10	3	7	x(16)	3	x(16)	a	a	x(16)	7 ^a	100	a
England (UK)	m	m	m	m	m	a	m	m	m	m	m	m	a	m	a	a	m	a
Scotland (UK)	m	m	m	m	m	m	m	m	m	m	m	m	a	a	a	a	m	a
OECD average⁵	15	13	12	11	10	4	8	7	3	2	2	2	3	1	3	3	100	4
Partner and/or accession countries																		
Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Brazil	x(17)	x(17)	x(17)	x(17)	x(17)	a	x(17)	x(17)	x(17)	a	a	x(17)	a	a	x(17)	x(17)	100	m
Bulgaria	17	16	11	13	9	x(15)	7	11	x(15)	4	x(12)	4 ^a	a	a	8 ^a	a	100	13
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	18	16	15	15	12	a	8	8	a	4	4	a	a	a	a	a	100	20
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
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	14	14	14	13	7	7	7	7	4	4	4	a	4	a	a	a	100	a
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
EU25 average⁵	15	13	13	11	10	5	8	7	3	3	3	2	2	1	2	3	100	7
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See Statlink and Box D1.4 for the notes related to this Table.

Source: OECD (2023). For more information see Source section and <https://doi.org/10.1787/d7f76adc-en> (OECD, 2023_[2])

Box D1.4. Notes for Indicator D1 tables

Table D1.1. Instruction time in compulsory general education¹ (2023)

Columns showing instruction time combined for compulsory primary and lower secondary education (i.e. Columns 15 to 18) and compulsory upper secondary education (i.e. Columns 19 to 25) are available for consultation on line (see StatLink below). 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 2022.
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.

Table D1.2. Organisation of compulsory general education¹ (2023)

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. Columns showing the organisation of compulsory upper secondary education (i.e. Columns 9 to 12) are available for consultation on line (see StatLink below).

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 2022.
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.
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.

Table D1.3. Instruction time per subject in primary education (2023)

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).

1. For some subjects, allocation of instruction time across multiple levels of education is flexible.
2. Year of reference 2022.
3. The second language of instruction includes other national languages taught.
4. The Flemish Community of Belgium, the French Community of 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.

Table D1.4. Instruction time per subject in general lower secondary education (2023)

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).

1. For some subjects, allocation of instruction time across multiple levels of education is flexible.
2. Non-compulsory instruction time are theoretical maximum limits.
3. Year of reference 2022.
4. The second language of instruction includes other national languages taught.
5. The Flemish Community of Belgium, the French Community of Belgium, Ireland and the Netherlands are not included in the averages.

See *Definitions* and *Methodology* sections. For more information see *Source* section and <https://doi.org/10.1787/d7f76adc-en> (OECD, 2023^[2]).

Data and more breakdowns are available at <http://stats.oecd.org/>, Education at a Glance Database.

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

Indicator D3. How much are teachers and school heads paid?

Highlights

- In most OECD countries and other participants, 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 other participants.
- Teachers' actual salaries at pre-primary, primary and general secondary levels of education are 81-95% of the earnings of tertiary-educated workers on average across OECD countries and other participants.

Context

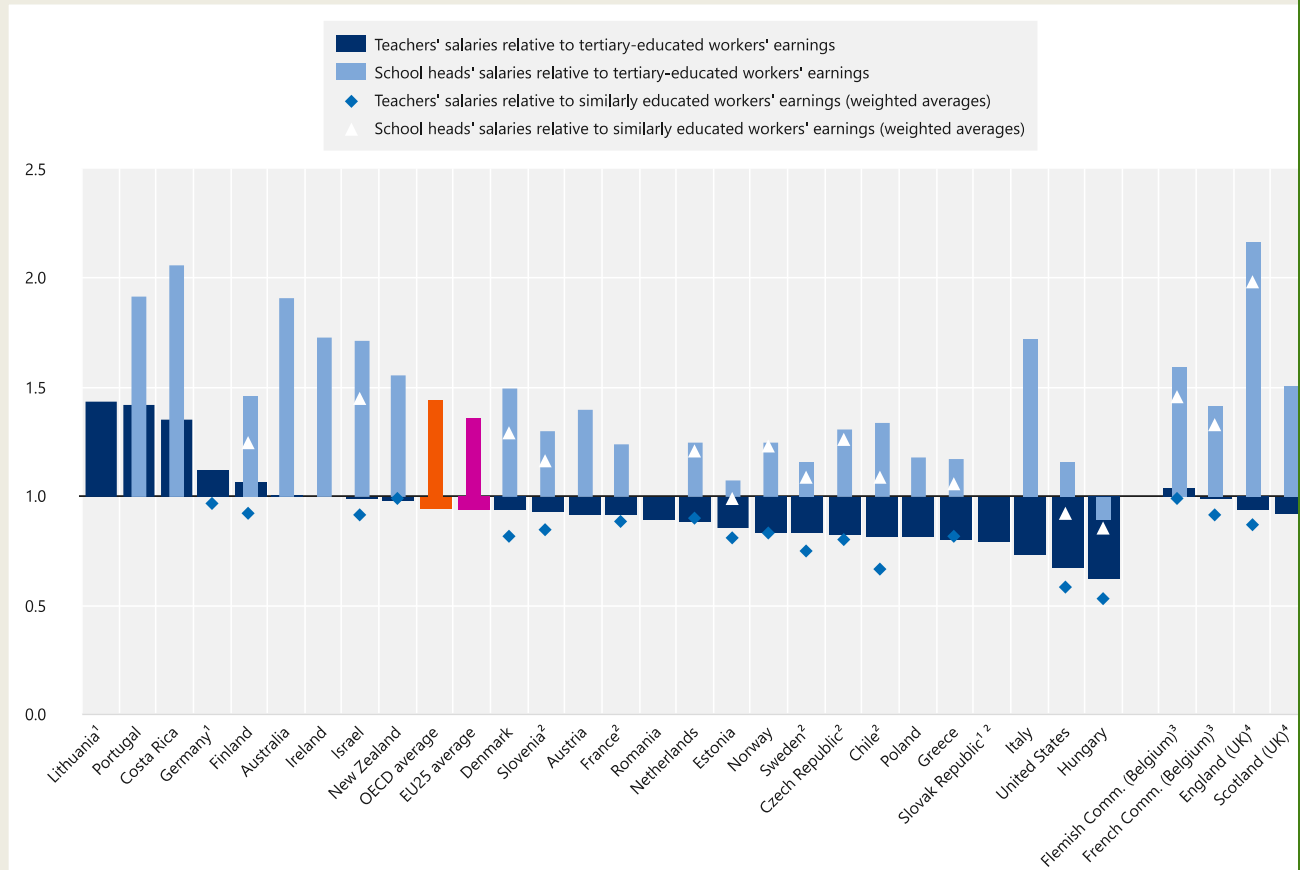
The salaries of school staff, and in particular teachers and school heads, represent the largest single cost in formal education. Teachers' salaries can also have a direct impact on the attractiveness of the teaching profession. They may influence decisions on whether to enrol in teacher education, become a teacher after graduation and remain in teaching. In general, the higher teachers' salaries are, the fewer people choose to leave the profession (OECD, 2005^[1]). Salaries can also have an impact on the decision to become and remain a school head.

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 Indicator C6).

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. There can also be substantial variation in teacher and school-head salary scales at subnational level in some countries, based on local factors such as the cost of living (see Box D3.1). This should be kept in mind when analysing teachers' salaries and making cross-country comparisons, along with potential comparability issues related to the data collected (Box D3.1 of *Education at a Glance 2019* (OECD, 2019^[2]), Box D3.2 and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3]), and the fact that the data collected only cover public educational institutions.

Figure D3.1. Actual salaries of upper secondary teachers and school heads (in general programmes) relative to earnings of tertiary-educated workers (2022)

Ratio of salaries to the earnings of full-time, full-year workers aged 25-64



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. Earnings of workers with similar educational attainment to teachers are weighted by the distribution of teachers by qualification level.

1. Data for school heads is missing for Germany, Lithuania and the Slovak Republic.


2. Year of reference for salaries of teachers/school heads differs from 2022. Refer to the source table for more information.

3. Data on earnings for full-time, full-year workers with tertiary education refer to Belgium.

4. Data on earnings for full-time, full-year workers with tertiary education refer to the United Kingdom.

Countries and other participants are ranked in descending order of the ratio of teachers' salaries to earnings for tertiary-educated workers.

Source: OECD (2023), Table D3.3. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3]).

StatLink  <https://stat.link/xf8wu2>

Other findings

- On average across OECD countries and other participants, primary and secondary school heads' actual salaries are at least 28% higher than the earnings of tertiary-educated workers.
- The range of teachers' salaries within countries can be quite wide, as different qualification levels can be associated with different salary scales. For upper secondary teachers, the average salary for teachers at the top of the scale and with the maximum qualifications is 33% higher than the average starting salary for those with the minimum qualifications.

- Between 2015 and 2022, on average across OECD countries with data for all reference years, the statutory salaries of teachers with 15 years of experience and the most prevalent qualifications increased by 5% at primary level, 4% at lower secondary level (general programmes) and 4% at upper secondary level (general programmes).
- 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 other participants with available data.

Analysis

Teachers' salaries

Teachers' statutory salaries can vary according to a number of factors, including the level of education taught, their qualification level and how much experience they have or what stage of their career they are in.

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 substantially higher than those with the minimum qualifications. However, in some countries, very few teachers hold the minimum or maximum qualifications and 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 qualifications. At the secondary level, it focuses on teachers in general programmes (additional data collected on upper secondary teachers in vocational programmes are analysed in Box D3.3).

Statutory salaries

Teachers' salaries vary widely across countries. The salaries of upper secondary school teachers (in general programmes) with 15 years of experience and the most prevalent qualifications (a proxy for mid-career salaries) range from less than USD 20 000 in the Slovak Republic to more than USD 70 000 in Canada, the Flemish and French Communities of Belgium, Germany and the Netherlands, and they exceed USD 100 000 in Luxembourg (Table D3.1). These and all subsequent figures are based on exchange rates that are adjusted for differences in purchasing power across countries (see *Methodology* section below).

Typically, teachers' salaries increase with the level of education they teach. On average across OECD countries and other participants, the salaries of teachers with 15 years of experience and the most prevalent qualifications range from USD 45 981 at the pre-primary level to USD 49 968 at the primary level, USD 51 613 at the lower secondary level and USD 53 456 at the upper secondary level. In Denmark and the Flemish and French Communities of Belgium, 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 they earn around 48% more in Finland and more than 80% more in Mexico. In Denmark and Finland, the difference is mainly driven by lower salaries for pre-primary teachers. In the Flemish and French Communities of Belgium and in Mexico, teachers' salaries at upper secondary level are significantly higher than at other levels of education (Table D3.1).

The difference in salaries between teachers (with 15 years of experience and the most prevalent qualifications) at pre-primary and upper secondary levels is less than 5% in less than one-quarter of OECD countries, while they earn the same salary irrespective of the level of education taught in a similar number of countries and other participants (Table D3.1).

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, can also be 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 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 the most competent and best-qualified teachers, but also to retain them. 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.

In OECD countries, the salaries of teachers with a given qualification level rise during the course of their careers, although the rate of change differs across countries. For upper secondary teachers with the most prevalent qualifications for teachers at that level, average statutory salaries are 29% higher than average starting salaries after 10 years of experience, and 36% higher after 15 years of experience. Average salaries at the top of the scale (reached after an average of nearly 25 years) are 65% higher than the average starting salaries. The difference in salaries by level of experience varies widely between countries. At the upper secondary level, salaries at the top of the scale exceed starting salaries by less than 20% in Croatia and the Republic of Türkiye, whereas salaries at the top of the scale are 2.8 times starting salaries in Korea (after at least 37 years of experience) (Table D3.1 and *Education at a Glance Database*, <http://stats.oecd.org>).

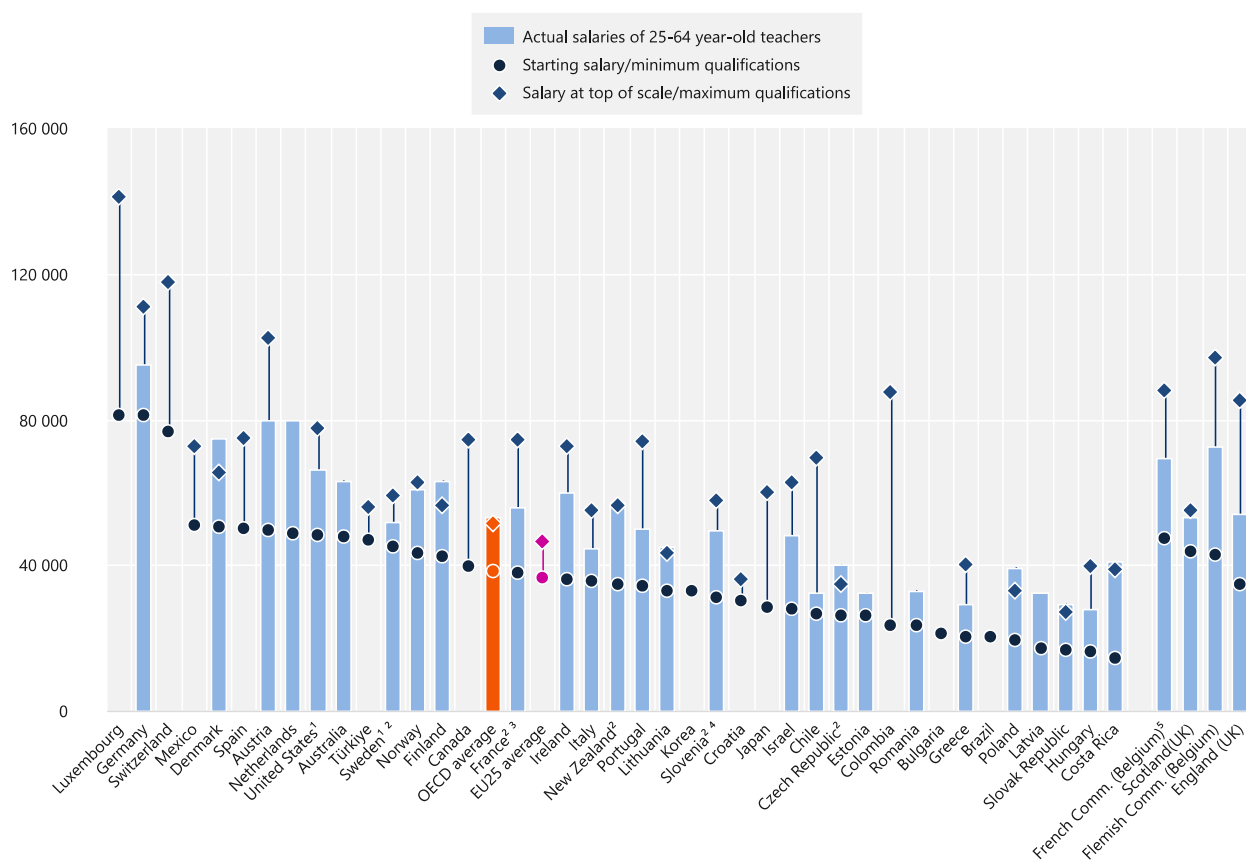
Teachers' qualification levels can also be associated with different salary scales. For upper secondary teachers, the average statutory salary with 15 years of experience and the most prevalent qualifications is 39% higher than the average starting salary with the minimum qualifications. The average statutory salary for teachers at the top of the salary range with the maximum qualifications is 33% higher than the average starting salary for teachers with the minimum qualifications (Table D3.1 and Figure D3.2).

In terms of the maximum statutory salary range (from minimum – starting salaries with the minimum qualifications – to maximum – top of the scale salary with the maximum qualifications), in most countries and other participants where minimum salaries are below the OECD average, the maximum salaries are also below the OECD average. At the upper secondary level, the most notable exceptions are Colombia, England (United Kingdom) and Portugal, where starting salaries are at least 9% lower than the OECD average, but maximum salaries are at least 44% higher. These differences may reflect the different career paths available to teachers with different qualifications in these countries. Maximum salaries are at least double minimum salaries in about one-quarter of OECD countries and other participants (Figure D3.2).

The difference between maximum salaries (which may only apply to a very small proportion of teachers) and salaries of teachers with the most prevalent qualifications and 15 years of experience, also varies across countries. At upper secondary level, the pay gap between these two groups is less than 10% in six OECD countries and other participants, while it exceeds 60% in six others. In France, the difference at upper secondary level results from different salary scales for *professeurs certifiés* (teachers with most prevalent qualification) and *professeurs agrégés* (teachers with the maximum qualification) (Figure D3.2 and Table D3.1).

Figure D3.2. Upper secondary teachers' average actual salaries compared to the statutory minimum and maximum salaries (2022)

Annual salaries of teachers in public institutions, in equivalent USD converted using PPPs



Note: Actual salaries include bonuses and allowances.

1. Actual base salaries for starting salary and salary at the top of the scale.
2. Year of reference for actual salaries differs from 2022. Refer to the source table for more information.
3. Starting salary and salary at the top of the scale include the average of fixed bonuses for overtime hours.
4. Salaries at the top of the scale and the minimum qualifications, instead of the maximum qualifications.
5. Salaries at the top of the scale and the most prevalent qualifications, instead of the maximum qualifications.

Countries and other participants are ranked in descending order of the starting salaries for upper secondary teachers with the minimum qualifications.

Source: OECD (2023), Table D3.4 and Education at a Glance Database, <http://stats.oecd.org/>. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3]).

StatLink  <https://stat.link/4i3anc>

Box D3.1. Subnational variations in teachers' and school heads' salaries at pre-primary, primary and secondary levels

Teachers' statutory salaries can vary within countries according to the level of education and their level of experience. Salaries can also vary significantly across subnational entities, especially in federal countries where salaries may be defined at the subnational level. These differences in statutory or actual salaries can result, at least partly, from differences in the cost of living between subnational entities. Data provided by four

OECD countries (Belgium, Canada, the United Kingdom and the United States) illustrate these variations at the subnational level.

The extent of subnational differences in statutory salaries varies across these four countries, depending on the level of education and the stage teachers have reached in their careers. In 2022 in Belgium, for example, annual starting salaries of primary school teachers differed by about 6% (USD 2 507), from USD 40 335 in the French Community to USD 42 842 in the Flemish Community. The largest differences were in Canada: starting salaries for primary school teachers varied by 60% (USD 23 518) across subnational entities, ranging from USD 39 379 in Quebec to USD 62 898 in Northwest Territories. At lower secondary and upper secondary levels, starting salaries varied the least in Belgium (by 6%, from USD 40 335 in the French Community to USD 42 842 in the Flemish Community at the lower secondary level) and the most in the United States (by 67% at the lower secondary level, from USD 38 667 in North Carolina to USD 64 498 in New York).

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, variations are 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 40% (USD 12 483) between subnational entities (from USD 31 412 to USD 43 895), while the difference had narrowed to 4% (USD 2 246, from USD 53 480 to USD 55 726) at the top of the scale. In the United States, there was no clear pattern in the size of the variation of statutory salaries across subnational entities at different levels of education and stages of teachers' careers. At lower secondary level, the difference was the smallest for starting salaries, noted above, and the widest for salaries after 15 years of experience, ranging from USD 50 211 to USD 96 592 (a difference of 92%, or USD 46 381).

There are also large subnational variations in actual salaries of teachers and school heads across the three countries with available data in 2022 (Belgium, the United Kingdom and the United States). In Belgium, the subnational variation in actual salaries was greater for school heads than for teachers. For example, at the upper secondary level, teachers' salaries in Belgium ranged from USD 69 410 in the French Community to USD 72 493 in the Flemish Community, a difference of 4% or USD 3 082. In comparison, school heads' salaries ranged from USD 98 653 in the French Community to USD 111 440 in the Flemish Community, a difference of 13% or USD 12 787. Subnational variations in actual salaries were much bigger for school heads at lower and upper secondary levels in the United Kingdom and for both teachers and school heads in the United States. For example, in the United States the salaries of upper secondary school heads ranged from USD 86 614 in Arkansas to USD 148 656 in New York, a difference of 72%, or USD 62 042.

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, the subnational variation in salaries of school heads is largest at the secondary level (but the variation is similar for teachers at different levels of education). In the United States, subnational variation in the actual salaries of 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>.

Actual salaries

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 and actual average salaries are influenced by their prevalence in the compensation system. Differences between statutory and actual average salaries are also linked to patterns of experience and qualifications in the teaching workforce, as these factors have an impact on teachers' salary levels.

Across OECD countries and other participants, in 2022, the average actual salaries of teachers aged 25-64 were USD 42 371 at pre-primary level, USD 48 023 at primary level, USD 49 911 at lower secondary level and USD 53 119 in general programmes at upper secondary level. There are 29 OECD and partner countries and other participants with data available 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 at least 10% higher than statutory salaries in 8 of these countries at pre-primary level and in 13 at upper secondary level. This shows the effect of additional allowances (included in the data for actual but not statutory salaries) and of differing levels of experience in the teaching populations of countries (Table D3.4).

Comparing teachers' actual salaries to minimum and maximum statutory salaries also gives an indication of the distribution of teachers between the minimum and maximum salary levels. At the upper secondary level, the actual salaries of 25-64 year-old teachers are, on average, 54% higher than the statutory starting salary for teachers with the minimum qualification (among countries with available data on both actual and statutory salaries). This difference is less than 20% in Germany and Sweden, which may result from a smaller range of statutory salaries and/or less use of additional allowances compared to other countries. In contrast, in Costa Rica, Hungary, Israel, Latvia, Poland and the Slovak Republic, the difference is over 70%, suggesting that most teachers are paid much more than the minimum starting salary (Figure D3.2).

Similarly, comparing actual salaries with the statutory maximum salary shows that actual salaries of 25-64 year-old teachers are, on average, 12% lower than the statutory salary at the top of the scale for teachers with the maximum qualification. Actual salaries are at least 25% lower than statutory salary at the top of the scale in six countries and other participants, suggesting that few teachers are paid at or near the maximum salary level. In eight countries, teachers' average actual salaries are higher than the maximum statutory salary, which implies that allowances are having a substantial effect on teachers' take-home pay (Figure D3.2).

Teacher salaries relative to other tertiary-educated workers

Education systems compete with other sectors of the economy to attract high-quality graduates as teachers. Research shows that salaries and the alternative opportunities available to these graduates are important factors in the attractiveness of teaching (Johnes and Johnes, 2004^[4]). 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 or to stay in the profession (see Box D3.2 for comparability issues related to measuring teachers' relative salaries).

In most OECD countries, a tertiary degree is required to become a teacher at all levels of education (see Table X3.D3.3 in [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3])), meaning that the likely alternative to initial teacher education is a similar tertiary programme. Thus salary levels and labour-market conditions in different countries can be interpreted by comparing teachers' actual salaries with the earnings of other professionals. There are two comparisons that can be made. First, to tertiary-educated workers: full-time, full-year 25-64 year-old workers with tertiary attainment (ISCED levels 5 to 8). Second, teachers' actual salaries can be compared to the earnings of similarly educated workers, weighted by the proportion of teachers at each level of tertiary attainment. This second method ensures that comparisons between countries are not biased by differences in the distribution of bachelor's, master's or doctoral or equivalent attainment among teachers compared to tertiary-educated workers more generally (see Table X2.8 in Annex 2 for the proportion of teachers by attainment level, and *Methodology* section for more details).

In very few of the 19 countries and other participants with available data for similarly educated workers for at least one level of education do teachers' actual salaries reach or exceed those of similarly educated workers. They amount to 65% or less of the earnings of similarly educated workers in Chile (except at upper secondary level), Hungary and the United States. However, upper secondary teachers in Germany have actual salaries that are nearly the same as those of similarly educated workers (Table D3.3).

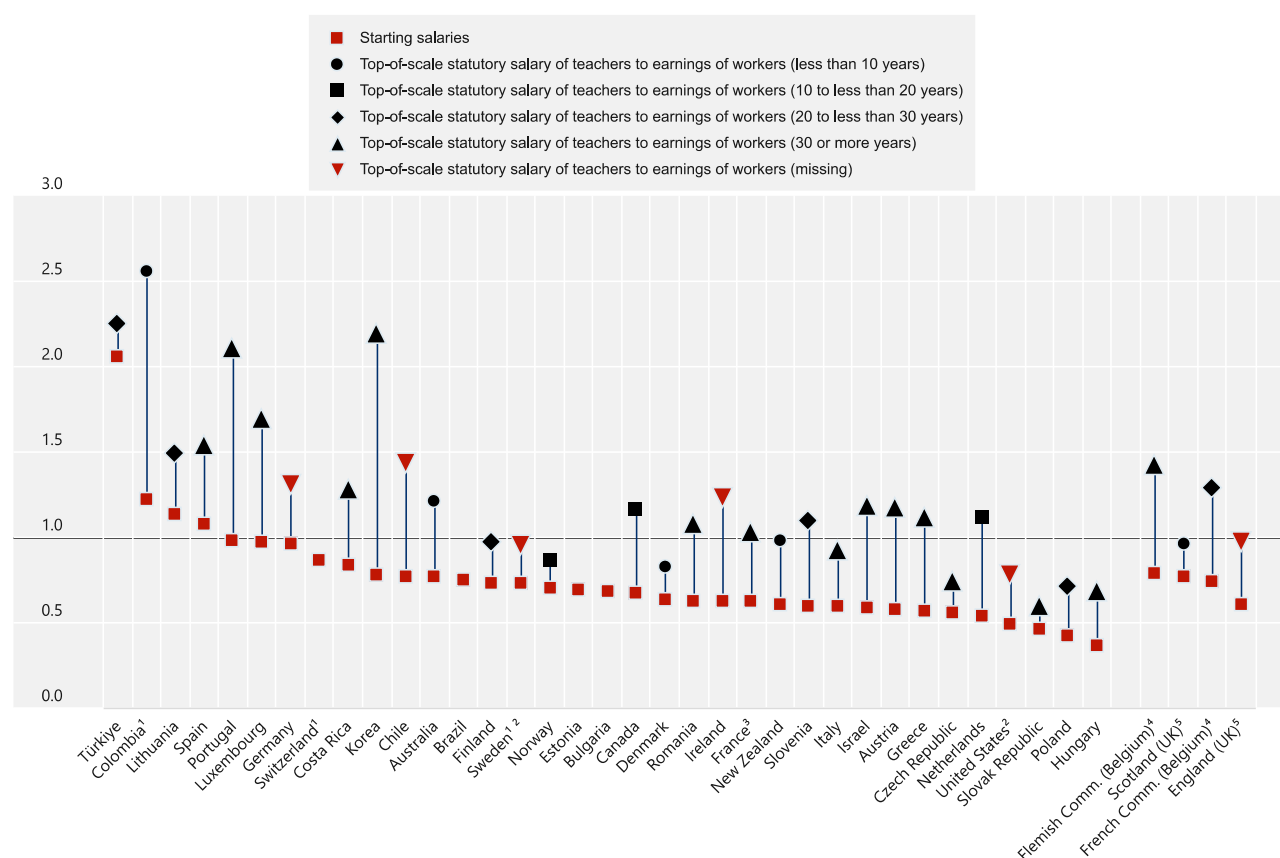
Earnings for tertiary-educated workers are more widely available. Against this benchmark, teachers' actual salaries relative to other tertiary-educated workers increase with higher education levels. On average, pre-primary teachers' salaries amount to 81% of the full-time, full-year earnings of tertiary-educated 25-64 year-olds. Primary teachers earn 87% of this benchmark salary, lower secondary teachers 90% and upper secondary teachers 95% (Table D3.3).

In almost all countries and other participants 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: pre-primary teachers' salaries are 55% of those of tertiary-educated workers in Hungary and 60% of those of tertiary-educated workers in the Slovak Republic. However, in some countries and other participants, teachers earn more than tertiary-educated adults, either at all levels of education (Australia, Costa Rica, Lithuania and Portugal) or only at some levels (at upper secondary level in the Flemish Community of Belgium and Finland and at secondary level in Germany). In Costa Rica (at lower and upper secondary level), Lithuania and Portugal, teachers earn at least 30% more than tertiary-educated workers (Table D3.3 and Figure D3.1).

Finally, teachers' salaries increase at different rates over the course of their careers in different countries. On average among OECD countries and other participants with available data, for upper secondary teachers with the most prevalent qualification starting salaries represent 75% of the average earnings of tertiary-educated workers, but reach to 123% of earnings at the top of the scale. Countries vary widely in terms of the competitiveness of salaries and the time taken to reach the top of the scale, however. It takes 25 years on average, ranging from 4 years in Scotland (United Kingdom) to 42 years in Hungary. These differing rates of progression mean that countries with similar relative salaries at the top and bottom of the scale might not necessarily be offering similarly competitive teacher compensation. For example, in France, starting salaries are 63% of tertiary-educated workers' earnings and salaries at the top of the scale are 103% of tertiary-educated workers earnings. This is similar to New Zealand where the equivalent figures are 61% and 98%. However, it takes teachers 35 years to reach the top of the scale in France, compared with 7 years in New Zealand (Figure D3.3).

Figure D3.3. Upper secondary teachers' relative statutory starting and top of the scale salaries and years taken to reach the top of the scale (2022)

Ratio of teachers' salaries to the earnings of full-time, full-year workers with tertiary education



Note: Statutory salaries of teachers refer to teachers with the most prevalent qualification level. The number of years necessary for teachers to reach the top-of-scale salary from the starting salary is noted into bracket for each category in the legend. Missing is noted into bracket when the number of years from starting to top-of-scale salaries is not known.

1. Year of reference for teachers' salaries differs from 2022. Refer to the source table for more information.

2. Actual base salary.


3. Includes the average of fixed bonuses for overtime hours.

4. Data on earnings for full-time, full-year workers with tertiary education refer to Belgium.

5. Data on earnings for full-time, full-year workers with tertiary education refer to the United Kingdom.

Countries and other participants are ranked in descending order of the ratio of starting statutory salaries of teachers to earnings for full-time, full-year tertiary-educated workers.

Source: OECD (2023), Education at a Glance Database, <http://stats.oecd.org/>. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3]).

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Box D3.2. Comparability issues with relative salary measures resulting from differences in working days between teachers and tertiary-educated workers

Meaningful international comparisons rely on the provision and implementation of rigorous definitions and a related statistical methodology. In view of the diversity of countries' education and 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) using two different methods (see Table D3.3 and *Methodology* section). 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 (see Box D3.1 in *Education at a Glance 2021* (OECD, 2021^[5])) or difference in data (data for the academic year or the calendar year).

One potential bias in the measure of relative salaries of teachers relates to differences in working days and (paid) annual leave entitlements between teachers and other tertiary-educated workers. Considering that leave entitlements are part of workers' compensation, comparing the salaries of teachers and tertiary-educated workers would require adjustments to allow for the number of working days minus any entitled leave days. To analyse the potential bias in relative salaries relating to differences in working and leave days, and the possibility of adjusting relative salaries to take into account these differences, a survey was carried out in 2022 to gather information on the working conditions of lower secondary teachers and other workers. This was based on the assumption that working day requirement of teachers and other workers are defined over a 12-month period.

Results from the 32 countries and other participants that contributed to the survey showed several weaknesses in the comparability of data which would prevent the adjustment of the relative salaries measure.

Availability of data on tertiary-educated workers

The available information on the minimum statutory number of leave days for workers encompasses all workers, whatever their qualification levels, while the reference group used for the relative salaries measure is tertiary-educated workers. The number of leave days may depend on various factors including occupation and economic sector (OECD, 2021^[6]), which could be different for workers with different qualification levels (see Indicator A3). As differences in the number of working and leave days of workers with different qualification levels cannot be considered precisely, this might bias any adjusted relative salary measure that tries to take into account differences in working days between teachers and tertiary-educated workers.

Differences in the reference year used

The civil year 2020 was used as the reference period for all countries, which has a total of 262 weekdays after excluding weekends. These 262 days can be either working days, leave days or public holidays. They are taken as a reference when comparing the number of days of work and leave between teachers and tertiary-educated workers. However, four countries reported data for a different reference year, which would have a different number of weekdays (as 2020 was a leap year). These limitations hinder the accuracy of the adjusted measure of relative salaries.

Variation in the number of leave days for teachers

Information on the number of leave days teachers are entitled to refers to the statutory minimum, which is representative as the entitlement does not vary in most countries. However, in some countries, the statutory minimum is an underestimate because teachers may be entitled to additional leave days after few years of service (e.g. two days after three years in Italy and nine days after six years in Korea). There are also

countries that provide additional days of leave for long-serving teachers (e.g. 3-4 days in Croatia after 30 years and 4 days in Slovenia after 25 years), or when they reach a specific age (40 days in total in the Netherlands for teachers aged 57 and older).

Source: 2022 OECD data collection on number of working days/annual leave of teachers.

School heads' salaries

School heads' responsibilities may vary between countries and also within countries, depending on the schools they lead. School heads may exercise educational responsibilities (which may include teaching, 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 in *Education at a Glance 2022* (OECD, 2022^[7]) for more details, including differences in the nature of the work carried out and the hours worked by school heads compared to teachers).

Statutory salaries

Some countries have a specific salary scale for school heads, who may or may not receive a school-head allowance on top of their statutory salaries. In other countries, they may be paid according to teachers' salary scales, with an additional school-head allowance. The use of teachers' salary scales may reflect the fact that school heads are initially teachers with additional responsibilities. At upper secondary level (general programmes), school heads are paid according to teachers' salary scales with a school-head allowance in 14 out of the 35 countries and other participants with available information, and according to a specific salary range in the other 21. Of these, 15 countries and other participants have no specific school-head allowance and 6 include a school-head allowance in the salary. The amounts payable to school heads (through statutory salaries and/or school-head allowances) may vary according to the characteristics of 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 D3.16, 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 those related to the minimum qualification requirements to become a school head, and Table D3.5 (available on line) 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.

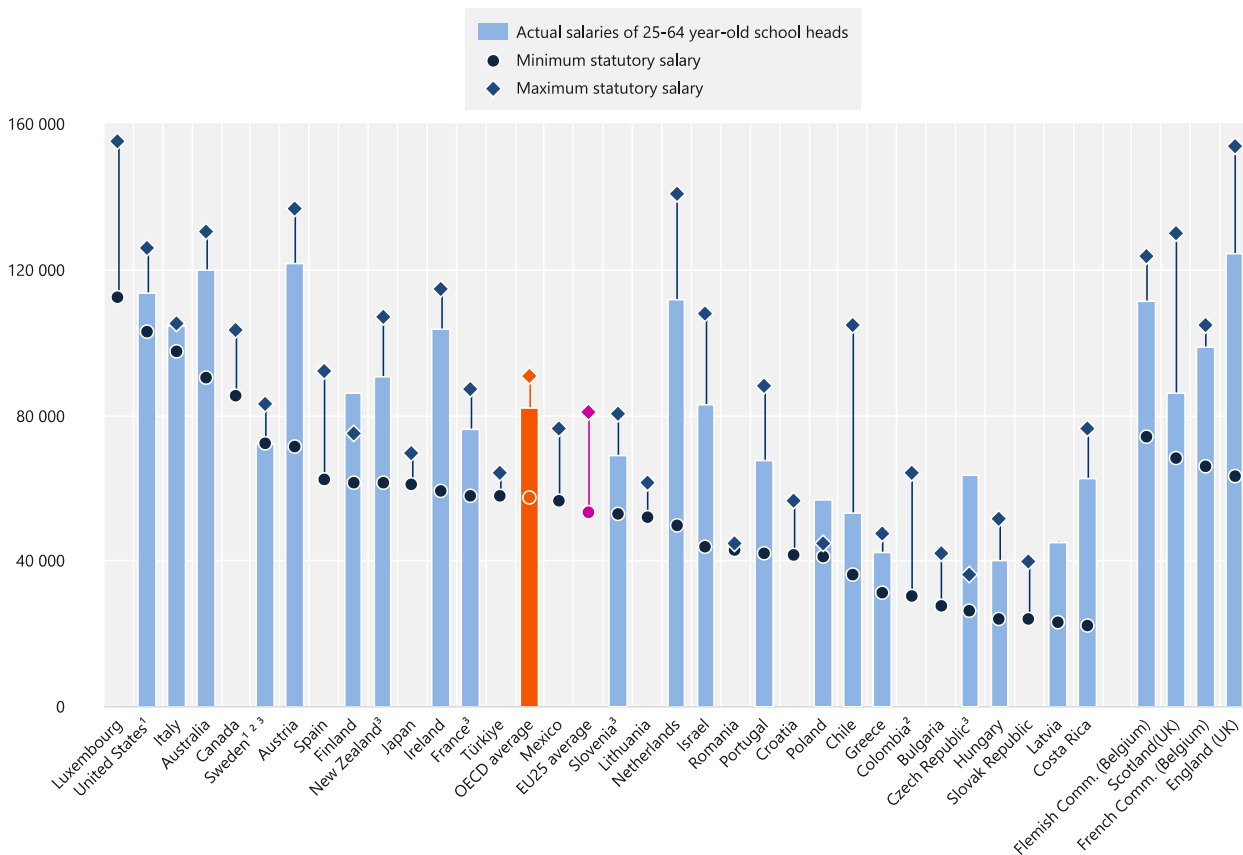
About half of OECD countries and other participants have similar pay ranges for primary and lower secondary school heads, while upper secondary school heads benefit from higher statutory salaries on average. At upper secondary level, the minimum salary for school heads is USD 57 240 on average across OECD countries and other participants, ranging from USD 22 048 in Costa Rica to USD 112 247 in Luxembourg. The maximum salary is USD 90 692 on average, ranging from USD 35 969 in the Czech Republic to USD 155 235 in Luxembourg (Figure D3.4 and Table D3.5, available on line). These values should be interpreted with caution, as minimum and maximum statutory salaries refer to school heads in different types of schools.

On average across OECD countries and other participants, at primary level the maximum statutory salary of a school head with the minimum qualifications is 74% higher than the minimum statutory salary, while it is 67% higher at lower secondary level and 70% higher at upper secondary level. There are 11 countries or other participants where school heads at the top of the scale can expect to earn at least twice the statutory minimum salary in at least one of these levels of education; In Costa Rica, they can even expect to earn more than three times the minimum salary at all levels of education (Table D3.5, available on line).

The minimum statutory salaries for school heads with the minimum qualifications are higher than the starting salaries of teachers (with the most prevalent qualification at that level) in all OECD countries and other participants except Colombia (at pre-primary and primary levels) and Costa Rica. The difference increases with level of education: on average, minimum school heads' salaries are 49% higher than teachers' at primary level, 54% higher at lower secondary level and 54% higher at upper secondary level. In a number of countries, the minimum statutory salary for school heads is higher than the maximum salary for teachers. At upper secondary level, this is the case in about one-third of OECD countries and other participants (Figure D3.4 and Table D3.5, available on line).

Figure D3.4. Upper secondary school heads' average actual salaries compared to the statutory minimum and maximum salaries (2022)

Annual salaries of school heads in public institutions, in equivalent USD converted using PPPs



Note: Actual salaries include bonuses and allowances.

1. Actual base salaries for minimum and maximum statutory salaries.

2. Year of reference for minimum and maximum statutory salaries differs from 2022. Refer to the source table for more information.

3. Year of reference for actual salaries differs from 2022. Refer to the source table for more information.

Countries and other participants are ranked in descending order of school heads' minimum statutory salaries.

Source: OECD (2023), Table D3.4 and Education at a Glance Database, <http://stats.oecd.org/>. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3]).

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Similarly, the maximum statutory salaries for school heads are higher than the maximum salaries for teachers for all OECD countries and other participants with available data. At upper secondary level, the maximum statutory salary of a school head is 52% higher on average than the maximum for teachers (with the most prevalent

qualifications). In Chile, England (United Kingdom), Israel and Scotland (United Kingdom), school heads' maximum salaries are more than twice statutory teachers' salaries at the top of the scale (Figure D3.4 and Table D3.5, available on line).

Actual salaries

Across OECD countries and other participants, average actual salaries for school heads aged 25-64 ranged from USD 71 784 at primary level to USD 76 572 at lower secondary level and USD 81 972 at upper secondary level. School heads' actual salaries are higher than those of teachers, and the premium (the difference in actual salaries between school heads and teachers, in favour of school heads) increases with levels of education. On average, school heads' actual salaries in 2022 were 51% higher than teachers' at primary level, 54% higher at lower secondary level and 55% higher at upper secondary level (Table D3.4).

The premiums vary widely across countries and levels of education, however. The highest premium for school heads over teachers was in England (United Kingdom) at pre-primary level, where school heads' actual salaries are 80% higher than those for teachers, and Italy at primary and secondary levels, where school heads' actual salaries are more than twice those of teachers. The lowest premiums, of less than 30%, are in Estonia (at primary and secondary), Finland (pre-primary), France (pre-primary and primary), Iceland (pre-primary), Latvia (lower secondary) and Norway (pre-primary). For France, the low premiums can be explained by the fact that pre-primary and primary school heads are teachers relieved from part of their teaching duties. They receive the salaries of teachers at this level of education, with the addition of a specific school-head allowance. Other countries show a steep rise in the salaries of school heads compared to teachers at the secondary level, but a smaller difference at primary level. For example, in Ireland, school heads' actual salaries are 46% higher than teachers' at primary level, but the difference is 73% at lower and upper secondary level. In Costa Rica, Estonia, Poland and Slovenia, the difference is much larger at pre-primary level than at primary and lower secondary levels (Table D3.4; see Box D3.1 for variations at subnational level).

The career prospects of school heads and their relative salaries are also a signal of a potential career progression pathway available to teachers and the compensation associated with this career in the longer term. Not only do school heads earn more than teachers, they also, unlike teachers, typically earn more than similarly educated workers (Table D3.2).

Salary trends for teachers since 2010

Trends in statutory salaries

Between 2010 and 2022, the statutory salaries of teachers (with 15 years of experience and the most prevalent qualifications) increased overall in real terms (i.e. when adjusted for increases in the cost of living) in most of the countries for which data are available. However, only two-fifths of OECD countries have the relevant data available for the whole period with no break in the time series. Among these countries, around two-thirds show an increase in such salaries over this period and one-third show a decrease (Table D3.7, available on line).

The biggest real-terms decreases in statutory salaries between 2010 and 2022 were in Greece, where statutory salaries fell by more than 30% at pre-primary, primary and secondary levels. There were also smaller declines (less than 10%) in teachers' statutory salaries (at some or all levels of education) in about one-quarter of OECD countries and other participants. During the same period, statutory salaries increased by 30% or more for teachers in Chile (pre-primary, primary and lower secondary levels, and nearly 30% at upper secondary level), Hungary (pre-primary level) and Israel (pre-primary and secondary levels) and by nearly 30% in the Slovak Republic (Figure D3.5 and Table D3.7, available on line).

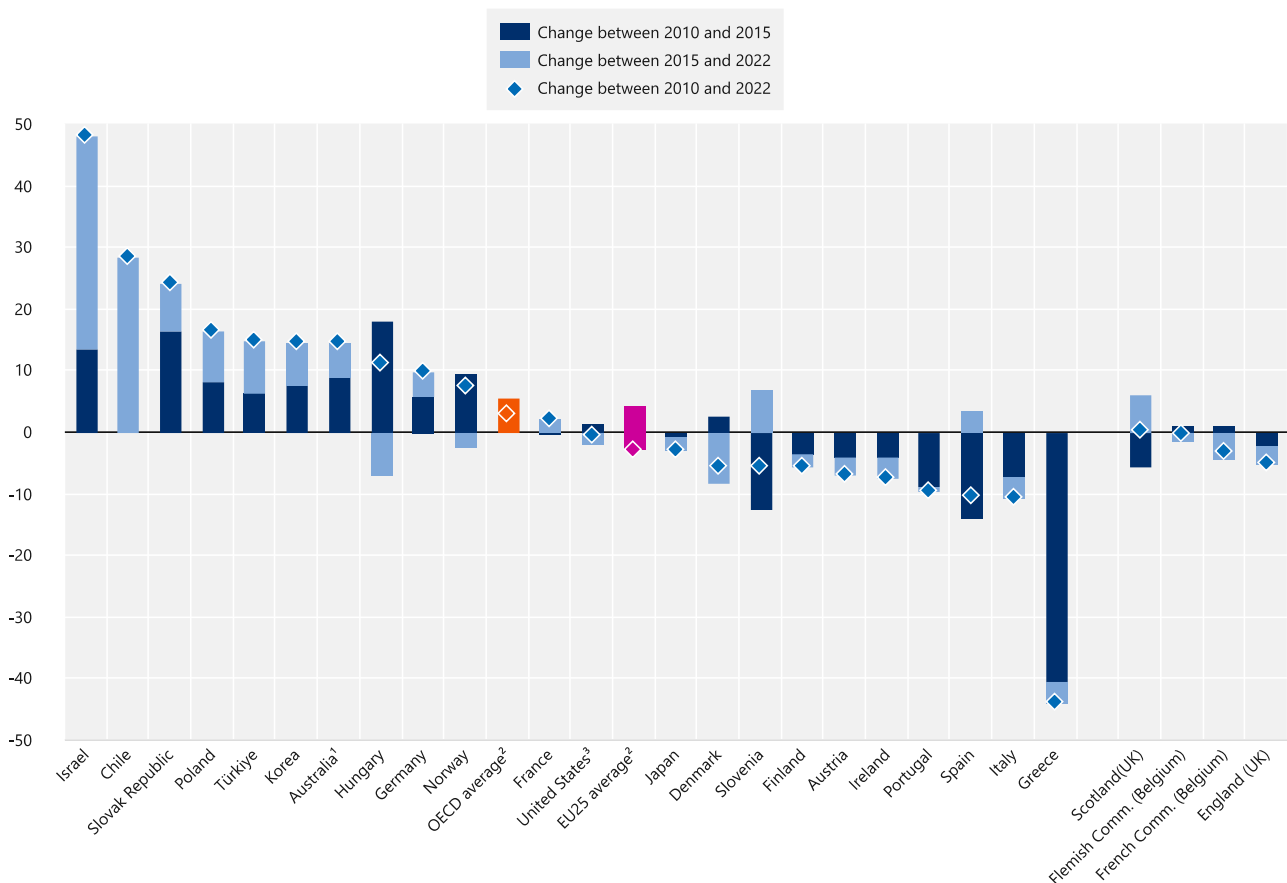
For the period 2015 to 2022, four-fifths of OECD countries and other participants have comparable data for at least one level of education, based on teachers with 15 years of experience and the most prevalent qualifications. Teachers' statutory salaries increased in real terms in between one-half and three-fifths of these (depending on

the level of education) during this time. Statutory salaries increased by about 5% at primary level, 4% at lower secondary level (general programmes) and 4% at upper secondary level (general programmes) (Table D3.7, available on line). However, when considering the average across OECD countries and other participants with available data for all the reference years between 2010 and 2022, statutory salaries were stable over 2015-22 (changing by less than 1 percentage point) at the different levels of education (Figure D3.5 and Table D3.7, available on line).

There were large increases or decreases in salaries over the period 2015-22 in some countries. They grew by more than 20% in Chile, the Czech Republic, Israel (at upper secondary level), Lithuania and the Slovak Republic (at pre-primary level). In contrast, statutory salaries have fallen since 2015 (at all levels of education with available data) in 14 countries and other participants. The largest decreases were in Costa Rica where salaries fell by 19% at pre-primary and primary levels and nearly 40% at secondary level (Figure D3.5 and Table D3.7, available on line).

Figure D3.5. Change in upper secondary general teachers' statutory salaries between 2010 and 2022

Index of change in teachers' real statutory salaries (2015 = 100)



Note: Index of change in teachers' statutory salaries is based on the most prevalent qualifications after 15 years of experience, converted to constant prices using deflators for private consumption.

1. Changes up to 2021 instead of 2022.

2. Average of countries with available data for both periods.

3. Actual base salaries.

Countries and other participants are ranked in descending order of the change in the index between 2010 and 2022.

Source: OECD (2023), Table D3.7 (available on line). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3]).

Trends in actual salaries

As 2022 data are not available for a significant number of countries and other participants, trends are analysed up to 2021. Between 2010 and 2021, teachers' actual salaries increased overall in real terms in most countries for which data are available. Around two-thirds of countries with time series data show an increase over this period and one-third a decrease. However, only one in three OECD countries have data available on the actual salaries of teachers aged 25-64 for this period with no break in the time series.

For the countries with available data and no breaks in the time series, actual salaries generally increased between 2010 and 2021. The increase in salaries was over 20% at all levels of education in the Czech Republic, Hungary and Sweden, and at upper secondary level in Iceland. There were only three countries and other participants where actual salaries fell in at least one level of education. They fell by 11% for upper secondary teachers in the Flemish Community of Belgium (Table D3.8, available on line).

Over the period 2015 to 2021, at least two-thirds of OECD countries and other participants have comparable time series data for at least one level of education. Around three-quarters of these countries showed an increase in real terms in actual salaries. On average across OECD countries and other participants with available data for all the reference years, actual salaries increased by about 2% at primary level, 3% at lower secondary level and 6% at upper secondary level. The increase exceeded 20% in the Czech Republic, Estonia, Iceland (except at upper secondary level), Latvia, Lithuania and the Slovak Republic (Table D3.8, available on line).

Base salaries 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 may 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 and additional payments are taken at different levels (Tables D3.13 and D3.15, available on line).

Criteria for additional payments vary across countries. In the large majority of countries and other participants, 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 D3.10, available on line). Teachers may also be required to take on some responsibilities or perform some tasks without additional compensation (see Indicator D4 in *Education at a Glance 2022* (OECD, 2022^[7]) for the tasks and responsibilities of teachers). Taking on other responsibilities, however, often entails some sort of extra compensation.

At upper secondary level, teachers who participate in school management activities in addition to their teaching duties received extra compensation in nearly three-fifths of the countries and other participants with available information. It is also common for teachers to be awarded additional payments, either annual or occasional, for teaching more classes or hours than required by their full-time contract, having responsibility as a class or form teacher, or performing special tasks such as training student teachers (Table D3.10, available on line).

Outstanding performance can also lead to additional compensation, either in the form of occasional additional or annual payments, or through increases in basic salary. These are awarded to upper secondary teachers in about three-fifths of the OECD countries and other participants 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 D3.10 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 (see Tables D3.12 and D3.15, available on line).

Box D3.3. Salaries of upper secondary teachers in vocational programmes

A recent survey investigated whether upper secondary teachers in vocational programmes (see definition in Indicator B1) of public institutions have different working conditions (including salaries) compared to those in general programmes. The survey distinguished five categories of teachers in vocational programmes, depending on the type of subjects they teach (Table X3.D3.8. in [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3]). A total of 35 countries and other participants took part in the survey, but Australia, Ireland and the United States are not included in the analysis as there are no distinct vocational programmes at upper secondary level. In 7 of the 31 countries and other participants with available information, there are no differences in qualification requirements and working conditions between upper secondary teachers in general and vocational programmes and salary scales are the same in both programmes. For the rest, there are three approaches to distinguishing teachers in vocational programmes in terms of minimum qualification requirements and/or statutory salary scales:

- no distinction between teachers in vocational programmes regardless of the subject taught: Denmark, England (United Kingdom), France, Germany, Japan, the Netherlands, New Zealand and Norway.
- Countries that distinguish between those teaching general subjects and those teaching vocational theory and practice (Chile, Estonia, Finland, Latvia, Lithuania, Spain and Sweden) or have a salary scale only for those teaching vocational subjects (Türkiye).
- Countries that distinguish among those teaching general subjects, vocational theory and vocational practice (Austria, the Czech Republic, the Flemish and French Communities of Belgium, Hungary, Poland, Slovenia and Switzerland) or distinguish those teaching vocational practice from the rest (the Slovak Republic).

Statutory salaries of teachers in vocational programmes

Countries with different categories of teachers in vocational programmes do not necessarily have different statutory salary scales for each of these categories. In some countries the minimum academic qualifications required from teachers may vary according to categories of teachers, which in turn can have an impact on the statutory salaries that they receive (Indicator D6 of *Education at a Glance 2022* (OECD, 2022^[7])). However, the statutory salaries could be the same for similar levels of qualifications. In Finland, the minimum academic qualification requirement for teachers of vocational subjects is lower than for general subjects, and this may explain why they have lower salary levels. In France, at upper secondary level fully qualified teachers in general and vocational programmes are paid according to the same salary scale and have the same teaching and career conditions; however, they have to pass different competitive entrance examinations.

In almost all countries where teachers in vocational programmes are distinguished from those in general programmes, teachers teaching general subjects have the same salary scales and qualification requirements as teachers in the general programmes. In countries where teachers teaching vocational practice are differentiated from those teaching vocational theory, the distinction between these two groups of teachers is based on differences either in the compensations or qualification requirements.

Sixteen of the 24 countries and other participants which distinguish between teachers in vocational and general programmes provided information on the statutory salaries of teachers in vocational programmes. The statutory salaries of teachers (with the most prevalent qualification) after 15 years of experience vary widely across these countries and all categories of teachers in vocational programmes: from USD 27 078 in the Czech Republic (for teachers teaching vocational practice subjects) to USD 92 928 in Germany (for all teachers in vocational programmes) (Table D3.2).

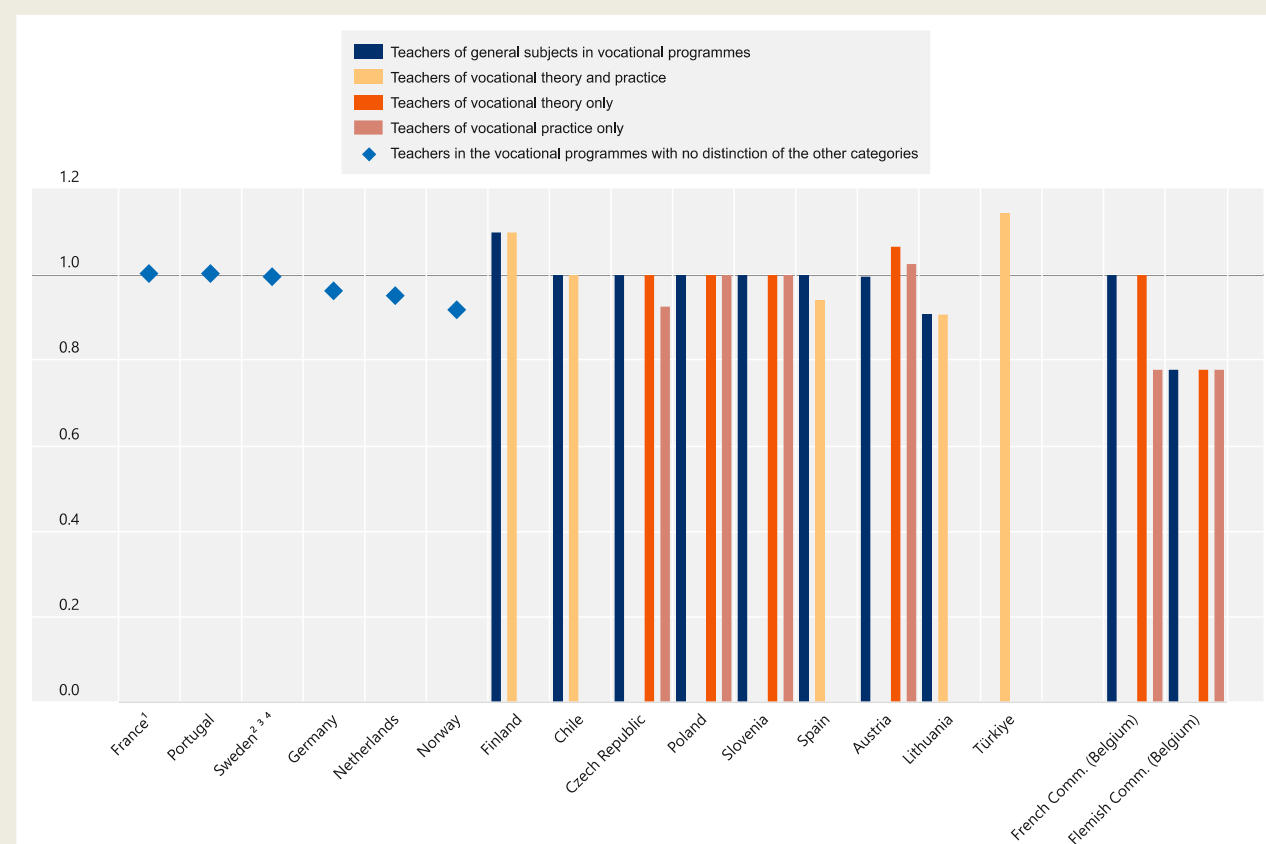
Where countries distinguish between categories of teachers in vocational programmes, their statutory salaries can also vary within each country. Among teachers with 15 years of experience and the most prevalent qualification, statutory salaries are the same for all categories of teachers in vocational programmes

in Chile, the Flemish Community of Belgium, Finland, Lithuania, Poland and Slovenia, but they vary by 6-8% in Austria, the Czech Republic and Spain, and by 28% in the French Community of Belgium (Table D3.2).

Among the 17 countries and other participants with available data, statutory salaries of teachers in vocational programmes are generally similar or slightly lower than those in general programmes. The difference in statutory salaries of teachers (with 15 years of experience and the most prevalent qualification) between general and vocational programmes is 5% or less (at least for some categories) in two-thirds of these countries. However, compared to salaries in general programmes, statutory salaries are at least 20% lower in vocational programmes in the Flemish Community of Belgium, and for teachers teaching vocational practice in the French Community of Belgium. Nevertheless, in a few countries statutory salaries are higher in vocational programmes than in general programmes. Compared to teachers in general programmes, salaries of teachers of vocational theory are 7% higher in Austria, salaries of teachers teaching general subjects in vocational programmes are 10% higher in Finland, and salaries of teachers teaching vocational theory and practice are 15% higher in Türkiye (Figure D3.6).

Figure D3.6. Statutory salaries of upper secondary teachers in vocational programmes relative to those in general programmes (2022)

Based on teachers with 15 years of experience and the most prevalent qualification



Note: The figure only includes countries for which upper secondary teachers in vocational programmes have different qualifications or salaries to those teaching in general programmes (see Table D3.2 for more information). 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. Please see Annex 2 and *Definitions* and *Methodology* sections for more information.

1. Includes the average of fixed bonuses for overtime hours for lower and upper secondary teachers.


2. Year of reference for salaries of teachers/school heads differs from 2022. Refer to the source table for more information.

3. Excludes the social security contributions and pension-scheme contributions paid by the employees.

4. Actual base salaries.

Countries and other participants are ranked in descending order of the ratio (relative to the salaries of teachers in general programmes) of the salaries of teachers in vocational programmes (with no distinction between categories), then the ratio of the salaries of teachers of general subjects and then the ratio of the salaries of teachers of vocational theory and practice.

Source: OECD (2023), Tables D3.1. and D3.2. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3]).

StatLink  <https://stat.link/2uvdic>

Actual salaries

Statutory salaries do not include additional payments such as allowances, bonuses or other rewards, and so may not entirely reflect the level of compensation teachers receive. In almost all of the countries with available information, the criteria for additional payments for teachers in vocational programmes are the same as those applied to teachers in general programmes (Tables D3.10 and D3.11 available on line).

However, in seven countries and other participants, the criteria used for base salaries and additional payments and the way salaries are adjusted based on these criteria can vary between teachers in general and vocational programmes. In Latvia, the criteria used vary widely between teachers in general and vocational programmes and they do not lead to similar adjustment of the salaries (Tables D3.10 and D3.11 available on line).

In most countries with available data, actual salaries of upper secondary teachers are lower in vocational programmes than in general programmes. The difference is 10% or less in most countries but exceeds 10% for all teachers in vocational programmes in Denmark and for teachers of vocational practice in the Flemish and French Communities of Belgium, the Czech Republic, and Slovenia. Actual salaries of teachers in vocational programmes are over 10% higher than those in general programmes only for teachers of general subjects in Hungary and Latvia (Table D3.4 and Table D3.9, available on line).

Source: 2022 OECD data collection on salaries of upper secondary teachers in vocational programmes.

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 is 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 2021 to 30 June 2022. The reference date for PPPs is 2021/22, 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. 2022). Tables with salaries in national currency are included in Annex 2. To calculate changes in teachers' salaries (Tables D3.7 and D3.8, available on line), the deflator for private consumption is used to convert salaries to 2015 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 D3.3, 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 at each ISCED level of tertiary attainment (see Tables X2.8 and X2.9 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 2022 reference year used for salaries of teachers or school heads, a deflator has been used to adjust earnings data to 2022. For all other ratios in Table D3.3 and those in Table D3.6 (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 the salaries of teachers. In most countries, the population of teachers is large and may impact on the average earnings of workers.

For more information, please see the [OECD Handbook for Internationally Comparative Education Statistics](#) (OECD, 2018^[8]) and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3]) for country-specific notes.

Source

Data on salaries and bonuses for teachers and school heads are derived from the 2022 joint OECD/Eurydice data collection on salaries of teachers and school heads. Data refer to the 2021/22 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. Data on salaries and bonuses for upper secondary teachers in vocational programmes are derived from the 2022 OECD data collection on salaries of upper secondary teachers in vocational programmes.

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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 (2022)
Table D3.2	Statutory salaries of upper secondary teachers in vocational programmes, by qualification levels (2022)
Table D3.3	Teachers' and school heads' actual salaries relative to earnings of tertiary-educated workers (2022)
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WEB Table D3.5	School heads' minimum and maximum statutory salaries, based on minimum qualifications (2022)
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WEB Table D3.7	Trends in teachers' statutory salaries, based on the most prevalent qualifications after 15 years of experience (2000 and 2005 to 2022)
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WEB Table D3.9	Actual salaries of upper secondary teachers in vocational programmes, by age group and gender (2022)
WEB Table D3.10	Criteria used for base salaries and additional payments awarded to teachers in public institutions, by level of education (2022)
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WEB Table D3.13	Decision-making level for criteria used for determining teachers' base salaries and additional payments, by level of education (2022)
WEB Table D3.14	Decision-making level for criteria used for determining base salaries and additional payments of upper secondary teachers in vocational programmes (2022)
WEB Table D3.15	Decision-making level for criteria used for determining school heads' base salaries and additional payments, by level of education (2022)
WEB Table D3.16	Structure of compensation system for school heads (2022)

StatLink  <https://stat.link/p6h5bq>

Cut-off date for the data: 15 June 2023. 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 (2022)

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
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Australia	47 981	68 710	68 889	77 028	47 991	67 949	69 513	75 486	47 990	67 818	69 369	75 603	47 990	67 818	69 369	75 603
Austria	m	m	m	m	49 646	52 625	58 910	86 526	49 646	55 135	59 944	92 041	49 646	59 852	61 854	102 120
Canada	m	m	m	m	42 157	69 819	72 734	72 734	42 157	69 819	72 734	72 734	42 157	69 819	72 734	72 734
Chile	25 575	31 562	38 394	47 335	25 575	31 562	38 394	47 335	25 575	31 562	38 394	47 335	25 575	31 562	38 394	49 077
Colombia ¹	23 401	42 677	42 677	49 078	23 401	42 677	42 677	49 078	23 401	42 677	42 677	49 078	23 401	42 677	42 677	49 078
Costa Rica	24 363	28 618	30 745	37 128	24 604	28 902	31 051	37 498	25 355	29 788	32 004	38 653	25 355	29 788	32 004	38 653
Czech Republic	24 572	25 462	26 108	29 099	26 189	27 886	29 099	34 353	26 270	27 967	29 180	34 595	26 270	27 967	29 180	34 515
Denmark	46 552	52 261	52 261	52 261	53 364	59 294	61 473	61 473	53 598	59 930	61 968	61 968	50 444	65 555	65 555	65 555
Estonia	a	a	a	a	26 031	a	a	a	26 031	a	a	a	26 031	a	a	a
Finland ²	32 664	35 616	35 955	35 955	37 407	42 883	45 888	48 642	40 182	46 065	49 294	52 251	42 191	50 661	53 189	56 380
France ³	34 611	38 651	40 683	58 751	34 611	38 651	40 683	58 751	37 720	41 760	43 792	62 169	37 720	41 760	43 792	62 169
Germany	m	m	m	m	70 419	80 750	85 699	91 713	77 905	88 442	93 085	101 510	81 141	91 729	96 742	110 694
Greece	20 387	24 793	26 996	40 213	20 387	24 793	26 996	40 213	20 387	24 793	26 996	40 213	20 387	24 793	26 996	40 213
Hungary	16 137	18 173	19 520	27 597	16 137	18 173	19 520	27 597	16 137	18 173	19 520	27 597	16 137	20 193	21 689	30 663
Iceland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Ireland	a	a	a	a	36 281	50 286	60 902	70 244	36 281	50 286	61 498	70 840	36 281	50 286	61 498	70 840
Israel	26 613	34 865	37 814	65 314	23 561	29 864	33 606	54 695	23 673	30 807	36 179	57 208	27 876	32 531	39 321	56 501
Italy	32 981	36 160	39 584	48 015	32 981	36 160	39 584	48 015	35 447	39 151	43 038	52 725	35 447	40 084	44 235	55 106
Japan	m	m	m	m	28 611	40 532	47 349	58 562	28 611	40 532	47 349	58 562	28 611	40 532	47 349	60 106
Korea	33 615	50 780	59 346	94 489	33 615	50 780	59 346	94 489	33 675	50 840	59 406	94 549	33 675	50 840	59 406	94 549
Latvia	17 902	a	a	a	17 039	a	a	a	17 039	a	a	a	17 039	a	a	a
Lithuania	33 027	34 102	37 946	43 195	33 027	34 102	37 946	43 195	33 027	34 102	37 946	43 195	33 027	34 102	37 946	43 195
Luxembourg	71 647	92 663	104 604	126 576	71 647	92 663	104 604	126 576	81 200	101 500	112 008	141 144	81 200	101 500	112 008	141 144
Mexico	21 802	27 294	34 047	42 694	21 802	27 294	34 047	42 694	27 655	34 685	43 456	53 919	51 010	58 746	62 681	62 681
Netherlands	48 805	69 624	79 300	99 715	48 805	69 624	79 300	99 715	48 662	73 959	84 862	99 717	48 662	73 959	84 862	99 717
New Zealand	a	a	a	a	34 890	56 125	56 125	56 125	34 890	56 125	56 125	56 125	34 890	56 125	56 125	56 125
Norway	39 337	47 854	47 854	48 588	43 108	51 727	51 727	55 489	43 108	51 727	51 727	55 489	51 096	56 557	56 557	62 688
Poland	19 235	25 766	31 447	32 778	19 235	25 766	31 447	32 778	19 235	25 766	31 447	32 778	19 235	25 766	31 447	32 778
Portugal	34 311	41 736	44 277	73 978	34 311	41 736	44 277	73 978	34 311	41 736	44 277	73 978	34 311	41 736	44 277	73 978
Slovak Republic ⁴	13 559	15 468	15 836	17 718	16 798	18 882	19 342	21 636	16 798	18 882	19 342	21 636	16 798	18 882	19 342	21 636
Slovenia ⁴	31 187	36 876	46 343	53 504	31 187	38 213	48 062	57 595	31 187	38 213	48 062	57 595	31 187	38 213	48 062	57 595
Spain	44 650	48 516	51 715	63 910	44 650	48 516	51 715	63 910	49 905	54 243	57 758	71 235	49 905	54 243	57 758	71 235
Sweden ^{1, 4, 5, 6}	42 374	44 430	45 132	49 457	43 001	47 451	49 583	57 042	43 941	48 893	50 398	58 421	45 132	49 232	51 275	59 048
Switzerland ¹	56 429	70 367	m	86 338	60 874	75 791	m	92 592	67 504	86 263	m	103 516	76 318	98 468	m	117 001
Türkiye	46 333	47 691	47 063	50 489	46 333	47 691	47 063	50 489	46 822	48 180	47 551	50 978	46 822	48 180	47 551	50 978
United States ⁸	45 931	50 953	68 905	76 985	44 992	61 054	66 251	78 190	46 018	64 196	69 439	79 031	48 187	63 026	69 641	75 988
Other participants																
Flemish Comm. (Belgium)	42 842	53 727	60 488	76 266	42 842	53 727	60 488	76 266	42 842	53 727	60 488	76 266	53 452	68 130	77 696	96 827
French Comm. (Belgium)	40 335	50 399	56 724	69 375	40 335	50 399	56 724	69 375	40 335	50 399	56 724	69 375	50 142	63 873	72 821	87 735
England (UK)	34 732	a	55 726	55 726	34 732	a	55 726	55 726	34 732	a	55 726	55 726	34 732	a	55 726	55 726
Scotland (UK)	43 895	55 096	55 096	55 096	43 895	55 096	55 096	55 096	43 895	55 096	55 096	55 096	43 895	55 096	55 096	55 096
OECD average	34 563	43 063	45 981	57 118	36 367	46 782	49 968	61 075	37 628	48 605	51 613	63 332	39 274	50 841	53 456	65 658
Partner and/or accession countries																
Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Brazil	20 261	m	m	m	20 261	m	m	m	20 261	m	m	m	20 261	m	m	m
Bulgaria	21 328	22 006	22 851	m	21 328	22 006	22 851	m	21 328	22 006	22 851	m	21 328	22 006	22 851	m
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	a	a	a	a	30 017	31 361	32 108	35 841	30 017	31 361	32 108	35 841	30 017	31 361	32 108	35 841
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
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	23 300	27 792	29 969	39 721	23 300	27 792	29 969	39 721	23 300	27 792	29 969	39 721	23 300	27 792	29 969	39 721
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
EU25 average	32 541	39 061	42 586	53 626	35 175	42 682	46 894	58 742	36 446	44 444	48 606	61 090	36 985	45 986	50 082	63 474
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See StatLink and Box D3.4 for the notes related to this Table..

Source: OECD (2023). For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023[3])

Table D3.2. Statutory salaries of upper secondary teachers in vocational programmes, by qualification levels (2022)

Annual teachers' salaries, in public institutions, in equivalent USD converted using PPPs for private consumption

		All teachers combined			Teachers of general subjects			Teachers of vocational theory and practice			Teachers of vocational theory only			Teachers of vocational practice only		
		Starting salary	Salary after 15 years of experience	Salary at top of scale	Starting salary	Salary after 15 years of experience	Salary at top of scale	Starting salary	Salary after 15 years of experience	Salary at top of scale	Starting salary	Salary after 15 years of experience	Salary at top of scale	Starting salary	Salary after 15 years of experience	Salary at top of scale
OECD countries	• = Most prevalent qualification	(1)	(3)	(4)	(5)	(7)	(8)	(9)	(11)	(12)	(13)	(15)	(16)	(17)	(19)	(20)
Australia	•	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
Austria	•	a	a	a	49 646	61 590	100 606	a	a	a	49 646	65 965	97 623	49 646	63 434	84 872
Canada	•	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Chile	•	a	a	a	26 446	39 729	49 077	26 446	39 729	49 077	a	a	a	a	a	a
Colombia ^{1,2}	•	23 401	42 677	49 078	a	a	a	a	a	a	a	a	a	a	a	a
Costa Rica ¹	•	25 355	32 004	38 653	a	a	a	a	a	a	a	a	a	a	a	a
Czech Republic	•	a	a	a	26 270	29 180	34 515	a	a	a	26 270	29 180	34 515	25 623	27 078	30 311
Denmark	•	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
Estonia	•	m	m	m	m	m	m	m	m	m	a	a	a	a	a	a
Finland	•	m	m	m	47 011	58 458	61 741	47 011	58 458	61 741	a	a	a	a	a	a
France ³	•	37 720	43 792	62 169	a	a	a	a	a	a	a	a	a	a	a	a
Germany	•	76 580	92 928	103 537	a	a	a	a	a	a	a	a	a	a	a	a
Greece ¹	•	20 387	26 996	40 213	a	a	a	a	a	a	a	a	a	a	a	a
Hungary	•	a	a	a	m	m	m	a	a	a	m	m	m	m	m	m
Iceland	•	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Ireland	•	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
Israel ¹	•	27 876	39 321	56 501	a	a	a	a	a	a	a	a	a	a	a	a
Italy ¹	•	35 447	44 235	55 106	a	a	a	a	a	a	a	a	a	a	a	a
Japan	•	m	m	m	a	a	a	a	a	a	a	a	a	a	a	a
Korea ¹	•	33 675	59 406	94 549	a	a	a	a	a	a	a	a	a	a	a	a
Latvia	•	a	a	a	17 039	a	a	17 039	a	a	a	a	a	a	a	a
Lithuania	•	a	a	a	30 033	34 481	39 250	30 033	34 481	39 250	a	a	a	a	a	a
Luxembourg	•	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
Netherlands	•	54 232	80 628	96 619	a	a	a	a	a	a	a	a	a	a	a	a
New Zealand	•	m	m	m	a	a	a	a	a	a	a	a	a	a	a	a
Norway	•	46 879	51 727	55 489	a	a	a	a	a	a	a	a	a	a	a	a
Poland	•	m	m	m	19 235	31 447	32 778	m	m	m	19 235	31 447	32 778	19 235	31 447	32 778
Portugal ¹	•	34 311	44 277	73 978	a	a	a	a	a	a	a	a	a	a	a	a
Slovak Republic ¹	•	16 798	19 342	21 636	a	a	a	a	a	a	a	a	a	m	m	m
Slovenia	•	a	a	a	31 187	48 062	57 595	a	a	a	31 187	48 062	57 595	31 187	48 062	57 595
Spain	•	a	a	a	49 905	57 758	71 235	47 269	54 305	66 479	a	a	a	a	a	a
Sweden ^{2,4,5}	•	45 759	50 836	57 418	m	m	m	m	m	m	a	a	a	a	a	a
Switzerland ²	•	71 458	m	109 777	m	m	m	a	a	a	m	m	m	m	m	m
Türkiye	•	a	a	a	a	a	a	53 741	54 470	57 896	a	a	a	a	a	a
United States	•	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
Other participants																
Flemish Comm. (Belgium)	•	a	a	a	42 842	60 488	76 266	a	a	a	42 842	60 488	76 266	42 842	60 488	76 266
French Comm. (Belgium)	•	a	a	a	50 142	72 821	87 735	a	a	a	50 142	72 821	87 735	40 335	56 724	69 375
England (UK)	•	m	m	m	a	a	a	a	a	a	a	a	a	a	a	a
Scotland (UK)	•	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
OECD average																
Partner and/or accession countries																
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
Bulgaria	•	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
Croatia	•	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
Peru	•	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	•	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
EU25 average	•	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 StatLink and Box D3.4 for the notes related to this Table.

Source: OECD (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3])


StatLink  <https://stat.link/dtlyxq>

Table D3.3. Teachers' and school heads' actual salaries relative to earnings of tertiary-educated workers (2022)

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

	Year of reference of latest available data on earnings of tertiary-educated workers	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)			
		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
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Australia	2021	m	m	m	m	1.06	1.01	1.01	1.01	m	m	m	m	1.49	1.66	1.92	1.92
Austria	2021	m	m	m	m	m	0.78	0.86	0.92	m	m	m	m	m	1.12	1.19	1.40
Canada	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Chile ¹	2017	0.62	0.62	0.63	0.66	0.77	0.77	0.79	0.82	0.97	0.97	0.99	1.08	1.21	1.20	1.22	1.34
Colombia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Costa Rica	2021	m	m	m	m	1.19	1.22	1.36	1.36	m	m	m	m	1.94	1.78	2.07	2.07
Czech Republic ¹	2020	0.80	0.78	0.77	0.80	0.63	0.79	0.79	0.83	1.10	1.18	1.18	1.26	0.91	1.23	1.23	1.31
Denmark	2021	m	m	m	m	0.81	0.66	0.80	0.80	0.94	0.94	1.27	1.27	0.86	1.16	1.16	1.50
Estonia	2021	0.71	0.84	0.82	0.81	0.66	0.86	0.86	0.86	0.88	0.99	0.99	0.99	0.94	1.08	1.08	1.08
Finland	2020	0.72	0.74	0.82	0.92	0.65	0.86	0.95	1.07	0.88	1.04	1.21	1.24	0.82	1.21	1.41	1.46
France ²	2019	0.75	0.72	0.79	0.88	0.76	0.74	0.83	0.92	0.91	0.91	m	m	0.93	0.93	1.25	1.25
Germany	2021	m	0.83	0.91	0.96	m	0.97	1.07	1.12	m	m	m	m	m	m	m	m
Greece ³	2018	0.76	0.76	0.81	0.81	0.76	0.76	0.81	0.81	1.01	1.01	1.05	1.05	1.05	1.05	1.17	1.17
Hungary	2021	0.63	0.60	0.60	0.53	0.55	0.57	0.57	0.62	0.89	0.87	0.87	0.85	0.79	0.84	0.84	0.89
Iceland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Ireland	2020	m	m	m	m	m	0.97	1.00	1.00	m	m	m	m	m	1.41	1.73	1.73
Israel	2020	0.82	0.81	0.82	0.91	0.87	0.88	0.93	1.00	a	1.25	1.19	1.45	a	1.54	1.49	1.71
Italy	2020	m	m	m	m	0.65	0.65	0.69	0.74	a	m	m	m	a	1.72	1.72	1.72
Japan	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Korea	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Latvia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Lithuania ⁴	2018	m	m	m	m	1.44	1.44	1.44	1.44	m	m	m	m	m	m	m	m
Luxembourg	m	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	2021	0.84	0.84	0.89	0.89	0.79	0.79	0.89	0.89	1.10	1.10	1.20	1.20	1.10	1.10	1.25	1.25
New Zealand ¹	2021	m	0.93	0.94	0.99	m	0.91	0.92	0.99	m	m	m	m	m	1.34	1.42	1.56
Norway	2021	0.77	0.82	0.82	0.83	0.70	0.77	0.77	0.84	0.97	1.11	1.11	1.22	0.88	1.03	1.03	1.25
Poland	2020	m	m	m	m	0.66	0.80	0.81	0.82	m	m	m	m	1.02	1.10	1.10	1.18
Portugal	2021	m	m	m	m	1.47	1.35	1.32	1.42	m	m	m	m	1.92	1.92	1.92	1.92
Slovak Republic ¹	2021	m	m	m	m	0.60	0.76	0.76	0.80	m	m	m	m	m	m	m	m
Slovenia ¹	2021	0.80	0.86	0.87	0.84	0.73	0.91	0.92	0.94	1.33	1.12	1.12	1.16	1.33	1.26	1.26	1.30
Spain	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Sweden ¹	2021	0.76	0.79	0.75	0.74	0.69	0.79	0.82	0.83	1.13	1.12	1.12	1.09	1.03	1.14	1.14	1.16
Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Türkiye	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
United States	2021	0.54	0.55	0.57	0.58	0.62	0.64	0.66	0.68	0.86	0.86	0.89	0.92	1.09	1.10	1.13	1.16
Other participants																	
Flemish Comm. (Belgium) ⁵	2020	0.98	0.96	0.94	0.99	0.88	0.87	0.87	1.04	1.41	1.41	1.43	1.45	1.29	1.29	1.40	1.60
French Comm. (Belgium) ⁵	2020	0.93	0.89	0.85	0.91	0.84	0.81	0.79	1.00	1.28	1.30	1.28	1.33	1.16	1.18	1.24	1.42
England (UK) ⁶	2021	0.81	0.81	0.86	0.86	0.85	0.85	0.94	0.94	1.48	1.48	1.98	1.98	1.55	1.55	2.17	2.17
Scotland (UK) ⁶	2021	m	m	m	m	0.93	0.93	0.93	0.93	m	m	m	m	1.51	1.51	1.51	1.51
OECD average		m	m	m	m	0.81	0.87	0.90	0.95	m	m	m	m	m	1.28	1.37	1.45
Partner and/or accession countries																	
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
Bulgaria	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
Croatia	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
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	2021	m	m	m	m	0.84	0.86	0.87	0.89	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
EU25 average		m	m	m	m	0.79	0.86	0.89	0.94	m	m	m	m	m	1.22	1.30	1.36
G20 average		m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See StatLink and Box D3.4 for the notes related to this Table.

Source: OECD (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3])

StatLink  <https://stat.link/jfcsyv>

Table D3.4. Teachers' and school heads' average actual salaries (2022)

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								
	Pre-primary	Primary	Lower secondary	Upper secondary					
			General programmes	General programmes	Vocational programmes				
					All teachers combined	Teachers of general subjects	Teachers of vocational theory and practice	Teachers of vocational theory only	Teachers of vocational practice only
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Australia	66 419	62 832	63 188	63 215	a	a	a	a	a
Austria ¹	m	67 703	74 796	79 846	a	88 141	a	88 141	88 141
Canada	m	m	m	m	m	m	m	m	m
Chile ²	30 521	30 620	31 253	32 659	a	31 758	31 758	a	a
Colombia	m	m	m	m	m	a	a	a	a
Costa Rica	35 884	36 911	40 999	40 999	a	a	a	a	a
Czech Republic ²	30 379	38 287	38 057	40 051	a	m	a	39 508	33 953
Denmark	52 051	63 312	63 679	74 654	57 127	a	a	a	a
Estonia	25 083	32 374	32 374	32 374	34 867	m	m	a	a
Finland ³	38 309	50 697	56 135	63 188	59 278	m	m	a	a
France ⁴	46 653	45 320	50 609	56 037	52 936	a	a	a	a
Germany	m	82 145	90 235	95 077	91 116	a	a	a	a
Greece ^{1,5}	27 371	27 371	29 194	29 194	m	a	a	a	a
Hungary	24 599	25 526	25 526	27 926	a	32 808	a	30 692	30 692
Iceland	51 220	51 466	51 466	66 063	m	m	m	m	m
Ireland	m	58 149	60 112	60 112	a	a	a	a	a
Israel	41 893	42 553	44 754	48 206	m	a	a	a	a
Italy	39 569	39 569	42 055	44 843	m	a	a	a	a
Japan	m	m	m	m	m	a	a	a	a
Korea	m	m	m	m	a	a	a	a	a
Latvia	24 038	30 233	30 177	32 226	a	36 124	32 582	a	a
Lithuania ⁶	45 085	45 085	45 085	45 085	a	m	m	a	a
Luxembourg	m	m	m	m	m	m	m	m	m
Mexico	m	m	m	m	m	m	m	m	m
Netherlands	71 018	71 018	79 580	79 580	76 268	a	a	a	a
New Zealand ²	m	52 924	53 435	57 452	m	a	a	a	a
Norway	50 469	55 623	55 623	60 668	58 644	a	a	a	a
Poland	31 777	38 630	39 082	39 378	40 116	40 323	39 718	x(7)	x(7)
Portugal	51 788	47 499	46 430	49 929	49 929	a	a	a	a
Slovak Republic ^{1,2}	22 021	28 168	28 168	29 488	28 292	a	a	a	28 292
Slovenia ²	38 872	48 198	48 893	49 611	a	49 611	a	50 775	42 086
Spain	m	m	m	m	a	m	m	a	a
Sweden ^{1,2}	43 029	48 881	50 799	51 660	50 855	m	m	a	a
Switzerland	m	m	m	m	m	m	a	m	m
Türkiye	m	m	m	m	a	a	m	a	a
United States	60 424	62 089	64 298	66 438	a	a	a	a	a
Other participants									
Flemish Comm. (Belgium)	61 479	60 609	60 516	72 493	a	67 100	a	67 876	64 351
French Comm. (Belgium)	58 173	56 398	55 220	69 410	a	62 313	a	63 358	60 727
England (UK)	48 800	48 800	53 942	53 942	m	a	a	a	a
Scotland (UK)	53 136	53 136	53 136	53 136	m	m	m	m	m
OECD average	42 371	48 023	49 911	53 119	m	m	m	m	m
Partner and/or accession countries									
Argentina	m	m	m	m	m	m	m	m	m
Brazil	m	m	m	m	m	m	m	m	m
Bulgaria	m	m	m	m	m	m	m	m	m
China	m	m	m	m	m	m	m	m	m
Croatia	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
Peru	m	m	m	m	m	m	m	m	m
Romania	31 063	31 949	32 357	33 085	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
EU25 average	39 030	46 601	48 629	51 633	m	m	m	m	m
G20 average	m	m	m	m	m	m	m	m	m

Note: See StatLink and Box D3.4 for the notes related to this Table.

Source: OECD (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023[3])

Box D3.4 Notes for Indicator D3 tables

Table D3.1. Teachers' statutory salaries, based on the most prevalent qualifications at different points in teachers' careers (2022)

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 [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3]).

1. Year of reference differs from 2022: 2021 for Colombia, Sweden and Switzerland.
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.

Table D3.2.. Statutory salaries of upper secondary teachers in vocational programmes, by qualification levels (2022)

Data on salary after 10 years of experience (Columns 2, 6, 10, 14 and 18) are available for consultation on line (see StatLink below). 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. Additional rows with data on minimum and maximum qualifications are available for consultation online (see StatLink below). Minimum qualification and maximum qualifications refer respectively to the minimum and maximum qualifications required to enter the teaching profession as a fully qualified teacher. In many cases, the minimum qualification is the same as the most prevalent qualification, see Table X3.D3.2 in [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3]).

1. No specific category of teachers in vocational programmes. Salaries are similar for teachers in vocational and general programmes.
2. Year of reference 2021.
3. Includes the average of fixed bonuses for overtime hours for lower and upper secondary teachers.
4. Excludes the social security contributions and pension-scheme contributions paid by the employees.
5. Actual base salaries.

Table D3.3. Teachers' and school heads' actual salaries relative to earnings of tertiary-educated workers (2022)

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.

1. Year of reference 2021 for salaries of teachers and school heads.
2. Year of reference 2020 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 education, adult education and special needs education.

4. Teachers' data include unqualified teachers.

5. Data on earnings for full-time, full-year workers with tertiary education refer to Belgium.

6. Data on earnings for full-time, full-year workers with tertiary education refer to the United Kingdom.

Table D3.4. Teachers' and school heads' average actual salaries (2022)

Data on school heads (Columns 10 to 13) are available for consultation on line (see StatLink below)

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 2021.

3. Includes data on the majority, i.e. kindergarten teachers only for pre-primary education.

4. Year of reference 2020.

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 education, adult education and special needs education.

6. Includes unqualified teachers.

See Definitions and Methodology sections, and Annex 2. For more information see [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3]).

Data and more breakdowns are available at <http://stats.oecd.org/>, Education at a Glance Database.

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

Indicator D6. What assessments and examinations of students are in place?

Highlights

- National, or central, assessments are standardised tests with no consequence on students' progression through school or certification. They are more prevalent at primary and lower secondary levels than at upper secondary level across OECD countries and other participants. At lower secondary level, around two-thirds of the OECD countries conduct at least one such assessment in general programmes every year.
- National, or central, examinations are standardised tests with formal consequence on students' progression through school or certification. More than three-quarters of the OECD countries have national, or central, examinations in the final years of upper secondary education (in general programmes). A large majority of these countries use these examinations to grant students access to tertiary education.
- Reading, writing and literature is assessed in nearly all of the OECD countries with national/central assessments at lower secondary level. Among the OECD countries where it is compulsory to assess at least one subject area in national/central examinations at upper secondary level, reading, writing and literature is a compulsory subject tested in a majority of them.

Context

Evaluation in education can encompass a large number of issues and can use different tools to assess the quality and effectiveness of education systems. Countries can use a combination of student examinations and assessments, school inspections, school self-evaluations, and reports on schools' compliance with regional or national rules and regulations. This indicator focuses on the way student assessments and examinations at national (central) level are used in primary education and in general programmes of secondary education.

In recent years, the use of national (or central where the highest level of educational authority in a country is below national level – see below) assessments has increased, reflecting a wider trend towards enhanced accountability for public services (OECD, 2013^[1]). National/central assessments can provide diagnostic information that teachers can use to address areas of weaknesses in students' learning. Assessments reflect the evolution of student learning at lower levels of education: ensuring that all learners develop essential basic skills in the early years, in preparation for high-stakes examinations at the end of secondary education. They can also provide comparative information to monitor educational performance across schools, regions and nationally, and to measure the equity of learning outcomes.

National/central examinations influence students' future pathways, including their eligibility for higher levels of education. As education systems have widened access to promote upper secondary attainment (Indicator A1), national/central examinations at the end of lower secondary level are used to certify completion of that level

of education. Meanwhile, the results of upper secondary national examinations are considered among one of many criteria for selection to tertiary education in many countries (Indicator D6 (OECD, 2019^[2])).

Figure D6.1. Number of national/central assessments and examinations, by level of education (2023)

In general education

Assessments			Examinations		
Primary	Lower secondary	Upper secondary	Primary	Lower secondary	Upper secondary
OECD countries					
			Australia ¹		
			Austria ²		
			Canada ¹		
			Chile ¹		
			Colombia ¹		
			Costa Rica		
			Czech Republic ¹		
			Denmark		
			Estonia ¹		
			Finland ¹		
			France ¹		
			Germany ¹		
			Greece ¹		
			Hungary		
			Iceland		
			Ireland		
			Israel ¹		
			Italy		
			Japan		
			Korea ¹		
			Latvia		
			Lithuania		
			Luxembourg		
			Mexico		
			Netherlands		
			New Zealand ³		
			Norway		
			Poland		
			Portugal		
			Slovak Republic		
			Slovenia		
			Spain ^{1 2}		
			Sweden		
			Switzerland ¹		
			Türkiye ¹		
			United States ¹		

Assessments			Examinations		
Primary	Lower secondary	Upper secondary	Primary	Lower secondary	Upper secondary
Subnational entities of OECD countries					
			Flemish Comm. (Belgium) ^{1 3}		
			French Comm. (Belgium)		
			England (UK)		
			Scotland (UK)		
Partner and accession countries					
			Brazil		
			Bulgaria		
			Croatia		
			Romania		

Note: Number of assessments and examination reported refers to the maximum that one student is expected to take for the specified level of education. Some assessments are not conducted annually, and thus may not have been conducted in the school year 2023.

1. Some assessments are sample-based. See Source Table for details.
2. Assessment for one grade will commence in the next school year (at lower secondary level in Austria and at primary level in Spain).
3. Year of reference 2022.

Source: OECD (2023), Tables D6.1 and D6.2. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[31]).

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Other findings

- It is mandatory for all upper secondary students to take national/central examination(s) in about two-thirds of the countries and other participants with data. In the remaining one-third, only students wishing to progress to tertiary education are required to take the examinations, or examinations are not needed to certify completion of upper secondary education.
- About two-fifths of the countries and other participants with data reported making moderate or high levels of use of the results of national/central assessments at lower secondary level when evaluating school performance.

Note

“National/central assessments and examinations” in this text refers to those defined at the highest level of authority in education in the country. In Belgium, the information refers to assessments and examinations in the Flemish and the French Communities. In the United Kingdom, it refers to assessments and examinations in England and Scotland.

Analysis

Among the many evaluation mechanisms used in education systems, this indicator looks into two types of standardised student evaluations: national/central assessments and national/central examinations. National/central examinations, which apply to nearly all students, are standardised tests of what students are expected to know or be able to do, and have a formal consequence for students (e.g. eligibility to progress to a higher level of education). Like national/central examinations, national/central assessments are based on standardised student achievement tests. However, their results do not affect students’ progression through schooling or their certification.

National/central assessments of students

National/central assessments are more prevalent at primary and lower secondary levels than at upper secondary level. About four-fifths of the 39 countries and other participants with data available conduct at least one national/central assessment on students at primary level (33 countries and other participants). The share is similar for lower secondary level (32 countries and other participants). At upper secondary, less than two-fifths (14 countries and other participants) conduct such assessments (Figure D6.1).

National/central assessments take place in different grades throughout primary and secondary levels. They are commonly conducted six and nine years after the start of primary education (in 19 countries and other participants for each grade). As these grades are a part of lower secondary education in many countries, this analysis focuses on national/central assessments at lower secondary level in the 32 countries and other participants with available information (Table D6.1).

Main purposes of national/central assessments

In general, national/central assessments serve more than one purpose. These purposes can be classified into two types: formative purposes (providing feedback for improvement) and summative purposes (verifying whether objectives have been achieved, i.e. students successfully demonstrating learning outcomes). Of the 32 countries and other participants which use such assessments, about three-quarters reported making moderate or high levels of use of them for formative purposes, and about two-fifths reported doing so for summative purposes (Table D6.1).

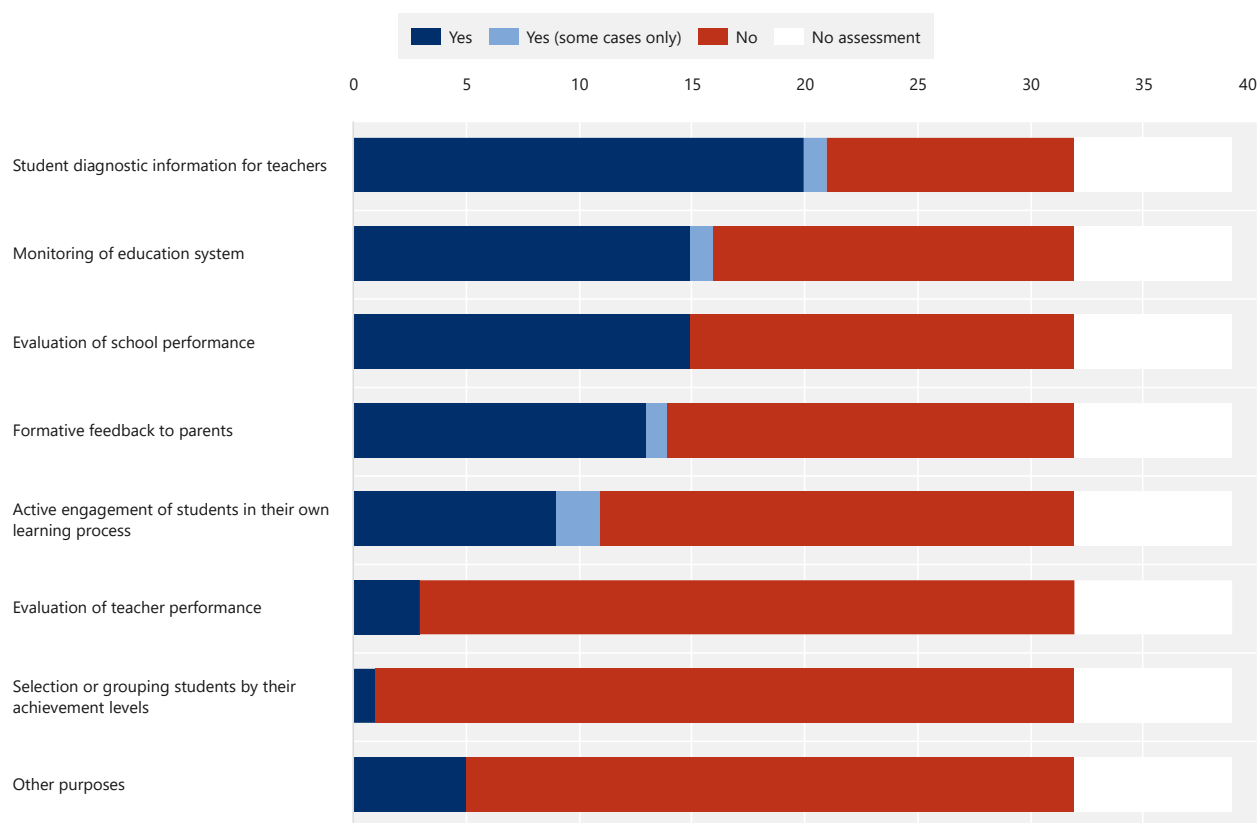
Many countries use national/central assessments to inform teachers, students and parents how much students know about the assessed subject areas, which may provide them with formative evaluations of students. In 21 of the 32 countries and other participants with national/central assessments, they are used to provide student diagnostic information for teachers. About half of these countries also use them to provide formative feedback to parents and actively engage students in their own learning process. In Bulgaria, the national assessment is also used to help select students for selective upper secondary schools (Figure D6.2 and Table D6.1).

Some countries use national/central assessments to monitor the education system at the school and/or the system level. National/central assessments are used for evaluating school performance in 15 countries and other participants, and for monitoring the education system in a similar number of countries and other participants (Figure D6.2).

Five countries also use their national/central assessments for other purposes. For example, in Japan, national assessment is used to review and assess current educational policies. Sweden uses it to help teachers determine the final results at the end of lower secondary education (Figure D6.2 and Table D6.1).

Figure D6.2. Main purposes of national/central assessments in lower secondary education (2023)

In general education, number of countries and other participants



Purposes are ranked in descending order of prevalence.

Source: OECD (2023), Table D6.1. For more information see [Source](#) section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3]).

Organisation of national/central assessments

As national/central assessments do not influence students' progression, they do not need to be conducted every year. However, about three-quarters of the 32 countries and other participants with available information have at least one annual national/central assessment in lower secondary general programmes (Table D6.1).

All but two of these annual national/central assessments are required to be administered in all or a selected sample of public educational institutions. In Japan, even though the national assessment is not mandatory for public institutions, nearly all of them do administer it. In Scotland (United Kingdom), the central assessment is not required to be administered in all public institutions. In all countries, the requirement is similar for government-dependent private educational institutions, except in Denmark and Germany (Table D6.1).

These annual national/central assessments are mandatory for all students included in the scope of the assessment in all countries except in Japan and Scotland (United Kingdom) where they are not mandatory for public institutions (and consequently not mandatory for their students) and in Latvia where students participate voluntarily. Even when these assessments are compulsory for all students, some of them may be exempted. This is the case in all countries except the Slovak Republic. Examples of exemptions include students with special educational needs and those who are not proficient in the language which the assessments are written. However, a few countries (e.g. Bulgaria, France, Italy and Spain) adapt the assessment to accommodate students with special educational needs as much as possible (see [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3]), for details on criteria for student exemptions).

Seven countries have national assessments that are administered every two to five years (some of them have also annual national assessments). These non-annual national assessments are used to monitor the education system in Canada, Germany, the Republic of Türkiye and the United States, to evaluate performance of individual schools in Chile, or for both of these purposes in Colombia and the Czech Republic (Table D6.1).

Non-annual national assessments are sample-based in all these countries, and all sampled public institutions (and government-dependent private institutions) are required to administer the assessments, except in Chile and Germany. For countries with available data, the sample size is less than 25% of public institutions, and a similar or smaller share of government-dependent private institutions (Table D6.1).

National/central assessments are standardised at the central level in all countries and other participants, except in federal countries like Canada and Germany, where some standardisation may occur at the state level. In the standardisation process at the central level, the central-level education authority and/or agency responsible for assessments are involved in devising and developing national/central assessments across countries, except in Spain where state-level authorities and agencies are involved. In Canada, the Flemish Community of Belgium and Luxembourg, other types of entities are solely in charge of the development of the assessment, with support from the central-level authority (Table D6.1).

Marking and grading national/central assessments involve only the central-level education authority and/or agency responsible for assessments in 18 out of the 32 countries and other participants with national/central assessments. In other cases, lower levels of authority or agencies (at state, sub-regional or local levels), schools and teachers (whether the students' own teachers, teachers from the students' schools or teachers from different schools) are also involved. Among all countries and other participants with available information, only the private company (developing the automatic marking system) is involved in Scotland (United Kingdom). In the six countries where schools and teachers are involved in the marking, some guidance is provided at the national level (e.g. performance criteria or rubrics) (Table D6.1; see [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3]) for the type of mechanisms used to ensure reliable marking across students).

National/central assessments are highly centralised and schools have no internal control over national/central assessments in about three-fifth of the 32 countries and other participants. Schools have a low level of influence over the assessments in eight countries and a moderate level of influence in four countries and other participants. For example, schools have some control over the organisation of the assessments (in Lithuania, Scotland

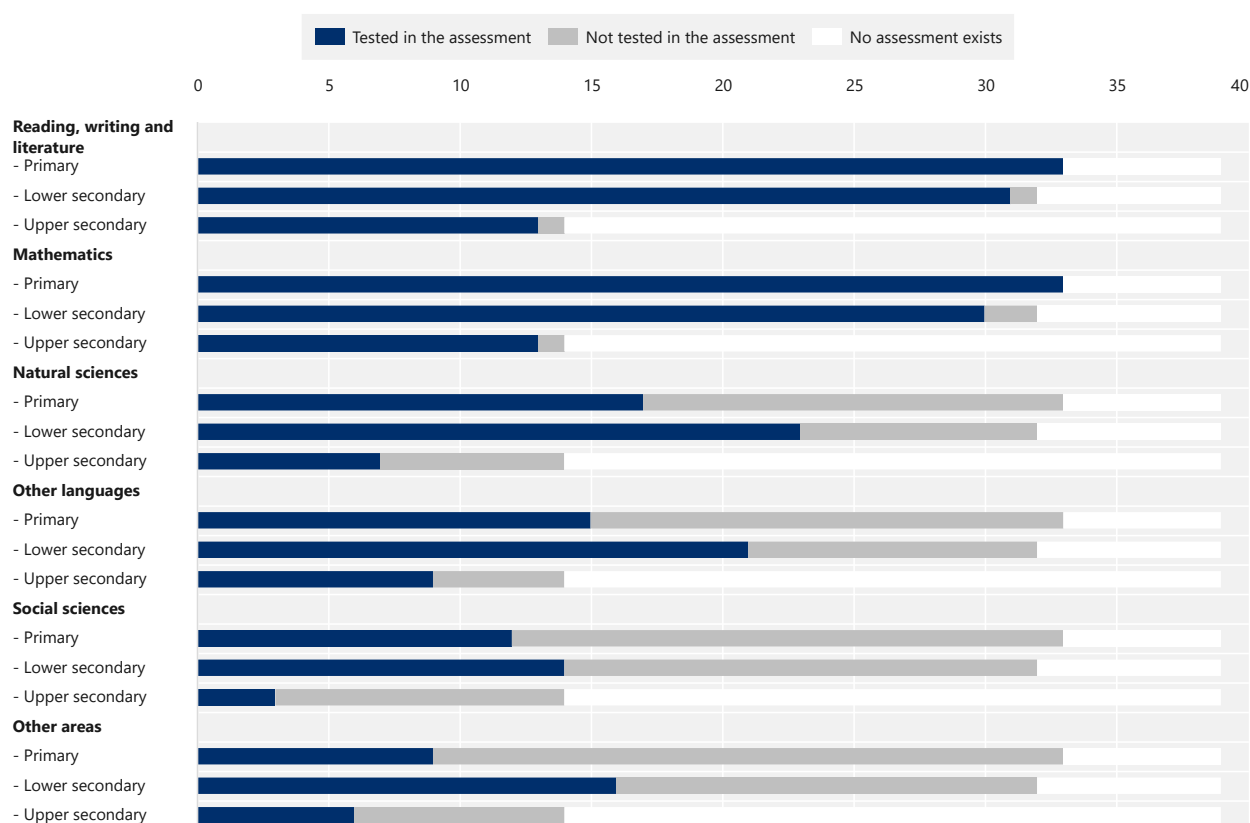
[United Kingdom], Sweden and Türkiye), the supervision of students during the assessment (in Hungary), or the use of the results (Japan), while they have more autonomy over marking them in Romania (Table D6.1).

Content of national/central assessments

The subject areas covered and how often they are included in these assessments signal their priority for the education authorities. At each level of education where national/central assessments take place, subjects covering mainly literacy and numeracy (reading, writing and literature, and mathematics) are assessed in nearly all countries and other participants (Figure D6.3).

Figure D6.3. Subjects tested in national/central assessments, by level of education (2023)

In general education, number of countries and other participants



Subjects are ranked in descending order of prevalence at primary level.

Source: OECD (2023), Table D6.3, available on line. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3]).

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Whatever their frequency, national/central assessments cover both reading, writing and literature and mathematics in almost all the 32 countries and other participants with national/central assessments at lower secondary level. The exceptions are Israel, where mathematics is not assessed, and Latvia, where neither of these subjects are assessed. Natural sciences and other languages (usually English) are each assessed in

around two-thirds of the 32 countries and other participants. Social sciences is the fifth most assessed subject (14 countries). A little less than half of the 32 countries and other participants assess one or more other subject areas. Only a few also collect data on non-academic aspects such as school climate (6 countries and other participants), well-being (4 countries and other participants) and social and emotional skills (2 countries) (Figure D6.3 and Table D6.3, available on line).

Reading, writing and literature and mathematics are mandatory for all students participating in universal national/central assessments and all students in the sample-based national assessments in Estonia, Greece, Korea and Türkiye. In Israel, all students are assessed in reading, writing and literature. The United States is an exception, as students in the sample are not required to participate in the assessment in some states (Table D6.3, available on line).

Both reading, writing and literature and mathematics are assessed every year (or every round for non-annual assessments) in more than four-fifths of countries and other participants. Where these subjects are assessed on a rotating or ad-hoc basis, they are sample-based assessments (Table D6.3, available on line).

Although both natural sciences and other languages are assessed in a similar number of countries, their frequencies differ slightly. Other languages are assessed in each round in two-thirds of the countries and other participants covering this subject, while natural sciences are covered in each round in about half of them (Table D6.3, available on line).

Computer-based technology is used to assess at least one subject area (out of reading, writing and literature; mathematics; and natural sciences) in 20 countries and other participants. Computer-based uniform assessments, where all students complete a fixed set of assessment items, are far more common than computer-based adaptive assessments, where the difficulty of the tasks is adapted to students' abilities. Computer-based uniform testing is used in 19 countries and other participants, whereas computer-based adaptive testing is used only in Australia (National Assessment Program - Literacy and Numeracy), Denmark (only for non-compulsory assessment in natural sciences as well as in English and in Danish as a second language) and Scotland (United Kingdom) (for National Standardised Assessments). The use of computer-based technology in national/central assessments has increased significantly over the last eight years (Box D6.1 and also Table D6.3, available on line).

Box D6.1. Changes related to national/central assessments since 2015

National/central assessments have evolved over time to cater for changing needs to evaluate students and accommodate technological developments. Two main changes have been observed in the 34 OECD countries and other participants with comparable data from the previous round of a similar survey in 2015 (OECD, 2015^[4]).

Abolishment and introduction of national/central assessments

The number of countries and other participants with national/central assessments have increased during the last eight years, reflecting the trend towards monitoring standards and collecting diagnostic information to support achievement. A majority of countries that reported using national/central assessments in primary or secondary general education in 2015 continued to do so in 2023. On top of these, seven additional countries and other participants which did not have national/central assessments in 2015 reported they did in 2023.

Despite a general trend towards their increased use, national/central assessments were abolished in the French Community of Belgium (at lower secondary level) and New Zealand (at both primary and secondary levels). In New Zealand, the PaCT tool helped schools to assess students and report their performances against the National Standards (a system of standards which schools were required by legislation to report against). However, schools were able to choose the tools for assessing learners' achievement and were only required to report simple outcome measures (e.g. the proportion of learners below, at, and above the

standard). This information was published without additional measures such as the value added for learners. While the PaCT tool is still available for schools to use, the regulation to report against the National Standards was repealed.

A few countries also reported that they had reformed their national/central assessments since 2015 (e.g. Austria, Denmark, Israel and Spain). In Israel, for instance, growing concerns about the validity of the assessment results (e.g. schools adapting to the assessments) and their influence on the education system (e.g. the public misusing test scores to rank schools) led to the new national assessment programme placing more emphasis on non-academic areas such as school climate.

Assessing social and emotional skills in national/central assessments

Since 2015, most OECD countries have integrated social and emotional skills into their curricula, reflecting the broad consensus on their importance for individuals and societies (OECD, 2020^[5]; 2023^[6]; forthcoming^[7]). However, based on information collected for the first time in 2023, assessing their development remains in its infancy, with only two countries (Colombia and Japan) collecting information on social and emotional skills as part of their national assessment. The contrast between the large number of countries that have integrated social and emotional skills into their national curricula and their limited inclusion in national/central assessments might reflect the challenges of effectively assessing social and emotional skills through a standardised assessment (OECD, forthcoming^[7]).

Use of computer-based technology in national/central assessments

Both rounds of the survey collected data on the use of computer-based technology in national/central assessments in three subject areas: reading, writing and literature; mathematics; and natural sciences.

Between 2015 and 2023, the numbers using computer-based technology in national/central assessments in at least one level of education increased by 13 countries and other participants (from 8 in 2015 to 21 in 2023). The shift to use computer-based testing was notable particularly in the last five years (e.g. Canada and CEDRE in France from 2019, and Hungary and Korea from 2022) and in coming years (e.g. the French Community of Belgium, VERA in Germany), suggesting technological changes in both assessment mechanisms and the education system.

Source: Indicator D6 “What evaluation and assessment mechanisms are in place?”, OECD (2015^[4]), *Education at a Glance 2015: OECD Indicators*.

Sharing the results of national/central assessments

The results of national/central assessments can be of interest not only to the highest level of education authorities, but also to other audiences such as school administrators, teachers, the students who participated in the assessments and their parents/guardians, as well as the media and the general public.

At lower secondary level, the results of national/central assessments are shared directly with external audiences in addition to education authorities in 31 out of the 32 countries and other participants. The exceptions are Germany (only the results of VERA is not shared) and Luxembourg (Table D6.5, available on line).

Students who took the assessments receive their own results in a letter/report format or through a closed website in 17 countries, while students in 13 countries and other participants do not receive their own results (Table D6.5, available on line).

Where students receive their own results, 6 countries only share their own results with them, while the other 11 countries share them together with aggregated results, usually at country/state level. Countries usually share directly the same results with students' parents as they do with the students, and in the same manner, but parents in Estonia and Latvia receive their children's results upon request (Table D6.5, available on line).

Among the countries and other participants where students do not receive their own results, eight do not share any results at all and five share some results with them, but only at an aggregated level, and they also do not share individual students' results with their parents. This could be explained by the fact that in many countries the main purposes of national/central assessments include monitoring the education system (e.g. Canada, Germany, Greece, Switzerland, Türkiye and the United States) (Table D6.1 and Table D6.5, available on line).

School administrators and/or class teachers receive their students' results, or at least the results aggregated at school level or by class, in most of the countries that share results with external audiences. However, school administrators and class teachers in Canada and Greece can access only the aggregated results at country/state and province/region levels through closed websites. In Korea, school administrators and class teachers only have access to aggregated results at country level through a closed website, while parents and students can only access the student's own results and aggregated results by class through the website (Table D6.5, available on line).

Most countries disseminate the results of national/central assessments aggregated at country/state level through press releases to the media and make them available to the general public through a public website. However, in the Slovak Republic, aggregated results are only available upon request and Romania and Scotland (United Kingdom) do not share any results (Table D6.5, available on line).

Showing the overall performance for the most recent round of national/central assessment and/or comparisons of results with those of other groups of students (e.g. comparison by demographic characteristics, geographical regions and/or socio-economic level) are common features in nearly all the 30 countries and other participants sharing the results with external audiences. About half of the countries that share results report them alongside contextual information. The growth in individual student achievement over two or more years and other indicators of school quality are reported in less than one-third of the countries (Table D6.5, available on line).

Nearly all the 27 countries and other participants that share results with the media and general public do not provide school rankings based on the results of national/central assessments. Indeed, the government or education authorities take steps to prevent school ranking in 14 of these. In six of the countries that do not take preventive steps against them, the media or other outside groups produce and publish school rankings (Table D6.5, available on line).

Use of the results from national/central assessments

Evaluation of school performance is a common main purpose of national/central assessments. About two-fifths of the 32 countries and other participants report making moderate or high levels of use of the results of these assessments when evaluating school performance. In the Flemish Community of Belgium and Italy, although the education authorities do not use the results in the evaluation of school performance, they can be used in the self-evaluation that individual schools undertake. The results of national/central assessments are used for other evaluation activities such as evaluating school administration or individual teachers but to a smaller extent and in fewer countries than for evaluating school performance (Table D6.7, available on line).

Generally, the results of assessments are used only rarely for decisions about providing assistance to teachers to improve their teaching skills, teachers' compensation, the size of school budget, the provision of other financial rewards or sanctions, or school closures. Where they are used for these sorts of purposes, they usually concern the provision of additional support for teachers or schools (e.g. Greece, Lithuania and Spain) or rewarding good performance (e.g. Chile and the Slovak Republic), rather than punitive measures (Table D6.7, available on line).

National/central examinations of students

National/central examinations evaluate students to determine whether they have successfully completed their current grade or level of education or for access to a higher grade or level. They usually take place in the final year (or during the final years) of a level of education. This is the case in all countries except the United States,

where national/central examinations (in fact, state-wide examinations mandated under federal regulations) are administered in different grades depending on the jurisdiction (Table D6.2).

National/central examinations are more common at upper secondary level than lower levels of education. Across the 39 countries and other participants in this study, less than half have any national/central examinations at primary and lower secondary levels (3 at primary level and 14 at lower secondary level), but 34 have at least one at upper secondary level (in general programmes). This analysis therefore mainly focuses on national/central examinations in upper secondary general programmes (Figure D6.1).

In most of the 34 countries and other participants which have national/central examinations at upper secondary level, a student would only take one exam during their upper secondary studies. In Denmark, Lithuania, Luxembourg and the Netherlands, where students can enrol in different tracks at upper secondary level, there is one national/central examination for each track, and students would only take the applicable national/central examination for the track in which they are enrolled (Table D6.2).

Most countries consider a national/central examination as an event where all students would take the test only in their final grade. However, in Denmark, France, Israel, New Zealand and Scotland (United Kingdom), students participate in different sessions of the national/central examination over the course of two or three grades during their upper secondary education (Table D6.2; see Figure X3.D6.1 for an overview of the grades subject to upper secondary national/central examination).

Students may be required to take up to two types of national/central examinations in Greece and England (United Kingdom), as they serve different purposes. In Greece, students take partially centralised in-school examinations throughout upper secondary education in order to be promoted to the next grade, and the Panhellenic Examination in the final grade to get access to tertiary education. In England (United Kingdom), the General Certificate of Secondary Education (GCSE) taken at grade 11 promotes students to the next grade of general education, onto a different educational track or provides a minimum qualification for some roles in the labour market, while the Advanced level qualifications (A-levels) at the end of upper secondary education are used for entrance to tertiary education (Table D6.2).

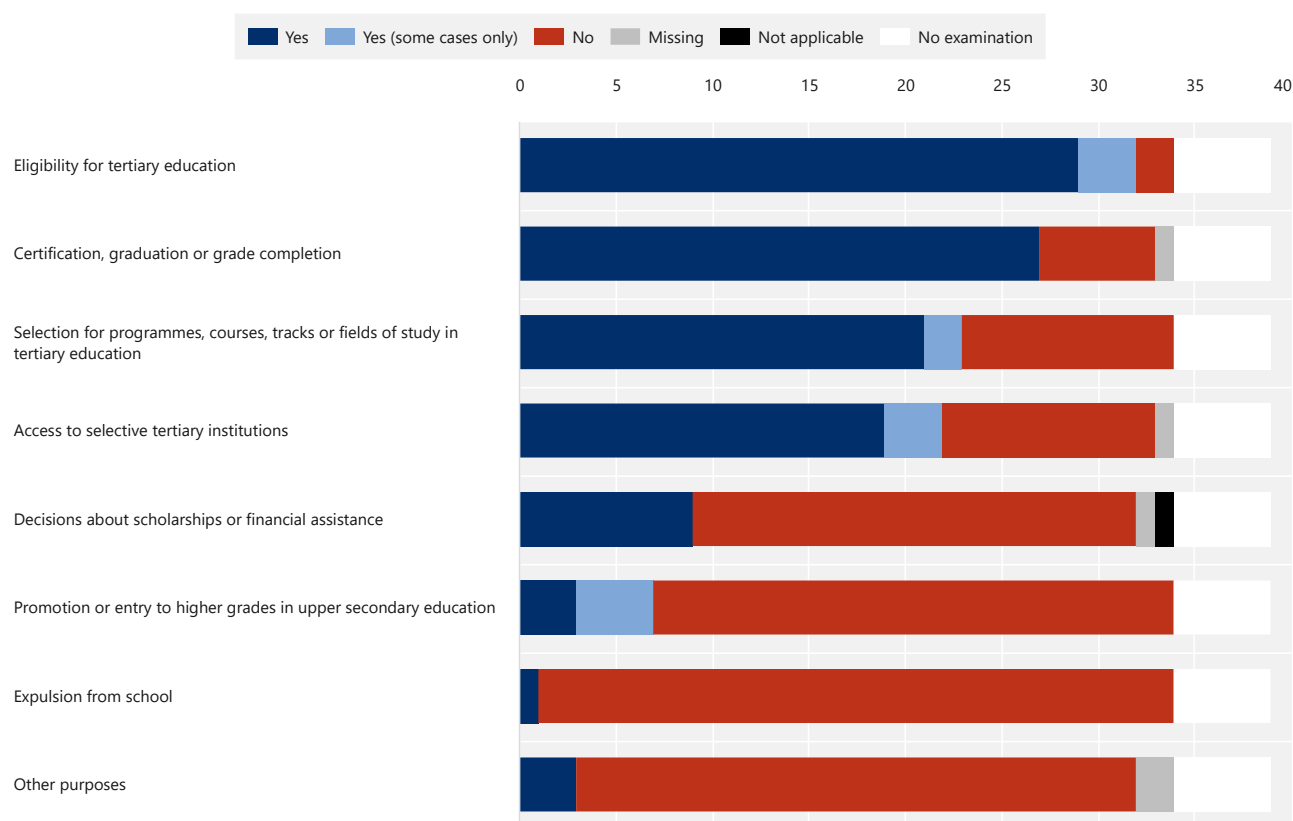
Main purposes of national/central examinations

National/central examinations are used extensively for summative purposes (i.e. used for accountability), which aligns with the fact that they are conducted towards the end of upper secondary education. In about half of the countries and other participants with national/central examinations, they are only used for summative purposes and not for any formative purposes. In the rest, some use is made of national/central examinations for formative purposes, but to a lesser extent than for summative purposes. Germany is the only exception, using the examinations for neither summative nor formative purposes (Table D6.2).

In all countries, national/central examinations are intended to certify the completion of a grade or upper secondary education or to grant eligibility for tertiary education; in about three-quarters of them, they serve both purposes (Figure D6.4). National examinations in Chile, Colombia, Korea, Poland, Spain and Türkiye are only used for access to tertiary education, while the national examination in Costa Rica only serves to certify completion of upper secondary education. In the United States, national examinations do not grant eligibility for access to tertiary education, while their use for certifying grade completion varies across the country (Table D6.2).

Figure D6.4. Main purposes of national/central examinations in upper secondary education (2023)

In general education, number of countries and other participants



Purposes are ranked in descending order of prevalence.

Source: OECD (2023), Table D6.2. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3]).

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The majority of countries and other participants using upper secondary national/central examinations to grant access to tertiary education also use them to select students within tertiary education, for example for selective access to tertiary institutions or to programmes, courses, tracks or fields of study at tertiary level (Figure D6.4). In Austria, the Czech Republic, the French Community of Belgium, Italy, Lithuania and the Netherlands, national/central examinations only grant access to tertiary education, and are not used as the basis for selection (see Indicator D6 of *Education at a Glance 2018* (OECD, 2018^[8]) for more information on the use of national/central examinations as admission criteria to tertiary institutions).

National/central examinations also serve other purposes. Nine countries consider the results of national examinations to some extent in deciding whether to grant students scholarships or financial assistance when they progress to tertiary education. Promotion to higher grades in upper secondary education is only applicable in the seven countries and other participants where national/central examinations take place over multiple grades. A student can be expelled from upper secondary education institutions in Germany based on national examination results, but this is only in exceptional cases where a student does not pass the examination for a second time (Figure D6.4).

Organisation of national/central examinations

In most countries, students are required to take national/central examinations at upper secondary level in order to graduate from upper secondary education or to enter into tertiary education. However, it may not necessarily be compulsory for all educational institutions to administer these examinations, nor for all students to take them.

Only six countries or other participants do not require public educational institutions to administer the national/central examinations. In Israel, New Zealand and Scotland (United Kingdom), even though public educational institutions are not required to administer these examinations, they count towards graduation from upper secondary education and more than three-quarters of institutions do administer them. In Korea and Türkiye, most public institutions administer the national examination because students may be required to pass it to access tertiary education, even though it is not needed to graduate from upper secondary education. In Chile, the examination is administered by a non-school entity and public educational institutions only provide the venue for it (Table D6.2).

In most countries and other participants where public educational institutions are required to administer these examinations, so too are government-dependent private educational institutions. However, in Croatia, Denmark, England (United Kingdom), France and Romania, government-dependent private institutions are not always required to administer these examinations even though public ones are. When government-dependent private institutions are not required to administer national/central examinations, a similar or slightly smaller share of them do so compared to public institutions. In France, government-dependent private institutions administer the examination when solicited according to need, so that all candidates of the national examination have access to an examination centre. (Table D6.2).

About two-thirds of the countries require all upper secondary students to take the national/central examinations with a few of them allowing exemptions in specific cases. However, in Colombia, the Czech Republic, Estonia, France, Hungary, Italy, Luxembourg and the United States, national examinations are typically adapted to the needs of some groups of students (e.g. students with special education needs) rather than exempting them from the examination. In Denmark and Romania, students in certain types of schools are exempt from national examinations, but these students make up a very small share of the total (Table D6.2).

In 11 countries and other participants, students take the national/central examination on a voluntary basis. This happens either because national/central examinations only target students who wish to enter tertiary education (Chile, the Panhellenic Examination in Greece, Korea, Poland, Scotland [United Kingdom], Spain and Türkiye) or because it is not mandatory for students to take the examination at the end of their upper secondary studies (England [United Kingdom], Ireland, Israel and New Zealand) (Table D6.2).

National/central examinations at upper secondary level are standardised and mainly developed at the central level (by central-level authorities and/or agencies responsible for assessment or certification) in all countries except Australia, Germany, Spain and the United States, where they are standardised at state level. In Chile, responsibility for the development of examinations is entirely devolved to a department of national university created for this purpose (Table D6.2).

In seven countries and other participants, the central-level authorities or agencies responsible collaborate with other entities to develop the national/central examinations. For example, in Denmark, Greece (for its in-school exams through the national test item bank) and Italy, schools and the teachers of students taking examinations also contribute to the development of national examinations. This results from the fact that some parts of national examinations (e.g. oral examinations) are developed at school level or by teachers of the subjects tested (Table D6.2).

National/central examinations in two-fifths of the countries are marked and graded by the same entities that developed them. These are usually central or state-level authorities and/or agencies responsible for assessment or certification. However, in contrast to the development of national/central examinations, in the other three-fifths of countries, responsibility for marking and grading them is either shared with or delegated to lower levels of authorities (e.g. regional, sub-regional and local levels), schools and teachers. In particular, marking involves the

students' own teachers in 14 countries and other participants, other teachers in the students' school in 8, and teachers in different schools in 10 (Table D6.2).

Among the 17 countries and other participants where marking is done by teachers from students' schools or other schools, 14 countries and other participants provide national guidance materials (e.g. performance criteria, rubrics and exemplars) to ensure the reliability of marking, while 7 use moderation (i.e. more than one person marking). The exceptions are Finland, Greece (only for in-school exams through the national test item bank) and Italy. In Finland, marking is harmonised by a central agency after a preliminary marking by teachers. In Italy, there is no central mechanism as marking is the responsibility of the exam commission of each school, which mostly consists of members external to the school to ensure marking is impartial (Table D6.2).

Content of national/central examinations

The number of subject areas tested in national/central examinations varies greatly across countries. For example, students are only tested in two to five compulsory subject areas and no optional subjects in Colombia, Costa Rica, Estonia and the French Community of Belgium. At the opposite extreme, students choose from a wide variety of subjects and there are no compulsory subjects in England (United Kingdom) (only for A-levels), New Zealand, Scotland (United Kingdom) and Türkiye (Table D6.4, available on line).

There is at least one common compulsory subject area in national/central examinations in 30 countries and other participants. Reading, writing and literature is compulsory in almost all of these except Korea, where only Korean history is compulsory. Mathematics and at least one foreign language are also widely tested as compulsory subjects: in 18 countries and other participants for mathematics and 13 for foreign languages (Table D6.4, available on line).

Students can choose to take tests in one or more subject area in addition to the compulsory ones in 25 countries and other participants. Natural sciences, social sciences, information and communication technologies (ICT), and arts are the four subject areas that are offered as optional in most cases. Natural sciences and social sciences are both offered in more than four-fifths of 25 countries and other participants, and ICT and arts in about two-thirds (Table D6.4, available on line).

In a few countries, students do not have a choice over the non-compulsory subjects. In Denmark, examinations in non-compulsory subjects are drawn at random. In Italy and Romania, students in specific academic programmes are required to be tested in mathematics (Table D6.4, available on line).

Computer-based examination is not widely implemented in national/central examinations. Eight countries use computer-based uniform technology for at least one the following subjects: reading, writing and literature; mathematics; and natural sciences. Mathematics is the subject most often tested using a digital platform (7 countries), followed by natural sciences (5) and reading, writing and literature (4) (Table D6.4, available on line).

Computer-based examinations could be helpful for marking national/central examinations, if they mostly consist of multiple choice questions. However, national/central examinations often include more than one type of task – such as writing tasks and oral examinations – making it difficult to mark those questions automatically with the current level of computer-based technology (see Box D6.2 for comparisons between national/central assessments and national/central examinations on their reference standards for marking and format).

Box D6.2. Comparison between national/central assessments and examinations

Type of evaluation and reference standards

Among the 39 countries and other participants with data, national/central assessments and examinations are usually criterion-referenced tests (i.e. they assess the extent to which students have reached the reference standard, and the results are often provided on an absolute scale or pass/fail). For example, at lower secondary level, about three-quarters of the national/central assessments are criterion-referenced tests. The share is similar for other levels of education and for national/central examinations (Table D6.1 and Table D6.2).

Norm-referenced tests (i.e. ones that assess the extent to which students compare with other students in the test, with the results are often shown in relative terms such as percentile rank) are not common among national/central assessments or examinations. However, norm-referenced tests may be chosen by countries where the purposes of evaluation include the selection of students based on their merits. For example, at upper secondary level, nine countries refer to the results of national examinations to make decisions about scholarships or financial assistance for students, of which five have norm-referenced national examinations (Table D6.1 and Table D6.2).

Two main types of reference standards are used for marking national/central assessments and examinations: national curriculum goals and national standards. National standards describe what students should know and should be able to do, and present more specific criteria than national curriculum goals, which typically define overarching learning objectives and provide broad guidelines.

Generally, national/central curriculum goals are more widely used than national/central standards as references when marking national/central assessments and examinations. For example, about 60% of the countries and other participants use national/central curriculum goals in national/central assessments at lower secondary level, whereas around 30% use national/central standards and the rest use other types of reference standards. The findings for national/central assessments at other levels of education and for national/central examinations at upper secondary level are similar (Tables D6.3 and D6.4, available online).

However, the prevalence of reference standards used for marking can vary for different types of tests. For instance, national/central standards are used for marking upper secondary national/central examinations on reading, writing and literature in nearly half of the countries where the examination is criterion-referenced, but only in 1 out of 11 cases where it is norm-referenced. No generalisation can be made as the national/central curriculum goals of some countries can be as detailed as the national/central standards of others, but it might be suggested that countries and other participants with criterion-referenced tests would use national/central standards, which describe in detail what is expected from students, in preference to national/central curriculum goals (Table D6.2 and Table D6.4, available online).

Format and types of tasks given

There are notable differences in the types of tasks requested from students in national/central assessments and examinations across the countries and other participants with available data.

National/central assessments at primary and secondary levels always include multiple choice questions. The majority also used closed-format short answer questions and open-ended writing tasks, although smaller proportions of countries use open-ended writing tasks in national/central assessments at primary level than at lower and upper secondary levels (Figure D6.5).

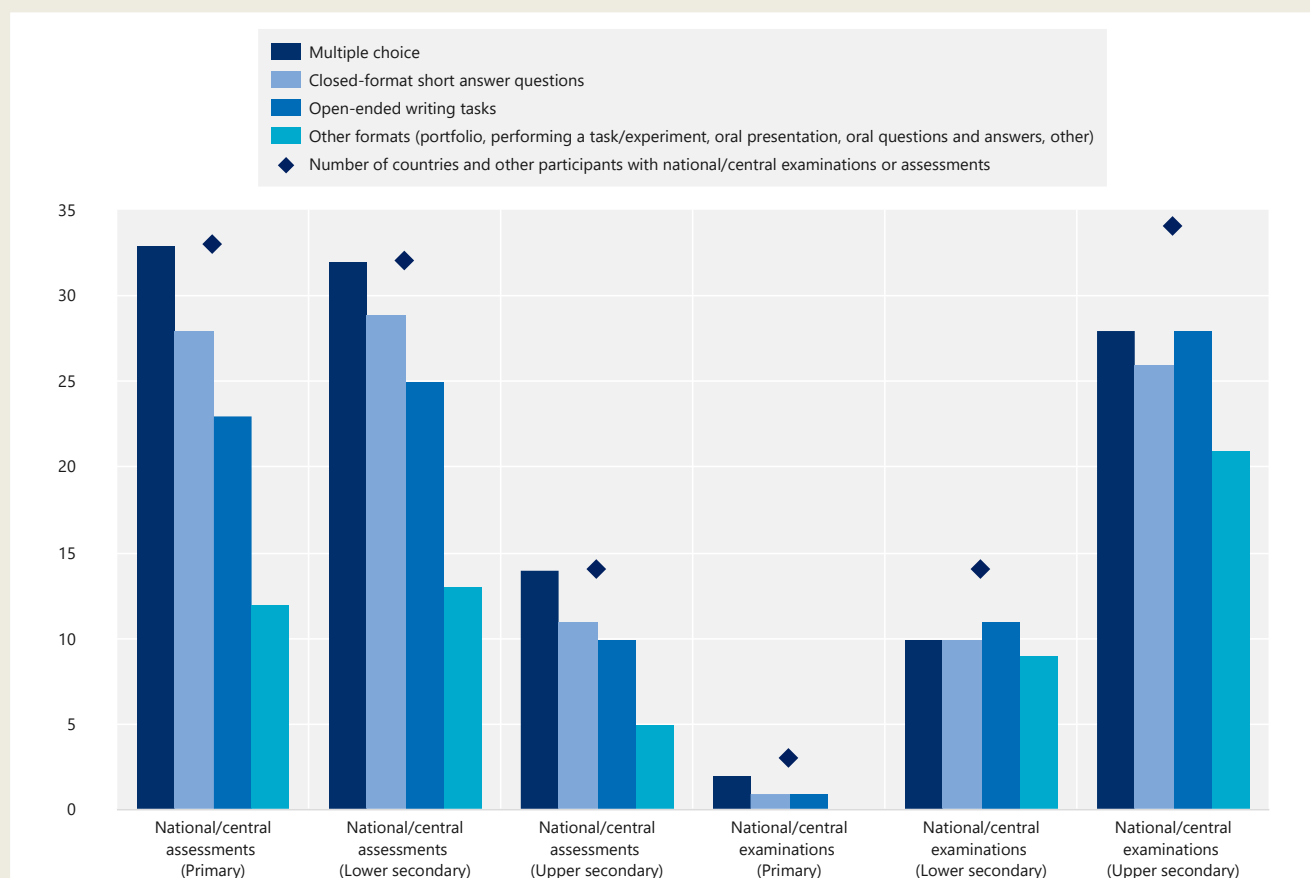
In contrast, national/central examinations are based on a more balanced mix of the three most prevalent types of tasks and they do not always use multiple choice questions. At upper secondary level, for example, national/central examinations in France, the French Community of Belgium, Germany and New Zealand do not use multiple choice questions. Examinations also make more use of other types of tasks (e.g. portfolios,

performing a task/experiment, oral presentations, and oral questions and answers) than national/central assessments (Figure D6.5 and Table D6.2).


Different tasks are used to evaluate students, depending on the nature of the subject area. For instance, oral presentations are used to evaluate reading, writing and literature in about one-third of countries with upper secondary national/central examinations but they are rarely used in natural sciences. Instead, about one-third of countries examining students in that subject ask them to perform a task or experiment (Table D6.4, available on line).

Figure D6.5. Types of tasks students are given in national/central assessments and examinations, by level of education (2023)

In general education, number of countries and other participants



Source: OECD (2023), Tables D6.1 and D6.2. For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023_[3]).

StatLink  <https://stat.link/7sq9l6>

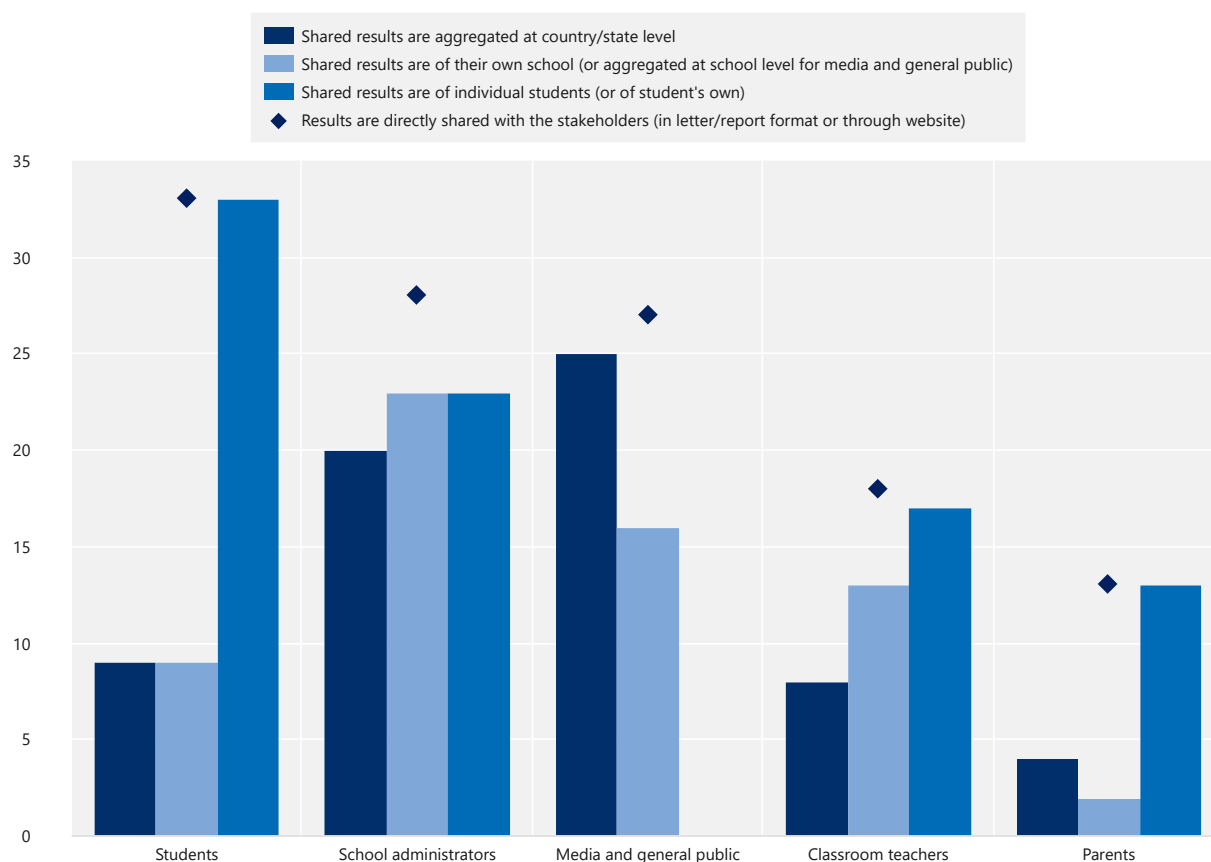
Sharing the results of national/central examinations

The results of upper secondary national/central examinations are shared with an external audience (in addition to the top-level education authorities) in 33 out of 34 countries and other participants. In Australia, the sharing of results varies between states and jurisdictions (Table D6.6, available on line).

All 33 countries and other participants give students their own results from national/central examinations, but how they are shared and what is shared differs. Twelve countries provide additional information on the results, such as aggregated results for the whole country, by region or by educational institution (Figure D6.6 and Table D6.6, available on line).

Figure D6.6. Sharing results of national/central examinations in upper secondary education, by stakeholder and level of aggregation (2023)

In general education, number of countries and other participants



Audiences are ranked in descending order of the number of countries and other participants sharing information directly with them in letter/report or through website.

Source: OECD (2023), Table D6.6, available on line. For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3]).

StatLink  <https://stat.link/0qfzuc>

Parents do not have access to their children's results in 14 countries and other participants, and have access only upon request in 7 countries. Parents are not automatically granted access to students' results in these countries and other participants because the students are 18 years old (legal adults in most countries) by the time they take upper secondary national/central examinations (Table D6.6, available on line).

School administrators are granted direct access to their students' results in 28 countries and other participants and teachers have access in 18. Aggregated results (at country/state, province/region, school level etc.) are available to both school administrators and teachers in a majority of the countries that share results with them.

For example, school administrators can directly access the aggregated results for their own school in more than four-fifths of the countries (Figure D6.6 and Table D6.6, available on line).

Although there are 11 countries where teachers cannot directly access their students' results, they are still shared with them to some extent by school administrators. In Israel, for instance, school principals have direct access to both individuals' results and aggregated results at country or local level, whereas teachers do not. However, school principals often share the information with their teachers for formative purposes. In the Czech Republic, it is up to school heads to share the results of individual students with their teachers (Figure D6.6 and Table D6.6, available on line).

Education authorities provide results directly to the general public and the media in 27 of the 33 countries and other participants that share the results of upper secondary national/central examinations externally. The results are available through publicly accessible websites in nearly three-quarters of the countries and press releases for the media and/or reports are prepared in about two-fifths of them. Aggregated results, at the country or state level, are directly shared with the public in all countries except Italy, where only the aggregated results by schools are published on line. In Italy, it is not possible to aggregate the results by regions because the marking criteria are set at the individual school level (Figure D6.6 and Table D6.6, available on line).

In all 33 countries and other participants that share results externally, the government or education authorities do not use school rankings when reporting the results. However, less than one-third of them prevent the media or external groups from ranking schools. Consequently, media or other outside groups prepare school rankings in about three-fifths of the countries. In six countries and other participants, rankings are prepared even though aggregated results by schools are not publicly available (Table D6.6, available on line).

The level of performance for the most recent year is the most widely used information when reporting results (in all 33 countries and other participants except Italy). Comparisons between groups of students are also reported in almost three-fifths of the countries, frequently the national average. In the Czech Republic, Korea and Poland, students receive relative scores (e.g. percentiles or standardised scores) (Table D6.6, available on line).

Other types of information are seldom used when reporting results. For example, only around one-fifth of countries and other participants include contextual factors that affect the results or other indicators of school quality alongside the results of national/central examinations. Growth in student achievement over two or more years can be reported in England (United Kingdom), Israel and Scotland (United Kingdom), as national/central examinations allow individual students to be tracked through different years (Table D6.6, available on line).

Use of the results of national/central examinations

Students' performance in national/central examinations not only have consequences for themselves, but may also affect evaluations and decisions made by education authorities. For example, the results of upper secondary national/central examinations are used to apply sanctions or rewards to educational institutions by the education authorities in eight countries and other participants. In Colombia, education authorities use them to provide incentives to schools, for example, through funding to support underperforming schools (Table D6.6, available on line).

The results of national/central examinations are used to a great extent in the evaluation of school performance in nearly one-third of countries and to a moderate or limited extent in another one-third. The results have less influence over other types of evaluations: they are not used in the evaluation of school administrations in nearly half of countries nor in the evaluation of individual teachers in about half of them (Table D6.8, available on line).

Education authorities may use the results of national/central examinations in decisions about providing assistance to teachers to improve their teaching skills in about one-quarter of the countries. However, the level of influence these results have over these decisions is moderate or low in these countries (Table D6.8, available on line).

In contrast, the results of national/central examinations have generally no influence over decisions on financial resources (e.g. school budgets, teachers' remuneration or financial rewards) or school closure across countries. For example, at most three countries reported that examination results have some influence over each of the following decisions: the size of the school budget, provision of other financial rewards or sanctions, teachers' remuneration and bonuses, and school closures (Table D6.8, available on line).

Definitions

National/central assessments are based on standardised student achievement tests. The results of national/central assessments do not have an impact on students' progression through school or certification.

National/central examinations are standardised student tests that have a formal consequence for students, such as an impact on a student's eligibility to progress to a higher level of education or to complete an officially recognised degree.

Formative evaluation is primarily intended to provide feedback for improvement. An example could be student diagnostic tests where the results of the tests can be used by teachers to improve learning experience for their students.

Summative evaluation is primarily used for accountability and seeks to determine whether the object of the evaluation is doing what it is supposed to do. National examinations are an example of summative evaluation because they are primarily used to judge the amount of learning students have gained over a period of their studies.

Computer-based adaptive technology tests refer to computer-based tests that adapt the level of difficulty of the tasks to the student's ability level. For example, if a student performs well on an item of intermediate difficulty, s/he will subsequently be presented with a more difficult question.

Computer-based uniform technology tests refer to computer-based tests with a fixed set of test items for all students taking a test.

Criterion-referenced test assesses the extent to which students have reached the given standard. The standards refer to goals of a particular area of common or national curriculum. The results are typically reported as cut scores which represent a passing score or a passing point, or as proficiency at certain levels.

Norm-referenced test is recognised by the fact that the results for students provide an estimate of the position of the tested individual in a predefined population. The word "normative" or "norm" refers to the fact that each test-taker is compared to his/her peers. The typical outcome measure that is used to report student results is a percentile rank, which illustrates how many of the student's peers scored below or above them.

National curriculum goals typically describe overarching learning objectives for the education system and explain the underlying values and culture that should shape teaching and learning. While some describe the teaching content, methods, materials and assessment criteria to be applied in different subjects and year levels, others establish broad guidelines, leaving room for local authorities and schools to decide upon more specific goals, content and methods.

National standards refer to descriptions of what students should know (i.e. content standards) and be able to do (i.e. performance standards) at different stages of the learning process. Standards may be set out in a separate document or may be embedded in the curriculum.

National learning progressions describe the way students typically move through learning in different subject areas. They can provide a roadmap for teachers to identify the set of skills and knowledge students must master on the way to becoming competent in more complex curriculum outcomes.

Please see Indicator D1 for definitions on the subject areas (study areas).

Coverage

Thirty-nine OECD, partner and accession countries and other participants contributed to the 2022 OECD-INES-NESLI survey on examinations and assessments of students: Australia, Austria, Bulgaria, Canada, Chile, Colombia, Costa Rica, Croatia, the Czech Republic, Denmark, England (United Kingdom), Estonia, Finland, France, the Flemish and French Communities of Belgium, Germany, Greece, Hungary, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Luxembourg, the Netherlands, New Zealand, Poland, Romania, Scotland (United Kingdom), the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United States.

Methodology

For country-specific notes, see [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3]).

Source

Data are from the 2022 OECD-INES-NESLI survey on examinations and assessments of students and refer to the school year 2022/23 (or 2023).


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- OECD (2011), *Education at a Glance 2011: OECD Indicators*, OECD Publishing, Paris, <https://doi.org/10.1787/eag-2011-en>. [9]
- OECD (forthcoming), *Documenting, recognising, and assessing social and emotional skills in upper secondary education*, OECD Publishing. [7]

Indicator D6 Tables

Tables Indicator D6. What examinations and assessments of students are in place?

Table D6.1	National/central assessments (2023)
Table D6.2	National/central examinations (2023)
WEB Table D6.3	Subjects tested in national/central assessments (2023)
WEB Table D6.4	Subjects tested in national/central examinations (2023)
WEB Table D6.5	Sharing results from national/central assessments (2023)
WEB Table D6.6	Sharing results from national/central examinations (2023)
WEB Table D6.7	Level of influence of national/central assessments (2023)
WEB Table D6.8	Level of influence of national/central examinations (2023)

StatLink  <https://stat.link/seo0uy>

Cut-off date for the data: 15 June 2023. Any updates on data can be found on line at <http://dx.doi.org/10.1787/eag-data-en>.

Table D6.1. National/central assessments (2023)

In lower secondary general programmes

	Number of assessments reported at the specified level of education (by grade and/ or name of assessments)	Periodicity	Selected subjects in the assessment¹			Main purposes or uses of the assessment								
			Reading, writing and literature	Mathematics	Others	Monitoring of education system	Evaluation of school performance	Evaluation of teacher performance	Student diagnostic information for teachers	Selection or grouping of students by their achievement levels	Formative feedback to parents	Active engagement of students in their own learning process	Other	
OECD countries	(1)	(4)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	
Australia	3	Every year, Other	Yes	Yes	Yes	Yes, No	No	No	Yes	No	Yes, No	Yes, No	No	
Austria	2	Every year	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	No	
Canada	1	3 years	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	
Chile	2	Every year, 3 years	Yes	Yes	Yes	No	Yes	No	Yes	No	Yes	No	No	
Colombia	2	2 years	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No	
Costa Rica	0	a	a	a	a	a	a	a	a	a	a	a	a	
Czech Republic	2	Every year, 4 years	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	No	No	
Denmark	2	Every year	Yes	Yes	Yes	No	No	No	Yes	No	Yes	Yes	No	
Estonia	1	Every year	Yes	Yes	Yes	No	No	No	Yes	No	No	No	No	
Finland	1	Other	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	No	No	
France	2	Every year	Yes	Yes	Yes	No	No	No	Yes, No	No	Yes	Yes, No	Yes	
Germany	2	Every year, 3 years	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	
Greece	1	Every year	Yes	Yes	No	Yes	No	No	No	No	No	No	No	
Hungary	11	Every year, Other	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	
Iceland	m	m	m	m	m	m	m	m	m	m	m	m	m	
Ireland	0	a	a	a	a	a	a	a	a	a	a	a	a	
Israel	3	Every year	Yes	No	Yes	No	Yes	No	No	No	No	No	Yes	
Italy	1	Every year	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	No	No	
Japan	1	Every year	Yes	Yes	Yes	No	No	No	Yes	No	Yes	No	Yes	
Korea	1	Every year	Yes	Yes	Yes	No	Yes	No	Yes	No	No	Yes	No	
Latvia	1	Every year	No	No	Yes	No	No	No	Yes	No	Yes	Yes	No	
Lithuania	1	Every year	Yes	Yes	Yes	No	Yes	No	Yes	No	Yes	Yes	No	
Luxembourg	2	Every year	Yes	Yes	Yes	No	No	No	Yes	No	Yes	No	No	
Mexico	m	m	m	m	m	m	m	m	m	m	m	m	m	
Netherlands	0	a	a	a	a	a	a	a	a	a	a	a	a	
New Zealand	0	a	a	a	a	a	a	a	a	a	a	a	a	
Norway	m	m	m	m	m	m	m	m	m	m	m	m	m	
Poland	0	a	a	a	a	a	a	a	a	a	a	a	a	
Portugal	m	m	m	m	m	m	m	m	m	m	m	m	m	
Slovak Republic	2	Every year	Yes	Yes	No	No	Yes	Yes	Yes	No	No	Yes	No	
Slovenia	1	Every year	Yes	Yes	Yes	No	No	No	No	No	Yes	No	Yes	
Spain	1	Every year	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	No	
Sweden	1	Every year	Yes	Yes	Yes	No	No	No	No	No	No	No	Yes	
Switzerland	1	Ad-hoc	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	
Türkiye	2	Every year, 2 years	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	
United States	1	2 years	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	
Other participants														
Flemish Comm. (Belgium)²	1	Other	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No	
French Comm. (Belgium)	0	a	a	a	a	a	a	a	a	a	a	a	a	
England (UK)	0	a	a	a	a	a	a	a	a	a	a	a	a	
Scotland (UK)	1	Every year	Yes	Yes	No	No	No	No	Yes	No	No	No	No	
Partner and/or accession countries														
Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	
Brazil	m	m	m	m	m	m	m	m	m	m	m	m	m	
Bulgaria	1	Every year	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No	
China	m	m	m	m	m	m	m	m	m	m	m	m	m	
Croatia	1	Other	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	No	No	
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	
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	
Romania	1	Every year	Yes	Yes	Yes	No	No	No	Yes	No	Yes	Yes	No	
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	
Legend														
Every year: Every year														
2 years: Every two years														
3 years: Every three years														
4 years: Every four years														
5 years: Every five years														
Ad-hoc: No periodicity														
Other: Other														

Note: See StatLink and Box D6.3 for the notes related to this Table.

Source: OECD (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3]).StatLink  <https://stat.link/2fiw76>

Table D6.2. National/central examinations (2023)

In upper secondary general programmes

	Number of examinations reported at the specified level of education (by grade and/or name of examinations)	Compulsory subjects for all students taking the examination			Main purposes or uses of the examination							
		Reading, writing and literature	Mathematics	At least one other language	Student certification/ graduation/ grade completion	Student promotion or entry to higher grade in the same level of education	Student entry to the next level of education	Student access to selective institutions in the next level of education	Student selection for programme/course/ tracks/fields at the next level of education	Student expulsion from school	Decisions about scholarships/financial assistance for students	Other
OECD countries	(1)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Australia	1	m	m	m	Yes	No	Yes	m	Yes	No	m	No
Austria	1	Yes	Yes	Yes	Yes	No	Yes	No	No	No	No	No
Canada	0	a	a	a	a	a	a	a	a	a	a	a
Chile	1	Yes	Yes	No	No	No	Yes	Yes	No	No	Yes	No
Colombia	1	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No	Yes	Yes
Costa Rica	1	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No
Czech Republic	1	Yes	No	No	Yes	No	Yes	No	No	No	No	No
Denmark	4	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	No	No
Estonia	1	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No	Yes
Finland	1	Yes	No	No	Yes	No	Yes	Yes	Yes	No	No	No
France	1	Yes	Yes, No	Yes, No	Yes	Yes	Yes	Yes, No	Yes	No	Yes	No
Germany	1	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	No	m
Greece	2	Yes	Yes, No	Yes, No	Yes	Yes, No	Yes, No	Yes, No	Yes, No	No	No	No
Hungary	1	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No	No
Iceland	m	m	m	m	m	m	m	m	m	m	m	m
Ireland	1	Yes	Yes	No	Yes	No	Yes	Yes	Yes	No	Yes	No
Israel	1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes
Italy	1	Yes	No	No	Yes	No	Yes	No	No	No	No	No
Japan	0	a	a	a	a	a	a	a	a	a	a	a
Korea	1	No	No	No	No	No	Yes	Yes	No	No	Yes	No
Latvia	1	Yes	Yes	Yes	Yes	No	Yes	No	Yes	No	No	No
Lithuania	2	Yes	No	No	Yes	No	Yes, No	No	No	No	No	No
Luxembourg	2	Yes	Yes	No	Yes	No	Yes	Yes	Yes	No	No	No
Mexico	m	m	m	m	m	m	m	m	m	m	m	m
Netherlands	2	Yes	Yes, No	Yes, No	Yes	No	Yes	No	No	No	No	No
New Zealand	1	No	No	No	Yes	Yes, No	Yes	No	Yes	No	No	No
Norway	m	m	m	m	m	m	m	m	m	m	m	m
Poland	1	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No	No	No
Portugal	m	m	m	m	m	m	m	m	m	m	m	m
Slovak Republic	1	Yes	No	No	Yes	No	Yes	Yes	Yes	No	No	No
Slovenia	1	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	No
Spain	1	Yes	No	Yes	No	No	Yes	Yes	Yes	No	No	No
Sweden	0	a	a	a	a	a	a	a	a	a	a	a
Switzerland	0	a	a	a	a	a	a	a	a	a	a	a
Türkiye	1	No	No	No	No	No	Yes	Yes	Yes	No	Yes	No
United States	3	Yes	Yes	No	m	Yes, No	No	No	No	No	a	m
Other participants												
Flemish Comm. (Belgium)	0	a	a	a	a	a	a	a	a	a	a	a
French Comm. (Belgium)	1	Yes	No	No	Yes	No	Yes	No	No	No	No	No
England (UK)	2	Yes	Yes	No	Yes	Yes, No	Yes, No	Yes, No	Yes, No	No	No	No
Scotland (UK)	1	No	No	No	Yes	No	Yes	Yes	Yes	No	No	No
Partner and/or accession countries												
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
Bulgaria	1	Yes	No	No	Yes	No	Yes	Yes	Yes	No	No	No
China	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	1	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	No
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
Peru	m	m	m	m	m	m	m	m	m	m	m	m
Romania	1	Yes	No	Yes	Yes	No	Yes	Yes	Yes	No	No	No
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 StatLink and Box D6.3 for the notes related to this Table.

Source: OECD (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[3]).StatLink  <https://stat.link/bal94u>

Box D6.3. Notes for Indicator D6 tables

Table D6.1. National/central assessments (2023)

Data on primary and upper secondary general programmes, and by grade are available on line. Columns with other information on the assessments including names; when they were established and last administered; the extent of use for formative and summative purposes; bodies responsible for standardisation, development and grading/marking; the type and format of assessments; requirement for schools to administer them; student exemptions; reliability of marking across students; and schools' influence or control over assessments (Columns 2, 3, 5, 6 and 18 to 31) are available on line (see *StatLink* below).

1. The frequency of each subject included in an assessment and the periodicity of this assessment can differ. In the subjects of assessments, others include other various subjects, which can be found in Table D6.3 (web only).

2. Year of reference 2022.

Table D6.2. National/central examinations (2023)

Data on primary and lower secondary general programmes, and by grade are available on line. Columns with other information on the examinations including their names; when they were established; the extent they are used for formative and summative purposes; bodies responsible for standardisation, development and grading/marking; the type and format of examinations; requirements for schools to administer them; student exemptions; reliability of marking across students; and schools' influence or control over them (Columns 2 to 4 and 16 to 29) are available on line (see *StatLink* below).

See Definitions and Methodology sections and for more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023_[3]).

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

Indicator D7. What is the profile of vocational teachers and what is the student-vocational teacher ratio?

Highlights

- On average across OECD countries, 43% of teachers in vocational education and training (VET) at the upper secondary level are aged 50 or over. This reflects an ageing VET teacher workforce, as well as the fact that some VET teachers gain industry experience before joining the teaching profession.
- On average, there is one teacher per 14 students in general programmes and one per 15 students in vocational programmes. However, student-teacher ratios vary more widely across countries in vocational programmes than in general programmes.
- The vocational teaching workforce has become more female dominated in many countries. Between 2013 and 2021, the share of male teachers in upper secondary vocational programmes fell by 2 percentage points (from 47% to 45%) on average across OECD countries.

Context

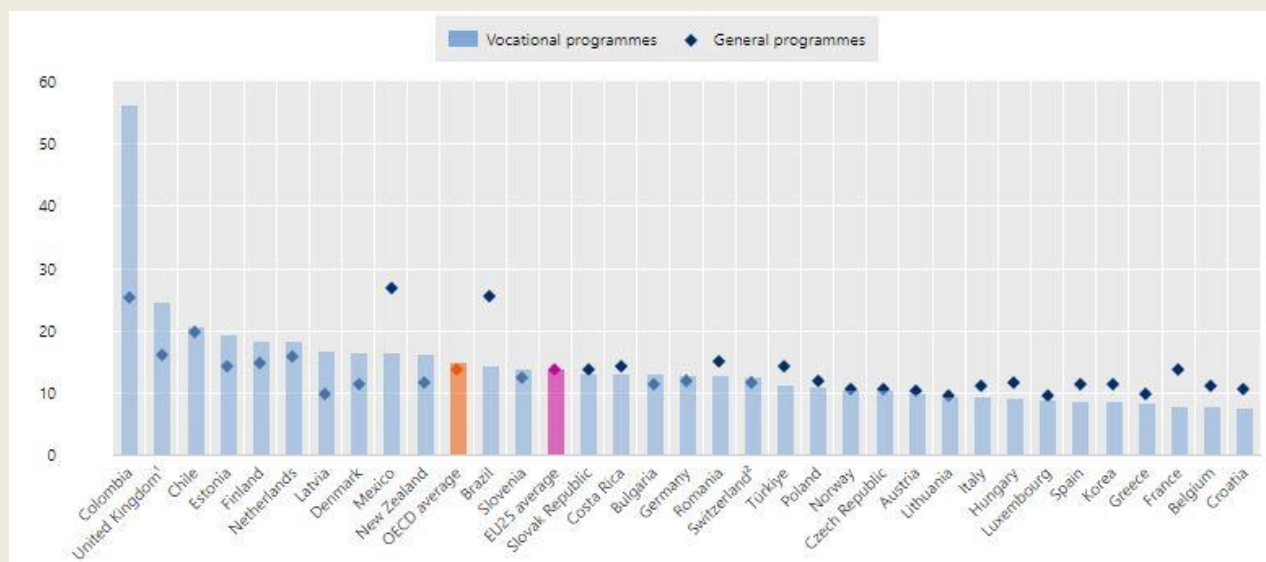
Teaching staff are essential for the effective provision of vocational education and training (VET). They prepare young people for work by teaching not only occupational skills but also cross cutting skills. VET teachers are generally required to have both pedagogical and occupational knowledge and experience (OECD, 2021^[1]).

Despite efforts to recruit and retain sufficient numbers of skilled VET teachers, challenges persist. In particular, many OECD countries have significant VET teacher shortages, partially due to the limited attractiveness of the profession. The supply of VET teachers could be increased by making a career in VET teaching more attractive and by employing industry professionals as VET teachers (OECD, 2021^[1]).

Digitalisation, automation and the transition to greener economies affect the skills needed in the labour market, and therefore also the skills required from VET teachers and trainers. In this context, VET teachers need to keep abreast of changes to be able to teach and train their students effectively (OECD, 2021^[1]). The in-service training of teachers needs to be adjusted to those new requirements by including the necessary technical and pedagogical competencies.

Figure D7.1. Ratio of students to teaching staff in upper secondary education, by programme orientation (2021)


In per cent



1. Upper secondary vocational programmes include vocational programmes at lower secondary, Bachelor's and Master's levels.
2. Public institutions only

Countries are ranked in descending order of the ratio of students to teaching staff in upper secondary vocational programmes.

Source: OECD/UIS/Eurostat (2023), Table D7.1. See Source section for more information and (OECD, 2023^[2]), *Education at a Glance 2023 Sources, Methodologies and Technical Notes*, <https://doi.org/10.1787/d7f76adc-en> for notes.

StatLink  <https://stat.link/wlc54t>

Other findings

- The age distribution of the VET teaching staff varies considerably across countries, but overall, the share of teachers aged under 30 in VET programmes is low in all OECD countries, peaking at 14% in Korea.
- Despite substantial representation among the VET teaching staff at upper secondary level, women in the profession continue to be paid less than men.
- Countries where more than half of upper secondary vocational students are enrolled in combined school- and work-based programmes tend to have an equal or higher number of students per teacher in vocational programmes than in general ones.

Note

The data in this section include all teachers of vocational subjects in upper secondary vocational programmes. Importantly, the data exclude teachers of general subjects within VET. In-company trainers (e.g. those supervising apprentices) are also excluded.

Analysis

A well-prepared teaching and training workforce with the right set of skills is vital for quality VET provision. Ensuring that a sufficient and continuing number of skilled VET teachers are entering and retained in the profession is of central importance in many of the OECD countries reporting concerns about VET teacher shortages in relevant occupations. Germany estimates that the number of VET teachers will only meet 80% of the demand in the coming decade, while in Sweden, it is estimated that the supply of new VET teachers will meet less than half of the demand. In Korea, new VET teachers replaced only 70% of retirees in the past five years. Even countries where VET teacher shortages are not pronounced, such as Finland, Japan, the Netherlands and Norway, anticipate shortages in specific fields and localities (OECD, 2021^[1]).

The VET teaching profession may also suffer from teacher shortages due to the limited attractiveness of the profession as a career. Salary levels are one significant explanation for why teaching in VET programmes does not necessarily attract enough entrants. In several countries, the profession does not offer competitive salaries compared to industry or other educational institutions, especially in high-demand sectors such as information and communication technologies (ICT). In addition, many VET teachers feel that their profession is not valued by society. High workloads, poor management of VET institutions and lack of career development opportunities also impact on job satisfaction, which in turn influences VET teacher retention (OECD, 2021^[1]).

Age distribution of teaching staff in vocational programmes

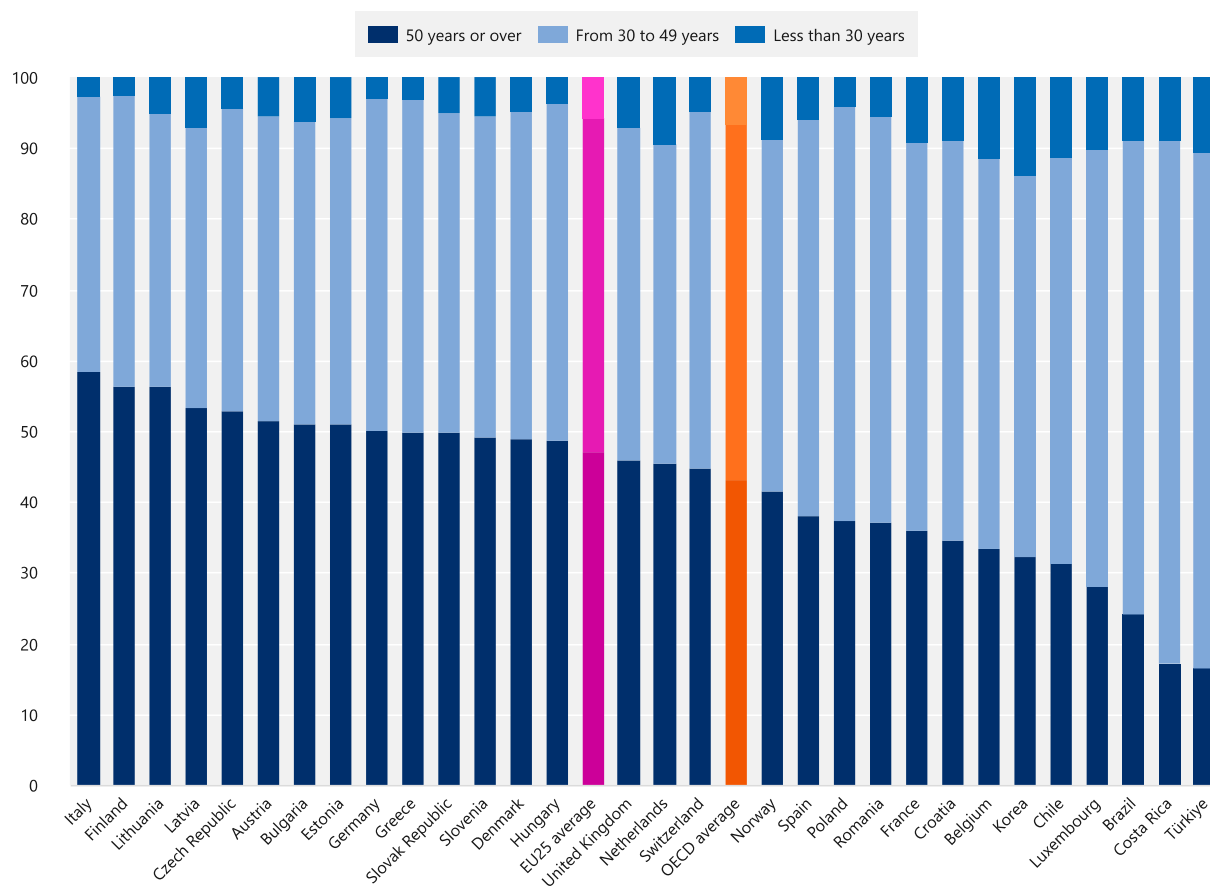
The VET teaching workforce is ageing. On average across the 25 OECD countries with available data, 43% of teachers in upper secondary VET programmes were 50 years old or older in 2021, compared to 41% in 2013 (*Education at a Glance Database*). This is higher than the share for general education teachers (39% in 2021), where there has been a similar 1 percentage point increase between 2013 and 2021.

The age distribution of the vocational workforce varies considerably across countries, but overall the share of young staff members (less than 30 years) in VET programmes is low in all OECD countries. Korea has the largest share of young teachers, at 14% of the teaching staff. Similarly, in more than half of OECD countries, those aged 50 or over make up the largest share of VET teaching staff. On average, 43% of the VET teaching workforce at upper secondary level in OECD countries are aged 50 or over. However, there is a large degree of variation across countries, with the share ranging from 17% in Costa Rica and Türkiye to 59% in Italy. At post-secondary non-tertiary level, the share of teaching staff aged 50 or over is even higher, averaging 45% across OECD countries (Table D7.2).

These large proportions of older teaching staff reflect the wider challenge of an ageing teacher workforce in many countries, but could also be compounded by the usual practice of VET teachers gaining industry experience before joining the profession. Results from the Teaching and Learning International Survey (TALIS) show that VET teachers tend to have more non-teaching work experience than general education teachers at upper secondary level (OECD, 2021^[3]). VET staff often start their professional trajectory in industry or outside the education sector, with teaching usually coming as a second vocation. TALIS found that teaching was the first choice of career for a smaller share of teachers in VET schools (62%) than it was for teachers in other schools (70%) (OECD, 2021^[3]).

Figure D7.2. Age profile of teachers in upper secondary vocational programmes (2021)

In per cent



Countries are ranked in descending order of the share of teachers aged 50 years or over in upper secondary vocational programmes.

Source: OECD/UIS/Eurostat (2023), Table D7.2. See Source section for more information and (OECD, 2023^[2]), *Education at a Glance 2023 Sources, Methodologies and Technical Notes*, <https://doi.org/10.1787/d7f76adc-en> for notes.

StatLink  <https://stat.link/x92mpj>

The diverse experience and up-to-date knowledge that some teachers in VET programmes may bring from their non-education roles in industry are great assets for learners in vocational programmes. However, attention should also be paid to supporting these staff in their pedagogical role to ensure that they are able to properly transfer essential skills to students (OECD, 2021^[1]).

Gender profile of upper secondary vocational teaching staff

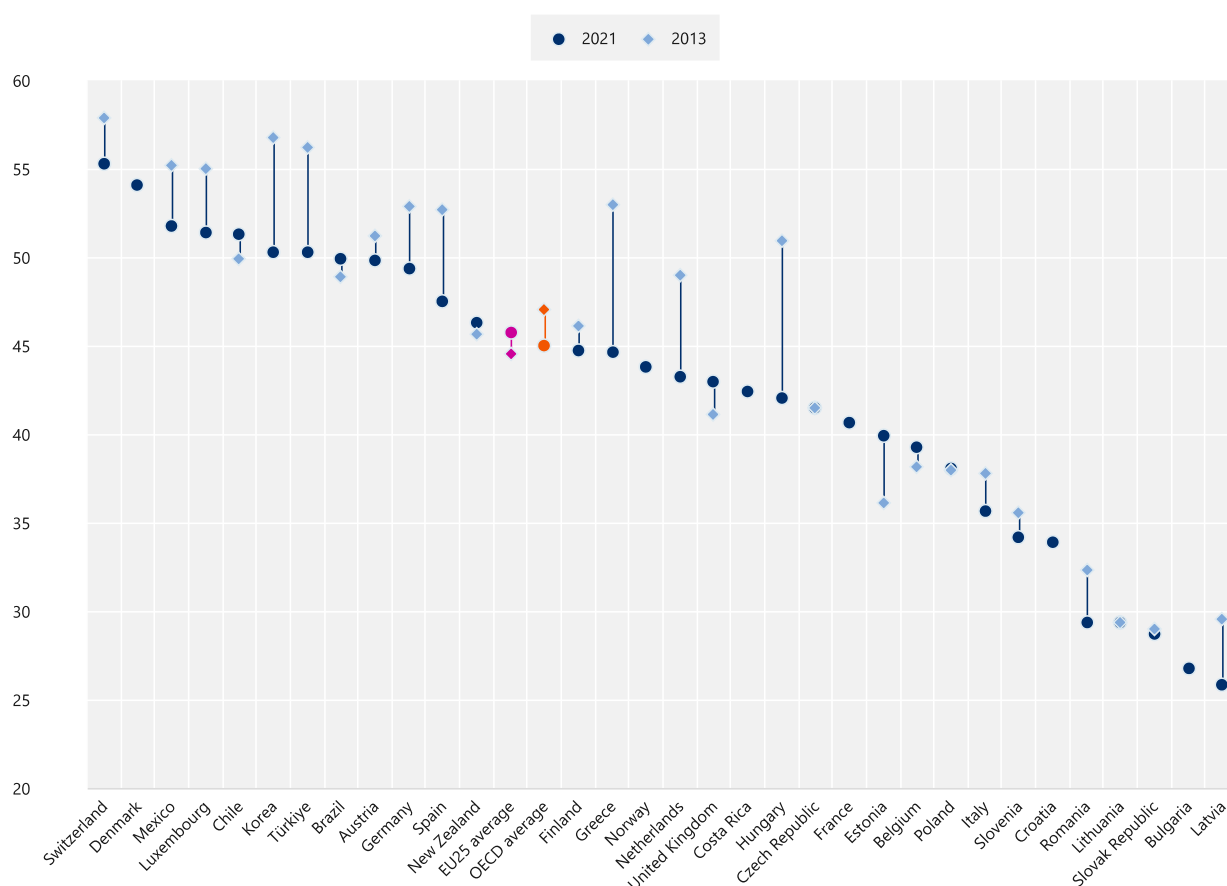
Teachers in upper secondary vocational programmes are more likely to be men than those in general ones. Overall, 41% of upper secondary teachers are men on average across OECD countries in 2021, but men account for 45% of teachers in vocational upper secondary programmes, compared to 39% of those in general ones. The share of male teachers is higher in vocational programmes than in general ones in almost all OECD countries except the Netherlands, where the share of male teachers in general programmes is slightly more than the share in vocational ones, by 2 percentage point. In Norway and Slovenia, the share of male teachers is similar for both general and vocational programmes (Table D7.3).

However, there are significant variations across countries in the gender profile of teaching staff at upper secondary level. Overall, at upper secondary level, male teachers form the majority only in Colombia (55%), Japan (68%) and Switzerland (54%). In contrast, in Bulgaria, Canada, Latvia and Lithuania, men represent only one-quarter or less of all upper secondary teaching staff. In vocational upper secondary programmes, there are more female than male teachers in all countries except Chile (49%), Denmark (46%) Luxembourg (49%), Mexico (48%) and Switzerland (45%). In Austria, Brazil, Korea and Türkiye, the share of teachers is similar for both women and men (Table D7.3).

Despite their significant representation among the VET teaching staff at upper secondary level, female teachers are still earning less than their male colleagues. In most countries for which data are available, the actual salaries of 25-64 year-old female upper secondary VET teachers are much lower than those of male teachers (Table D3.9). Female VET teachers are also more likely to work part time than their male peers, but there is no information on whether this is a desired arrangement or a consequence of precarious contracts (OECD, 2021^[1]).

Figure D7.3. Share of male teachers in upper secondary vocational programmes (2013 and 2021)

In per cent, based on head counts



Countries are ranked in descending order of the ratio of male teachers in upper secondary vocational programmes.

Source: OECD/UIS/Eurostat (2023), Table D7.3. See Source section for more information and (OECD, 2023^[2]), *Education at a Glance 2023 Sources, Methodologies and Technical Notes*, <https://doi.org/10.1787/d7f76adc-en> for notes.

Between 2013 and 2021, the gender imbalance has been exacerbated, with the share of male teachers falling by 2 percentage points, from 47% to 45% in upper secondary vocational programmes. The share of male VET teachers fell in almost all countries with available data, with Hungary seeing the largest drop, from 51% in 2013 to 43% in 2021. In contrast, Estonia saw a 4-percentage point increase in the share of male teachers, the largest increase over that period (Figure D7.3).

Ratio of students to teaching staff in vocational programmes

The student-teacher ratio in upper secondary vocational programmes varies widely, from 8 students per teacher in Belgium, France and Greece to 56 students in Colombia (Figure D7.1). Although the average ratio in vocational programmes across OECD countries is relatively similar to general programmes, with 15 students per teacher compared to 14 in general programmes, the variation across countries is much larger. While in many countries, the ratio of students to teachers in vocational programmes is identical or very similar to general programmes, in Colombia, Latvia and the United Kingdom, there are at least seven more students per teacher in vocational programmes than in general ones. In other countries, such as Brazil, France and Mexico, the difference is reversed: there are over six more students per teacher in general programmes (Table D7.1).

A combination of factors may influence the differences in student-teacher ratios between vocational and general upper secondary programmes. The amount of work-based learning is one determining aspect. Countries with more work-based learning tend to have a larger number of students per teacher, as students spend less time in school-based settings (OECD, 2017^[4]). In such programmes practical training is delivered mostly within companies and schools focus on general subjects and theoretical instruction, which may happen in larger classes. In contrast, VET systems with a substantial school-based learning component tend to have similar or smaller student-teacher ratios than in general education (OECD, 2020^[5]). This reflects the need to deliver practical training within school settings, which requires smaller groups of students than the teaching of general subjects or vocational theory. In particular, countries where more than half of upper secondary vocational students are enrolled in combined school- and work-based programmes tend to have an equal or larger number of students per teacher in vocational than in general programmes. For instance, in Denmark, Germany, Hungary, Ireland, Latvia and Switzerland, where about 9 out of 10 upper secondary vocational students are enrolled in combined school- and work-based programmes (Table B1.3), ratios of students to teaching staff are consistently higher in vocational than general programmes.

However, other factors, such as field of study, also influence the student-teacher ratio in vocational programmes. Some fields require greater instructor attention and supervision, particularly those where students have access to more sophisticated equipment (Hoeckel, 2008^[6]). This may be particularly the case in technical fields such as engineering, manufacturing and construction, or some specialties in health and welfare. For example, Latvia and the United Kingdom have some of the lowest shares of upper secondary vocational students graduating from the combined fields of engineering, manufacturing and construction and health and welfare across OECD countries (*Education at a Glance Database*). Both countries have among the highest differences in student-teacher ratios between vocational and general programmes across OECD countries. In contrast, the fields of study of upper secondary vocational graduates in Austria, Germany and Switzerland are more diversified, which may explain the similar student-teacher ratios between vocational and general programmes in these countries. These differences have important implications for the cost of vocational instruction, as advanced vocational training in specialised fields of study requires both complex machinery and a greater level of human resources (Klein, 2001^[7]). In most countries with available data, the cost per student in upper secondary vocational programmes is higher than in general ones (Indicator C1).

Definitions

- **Vocational education teachers** (International Standard Classification of Occupations) teach or instruct vocational or occupational subjects in initial, adult and further education institutions and to senior students

in secondary schools and colleges. They prepare students for employment in specific occupations or occupational areas for which university or higher education is not normally required, whether they work in a general secondary school or in a vocational or technical school or college. This includes vocational teachers not only in VET programmes but also in general programmes but excludes general subject teachers in VET programmes.

Methodology

The ratio of students to teaching staff compares the number of students (full-time equivalents) to the number of teachers (full-time equivalents) at a given level of education and in similar types of institutions. This ratio does not consider the amount of instruction time students have relative to the length of teachers' working days, nor how much time teachers spend teaching.

For the ratio of students to teaching staff to be meaningful, consistent coverage of personnel and enrolment data are needed. For instance, if teaching staff in religious institutions are not reported in the personnel data, then students in those institutions must also be excluded.

For more information, please see *the OECD Handbook for Internationally Comparative Education Statistics 2018* (OECD, 2018^[8]) and (OECD, 2023^[2]), [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), for country-specific notes.

Source

Data refer to the academic year 2020/21 and are based on the UNESCO-UIS/OECD/Eurostat data collection on education statistics administered by the OECD in 2022 (for details, see [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#)).

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<https://doi.org/10.1787/eag-2017-en>.

[4]

Indicator D7 Tables

Tables Indicator D7. What is the profile of vocational teachers and what is the student-vocational teacher ratio?

Table D7.1	Ratio of students to teaching staff in educational institutions, by level of education (2021)
Table D7.2	Age profile of teachers, by level of education (2021)
Table D7.3	Share of men among teachers, by level of education (2013 and 2021)

StatLink  <https://stat.link/5dqhn7>

Cut-off date for the data: 17 June 2023. 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. Ratio of students to teaching staff in educational institutions, by level of education (2021)

	Primary	Secondary					Post-secondary non-tertiary	Tertiary		
		Lower secondary	Upper secondary			All secondary		Short-cycle tertiary	Bachelor's, master's and doctoral or equivalent	All tertiary
			General programmes	Vocational programmes	All programmes					
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Australia	15	x(3)	12 ^d	m	12	m	m	m	21	m
Austria	12	9	10	10	10	9	12	9	16	14
Belgium ¹	12	8	11	8	9	9	15	18	22	22
Canada	16 ^d	x(1)	x(5)	x(5)	12	m	m	m	21	m
Chile	18	20	20	21	20	20	a	m	m	m
Colombia	24	29	25	56	23	27	m	26	29	28
Costa Rica	11	14	14	13	14	14	a	m	m	m
Czech Republic	17	12	10	10	10	11	15	10	17	16
Denmark	12	11	11	16	13	12	a	23	14	14
Estonia	12	10	14	19 ^d	16 ^d	13 ^d	x(5)	a	12	12
Finland	13	8	15	18	17	12	18	a	13	13
France	18	15	14	8	11	13	19	12	19	17
Germany	15	13	12	13	12	13	12	11	12	12
Greece	8	8	10	8	9	8	m	a	m	m
Hungary	10	11	11	9	10	11	11	x(10)	x(10)	11
Iceland	10	10	m	m	m	m	m	m	m	m
Ireland	14	x(3)	12 ^d	a	12 ^d	12	7	m	m	23
Israel	15	12	m	m	m	m	m	m	17	m
Italy	11	11	11	9 ^d	10 ^d	10 ^d	x(4)	a	21	21
Japan	15	13	x(5)	x(5)	11 ^d	12 ^d	x(5)	m	m	m
Korea	16	13	11	9	11	12	a	m	m	m
Latvia	12	10	10	17	12	11	23	13	5	14
Lithuania	14	10	10	9	10	10	9	a	13	13
Luxembourg	9	10	9	9	10	10	8	9	4	5
Mexico	24	30	27	16	22	26	a	x(10)	x(10)	20
Netherlands	16	16	16	18	17	17	a	16	15	15
New Zealand	16	17	12	16	12	14	20	16	18	17
Norway	10	8	11	11	11	9	16	16	9	10
Poland	12	10	12	11	11	11	39	13	13	13
Portugal	12	9	x(5)	x(5)	11 ^d	10 ^d	x(5)	x(10)	x(10)	15
Slovak Republic	17	13	14	13	13	13	13	7	12	12
Slovenia	10 ^d	x(1)	12	14	13	m	a	9	15	14
Spain	12	11	11	9	10	11	a	11	13	13
Sweden	13	11	x(5)	x(5)	13	12	10	10	10	10
Switzerland ²	15	12	12	13 ^d	12 ^d	12 ^d	x(5)	a	15	15
Türkiye	17	14	14	11	13	13	a	41	19	22
United Kingdom ³	19	17	16	25 ^d	18 ^d	18 ^d	a	x(10)	x(10)	14
United States	14	15	15	a	15	15	x(10)	x(10)	x(10)	13 ^d
OECD average	15	13	14	15	13	13	16	16	17	17
Partner and/or accession countries										
Argentina	m	m	m	m	m	m	m	m	m	m
Brazil	23	25	25	15	23	24	30	4	26	26
Bulgaria	10	11	11	13	12	11	3	a	12	12
China	m	m	m	m	m	m	m	m	m	m
Croatia	12	8	10	7	8	8	a	x(10)	x(10)	12
India	m	m	m	m	m	m	m	m	m	m
Indonesia	m	m	m	m	m	m	m	m	m	m
Peru ⁴	18	m	m	m	m	14	a	0	m	m
Romania	19	11	15	13	14	12	61	a	21	21
Saudi Arabia	m	m	m	m	m	m	m	m	m	m
South Africa	m	m	m	m	m	m	m	m	m	m
EU25 average	15	12	14	14	13	13	19	13	17	18
G20 average	m	m	m	m	m	m	m	m	m	m

Note: See StatLink and Box D7.1 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). See Source section for more information and (OECD, 2023^[2]), *Education at a Glance 2023 Sources, Methodologies and Technical Notes*, <https://doi.org/10.1787/d7f76adc-en> for notes.


StatLink  <https://stat.link/65sr79>

Table D7.2. Age profile of teachers, by level of education (2021)

Percentage of teachers in public and private institutions, by level of education and age group, based on head counts

	Upper secondary									Post-secondary non-tertiary			Short-cycle tertiary		
	General programmes			Vocational programmes			All programmes								
	< 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	< 30 years	30-49 years	>= 50 years
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Australia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Austria	11	48	40	5	43	52	8	45	47	3	42	55	6	43	51
Belgium ¹	12	57	31	11	55	34	12	56	33	6	48	45	8	60	31
Canada ²	x(7)	x(8)	x(9)	x(7)	x(8)	x(9)	10	62	28	m	m	m	7	46	47
Chile	15	61	25	11	57	31	14	60	26	a	a	a	m	m	m
Colombia	x(7)	x(8)	x(9)	x(7)	x(8)	x(9)	7	50	43	2	68	30	6	66	28
Costa Rica	10	72	18	9	74	17	9	73	18	a	a	a	32	61	7
Czech Republic	4	43	53	4	43	53	4	43	53	m	m	m	m	m	m
Denmark	6	57	37	5	46	49	5	54	41	a	a	a	3	47	51
Estonia	7	41	51	6 ^d	43 ^d	51 ^d	7 ^d	42 ^d	51 ^d	x(7)	x(8)	x(9)	a	a	a
Finland	8	52	40	2	41	57	4	45	50	2	41	57	a	a	a
France	9	55	36	9	55	36	9	55	36	12	48	39	10	53	36
Germany	6	59	36	3	47	50	5	55	40	3	48	50	4	41	55
Greece	1	34	65	3	47	50	2	39	60	6	68	26	a	a	a
Hungary	5	51	45	4	48	49	4	49	47	4	49	47	m	m	m
Iceland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Ireland ³	12 ^d	62 ^d	26 ^d	a	a	a	12 ^d	62 ^d	26 ^d	4	45	51	m	m	m
Israel ²	x(7)	x(8)	x(9)	x(7)	x(8)	x(9)	9	57	34	m	m	m	7	52	40
Italy ⁴	2	36	61	2 ^d	39 ^d	59 ^d	2 ^d	38 ^d	60 ^d	x(7)	x(8)	x(9)	a	a	a
Japan ⁵	x(7)	x(8)	x(9)	x(7)	x(8)	x(9)	13 ^d	48 ^d	38 ^d	x(7, 13)	x(8, 14)	x(9, 15)	6 ^d	51 ^d	43 ^d
Korea	10	64	26	14	54	32	11	62	28	a	a	a	1	52	47
Latvia	7	36	57	7	40	53	7	37	56	8	40	53	5	48	47
Lithuania	3	37	60	5	39	56	3	37	59	6	45	49	a	a	a
Luxembourg	7	62	31	10	62	28	9	62	29	6	56	38	10	63	27
Mexico	m	m	m	m	m	m	m	m	m	a	a	a	m	m	m
Netherlands	15	49	36	9	45	46	11	46	42	a	a	a	6	51	43
New Zealand	11	47	42	m	m	m	11	46	43	10	42	49	12	45	43
Norway	9	50	42	9	50	42	9	50	42	11	44	45	11	44	45
Poland	4	58	38	4	59	37	4	58	38	6	57	36	1	46	52
Portugal ⁵	x(7)	x(8)	x(9)	x(7)	x(8)	x(9)	2 ^d	49 ^d	48 ^d	x(7)	x(8)	x(9)	m	m	m
Slovak Republic	7	58	35	5	45	50	6	49	45	5	44	51	5	45	50
Slovenia	5	45	49	5	45	49	5	45	49	a	a	a	4	44	52
Spain	6	56	38	6	56	38	6	56	38	a	a	a	6	56	38
Sweden	x(7)	x(8)	x(9)	x(7)	x(8)	x(9)	5	50	45	6	52	43	5	52	43
Switzerland	5	56	38	5 ^d	50 ^d	45 ^d	5 ^d	52 ^d	43 ^d	x(7)	x(8)	x(9)	a	a	a
Türkiye	8	74	18	10	73	17	9	73	17	a	a	a	9	76	15
United Kingdom	22	60	18	7 ^d	47 ^d	46 ^d	17 ^d	56 ^d	28 ^d	a	a	a	m	m	m
United States	11	54	36	a	a	a	11	54	36	m	m	m	m	m	m
OECD average	8	53	39	7	50	43	8	52	40	6	49	45	8	52	40
Partner and/or accession countries															
Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Brazil	10	65	25	9	67	24	10	65	25	11	65	24	1	54	45
Bulgaria	6	44	50	6	43	51	6	44	50	3	53	45	a	a	a
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	10	60	30	9	56	35	9	57	34	a	a	a	x	x	x
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
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	5	61	34	5	57	37	5	59	36	6	59	34	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
EU25 average	8	50	42	6	47	47	7	49	44	6	49	46	6	50	44
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See StatLink and Box D7.1 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). See Source section for more information and (OECD, 2023^[2]) *Education at a Glance 2023 Sources, Methodologies and Technical Notes*, <https://doi.org/10.1787/d7f76adc-en> for notes.StatLink  <https://stat.link/3tgqsz>

Table D7.3. Share of men among teachers, by level of education (2013 and 2021)

Percentage of male teachers in public and private institutions by level of education, based on head counts

	2021										2013		
	Pre-primary	Primary	Lower secondary	Upper secondary			Post-secondary non-tertiary	Tertiary			Upper secondary		
				General programmes	Vocational programmes	All programmes		Short-cycle tertiary	Bachelor's, master's and doctoral or equivalent	All tertiary	General programmes	Vocational programmes	All programmes
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Australia	m	m	m	m	m	m	m	m	52	m	m	m	m
Austria	3	8	28	36	50	44	30	48	57	56	38	51	46
Belgium ¹	3	17	34	36	39	38	53	16	52	51	38	38	38
Canada ²	x(2)	25 ^a	x(2)	x(6)	x(6)	25	m	47	56	50	x(13)	x(13)	26
Chile	1	19	31	41	51	43	a	m	m	m	43	50	45
Colombia	3	22	47	x(6)	x(6)	55	36	60	60	60	x(13)	x(13)	54
Costa Rica	7	21	42	42	42	42	a	36	56	56	x(13)	x(13)	42
Czech Republic	1	6	23	41	41	41	59	42	62	62	41	41	41
Denmark	7	32	38	47	54	49	a	57	54	54	m	m	m
Estonia	m	10	18	23	40 ^d	30 ^d	x(5)	a	51	51	22	36 ^d	28 ^d
Finland	3	20	26	31	45	40	45	a	48	48	31	46	41
France	9	16	40	39	41	40	58	46	57	54	m	m	m
Germany	6	13	34	40	49	43	40	68	60	60	46	53	48
Greece	1	26	32	41	45	43	45	a	63	63	46	53	49
Hungary	1	4	24	31	42	37	42	x(10)	x(10)	59	32	51	36
Iceland	8	17	17	m	m	m	m	m	m	m	m	m	m
Ireland	m	15	x(4)	31 ^d	a	31 ^d	35	x(10)	x(10)	53	29 ^d	m	m
Israel	1	14	21	x(6)	x(6)	29	m	43	54	52	x(13)	x(13)	30
Italy	1	5	23	31	36 ^d	33 ^d	x(5)	a	62	62	26	38	33
Japan	3	36	56	x(6)	x(6)	68 ^d	x(6, 8, 9)	50 ^d	75 ^d	70 ^d	m	m	72 ^d
Korea	1	23	29	43	50	44	a	54	65	63	50	57	51
Latvia	1	8	16	18	26	20	30	34	47	45	15	30	19
Lithuania	1	4	18	19	29	22	33	a	43	43	18	29	21
Luxembourg	7	25	41	44	51	49	69	52	66	65	43	55	48
Mexico	4	30	46	49	52	50	a	x(10)	x(10)	56	52	55	53
Netherlands	12	13	45	45	43	44	a	47	53	52	49	49	49
New Zealand	3	15	32	38	46	39	46	47	47	47	40	46	41
Norway	9	26	25	44	44	44	60	60	51	51	x(13)	x(13)	48 ^d
Poland	2	13	24	30	38	34	27	42	52	52	29	38	34
Portugal	1	19	28	x(6)	x(6)	31 ^d	m	m	m	54	x(13)	x(13)	32
Slovak Republic	0	9	23	27	29	28	35	41	54	53	26	29	28
Slovenia	2	12 ^d	x(2)	34	34	34	a	56	53	54	30	36	33
Spain	7	22	38	41	48	43	a	48	57	55	45	53	48
Sweden	4	18	35	x(6)	x(6)	46	54	55	53	53	48	46	47
Switzerland	3	17	43	51	55 ^d	54 ^d	x(5)	a	63	63	55	58 ^d	57 ^d
Türkiye	6	36	41	47	50	49	a	58	54	55	55	56	56
United Kingdom	8	14	35	35	43 ^d	38 ^d	a	x(10)	x(10)	54	37	41	38
United States	7	13	33	42	a	42	x(10)	x(10)	x(10)	49 ^d	43	a	43
OECD average	4	18	33	39	45	41	47	50	58	57	39	47	43
Partner and/or accession countries													
Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m
Brazil	6	12	35	41	50	43	52	54	54	54	38	49	40
Bulgaria	1	7	20	21	27	23	49	a	49	49	m	m	m
China	3	29	41	m	m	44	m	m	m	m	x(13)	x(13)	51
Croatia	1	6	26	26	34	32	a	x(10)	x(10)	50	m	m	m
India	7	44	50	m	m	56	m	a	m	57	x(13)	x(13)	55
Indonesia	m	m	m	m	m	m	m	m	m	m	x(13)	x(13)	49
Peru ³	3	33	m	m	m	m	a	64	m	m	m	m	m
Romania	0	8	26	25	29	28	21	a	48	48	29	32	31
Saudi Arabia	m	47	50	m	m	49	m	73	57	57	x(13)	x(13)	44
South Africa ³	m	m	39	m	m	42	36	m	m	m	m	m	m
EU25 average	4	15	33	38	46	41	48	50	60	61	36	45	40
G20 average	5	24	39	m	m	44	m	m	m	57	m	m	47

Note: See StatLink and Box D7.1 for the notes related to this Table.

Source: OECD/UIS/Eurostat (2023). See Source section for more information and (OECD, 2023^[2]), *Education at a Glance 2023 Sources, Methodologies and Technical Notes*, <https://doi.org/10.1787/d7f76adc-en> for notes.

Box D7.1. Notes for Indicator D7 Tables

Table D7.1

1. Data for short-cycle tertiary refer to the Flemish Community only.
2. Public institutions only.
3. Upper secondary vocational programmes include vocational programmes at lower secondary, Bachelor's and Master's levels
4. Year of reference 2020

Table D7.2

1. Data for short-cycle tertiary refer to the Flemish Community only.
2. Public institutions only at short-cycle tertiary level.
3. Upper secondary programmes include lower-secondary education
4. Public institutions only.
5. Post-secondary non-tertiary teachers may teach at tertiary level in Japan. Post-secondary non-tertiary teachers may teach at upper secondary level and short-cycle tertiary teachers may teach at tertiary level in Portugal.

Table D7.3

1. Data for short-cycle tertiary refer to the Flemish Community only.
2. Public institutions only at tertiary level.
3. Year of reference 2020

For more information see *Definitions, Methodology and Source* sections and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[2]).

Data and more breakdowns are available in the Education at a Glance Database (<http://stats.oecd.org/>).

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

Annexes

Annex 1. Characteristics of education systems

Table X1.1. Typical graduation ages, by level of education (2021)

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								
	General programmes	Vocational programmes	General programmes	Vocational programmes	Short-cycle tertiary		Bachelor's or equivalent			Master's or equivalent			Doctoral or equivalent
					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)	
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Australia	17-18	18-32	a	18-37	19-24	18-30	20-23	22-25	22-34	a	23-26	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	18-19	a	20-22	a	21-25	21-23	a	22-24	a	22-24	23-32	27-31
Canada	17-18	19-35	m	m	a	20-24	22-24	m	22-29	22-26	24-29	m	28-34
Chile	17	17	a	a	a	19-26	22-27	22-28	23-26	24-26	26-36	m	29-37
Colombia	16-17	16-17	18-20	a	a	19-25	m	22-26	m	a	25-35	a	31-42
Costa Rica	17-18	18	a	a	20-25	20-25	22-27	22-30	a	29-40	a	a	33-49
Czech Republic	19-20	19-20	19-33	a	a	21-23	22-24	a	24-35	25-26	24-26	26-38	29-33
Denmark	18-19	19-25	a	26-39	a	21-25	22-25	a	a	a	24-26	38-45	28-32
Estonia	18	18	a	20-30	a	a	21-24	a	a	23-25	23-28	a	29-35
Finland	19-20	18-26	a	32-46	a	a	22-26	a	a	26-28	25-30	30-41	29-37
France	17-18	16-19	m	m	m	19-21	20-21	m	22-35	22-23	22-24	24-32	26-30
Germany	18-19	19-22	20-23	21-24	a	22-28	21-25	a	24-30	23-27	24-27	24-27	28-32
Greece	17-18	17-18	a	20-24	a	a	22-24	23-25	a	a	24-31	a	28-38
Hungary	17-19	19-21	a	20-22	a	20-22	21-24	a	27-42	23-26	23-26	a	27-32
Iceland	18-19	18-25	27-48	21-35	a	21-31	22-25		26-42	26-27	24-34	a	25-35
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	27-31	24-36	m	27-36	m	31-38
Italy	18-19	18-19	a	19-24	a	20-22	21-24	m	m	24-26	24-26	m	27-33
Japan	17	17	18	18	20	20-21	22	a	a	24	23	m	26
Korea	18	18	a	a	a	20-22	23-25	m	a	a	24-31	a	29-36
Latvia	18-19	20-21	a	20-24	a	21-28	22-24	23-25	24-39	24-29	23-27	a	30-40
Lithuania	18	19-24	a	19-26	a	a	21-22	a	22-32	23-24	24-26	27-29	28-32
Luxembourg	17-19	18-20	a	21-30	a	20-23	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	20-27	21-23	a	a	a	23-26	a	28-31
New Zealand	17-18	17-33	18-28	18-31	18-38	18-25	20-22	22-23	21-27	a	22-29	a	26-35
Norway	18	18-23	a	22-36	22-27	21-27	21-24	a	a	24-26	23-27	25-30	28-35
Poland	19	19-20	a	21-27	a	22-32	22-23	a	25-35	24-25	24-25	a	29-32
Portugal	17	17-18	a	19-26	a	20-22	21-22	a	a	23-24	23-26	a	28-37
Slovak Republic	18	18-19	a	19-29	a	20-23	21-22	a	a	24-25	23-24	25-31	26-29
Slovenia	18	17-19	a	a	a	21-25	21-23	a	a	24-25	24-26	a	27-33
Spain	17	17-21	a	18-39	a	19-23	21-23	a	a	22-25	22-26	27-32	27-36
Sweden	18	18	19-23	19-33	21-28	21-29	22-26	a	a	24-27	24-29	a	28-35
Switzerland	18-22	18-24	21-23	a	a	22-36	22-26	a	29-38	23-26	24-28	27-34	28-34
Türkiye	17-19	17	a	a	a	19-24	22-24	a	a	23-24	24-29	a	30-36
United Kingdom	15-17	16-19	a	a	18-25	18-30	20-22	22-24	a	a	22-25	a	25-32
United States	17	a	a	19-22	20-21	20-21	21-23	a	a	a	24-31	24-31	26-32
Partner and/or accession countries													
Argentina ¹	18-20	18-20	m	m	22-24	22-24	22-24	22-24	m	a	24-26	m	27-29
Brazil	17-18	17-18	a	18-27	m	18-19	21-27	a	m	a	24-31	a	28-35
Bulgaria	19	19	a	21	a	a	22-23	a	a	24-25	23-25	a	29-32
China	18-20	18-20	m	m	20-22	20-22	22-24	22-24	m	a	24-26	m	27-29
Croatia	18-19	15-19	a	a	a	20-21	21-22	a	a	24-26	24-26	26-40	26-35
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
Peru	18-20	18-20	m	m	20-22	20-22	22-24	22-24	m	a	24-26	m	27-29
Romania	18-23	18-35	a	19-35	a	a	21-30	a	a	23-30	23-30	a	26-30
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: See StatLink and Box X1.1 for the notes related to this Table.

Source: OECD/Eurostat/UIS (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023^[1]).

Table X1.2. Typical age of entry, by level of education (2021)

The typical age refers to the age of the students at the beginning of the school year

	Short-cycle tertiary	Bachelor's or equivalent	Master's or equivalent	Doctoral or equivalent
OECD countries	(1)	(2)	(3)	(4)
Australia	18-28	18-20	21-26	22-30
Austria	17-18	18-21	22-26	25-29
Belgium	20-23	18-20	21-23	23-27
Canada	17-20	18-19	21-27	24-29
Chile	18-21	18-19	18-31	25-32
Colombia	17-22	17-20	24-34	30-41
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	24-28
Estonia	a	19-20	19-25	24-29
Finland	a	19-21	22-31	25-32
France	18-20	18-20	20-23	23-26
Germany	20-26	18-21	19-24	25-28
Greece	a	18-19	23-29	23-32
Hungary	19-21	19-20	19-23	24-28
Iceland	19-33	19-21	23-31	25-31
Ireland	18-32	18-19	22-28	22-28
Israel	18-25	20-25	24-33	26-33
Italy	19-20	19	19-23	23-27
Japan	18	18	22-23	24-28
Korea	18	18	22-27	24-32
Latvia	19-24	19-22	19-25	24-31
Lithuania	a	19	19-25	25-29
Luxembourg	20-23	19-21	22-27	24-28
Mexico	18-19	18-19	22-34	25-39
Netherlands	19-23	18-20	22-25	23-27
New Zealand	18-28	18-19	21-27	22-28
Norway	20-24	19-20	19-24	25-31
Poland	19-37	19-20	19-23	24-26
Portugal	18-20	18-19	18-22	23-32
Slovak Republic	19-22	19-20	22-23	24-27
Slovenia	19-21	19	22-24	24-28
Spain	18-20	18	18-24	23-30
Sweden	19-27	19-22	19-24	24-30
Switzerland	20-28	18-25	22-26	24-30
Türkiye	18-22	18-21	22-29	25-30
United Kingdom	17-29	18-21	21-30	21-30
United States	18-22	18-19	22-28	22-27
Partner and/or accession countries				
Argentina	m	m	m	m
Brazil	m	m	m	m
Bulgaria	a	19	19-24	25-33
China	m	m	m	m
Croatia	31	18-22	21-24	24-40
India	m	m	m	m
Indonesia	m	m	m	m
Peru	m	m	m	m
Romania	a	19-20	22-25	25-30
Saudi Arabia	m	m	m	m
South Africa	m	m	m	m

Note: See StatLink and Box X1.1 for the notes related to this Table.

Source: OECD/Eurostat/UIS (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023_[1]).


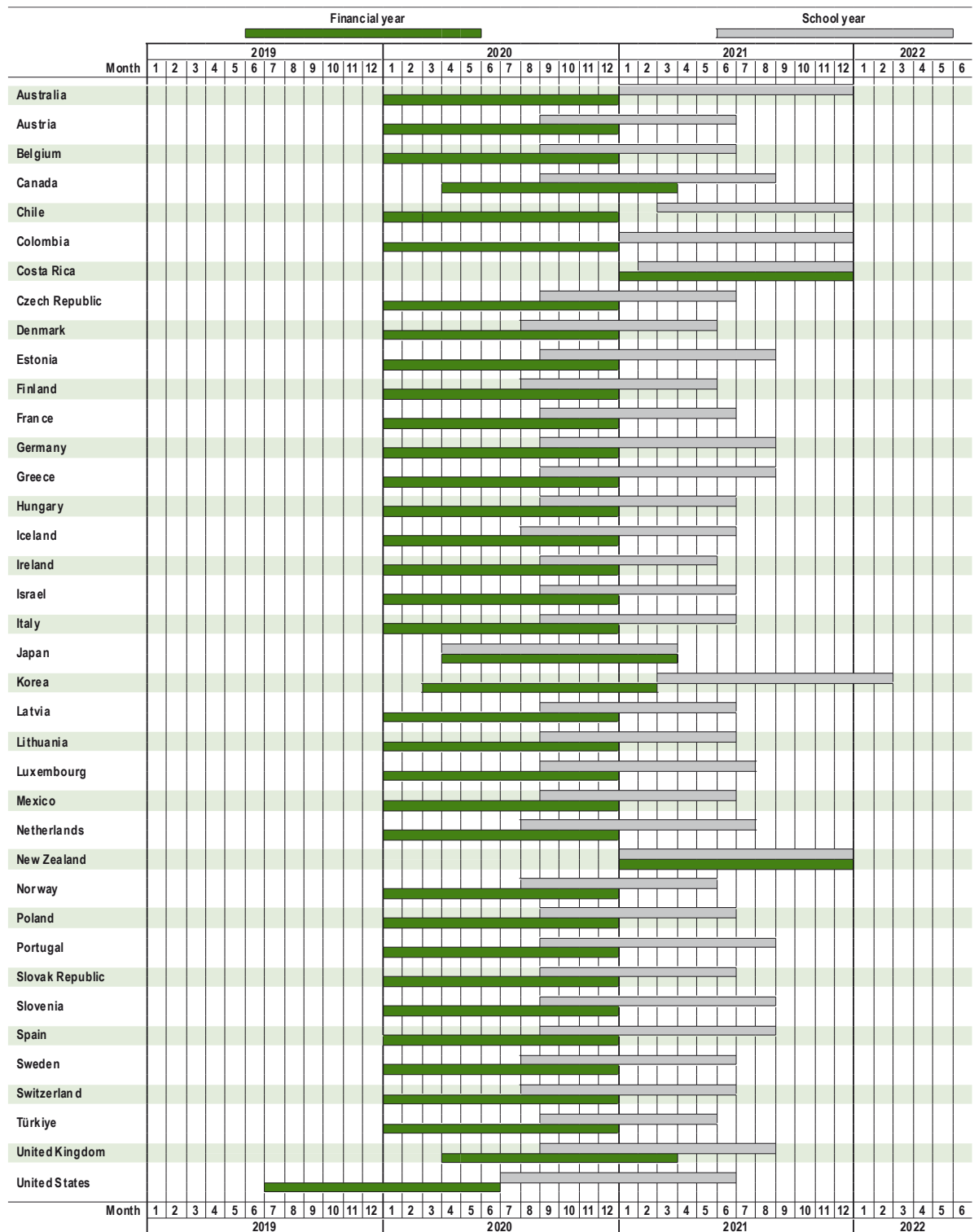
StatLink  <https://stat.link/xsqjr0>

Table X1.3. School year and financial year used for the calculation of indicators, OECD countries



Note: See StatLink and Box X1.1 for the notes related to this Table.

Source: OECD/Eurostat/UIS (2023). For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023^[1]).

Table X1.4. School year and financial year used for the calculation of indicators, partner and accession countries

	Financial year												School year																													
	2019												2020												2021												2022					
Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6												
Argentina																																										
Brazil																																										
Bulgaria																																										
China																																										
Croatia																																										
India																																										
Indonesia																																										
Peru																																										
Romania																																										
Saudi Arabia																																										
South Africa																																										
Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6												
	2019												2020												2021												2022					

Note: See StatLink and Box X1.1 for the notes related to this Table.

Source: OECD/Eurostat/UIS (2023). For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023^[1]).

Table X1.5. Starting and ending age of students in compulsory education, theoretical starting age and duration of education levels, and ages of entitlement to Early Childhood Education and Care (2021)

Ages refer to the age of the students at the beginning of the school year

	Compulsory education		Entitlements to early childhood education and care		Theoretical starting age and duration									
					Early childhood educational development		Pre-primary education		Primary education		Lower secondary education		Upper secondary education	
	Starting age	Ending age	Starting age of universal entitlement	Starting age of free provision	Starting age	Duration	Starting age	Duration	Starting age	Duration	Starting age	Duration	Starting age	Duration
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Australia	6	17	4	m	0	3	3	2	5	7	12	4	16	2
Austria	5	15	m	5	0	3	3	3	6	4	10	4	14	4
Belgium	5	18	3	3	0	3	3	3	6	6	12	2	14	4
Canada	6	16-18	0	5	0-2	1-2	3-5	1-2	6	6	12	3	15	2-3
Chile	6	18	m	m	0	3	3	3	6	6	12	2	14	4
Colombia	5	16	5	5	0	3	3	3	6	5	11	4	15	2
Costa Rica	4	16	4	4	0	4	4	2	6	6	12	3	15	2
Czech Republic	6	15	m	m	a	a	3	3	6	5	11	4	15	4
Denmark	6	15	6	m	7 mo.	3	3	3	6	7	13	3	16	3
Estonia	7	16	m	m	x(7)	x(8)	0 ^d	7	7	6	13	3	16	3
Finland ¹	6	16	0	6	9 mo.	2	3	4	7	6	13	3	16	3
France ²	3	16	3	3	a	a	3	3	6	5	11	4	15	3
Germany	6	18	1	m	0	3	3	3	6	4	10	6	16	3
Greece	5	14-15	m	m	0	4	4	2	6	6	12	3	15	3
Hungary	3	16	0	0	0	3	2.5	3	6	4	11	4	15	3-5
Iceland	6	16	a	a	0	3	3	3	6	7	13	3	16	4
Ireland	6	16	m	m	0	3	3	2	5	8	13	3	16	2
Israel	3	17	3	3	0	3	3	3	6	6	12	3	15	3
Italy	6	16	0	3	a	a	3	3	6	5	11	3	14	5
Japan	6	15	3	3	a	a	3	3	6	6	12	3	15	3
Korea	6	14	0	0	0	3	3	3	6	6	12	3	15	3
Latvia	5	16	1	1	1.5	3	3	4	7	6	13	3	16	3
Lithuania	6	16	0	0	0	3	3	4	7	4	11	6	17	2
Luxembourg	4	16	m	m	a	a	3	3	6	6	12	3	15	4
Mexico	3	17	m	m	0	3	3	3	6	6	12	3	15	3
Netherlands	5	17	4	4	a	a	3	3	6	6	12	3	15	3
New Zealand	5	16	m	3	0	3	3	2	5	6	11	4	15	3
Norway	6	16	1	a	0	3	3	3	6	7	13	3	16	3
Poland	6	15	3	3	a	a	3	4	7	4	11	4	15	4
Portugal	6	18	4	4	0	3	3	3	6	6	12	3	15	3
Slovak Republic	6	16	3	3	a	a	3	3	6	4	10	5	15	4
Slovenia	6	14	0	m	11 mo.	2	3	3	6	6	12	3	15	4
Spain	6	16	3	3	0	3	3	3	6	6	12	3	15	3
Sweden	6	15	1	3	1	2	3	4	7	6	13	3	16	3
Switzerland	4-5	15	4	4	a	a	4	2	6	6	12	3	15	4
Türkiye	6	17	m	3	0	2	3	3	6	4	10	4	14	4
United Kingdom	4-5	16	3	3	0	3	3	2	5	6	11	3	14	4
United States	4-6	16-18	m	m	0	3	3	3	6	6	12	3	15	3
Partner and/or accession countries														
Argentina ³	4	17	m	m	m	m	m	m	6	6	12	3	15	3
Brazil	4	17	0	4	0	4	4	2	6	5	11	4	15	3
Bulgaria	7	16	3	3	a	a	3	4	7	4	11	3	14	5
China	6	14	m	m	m	m	m	m	6	6	12	3	15	3
Croatia	5-6	15-16	m	m	0	3	3	4	7	4	11	4	15	4
India	6	13	m	m	m	m	m	m	6	5	11	3	14	4
Indonesia ³	7	15	m	m	m	m	m	m	7	6	13	3	16	3
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania ⁴	5	18	0	3	0	3	3	3	6	5	11	4	15	3
Saudi Arabia	6	14	m	m	m	m	m	m	6	6	12	3	15	3
South Africa ³	7	15	m	m	m	m	m	m	7	7	14	2	16	3

Note: See StatLink and Box X1.1 for the notes related to this Table.

Source: OECD/Eurostat/UIS (2023). For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#), (OECD, 2023^[1]).

Box X1.1. Notes for Annex 1 Tables

Table X1.1 Typical graduation ages, by level of education (2021)

The range of typical ages is the range encompassing at least 50% of the share of graduation rates.

1. Year of reference differs from 2021: 2020 for Argentina and South Africa; 2018 for Indonesia.

Table X1.2 Typical age of entry, by level of education (2021)

The range of typical ages is the range encompassing at least 50% of the share of entry rates.

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 and accession countries

Table X1.5. Starting and ending age of students in compulsory education, theoretical starting age and duration of education levels, and ages of entitlement to early childhood education and care (2021)

The theoretical ages refer to the age of the students at the beginning of the school year except for the ending age of compulsory education which corresponds to 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. Since the theoretical ages indicated refer to the beginning of the school year, students may be older than the theoretical ending age at the end of the academic year.

1. In 2015, the Basic Education Act was revised and the participation of 6-year-olds in pre-primary education became mandatory. However, this is not encompassed by the Compulsory Education Act, which stipulates that compulsory education usually begins in the year when children turn 7 years old.
2. As of September 2020, 16-18 year-old students are required to train by several means: schooling, apprenticeships, training courses, civic service, and support or social and professional integration measures.
3. Year of reference differs from 2021: 2020 for Argentina and South Africa; 2018 for Indonesia.
4. From the school year 2020-2021, education is compulsory from last grade of pre-primary education to the last two grades of upper secondary education (e.g. grades 11 and 12).

See Definitions and Methodology sections and (OECD, 2023^[1]), *Education at a Glance 2023 Sources, Methodologies and Technical Notes*, <https://doi.org/10.1787/d7f76adc-en>, for more information.

Data and more breakdowns are available at <http://stats.oecd.org/>, *Education at a Glance Database*.

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

Reference

OECD (2023), *Education at a Glance 2023 Sources, Methodologies and Technical Notes*, OECD Publishing, Paris, <https://doi.org/10.1787/d7f76adc-en>.

[1]

Annex 2 Reference statistics

Table X2.1. Basic reference statistics in current prices (reference period: calendar year, 2012, 2015, 2016, 2019, 2020)

	Gross domestic product (GDP) (in millions of local currency, current prices)					Total government expenditure (in millions of local currency, current prices)				
	2012	2015	2016	2019	2020	2012	2015	2016	2019	2020
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD countries										
Australia	1 518 337	1 640 422	1 708 183	1 963 042	2 029 945	558 425	621 980	647 632	827 901	920 084
Austria	318 653	344 269	357 608	397 170	381 042	163 192	176 030	179 059	193 137	2 16 207
Belgium	386 175	416 701	430 085	478 645	459 826	218 102	223 851	228 451	248 202	270 845
Canada	1 787 348	1 993 784	1 999 215	2 255 147	2 287 593	762 378	812 749	841 899	957 920	1 184 894
Chile	129 973 390	158 622 900	168 764 690	195 816 480	200 343 720	30 010 140	39 700 060	42 809 950	51 810 550	58 541 290
Colombia	666 507 000	804 692 000	863 782 000	1 060 068 000	998 719 000	260 997 000	363 651 000	370 276 000	474 299 000	498 519 000
Costa Rica	23 752 869	30 171 919	32 056 288	37 832 150	36 495 246	7 344 679	9 683 753	10 442 817	13 061 180	13 537 362
Czech Republic	4 088 912	4 625 378	4 796 873	5 791 498	5 709 131	1 826 725	1 939 612	1 906 806	2 377 636	2 695 782
Denmark	1 895 002	2 036 356	2 107 808	2 310 955	2 323 919	1 098 247	1 110 377	1 106 149	1 147 800	1 244 136
Estonia	17 917	20 631	21 748	27 765	27 465	7 032	8 155	8 568	10 936	12 324
Finland	201 037	211 385	217 518	238 858	238 038	111 456	119 415	121 044	127 945	136 128
France	2 088 804	2 198 432	2 234 129	2 437 635	2 310 469	1 192 859	1 248 656	1 266 435	1 349 275	1 420 848
Germany	2 745 310	3 026 180	3 134 740	3 473 260	3 405 430	1 233 138	1 335 789	1 390 374	1 562 647	1 716 615
Greece	188 381	176 369	174 494	183 351	165 406	106 844	95 336	87 154	87 677	98 733
Hungary	28 996 631	34 965 213	36 206 666	47 664 925	48 411 546	14 241 938	17 615 370	16 943 858	21 951 435	24 730 073
Iceland	1 845 160	2 310 848	2 512 055	3 043 848	2 937 930	880 735	1 004 612	1 166 530	1 318 698	1 493 674
Ireland	175 615	262 976	270 205	356 705	372 836	74 666	76 417	75 880	86 510	101 953
Israel	1 011 341	1 179 321	1 237 058	1 434 617	1 422 635	407 720	449 685	475 346	561 656	645 837
Italy	1 624 359	1 655 355	1 695 787	1 796 649	1 661 020	821 764	832 927	832 265	870 860	943 495
Japan	498 205 350	523 616 325	539 615 375	556 950 275	553 203 700	201 286 500	208 962 800	210 901 600	216 371 800	248 414 900
Korea	1 440 111 400	1 658 020 400	1 740 779 600	1 924 498 100	1 940 726 200	443 590 700	504 008 400	527 386 200	651 849 200	740 039 900
Latvia	21 924	24 572	25 371	30 679	30 294	8 509	9 494	9 512	11 704	12 770
Lithuania	33 410	37 346	38 890	48 908	49 770	12 088	13 133	13 315	16 990	21 240
Luxembourg	46 526	54 142	56 208	62 374	64 781	19 454	21 861	22 510	26 901	30 273
Mexico	15 817 755	18 572 109	20 129 057	24 445 735	23 430 377	4 512 039	5 237 532	5 368 910	6 617 355	6 931 922
Netherlands	652 966	690 008	708 337	813 055	796 530	307 043	309 465	309 167	342 493	380 991
New Zealand	214 141	245 838	259 323	310 737	324 787	92 159	99 646	106 031	131 450	152 746
Norway ¹	2294 241	2 614 084	2 691 604	3 062 973	3 042 962	1 283 758	1 533 194	1 596 594	1 837 063	1 994 429
Poland	1 612 739	1 798 471	1 853 205	2 288 492	2 337 672	700 438	750 622	766 007	958 326	1 127 866
Portugal	168 296	179 713	186 490	214 375	200 519	82 278	86 707	83 616	91 004	98 743
Slovak Republic	73 649	80 126	81 265	94 437	93 414	30 276	36 508	34 575	38 275	41 817
Slovenia	36 253	38 853	40 443	48 533	47 021	17 893	18 925	18 670	20 956	24 056
Spain	1 031 104	1 078 092	1 114 420	1 245 513	1 117 989	510 092	474 881	473 208	526 652	580 771
Sweden	3 743 086	4 260 470	4 415 031	5 049 619	5 038 538	1 908 794	2 102 084	2 194 797	2 481 177	2 623 563
Switzerland	643 646	668 006	677 848	716 879	694 662	210 402	224 542	228 245	238 418	267 116
Türkiye	1 581 479	2 350 941	2 626 560	4 311 733	5 048 220	525 252	746 115	889 068	1 540 010	1 715 200
United Kingdom	1 676 469	1 877 370	1 940 614	2 177 645	2 206 160	779 782	811 937	827 976	913 281	1 101 598
United States	15 926 851	17 878 355	18 450 565	20 957 017	21 220 725	6 515 364	6 910 907	7 161 100	8 221 634	9 962 874
Partner and/or accession countries										
Argentina	2 637 914	5 954 511	8 228 160	21 802 256	27 481 440	971 317	2 463 160	3 416 500	8 220 030	11 558 520
Brazil	4 814 760	5 995 787	6 269 328	7 389 131	7 609 597	1 792 430	2 307 300	2 485 100	2 761 290	3 201 160
Bulgaria	82 646	89 600	95 390	120 396	120 553	28 312	36 173	33 155	43 700	50 016
China	53 858 000	68 885 820	74 639 510	98 651 500	101 356 700	15 178 680	21 837 060	24 107 250	33 835 280	36 310 050
Croatia	44 545	45 734	47 331	54 784	50 451	21 506	21 717	21 982	25 235	27 235
India	99 440 131	137 718 739	153 916 690	203 510 129	198 009 138	27 210 650	37 265 270	41 915 890	55 050 870	61 486 360
Indonesia	8 615 704 500	11 526 332 800	12 401 728 500	15 832 657 200	15 443 353 200	1 622 837 250	2 014 591 080	2 086 438 830	2 593 825 170	2 867 962 170
Peru	508 131	604 416	647 668	761 984	704 939	103 357	136 509	138 201	163 973	190 234
Romania	621 269	712 544	752 116	1 063 795	1 066 781	224 650	256 573	263 222	382 590	443 108
Saudi Arabia	2 759 906	2 453 512	2 418 509	3 013 561	2 637 629	917 198	1 001 290	860 511	1 059 000	1 075 730
South Africa	3 253 852	4 049 884	4 359 061	5 077 625	4 973 975	1 020 650	1 333 490	1 423 520	1 765 950	1 924 830

Note: See StatLink and Box X2.1 for the notes related to this Table.

Source: OECD (2023). Annual national accounts, Tables 1 and 12 (https://stats.oecd.org/Index.aspx?DataSetCode=SNA_TABLE1). See Source section for more information and (OECD, 2023^[1]), *Education at a Glance 2023 Sources, Methodologies and Technical Notes*, <https://doi.org/10.1787/d7f76adc-en>.

Table X2.2. Basic reference statistics (reference period: calendar year, 2012, 2015, 2016, 2019, 2020)

	Purchasing power parity for GDP (PPP) (USD = 1)					Population (in thousands)					GDP deflator (2015 = 100)				
	2012 (1)	2015 (2)	2016 (3)	2019 (4)	2020 (5)	2012 (6)	2015 (7)	2016 (8)	2019 (9)	2020 (10)	2012 (11)	2015 (12)	2016 (13)	2019 (14)	2020 (15)
OECD countries															
Australia	1.5	1.5	1.5	1.5	1.5	22 734	23 816	24 191	25 366	25 693	99.8	100.0	103.7	111.1	114.2
Austria	0.8	0.8	0.8	0.7	0.7	8 426	8 630	8 740	8 878	8 917	94.1	100.0	101.8	106.4	109.1
Belgium	0.8	0.8	0.8	0.7	0.7	11 107	11 274	11 331	11 489	11 544	96.5	100.0	101.9	107.3	108.9
Canada	1.2	1.2	1.2	1.2	1.2	34 714	35 703	36 109	37 601	38 007	97.3	100.0	100.8	106.7	107.3
Chile	347.2	391.2	397.3	401.6	418.4	17 443	17 971	18 167	19 107	19 458	88.0	100.0	104.6	114.2	124.3
Colombia	1 215.7	1 289.3	1 298.1	1 330.8	1 297.1	43 752	45 348	45 845	48 323	49 261	93.7	100.0	105.1	120.3	121.9
Costa Rica	343.9	354.0	343.0	329.1	328.4	4 651	4 830	4 888	5 055	5 109	86.6	100.0	102.0	109.9	110.8
Czech Republic	13.3	12.9	12.6	12.3	12.5	10 509	10 543	10 565	10 669	10 700	95.2	100.0	101.1	109.2	113.9
Denmark	7.6	7.3	7.1	6.6	6.6	5 591	5 682	5 729	5 817	5 830	97.7	100.0	100.3	103.3	106.0
Estonia	0.5	0.5	0.5	0.5	0.5	1 325	1 313	1 316	1 325	1 329	92.4	100.0	102.2	114.5	113.9
Finland	0.9	0.9	0.9	0.8	0.8	5 414	5 481	5 495	5 522	5 531	94.4	100.0	100.1	104.5	106.2
France	0.8	0.8	0.8	0.7	0.7	65 651	66 581	66 831	67 762	68 004	97.5	100.0	100.5	103.4	106.2
Germany	0.8	0.8	0.8	0.7	0.7	80 426	81 687	82 349	83 093	83 161	94.5	100.0	101.3	107.1	109.1
Greece	0.7	0.6	0.6	0.5	0.5	11 045	10 821	10 776	10 722	10 699	104.4	100.0	99.4	99.8	98.9
Hungary	125.6	132.6	132.0	140.8	145.4	9 920	9 843	9 814	9 771	9 750	91.3	100.0	101.3	115.8	123.2
Iceland	137.0	142.0	140.0	140.7	146.7	321	331	335	361	367	88.7	100.0	102.3	110.7	114.7
Ireland	0.8	0.8	0.8	0.8	0.8	4 597	4 696	4 749	4 927	4 980	91.3	100.0	100.7	106.6	104.9
Israel	4.0	3.9	3.8	3.9	3.8	7 907	8 377	8 543	9 051	9 214	95.4	100.0	100.4	103.0	104.0
Italy	0.7	0.7	0.7	0.7	0.6	60 191	60 230	60 115	59 729	59 439	97.1	100.0	101.1	103.9	105.6
Japan	104.3	103.5	105.5	104.2	102.4	127 552	127 110	126 933	126 167	125 708	96.7	100.0	100.4	101.0	101.9
Korea	854.9	857.5	858.8	856.4	837.7	50 200	51 015	51 218	51 765	51 836	95.1	100.0	102.0	103.9	105.5
Latvia	0.5	0.5	0.5	0.5	0.5	2 034	1 977	1 959	1 913	1 901	96.4	100.0	100.9	110.7	111.8
Lithuania	0.5	0.4	0.4	0.4	0.4	2 988	2 905	2 868	2 794	2 795	97.9	100.0	101.6	112.6	114.6
Luxembourg	0.9	0.9	0.9	0.8	0.9	532	569	584	622	631	93.0	100.0	98.9	104.6	109.5
Mexico	7.9	8.3	8.4	9.7	10.0	117 055	121 007	120 419	124 960	126 383	91.7	100.0	105.6	123.1	128.3
Netherlands	0.8	0.8	0.8	0.8	0.8	16 755	16 940	17 030	17 345	17 442	97.7	100.0	100.5	107.4	109.4
New Zealand	1.5	1.5	1.4	1.4	1.4	4 418	4 638	4 742	5 013	5 097	93.9	100.0	102.3	109.9	111.0
Norway ¹	9.0	9.9	10.0	9.6	9.9	5 019	5 190	5 236	5 348	5 379	93.0	100.0	102.0	109.1	112.1
Poland	1.8	1.8	1.7	1.7	1.7	38 534	38 455	38 427	38 386	38 354	98.0	100.0	100.1	106.2	110.8
Portugal	0.6	0.6	0.6	0.6	0.6	10 515	10 358	10 326	10 286	10 297	95.2	100.0	101.7	107.0	109.1
Slovak Republic	0.5	0.5	0.5	0.5	0.5	5 406	5 422	5 431	5 453	5 461	99.9	100.0	99.5	105.3	107.8
Slovenia	0.6	0.6	0.6	0.6	0.5	2 057	2 063	2 065	2 089	2 103	97.0	100.0	100.9	106.9	108.2
Spain	0.7	0.7	0.6	0.6	0.6	46 766	46 410	46 450	47 105	47 356	99.3	100.0	100.3	104.4	105.7
Sweden	8.7	8.9	8.8	8.7	8.7	9 519	9 799	9 923	10 279	10 353	95.4	100.0	101.5	108.9	111.1
Switzerland	1.4	1.2	1.2	1.2	1.1	7 997	8 282	8 373	8 575	8 638	102.0	100.0	99.4	99.7	99.0
Türkiye	1.0	1.2	1.2	1.9	2.2	75 176	78 218	79 278	82 579	83 385	81.2	100.0	108.1	159.1	182.7
United Kingdom	0.7	0.7	0.7	0.7	0.7	63 705	65 110	65 648	66 797	67 081	96.0	100.0	101.9	107.7	114.1
United States	1.0	1.0	1.0	1.0	1.0	314 725	322 113	324 609	330 513	331 761	95.5	100.0	101.0	107.3	108.7
Partner and/or accession countries															
Argentina	3.2	6.9	9.3	20.9	28.9	41 733	43 132	43 590	44 939	45 377	45.4	100.0	141.1	381.2	533.2
Brazil	1.6	2.0	2.1	2.3	2.4	198 315	203 476	205 157	210 147	211 756	80.2	100.0	108.1	125.8	134.0
Bulgaria	0.7	0.7	0.7	0.7	0.7	7 306	7 178	7 128	6 976	6 934	95.8	100.0	103.3	118.8	123.8
China	3.6	3.9	4.0	4.2	4.2	1 359 220	1 383 260	1 392 320	1 410 080	1 412 120	96.9	100.0	101.4	110.6	111.4
Croatia	0.5	0.5	0.4	0.4	0.4	4 269	4 208	4 172	4 067	4 047	99.0	100.0	99.9	105.2	106.0
India	16.2	19.2	19.9	21.1	22.0	1 235 000	1 283 000	1 299 000	1 366 418	1 380 004	89.1	100.0	103.2	115.3	120.6
Indonesia	3 569.9	4 353.3	4 518.1	4 752.3	4 675.2	245 425	255 462	258 705	266 912	270 204	86.9	100.0	102.4	112.7	112.2
Peru	1.6	1.7	1.7	1.7	1.8	m	m	m	m	33 494	94.1	100.0	103.1	111.3	115.6
Romania	1.6	1.7	1.6	1.7	1.7	20 060	19 822	19 706	19 394	19 269	93.9	100.0	102.6	121.8	126.8
Saudi Arabia	1.7	1.6	1.6	1.8	1.6	28 989	31 154	31 879	34 218	35 013	124.7	100.0	97.0	118.3	108.0
South Africa	5.1	5.8	6.2	6.7	7.0	52 275	54 433	55 174	58 775	59 622	84.9	100.0	107.2	122.0	128.4

Note: See StatLink and Box X2.1 for the notes related to this Table. For further methodological information please consult (OECD, 2023^[1]), *Education at a Glance 2023 Sources, Methodologies and Technical Notes*, <https://doi.org/10.1787/d7f76adc-en>.

Source: Annual national accounts, Tables 1 and 3 (https://stats.oecd.org/index.aspx?DataSetCode=SNA_TABLE1) See Source section for more information and (OECD, 2023^[1]), *Education at a Glance 2023 Sources, Methodologies and Technical Notes*, <https://doi.org/10.1787/d7f76adc-en>.

Table X2.3. Pre-primary and primary teachers' statutory salaries, in national currencies, based on the most prevalent qualifications at different points in teachers' careers (2022)

Annual salaries in public institutions

	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
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Australia	74 917	107 283	107 564	120 271	74 933	106 095	108 537	117 863
Austria	m	m	m	m	40 281	42 698	47 796	70 203
Canada	m	m	m	m	55 910	92 598	96 464	96 464
Chile	12 698 664	15 670 944	19 063 141	23 502 828	12 698 664	15 670 944	19 063 141	23 502 828
Colombia ¹	36 051 613	65 747 734	65 747 734	75 609 810	36 051 613	65 747 734	65 747 734	75 609 810
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	364 800	378 000	387 600	432 000	388 800	414 000	432 000	510 000
Denmark	362 608	407 077	407 077	407 077	415 668	461 862	478 832	478 832
Estonia	a	a	a	a	16 556	a	a	a
Finland ²	30 302	33 041	33 355	33 355	34 702	39 782	42 570	45 124
France	28 385	31 699	33 365	48 184	28 385	31 699	33 365	48 184
Germany	m	m	m	m	55 551	63 701	67 605	72 349
Greece	13 104	15 936	17 352	25 848	13 104	15 936	17 352	25 848
Hungary	2 890 800	3 255 714	3 496 878	4 943 862	2 890 800	3 255 714	3 496 878	4 943 862
Iceland	m	m	m	m	m	m	m	m
Ireland	m	m	m	m	38 192	52 934	64 109	73 943
Israel	113 633	148 864	161 455	278 874	100 601	127 513	143 488	233 535
Italy	24 297	26 639	29 162	35 373	24 297	26 639	29 162	35 373
Japan	m	m	m	m	3 353 000	4 750 000	5 549 000	6 863 000
Korea	33 456 480	50 540 080	59 065 780	94 043 320	33 456 480	50 540 080	59 065 780	94 043 320
Latvia	10 464	a	a	a	9 960	a	a	a
Lithuania	17 354	17 919	19 939	22 697	17 354	17 919	19 939	22 697
Luxembourg	71 541	92 526	104 450	126 389	71 541	92 526	104 450	126 389
Mexico	258 099	323 115	403 051	505 415	258 099	323 115	403 051	505 415
Netherlands	41 481	59 176	67 400	84 751	41 481	59 176	67 400	84 751
New Zealand	m	m	m	m	55 948	90 000	90 000	90 000
Norway	423 500	515 200	515 200	523 100	464 100	556 900	556 900	597 400
Poland	38 574	51 671	63 063	65 732	38 574	51 671	63 063	65 732
Portugal	22 550	27 430	29 100	48 621	22 550	27 430	29 100	48 621
Slovak Republic	8 907	10 161	10 403	11 639	11 035	12 404	12 706	14 213
Slovenia	20 097	23 763	29 864	34 478	20 097	24 625	30 972	37 114
Spain	31 847	34 605	36 887	45 585	31 847	34 605	36 887	45 585
Sweden ^{1,3,4}	405 600	425 280	432 000	473 400	411 600	454 200	474 600	546 000
Switzerland ¹	74 900	93 400	m	114 600	80 800	100 600	m	122 900
Türkiye	145 901	150 177	148 197	158 987	145 901	150 177	148 197	158 987
United States ⁴	45 931	50 953	68 905	76 985	44 992	61 054	66 251	78 190
Other participants								
Flemish Comm. (Belgium)	35 478	44 492	50 092	63 158	35 478	44 492	50 092	63 158
French Comm. (Belgium)	33 402	41 736	46 974	57 451	33 402	41 736	46 974	57 451
England (UK)	26 688	a	42 820	42 820	26 688	a	42 820	42 820
Scotland (UK)	33 729	42 336	42 336	42 336	33 729	42 336	42 336	42 336
Partner and/or accession countries								
Argentina	m	m	m	m	m	m	m	m
Brazil	51 275	m	m	m	51 275	m	m	m
Bulgaria	16 980	17 520	18 192	m	16 980	17 520	18 192	m
China	m	m	m	m	m	m	m	m
Croatia	m	m	m	m	15 676	16 378	16 768	18 718
India	m	m	m	m	m	m	m	m
Indonesia	m	m	m	m	m	m	m	m
Peru	m	m	m	m	m	m	m	m
Romania	46 116	55 008	59 316	78 618	46 116	55 008	59 316	78 618
Saudi Arabia	m	m	m	m	m	m	m	m
South Africa	m	m	m	m	m	m	m	m

Note: See StatLink and Box X2.1 for the notes related to this Table.

Source: For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1])

Table X2.4. Secondary teachers' statutory salaries, in national currencies, based on the most prevalent qualifications at different points in teachers' careers (2022)

Annual salaries in public institutions

	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
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Australia	74 931	105 890	108 312	118 046	74 931	105 890	108 312	118 046
Austria	40 281	44 734	48 636	74 677	40 281	48 561	50 185	82 855
Canada	55 910	92 598	96 464	96 464	55 910	92 598	96 464	96 464
Chile	12 698 664	15 670 944	19 063 141	23 502 828	13 131 096	16 247 809	19 726 406	24 367 692
Colombia ¹	36 051 613	65 747 734	65 747 734	75 609 810	36 051 613	65 747 734	65 747 734	75 609 810
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	390 000	415 200	433 200	513 600	390 000	415 200	433 200	512 400
Denmark	417 494	466 818	482 689	482 689	392 924	510 629	510 629	510 629
Estonia	16 556	a	a	a	16 556	a	a	a
Finland	37 277	42 734	45 729	48 473	39 140	46 997	49 343	52 303
France ²	30 935	34 249	35 915	50 986	30 935	34 249	35 915	50 986
Germany	61 457	69 769	73 431	80 078	64 010	72 362	76 317	87 323
Greece	13 104	15 936	17 352	25 848	13 104	15 936	17 352	25 848
Hungary	2 890 800	3 255 714	3 496 878	4 943 862	2 890 800	3 617 460	3 885 420	5 493 180
Iceland	m	m	m	m	m	m	m	m
Ireland	38 192	52 934	64 737	74 571	38 192	52 934	64 737	74 571
Israel	101 078	131 539	154 475	244 264	119 023	138 899	167 890	241 246
Italy	26 114	28 843	31 707	38 843	26 114	29 530	32 588	40 597
Japan	3 353 000	4 750 000	5 549 000	6 863 000	3 353 000	4 750 000	5 549 000	7 044 000
Korea	33 516 480	50 600 080	59 125 780	94 103 320	33 516 480	50 600 080	59 125 780	94 103 320
Latvia	9 960	a	a	a	9 960	a	a	a
Lithuania	17 354	17 919	19 939	22 697	17 354	17 919	19 939	22 697
Luxembourg	81 080	101 350	111 842	140 936	81 080	101 350	111 842	140 936
Mexico	327 388	410 605	514 435	638 307	603 860	695 440	742 034	742 034
Netherlands	41 359	62 860	72 127	84 753	41 359	62 860	72 127	84 753
New Zealand	55 948	90 000	90 000	90 000	55 948	90 000	90 000	90 000
Norway	464 100	556 900	556 900	597 400	550 100	608 900	608 900	674 900
Poland	38 574	51 671	63 063	65 732	38 574	51 671	63 063	65 732
Portugal	22 550	27 430	29 100	48 621	22 550	27 430	29 100	48 621
Slovak Republic ³	11 035	12 404	12 706	14 213	11 035	12 404	12 706	14 213
Slovenia ³	20 097	24 625	30 972	37 114	20 097	24 625	30 972	37 114
Spain	35 596	38 690	41 197	50 810	35 596	38 690	41 197	50 810
Sweden ^{1,3,4,5}	420 600	468 000	482 400	559 200	432 000	471 240	490 800	565 200
Switzerland ¹	89 600	114 500	m	137 400	101 300	130 700	m	155 300
Türkiye	147 440	151 716	149 736	160 525	147 440	151 716	149 736	160 525
United States ⁵	46 018	64 196	69 439	79 031	48 187	63 026	69 641	75 988
Other participants								
Flemish Comm. (Belgium)	35 478	44 492	50 092	63 158	44 265	56 420	64 342	80 184
French Comm. (Belgium)	33 402	41 736	46 974	57 451	41 524	52 894	60 305	72 655
England (UK)	26 688	a	42 820	42 820	26 688	a	42 820	42 820
Scotland (UK)	33 729	42 336	42 336	42 336	33 729	42 336	42 336	42 336
Partner and/or accession countries								
Argentina	m	m	m	m	m	m	m	m
Brazil	51 275	m	m	m	51 275	m	m	m
Bulgaria	16 980	17 520	18 192	m	16 980	17 520	18 192	m
China	m	m	m	m	m	m	m	m
Croatia	15 676	16 378	16 768	18 718	15 676	16 378	16 768	18 718
India	m	m	m	m	m	m	m	m
Indonesia	m	m	m	m	m	m	m	m
Peru	m	m	m	m	m	m	m	m
Romania	46 116	55 008	59 316	78 618	46 116	55 008	59 316	78 618
Saudi Arabia	m	m	m	m	m	m	m	m
South Africa	m	m	m	m	m	m	m	m

Note: See StatLink and Box X2.1 for the notes related to this Table.

Source: OECD (2023). For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1])

Table X2.5. Trends in teachers' average actual salaries, in national currencies (2000, 2005 and 2010 to 2022)

Average annual salary (including bonuses and allowances) of teachers aged 25-64

	Pre-primary						Primary					
	2000	2005	2010	2015	2020	2022	2000	2005	2010	2015	2020	2022
OECD countries	(1)	(2)	(3)	(8)	(13)	(15)	(16)	(17)	(18)	(23)	(28)	(30)
Australia	m	m	77 641	m	101 104	103 707	m	m	78 352	81 730	93 686	98 105
Austria ¹	m	m	m	m	m	m	m	m	m	47 416	51 860	54 931
Canada	m	m	m	m	m	m	m	m	m	m	m	m
Chile	m	m	m	11 494 412	m	m	m	m	m	11 258 028	m	m
Colombia	m	m	m	m	m	m	m	m	m	m	m	m
Costa Rica	m	m	m	m	14 012 470	13 760 927	m	m	m	m	14 691 156	14 154 586
Czech Republic	m	m	228 603	277 809	415 700	m	m	m	290 682	325 614	515 600	m
Denmark ²	m	m	372 336	396 252	393 200	405 444	m	m	452 337	480 636	477 308	493 158
Estonia	m	m	m	8 807	14 814	15 953	m	m	m	13 254	19 387	20 590
Finland ³	m	m	29 759	32 637	34 406	35 539	28 723	35 654	40 458	44 085	45 301	47 031
France	m	m	31 467	338 35	m	m	m	m	30 881	32 978	m	m
Germany	m	m	m	m	m	m	m	m	m	53 610	60 792	64 802
Greece ⁴	m	m	m	16 085	17 328	17 593	m	m	m	16 085	17 328	17 593
Hungary	m	m	2 217 300	3 238 584	3 939 026	4 406 882	m	m	2 473 800	3 373 500	4 111 792	4 572 955
Iceland	m	m	m	5 261 000	6 772 000	8 537 000	m	m	m	5 966 000	7 450 000	8 578 000
Ireland	m	m	m	m	m	m	m	m	m	m	58 975	61 211
Israel	m	m	110 959	161 247	169 452	178 873	m	m	123 151	162 049	175 071	181 691
Italy	m	m	25 774	28 672	29 157	29 151	m	m	25 774	28 672	29 157	29 151
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	11 913	14 051	m	m	m	9 981	15 278	17 672
Lithuania	m	m	m	9 732	18 576	23 690	m	m	m	9 732	18 576	23 690
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	56 127	60 360	m	m	43 374	45 126	56 127	60 360
New Zealand	m	m	m	m	m	m	m	m	m	68 833	79 291	m
Norway	m	28 954 8	368 580	448 797	518 890	54 3351	m	348 877	422 930	505 878	572 804	598 837
Poland	m	m	40 626	49 856	m	63 724	m	m	46 862	57 738	m	77 467
Portugal	m	m	m	31 234	33 805	34 037	m	m	m	28 561	30 502	31 218
Slovak Republic	m	m	m	8 986	13 144	m	m	m	m	12 185	17 089	m
Slovenia ⁵	m	m	m	17 349	22 298	m	m	m	m	24 069	27 426	m
Spain	m	m	m	m	m	m	m	m	m	m	m	m
Sweden ⁶	204 516	252 268	296 997	343 285	403 158	m	239 887	288 154	323 621	378 684	457 892	m
Switzerland	m	m	m	m	m	m	m	m	m	m	m	m
Türkiye	m	m	m	m	m	m	m	m	m	m	m	m
United States	380 28	40 268	48 103	50 946	54 934	60 424	38 746	41 059	49 133	52 516	55 980	62 089
Other participants												
Flemish Comm. (Belgium)	m	m	41 046	44 357	47 024	50 912	m	m	41 543	44 848	46 582	50 192
French Comm. (Belgium)	m	m	m	42 741	45 634	48 175	m	m	m	42 468	44 623	46 705
England (UK)	22 968	29 418	33 680	33 422	35 707	37 498	22 968	29 418	33 680	33 422	35 707	37 498
Scotland (UK) ⁷	m	m	31 884	33 166	37 492	40 829	m	m	31 884	33 166	37 492	40 829
Partner and/or accession countries												
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
Bulgaria	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
Croatia	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
Peru	m	m	m	m	m	m	m	m	m	m	m	m
Romania	m	m	m	m	m	61 482	m	m	m	m	m	63 236
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	2020	2022	2000	2005	2010	2015	2020	2022
	(31)	(32)	(33)	(38)	(43)	(45)	(46)	(47)	(48)	(53)	(58)	(60)
OECD countries												
Australia	m	m	78 221	82 516	95 270	98 662	m	m	78 225	82 542	93 298	98 704
Austria ¹	m	m	m	55 799	58 483	60 686	m	m	m	60 152	66 081	64 783
Canada	m	m	m	m	m	m	m	m	m	m	m	m
Chile	m	m	m	11 325 494	m	m	m	m	m	123 655 87	m	m
Colombia	m	m	m	m	m	m	m	m	m	m	m	m
Costa Rica	m	m	m	m	17 669 394	15 722 560	m	m	m	m	17 669 394	15 722 560
Czech Republic	m	m	289 771	325 034	512 000	m	m	m	313 534	338 662	537 100	m
Denmark ²	m	m	457 728	486 492	480 476	496 017	m	m	m	553 880	566 438	581 507
Estonia	m	m	m	13 254	19 387	20 590	m	m	m	13 254	19 387	20 590
Finland ³	32 919	39 519	44 421	48 497	50 398	52 076	37 728	44 051	49 808	54 378	56 929	58 619
France	m	m	37 232	38 508	m	m	m	m	41 794	43 338	m	m
Germany	m	m	m	59 153	67 007	71 184	m	m	m	62 760	70 913	75 003
Greece ⁴	m	m	m	17 103	18 522	18 765	m	m	m	17 103	18 522	18 765
Hungary	m	m	2 473 800	3 373 500	4 111 792	4 572 955	m	m	2 814 100	3 588 180	4 471 546	5 002 765
Iceland	m	m	m	5 966 000	7 450 000	8 578 000	m	m	5 172 300	7 931 000	9 988 000	11 011 000
Ireland	m	m	m	m	61 414	63 278	m	m	m	m	61 414	63 278
Israel	m	m	126 309	176 907	186 766	191 091	m	m	133 790	160 763	199 084	205 828
Italy	m	m	27 170	28 581	31 269	30 982	m	m	28 986	30 991	33 261	33 036
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	93 20	150 69	17 639	m	m	m	10 430	16 499	18 837
Lithuania	m	m	m	97 32	18 576	23 690	m	m	m	9 732	18 576	23 690
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	65 212	67 638	m	m	52 831	56 796	65 212	67 638
New Zealand	m	m	m	70 223	79 885	m	m	m	m	74 624	86 522	m
Norway	m	348 877	422 930	505 878	572 804	598 837	m	372 694	449 704	555 315	621 412	653 160
Poland	m	m	47 410	58 907	m	78 374	m	m	46 147	57 837	m	78 967
Portugal	m	m	m	27 903	29 686	30 515	m	m	m	30 431	32 093	32 815
Slovak Republic	m	m	m	12 185	17 089	m	m	m	m	12 176	17 737	m
Slovenia ⁵	m	m	m	24 504	27 918	m	m	m	m	25 989	29 409	m
Spain	m	m	m	m	m	m	m	m	m	m	m	m
Sweden ⁶	247 793	290 058	324 639	389 624	476 260	m	265 488	315 592	347 967	405 662	484 829	m
Switzerland	m	m	m	m	m	m	m	m	m	m	m	m
Türkiye	m	m	m	m	m	m	m	m	m	m	m	m
United States	39 500	41 873	50 158	53 548	58 625	64 298	41 124	43 588	52 188	55 328	61 162	66 438
Other participants												
Flemish Comm. (Belgium)	m	m	41 277	43 718	46 590	50 115	m	m	54 381	56 594	55 965	60 033
French Comm. (Belgium)	m	m	m	41 586	43 463	45 729	m	m	m	53 006	55 100	57 480
England (UK)	25 347	32 355	36 173	36 016	39 846	41 449	25 347	32 355	36 173	36 016	39 846	41 449
Scotland (UK) ⁷	m	m	31 884	33 166	37 492	40 829	m	m	31 884	33 166	37 492	40 829
Partner and/or accession countries												
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
Bulgaria	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
Croatia	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
Peru	m	m	m	m	m	m	m	m	m	m	m	m
Romania	m	m	m	m	m	64 043	m	m	m	m	m	65 484
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 StatLink and Box X2.1 for the notes related to this Table.

Source: For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[11])

StatLink  <https://stat.link/0rkxpd>

Table X2.6. Reference statistics used in calculating teachers' salaries (2000 and 2005 to 2022)

	Purchasing power parity for private consumption (PPP) ¹					Private consumption deflators (2015 = 100)								Reference year for statutory salary data	Reference year for actual salary data
	2020	2021	2022	Jan 2021	Jan 2022	Jan 2000	Jan 2005	Jan 2010	Jan 2015	Jan 2020	Jan 2021	Jan 2022	(24)		
OECD countries	(1)	(2)	(3)	(4)= ((1)+(2))/2	(5)= ((2)+(3))/2	(6)	(7)	(12)	(17)	(22)	(23)	(24)	(25)	(26)	
Australia	1.57	1.56	1.56	1.57	1.56	69	78	90	100	107	108	112	2022	2022	
Austria	0.81	0.81	0.81	0.81	0.81	75	82	89	100	109	111	116	2021/22	2021/22	
Canada	1.32	1.33	1.33	1.32	1.33	80	87	93	100	106	108	113	2021/22	m	
Chile	476.39	496.52	496.52	486.46	496.52	58	68	83	100	116	121	131	2022	2021	
Colombia	1 522.55	1 558.65	1 558.65	1 540.60	1 558.65	48	66	83	100	123	127	137	2021	m	
Costa Rica	378.59	383.48	383.48	381.04	383.48	30	52	83	100	110	112	118	2022	2022	
Czech Republic	14.64	14.85	14.85	14.74	14.85	76	85	95	100	110	113	124	2021/22	2020/21	
Denmark	7.72	7.79	7.79	7.75	7.79	77	84	93	100	103	104	109	2021/22	2021/22	
Estonia	0.61	0.64	0.64	0.62	0.64	57	68	87	100	111	113	124	2021/22	2021/22	
Finland	0.92	0.93	0.93	0.92	0.93	76	82	90	100	104	105	109	2021/22	2021/22	
France	0.82	0.82	0.82	0.82	0.82	82	89	95	100	104	106	109	2021/22	2020	
Germany	0.78	0.79	0.79	0.78	0.79	82	88	94	100	106	108	113	2021/22	2021/22	
Greece	0.64	0.64	0.64	0.64	0.64	79	89	101	100	98	98	102	2021/22	2021/22	
Hungary	168.78	179.15	179.15	173.96	179.15	50	69	87	100	115	120	132	2021/22	2021/22	
Iceland	160.74	166.67	166.67	163.71	166.67	45	55	84	100	109	112	116	2021/22	2021/22	
Ireland	1.03	1.05	1.05	1.04	1.05	83	97	96	100	107	109	116	2021/22	2021/22	
Israel	4.31	4.27	4.27	4.29	4.27	76	82	92	100	101	101	105	2021/22	2021/22	
Italy	0.74	0.74	0.74	0.74	0.74	74	84	93	100	103	104	108	2021/22	2021/22	
Japan	117.06	117.19	117.19	117.13	117.19	108	103	100	100	102	102	103	2021/22	m	
Korea	982.06	995.28	995.28	988.67	995.28	68	81	91	100	106	108	111	2021/22	m	
Latvia	0.57	0.58	0.58	0.58	0.58	51	65	91	100	111	113	122	2021/22	2021/22	
Lithuania	0.51	0.53	0.53	0.52	0.53	70	70	92	100	110	113	126	2021/22	2021/22	
Luxembourg	0.99	1.00	1.00	1.00	1.00	74	84	92	100	108	109	113	2021/22	m	
Mexico	11.51	11.84	11.84	11.67	11.84	49	63	80	100	123	129	139	2021/22	m	
Netherlands	0.84	0.85	0.85	0.85	0.85	77	87	93	100	108	110	116	2021/22	2021/22	
New Zealand	1.56	1.60	1.60	1.58	1.60	77	83	94	100	106	109	114	2022	2021	
Norway	10.59	10.77	10.77	10.68	10.77	75	83	92	100	112	115	119	2021/22	2021/22	
Poland	1.91	2.01	2.01	1.96	2.01	68	81	92	100	106	111	122	2021/22	2021/22	
Portugal	0.65	0.66	0.66	0.66	0.66	72	85	94	100	106	107	111	2021/22	2021/22	
Slovak Republic	0.64	0.66	0.66	0.65	0.66	61	80	92	100	107	110	120	2021/22	2020/21	
Slovenia	0.63	0.64	0.64	0.64	0.64	62	82	95	100	104	105	113	2021/22	2020/21	
Spain	0.71	0.71	0.71	0.71	0.71	71	83	94	100	104	105	110	2021/22	m	
Sweden	9.51	9.64	9.64	9.57	9.64	82	88	95	100	108	110	115	2021	2021	
Switzerland	1.33	1.32	1.32	1.33	1.32	95	98	103	100	101	101	102	2020/21	m	
Türkiye	2.63	3.15	3.15	2.89	3.15	13	48	70	100	172	201	315	2021/22	2021/22	
United States	1.00	1.00	1.00	1.00	1.00	75	83	92	100	107	110	116	2021/22	2021/22	
Other participants															
Flemish Comm. (Belgium) ²	0.82	0.83	0.83	0.83	0.83	75	84	92	100	108	110	116	2021/22	2021/22	
French Comm. (Belgium) ²	0.82	0.83	0.83	0.83	0.83	75	84	92	100	108	110	116	2021/22	2021/22	
England (UK) ³	0.78	0.77	0.77	0.78	0.77	77	81	91	100	107	109	114	2021/22	2021/22	
Scotland (UK) ³	0.78	0.77	0.77	0.78	0.77	77	81	91	100	107	109	114	2021/22	2021/22	
Partner and/or accession countries															
Argentina	m	m	m	m	m	10	16	31	100	516	747	1 195	2021/22	m	
Brazil	2.45	2.53	2.53	2.49	2.53	33	51	68	100	129	137	150	2022	m	
Bulgaria	0.78	0.80	0.80	0.79	0.80	62	74	92	100	112	115	126	2021/22	m	
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	
Croatia	0.51	0.52	0.52	0.52	0.52	67	78	93	100	102	104	110	2021/22	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	
Peru	m	m	m	m	m	m	m	87	100	112	115	123	2021/22	m	
Romania	1.94	1.98	1.98	1.96	1.98	24	61	86	100	115	120	132	2021/22	2021/22	
Saudi Arabia	1.69	1.67	1.67	1.68	1.67	m	m	m	m	m	m	m	2021/22	m	
South Africa	6.97	6.96	6.96	6.96	6.96	40	56	76	100	124	129	135	2021/22	m	

Note: See StatLink and Box X2.1 for the notes related to this Table.

Source: For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[11])

Table X2.7. Distribution of teachers, by minimum or most prevalent qualifications and level of education (2022)

Teachers who have either the 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 2022	Percentage of teachers in a salary range based on a higher than minimum (and most prevalent) qualification to enter the teaching profession in 2022	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 2022	Percentage of teachers in a salary range based on a higher than minimum (and most prevalent) qualification to enter the teaching profession in 2022	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 2022	Percentage of teachers in a salary range based on a higher than minimum (and most prevalent) qualification to enter the teaching profession in 2022	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 2022	Percentage of teachers in a salary range based on a higher than minimum (and most prevalent) qualification to enter the teaching profession in 2022
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Australia	m	100	a	m	100	a	m	100	a	m	100	a
Austria	m	m	m	No	27	a	No	22	a	No	10	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	8	78	Yes	19	67	No	m	m	No	m	m
Costa Rica	Yes	0	94	Yes	0	78	Yes	0	62	Yes	0	62
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	No	m	a	No	m	a	No	m	a
Finland	No	73	a	No	62	a	No	84	a	No	98	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	Yes	a	a	Yes	a	a	Yes	a	a	Yes	a	a
Ireland	m	m	m	No	m	a	No	m	a	No	m	a
Israel	No	63	a	No	52	a	No	40	a	No	43	a
Italy	No	100	a	No	100	a	No	100	a	No	100	a
Japan	m	m	m	No	m	a	No	m	a	No	m	a
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	Yes	m	a	Yes	m	a	Yes	m	a	Yes	m	a
Luxembourg	No	72	a	No	83	a	No	66	a	No	78	a
Mexico	m	m	m	m	m	m	m	m	m	m	m	m
Netherlands	No	100	a	No	100	a	No	100	a	No	100	a
New Zealand	m	m	m	Yes	m	m	Yes	m	m	No	m	a
Norway	No	m	a	Yes	34	49	Yes	34	49	Yes	11	51
Poland	Yes	92	a	Yes	98	a	Yes	97	a	No	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 ¹	No	100	a	No	100	a	No	100	a	No	100	a
Türkiye	No	m	a	No	m	a	No	m	a	No	m	a
United States	No	46	a	Yes	41	50	Yes	38	51	Yes	32	55
Other participants												
Flemish Comm. (Belgium)	No	100	a	No	100	a	No	91	a	Yes	26	71
French Comm. (Belgium)	No	98	a	No	91	a	No	82	a	Yes	6	79
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
Partner and/or accession countries												
Argentina	m	m	m	m	m	m	m	m	m	m	a	m
Brazil	No	m	a	No	m	a	No	m	a	No	m	a
Bulgaria	No	100	a	No	100	a	No	100	a	No	100	a
China	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	m	a	a	Yes	13	76	Yes	13	76	No	100	a
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
Peru	m	m	m	m	m	m	m	m	m	m	m	m
Romania	Yes	10	90	Yes	10	90	No	100	a	No	100	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 StatLink and Box X2.1 for the notes related to this Table.

Source: For more information see Source section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1])


StatLink  <https://stat.link/wxdj2a>

Table X2.8. Distribution of teachers aged 25-64, by educational attainment and level of education (2022)
Percentage of teachers

	Pre-primary			Primary			Lower secondary			Upper secondary		
	Short-cycle tertiary or below	Bachelor's or equivalent	Master's or doctoral or equivalent	Short-cycle tertiary or below	Bachelor's or equivalent	Master's or doctoral or equivalent	Short-cycle tertiary or below	Bachelor's or equivalent	Master's or doctoral or equivalent	Short-cycle tertiary or below	Bachelor's or equivalent	Master's or doctoral or equivalent
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Australia	m	m	m	m	m	m	m	m	m	m	m	m
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	99 ^d	x(2)	0	100 ^d	x(5)	0	100 ^d	x(8)	1	99 ^d	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	69	21	10	8	5	88	6	6	88	2	3	95
Denmark	m	m	m	m	m	m	m	m	m	0	0	100
Estonia	24	52	24	10	28	62	7	21	71	4	16	80
Finland	16	75	9	2	1	97	2	2	96	0	0	99
France ¹	10	57	33	10	57	33	6	56	38	6	56	38
Germany	m	m	m	0	0	100	0	0	100	0	0	100
Greece	x(4)	x(5)	x(6)	0 ^d	84 ^d	15 ^d	x(10)	x(11)	x(12)	0 ^d	83 ^d	16 ^d
Hungary	5	93	3	1 ^d	75 ^d	25 ^d	x(4)	x(5)	x(6)	0	8	92
Iceland	22	62	16	8	65	27	8	65	27	16	35	49
Ireland	m	m	m	m	m	m	m	m	m	m	m	m
Israel	1	63	36	1	52	46	1	40	59	5	43	51
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	14	64	22	0	72	28	0	67	33	0	64	36
Latvia	25	75 ^d	x(2)	11	89 ^d	x(5)	7	93 ^d	x(8)	4	96 ^d	x(11)
Lithuania	16	56	28	4	45	51	1	36	63	1	36	63
Luxembourg	m	m	m	m	m	m	m	m	m	m	m	m
Mexico	19	70	11	9	79	12	15	69	16	m	m	m
Netherlands	a	80	20	a	80	20	a	64	36	a	64	36
New Zealand ¹	m	m	m	7	89	4	7	88	5	3	84	14
Norway	4	95	1	5	83	12	5	83	12	3	48	49
Poland	0	8	92	0	2	98	0	2	97	0	1	99
Portugal ¹	a	12	88	a	6	94	a	2	98	a	3	98
Slovak Republic	m	m	m	m	m	m	m	m	m	m	m	m
Slovenia ¹	13	64	23	16	6	78	19	3	78	2	4	95
Spain	0	100	0	0	100	0	0	0	100	0	0	100
Sweden ¹	30	66	4	4	63	33	3	24	73	2	12	86
Switzerland	m	m	m	m	m	m	m	m	m	m	m	m
Türkiye	1	94	5	4	90	6	0	92	8	0	76	24
United States	0	45	55	0	40	60	1	37	62	2	31	67
Other participants												
Flemish Comm. (Belgium)	2	98	1	2	95	2	5	85	10	2	26	72
French Comm. (Belgium)	0	98	1	1	93	5	1	81	17	1	9	90
England (UK)	1	42	58	1	42	58	1	20	80	1	20	80
Scotland (UK)	m	m	m	m	m	m	m	m	m	m	m	m
Partner and/or accession countries												
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
Bulgaria	4	40	56	2	33	66	2	33	65	1	21	77
China	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	m	m	m	a	14	86	a	14	86	a	a	100
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
Peru	m	m	m	m	m	m	m	m	m	m	m	m
Romania	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 StatLink and Box X2.1 for the notes related to this Table.

Source: OECD (2023). For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1])

StatLink  <https://stat.link/htzokx>

Table X2.9. Distribution of school heads aged 25-64, by educational attainment and level of education (2022)

Percentage of school heads

	Pre-primary			Primary			Lower secondary			Upper secondary		
	Short-cycle tertiary or below	Bachelor's or equivalent	Master's or doctoral or equivalent	Short-cycle tertiary or below	Bachelor's or equivalent	Master's or doctoral or equivalent	Short-cycle tertiary or below	Bachelor's or equivalent	Master's or doctoral or equivalent	Short-cycle tertiary or below	Bachelor's or equivalent	Master's or doctoral or equivalent
	(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	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	0	100 ^d	x(2)	0	100 ^d	x(5)	0	100 ^d	x(8)	0	100 ^d	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	56	24	20	2	2	97	2	2	97	2	2	97
Denmark	0	100	0	0	100	0	0	100	0	0	0	100
Estonia	1	26	73	1	9	90	1	8	91	0	3	96
Finland	22	58	20	0	2	97	1	1	97	0	0	100
France ¹	10	57	33	10	57	33	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 ^d	68 ^d	32 ^d	x(10)	x(11)	x(12)	0 ^d	42 ^d	58 ^d
Hungary	1	94	5	0 ^d	70 ^d	30 ^d	x(4)	x(5)	x(6)	0	47	53
Iceland	23	47	30	3	50	47	3	50	47	8	39	53
Ireland	m	m	m	m	m	m	m	m	m	m	m	m
Israel	a	a	a	0	4	96	0	1	99	2	19	79
Italy	a	a	a	0 ^d	0 ^d	100 ^d	x(4)	x(5)	x(6)	x(4)	x(5)	x(6)
Japan	m	m	m	m	m	m	m	m	m	m	m	m
Korea	1	8	91	0	13	87	0	10	90	0	9	91
Latvia	4	96 ^d	x(2)	3	97 ^d	x(5)	0	100 ^d	x(8)	2	98 ^d	x(11)
Lithuania	2	24	73	1	23	76	0	18	81	0	16	84
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	62	38	0	62	38	0	50	50	0	50	50
New Zealand	m	m	m	m	m	m	m	m	m	m	m	m
Norway	4	95	1	2	86	12	2	86	12	1	46	53
Poland	0	1	99	0	1	100	0	1	100	0	0	100
Portugal ¹	a	5	95	a	5	95	a	5	95	a	5	95
Slovak Republic	m	m	m	m	m	m	m	m	m	m	m	m
Slovenia ¹	0	48	52	0	0	100	0	0	100	0	0	100
Spain	m	m	m	m	m	m	m	m	m	m	m	m
Sweden ¹	38	51	10	12	44	44	12	44	44	9	25	66
Switzerland	m	m	m	m	m	m	m	m	m	m	m	m
Türkiye	2	60	38	8	60	32	2	66	32	1	57	43
United States	0	2	98	0	2	98	0	2	98	0	2	98
Other participants												
Flemish Comm. (Belgium)	0	95	5	0	95	5	0	62	38	0	6	94
French Comm. (Belgium)	0	97	3	0	94	6	0	69	31	0	23	77
England (UK)	0	51	49	0	51	49	0	16	84	0	16	84
Scotland (UK)	m	m	m	m	m	m	m	m	m	m	m	m
Partner and/or accession countries												
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
Bulgaria	1	15	85	m	m	m	0	6	94	m	m	m
China	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	m	m	m	m	m	m	m	m	m	m	m	m
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
Peru	m	m	m	m	m	m	m	m	m	m	m	m
Romania	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 StatLink and Box X2.1 for the notes related to this Table.

Source: OECD (2023). For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1])


StatLink  <https://stat.link/gylhmc>

Table X2.10. Trends in teachers' statutory salaries, in national currencies, by level of education (2000 and 2005 to 2022)¹

Annual statutory teachers' salaries in public institutions for teachers with 15 years of experience and the most prevalent qualifications

	Pre-primary						Primary					
	2000	2005	2010	2015	2020	2022	2000	2005	2010	2015	2020	2022
OECD countries	(1)	(2)	(7)	(12)	(17)	(19)	(20)	(21)	(26)	(31)	(36)	(38)
Australia	m	62 240	74 125	91 291	106 583	107 564	m	62 240	75 382	91 805	102 380	108 537
Austria ²	m	31 050	35 526	m	m	m	25 826	31 050	35 526	38 225	46 156	47 796
Canada	m	m	m	m	m	m	m	m	m	87 202	93 640	96 464
Chile	m	m	9 154 829	11 449 961	17 528 510	19 063 041	m	m	9 154 829	11 449 961	17 528 510	19 063 041
Colombia	m	m	m	41 239 431	63 276 168	m	m	m	m	41 239 431	63 276 168	m
Costa Rica	m	m	m	12 359 313	11 790 217	11 790 217	m	m	m	12 359 313	11 907 513	11 907 513
Czech Republic	m	m	m	251 160	358 800	387 600	m	m	m	272 200	399 600	432 000
Denmark ³	269 948	334 577	375 122	397 571	397 756	407 077	315 530	367 323	428 628	459 819	465 241	478 832
Estonia	m	m	m	a	a	a	3 068	4 379	7 728	m	a	a
Finland	199 56	233 33	28 331	30 900	31 966	33 355	24 961	30 791	37 769	39 769	40 824	42 570
France	27 151	28 290	29 610	30 140	32 583	33 365	27 151	28 290	29 610	30 140	32 583	33 365
Germany	m	m	m	m	m	m	m	43 320	47 647	56 267	63 484	67 605
Greece	162 92	21 237	25 001	17 592	17 352	17 352	16 292	21 237	25 001	17 592	17 352	17 352
Hungary	751 668	1 739 076	1 780 884	2 884 041	3 178 980	3 496 878	897 168	1 944 576	1 916 568	2 884 041	3 178 980	3 496 878
Iceland	m	28 215 86	3 901 395	m	6 676 644	m	m	3 100 440	4 264 973	m	6 630 444	m
Ireland	m	m	m	m	a	m	33 370	48 206	57 390	57 390	62 072	64 109
Israel	72 174	82 076	99 707	145 012	158 912	161 455	75 912	82 179	115 299	130 922	138 394	143 488
Italy	m	25 234	27 645	27 845	29 162	29 162	20 849	25 234	27 645	27 845	29 162	29 162
Japan	m	m	m	m	m	m	6 645 000	6 236 000	5 555 000	5 535 000	5 619 000	5 549 000
Korea	m	38 608 000	42 003 257	50 422 920	57 579 740	59 065 780	m	39 712 000	42 003 257	50 422 920	57 579 740	59 065 780
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	13 158	199 39	m	m	m	9 031	16 727	19 939
Luxembourg	m	62 139	93 182	106 536	98 391	104 450	m	62 139	93 182	106 536	98 391	104 450
Mexico	110 833	159 128	208 871	272 901	364 137	403 051	110 833	159 128	208 871	272 901	364 137	403 051
Netherlands	m	m	m	49 002	60 939	67 400	m	m	m	49 002	60 939	67 400
New Zealand	m	m	m	m	m	m	m	m	m	69 099	83 000	90 000
Norway	m	287 000	353 700	419 500	500 000	515 200	m	327 500	386 000	460 850	536 800	556 900
Poland	m	31 216	40 120	47 645	58 441	63 063	m	31 216	40 120	47 645	58 441	63 063
Portugal	m	24 759	27 038	26 321	28 857	29 100	m	24 759	27 038	26 321	28 857	29 100
Slovak Republic	m	m	6 136	7 160	10 036	10 403	m	m	7 492	9 794	12 258	12 706
Slovenia	m	m	26 635	24 607	28 275	29 864	14 123	21 465	27 164	25 550	29 333	30 972
Spain	m	28 122	33 889	32 389	35 339	36 887	m	28 122	33 889	32 389	35 339	36 887
Sweden ⁴	m	261 000	m	354 600	420 144	m	m	283 200	m	379 200	463 200	m
Switzerland	m	m	m	m	m	m	m	m	m	m	m	m
Türkiye	45 60	16 464	27 701	42 367	77 517	148 197 ⁵	4 560	16 464	27 701	42 367	77 517	148 197
United States ^{4,5}	36 758	41 500	m	m	62 193	68 905	38 046	51 413	52 742	60 705	62 102	66 251
Other participants												
Flemish Comm. (Belgium)	295 86	35 417	40 042	43 842	46 673	50 092	29 586	35 417	40 042	43 842	46 673	50 092
French Comm. (Belgium)	284 85	33 427	38 610	42 425	45 056	46 974	28 485	33 427	38 610	42 425	45 056	46 974
England (UK)	30 018	33 978	35 929	38 584	41 687	42 820	30 018	33 978	35 929	38 584	41 687	42 820
Scotland (UK)	140 22	29 827	33 666	34 887	40 206	42 336	22 743	29 827	33 666	34 887	40 206	42 336
Partner and/or accession countries												
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
Bulgaria	m	m	m	m	m	18 192	m	m	m	m	m	18 192
China	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	m	m	m	m	m	m	m	m	m	m	m	16 768
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
Peru	m	m	m	m	m	m	m	m	m	m	m	m
Romania	m	m	m	m	m	59 316	m	m	m	m	m	59 316
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	2020	2022	2000	2005	2010	2015	2020	2022
OECD countries	(39)	(40)	(45)	(50)	(55)	(57)	(58)	(59)	(64)	(69)	(74)	(76)
Australia	m	62 384	75 382	91 903	96 709	108 312	m	62 384	75 382	91 903	102 467	108 312
Austria ²	26 916	33 635	38 451	41 334	48 325	48 636	29 728	34 265	41 381	44 500	52 635	50 185
Canada	m	m	m	87 202	93 640	96 464	m	m	m	87 202	93 640	96 464
Chile	m	m	9 154 829	11 449 961	17 528 510	19 063 041	m	m	9 700 782	11 694 832	18 137 514	19 726 406
Colombia	m	m	m	41 239 431	63 276 168	m	m	m	m	41 239 431	63 276 168	m
Costa Rica	m	m	m	17 117 566	12 272 960	12 272 960	m	m	m	17 117 566	12 272 960	12 272 960
Czech Republic	m	m	m	272 200	400 800	433 200	m	m	m	272 200	400 800	433 200
Denmark ³	315 530	367 323	434 802	467 714	469 723	482 689	395 558	402 580	459 745	509 119	496 731	510 629
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	44 090	45 729	31 115	36 550	43 168	46 363	47 584	49 343
France	28 249	29 433	30 803	32 231	35 111	35 915	28 249	29 433	30 803	32 231	35 111	35 915
Germany	m	46 842	52 784	61 058	69 508	73 431	m	53 096	57 150	64 767	71 880	76 317
Greece	16 292	21 237	25 001	17 592	17 352	17 352	16 292	21 237	25 001	17 592	17 352	17 352
Hungary	897 168	1 944 576	1 916 568	2 884 041	3 178 980	3 496 878	1 128 996	2 432 388	2 262 636	3 171 916	3 532 200	3 885 420
Iceland	m	3 100 440	4 264 973	m	6 630 444	m	m	3 198 000	4 104 000	m	7 187 328	m
Ireland	33 729	48 725	57 981	57 981	62 663	64 737	33 729	48 725	57 981	57 981	62 663	64 737
Israel	76 995	83 744	104 947	143 219	153 229	154 475	75 873	81 353	95 187	119 107	149 269	167 890
Italy	22 836	27 487	30 121	30 340	31 707	31 707	23 518	28 259	30 966	31 189	32 588	32 588
Japan	6 645 000	6 236 000	5 555 000	5 535 000	5 619 000	5 549 000	6 649 000	6 237 000	5 555 000	5 535 000	5 619 000	5 549 000
Korea	m	3 961 600	41 907 257	50 482 920	57 639 740	59 125 780	m	3 961 600	41 907 257	49 762 920	56 919 740	59 125 780
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	16 727	19 939	m	m	m	9 031	16 727	19 939
Luxembourg	m	81 258	99 782	111 118	106 005	111 842	m	81 258	99 782	111 118	106 005	111 842
Mexico	141 093	203 399	268 456	350 283	465 340	514 435	m	m	m	514 509	692 596	742 034
Netherlands	m	m	m	61 556	69 554	72 127	m	m	m	61 556	69 554	72 127
New Zealand	m	m	m	71 780	83 000	90 000	m	m	m	74 460	83 000	90 000
Norway	m	327 500	386 000	460 850	536 800	556 900	m	364 000	434 700	524 400	588 100	608 900
Poland	m	31 216	40 120	47 645	58 441	63 063	m	31 216	40 120	47 645	58 441	63 063
Portugal	m	24 759	27 038	26 321	28 857	29 100	m	24 759	27 038	26 321	28 857	29 100
Slovak Republic	m	m	7 492	9 794	12 258	12 706	m	m	7 492	9 794	12 258	12 706
Slovenia	14 123	21 465	27 164	25 550	29 333	30 972	14 123	21 465	27 164	25 550	29 333	30 972
Spain	m	32 293	38 613	36 153	39 440	41 197	m	32 293	38 613	36 153	39 440	41 197
Sweden ⁴	m	290 400	m	387 018	476 886	m	m	313 600	m	401 400	478 800	m
Switzerland	m	m	m	m	m	m	m	m	m	m	m	m
Türkiye	4 813	17 402	28 883	43 762	80 027	149 736	4 813	17 402	28 883	43 762	80 027	149 736
United States ^{4,5}	43 834	47 215	55 919	62 369	66 105	69 439	43 918	49 467	55 724	61 327	65 248	69 641
Other participants												
Flemish Comm. (Belgium)	31 191	35 417	40 042	43 842	46 673	50 092	39 886	45 301	51 454	56 311	59 946	64 342
French Comm. (Belgium)	30 327	33 802	38 610	42 425	45 056	46 974	39 040	43 519	49 764	54 499	57 869	60 305
England (UK)	30 018	33 978	35 929	37 496	41 687	42 820	30 018	33 978	35 929	37 496	41 687	42 820
Scotland (UK)	22 743	29 827	33 666	34 887	40 206	42 336	22 743	29 827	33 666	34 887	40 206	42 336
Partner and/or accession countries												
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
Bulgaria	m	m	m	m	m	18 192	m	m	m	m	m	18 192
China	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	m	m	m	m	m	16 768	m	m	m	m	m	16 768
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
Peru	m	m	m	m	m	m	m	m	m	m	m	m
Romania	m	m	m	m	m	59 316	m	m	m	m	m	59 316
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 StatLink and Box X2.1 for the notes related to this Table.

Source: OECD (2023). For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023^[1])

StatLink  <https://stat.link/f9lpvd>

Table X2.11. Vocational upper secondary teachers' statutory salaries, in national currencies, by qualification levels and at different points in teachers' careers (2022)


Annual salaries in public institutions

	• = Most prevalent qualification	All teachers combined			Teachers of general subjects			Teachers of vocational theory and practice		
		Starting salary	Salary after 15 years of experience	Salary at top of scale	Starting salary	Salary after 15 years of experience	Salary at top of scale	Starting salary	Salary after 15 years of experience	Salary at top of scale
OECD countries		(1)	(3)	(4)	(5)	(7)	(8)	(9)	(11)	(12)
Australia	•	a	a	a	a	a	a	a	a	a
Austria	•	a	a	a	40 281	49 971	81 627	a	a	a
Canada	•	m	m	m	m	m	m	m	m	m
Chile	•	a	a	a	13 131 096	19 726 406	24 367 692	13 131 096	19 726 406	24 367 692
Colombia	•	36 051 613	65 747 734	75 609 810	a	a	a	a	a	a
Costa Rica	•	9 723 350	12 272 960	14 822 570	a	a	a	a	a	a
Czech Republic	•	a	a	a	390 000	433 200	512 400	a	a	a
Denmark	•	a	a	a	a	a	a	a	a	a
Estonia	•	m	m	m	m	m	m	m	m	m
Finland	•	m	m	m	43 612	54 231	57 276	43 612	54 231	57 276
France ¹	•	30 935	35 915	50 986	a	a	a	a	a	a
Germany	•	60 411	73 308	81 677	a	a	a	a	a	a
Greece	•	13 104	17 352	25 848	a	a	a	a	a	a
Hungary	•	a	a	a	m	m	m	a	a	a
Iceland	•	m	m	m	m	m	m	m	m	m
Ireland	•	a	a	a	a	a	a	a	a	a
Israel	•	119 023	167 890	241 246	a	a	a	a	a	a
Italy	•	26 114	32 588	40 597	a	a	a	a	a	a
Japan	•	m	m	m	a	a	a	a	a	a
Korea	•	33 516 480	59 125 780	94 103 320	a	a	a	a	a	a
Latvia	•	a	a	a	9 960	a	a	9 960	a	a
Lithuania	•	a	a	a	15 781	18 118	20 624	15 781	18 118	20 624
Luxembourg	•	m	m	m	m	m	m	m	m	m
Mexico	•	m	m	m	m	m	m	m	m	m
Netherlands	•	46 093	68 528	82 119	a	a	a	a	a	a
New Zealand	•	m	m	m	a	a	a	a	a	a
Norway	•	504 700	556 900	597 400	a	a	a	a	a	a
Poland	•	m	m	m	38 574	63 063	65 732	m	m	m
Portugal	•	22 550	29 100	48 621	a	a	a	a	a	a
Slovak Republic	•	11 035	12 706	14 213	a	a	a	a	a	a
Slovenia	•	a	a	a	20 097	30 972	37 114	a	a	a
Spain	•	a	a	a	35 596	41 197	50 810	33 715	38 734	47 417
Sweden ^{2, 3, 4}	•	438 000	486 600	549 600	m	m	m	m	m	m
Switzerland ²	•	94 848	m	145 711	m	m	m	a	a	a
Türkiye	•	a	a	a	a	a	a	169 226	171 522	182 311
United States	•	a	a	a	a	a	a	a	a	a
Other participants										
Flemish Comm. (Belgium)	•	a	a	a	35 478	50 092	63 158	a	a	a
French Comm. (Belgium)	•	a	a	a	41 524	60 305	72 655	a	a	a
England (UK)	•	m	m	m	a	a	a	a	a	a
Scotland (UK)	•	m	m	m	m	m	m	m	m	m
Partner and/or accession countries										
Argentina	•	m	m	m	m	m	m	m	m	m
Brazil	•	m	m	m	m	m	m	m	m	m
Bulgaria	•	m	m	m	m	m	m	m	m	m
China	•	m	m	m	m	m	m	m	m	m
Croatia	•	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
Peru	•	m	m	m	m	m	m	m	m	m
Romania	•	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

OECD countries	• = Most prevalent qualification	Teachers of vocational theory only			Teachers of vocational practice only		
		Starting salary	Salary after 15 years of experience	Salary at top of scale	Starting salary	Salary after 15 years of experience	Salary at top of scale
		(13)	(15)	(16)	(17)	(19)	(20)
Australia	•	a	a	a	a	a	a
Austria	-	40 281	53 521	79 207	40 281	51 468	68 861
Canada	•	m	m	m	m	m	m
Chile	•	a	a	a	a	a	a
Colombia	-	a	a	a	a	a	a
Costa Rica	•	a	a	a	a	a	a
Czech Republic	•	390 000	433 200	512 400	380 400	402 000	450 000
Denmark	-	a	a	a	a	a	a
Estonia	•	a	a	a	a	a	a
Finland	•	a	a	a	a	a	a
France ¹	-	a	a	a	a	a	a
Germany	•	a	a	a	a	a	a
Greece	•	a	a	a	a	a	a
Hungary	•	m	m	m	m	m	m
Iceland	•	m	m	m	m	m	m
Ireland	•	a	a	a	a	a	a
Israel	•	a	a	a	a	a	a
Italy	•	a	a	a	a	a	a
Japan	•	a	a	a	a	a	a
Korea	•	a	a	a	a	a	a
Latvia	-	a	a	a	a	a	a
Lithuania	•	a	a	a	a	a	a
Luxembourg	•	m	m	m	m	m	m
Mexico	-	m	m	m	m	m	m
Netherlands	•	a	a	a	a	a	a
New Zealand	•	a	a	a	a	a	a
Norway	-	a	a	a	a	a	a
Poland	•	38 574	63 063	65 732	38 574	63 063	65 732
Portugal	•	a	a	a	a	a	a
Slovak Republic	-	a	a	a	m	m	m
Slovenia	•	20 097	30 972	37 114	20 097	30 972	37 114
Spain	•	a	a	a	a	a	a
Sweden ^{2,3,4}	-	a	a	a	a	a	a
Switzerland ²	•	m	m	m	m	m	m
Türkiye	•	a	a	a	a	a	a
United States	-	a	a	a	a	a	a
Other participants							
Flemish Comm. (Belgium)	•	35 478	50 092	63 158	35 478	50 092	63 158
French Comm. (Belgium)	•	41 524	60 305	72 655	33 402	46 974	57 451
England (UK)	-	a	a	a	a	a	a
Scotland (UK)	•	m	m	m	m	m	m
Partner and/or accession countries							
Argentina	•	m	m	m	m	m	m
Brazil	-	m	m	m	m	m	m
Bulgaria	•	m	m	m	m	m	m
China	•	m	m	m	m	m	m
Croatia	-	m	m	m	m	m	m
India	•	m	m	m	m	m	m
Indonesia	•	m	m	m	m	m	m
Peru	-	m	m	m	m	m	m
Romania	•	m	m	m	m	m	m
Saudi Arabia	•	m	m	m	m	m	m
South Africa	-	m	m	m	m	m	m

Note: See StatLink and Box X2.1 for the notes related to this Table.

Source: For more information see *Source* section and [Education at a Glance 2023 Sources, Methodologies and Technical Notes](#) (OECD, 2023_[1])

StatLink  <https://stat.link/idz5tf>

Box X2.1 Notes for Annex 2 Tables

Table X2.1 Basic reference statistics in current prices (reference period: calendar year, 2012, 2015, 2016, 2019, 2020)

For countries where Gross Domestic Product (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.

Table X2.2 Basic reference statistics (reference period: calendar year, 2012, 2015, 2016, 2019, 2020)

1. GDP deflator mainland figures are used for Norway.

Table X2.3 Pre-primary and primary teachers' statutory salaries, in national currencies, based on the most prevalent qualifications at different points in teachers' careers (2022)

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 *Education at a Glance 2023 Sources, Methodologies and Technical Notes* (<https://doi.org/10.1787/d7f76adc-en>).

1. Year of reference differs from 2022: 2021 for Colombia, Sweden and Switzerland.
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.

Table X2.4 Secondary teachers' statutory salaries, in national currencies, based on the most prevalent qualifications at different points in teachers' careers (2022)

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 *Education at a Glance 2023 Sources, Methodologies and Technical Notes* (<https://doi.org/10.1787/d7f76adc-en>).

1. Year of reference differs from 2022: 2021 for Colombia, Sweden and Switzerland.
2. Includes the average of fixed bonuses for overtime hours for lower and upper secondary teachers.
3. At the upper secondary level, includes teachers working in vocational programmes (in Slovenia and Sweden, includes only those teachers teaching general subjects within vocational programmes).
4. Excludes the social security contributions and pension-scheme contributions paid by the employees.
5. Actual base salaries.

Table X2.5. Trends in teachers' average actual salaries, in national currencies (2000, 2005 and 2010 to 2022)

Years 2011 to 2014, 2016 to 2019 and 2021 (i.e. Columns 4 to 7, 9 to 12, 14, 19 to 22, 24 to 27, 29, 34 to 37, 39 to 42, 44, 49 to 52, 54 to 57 and 59) are available for consultation on line (see StatLink below).

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 education, adult education and special needs education.
5. Also includes data on actual salaries of preschool teachers' assistants for pre-primary education for 2011 to 2015.
6. Average actual teachers' salaries.
7. Includes all teachers, irrespective of their age.
8. Average actual teachers' salaries for all teachers, irrespective of the level of education they teach.

Table X2.6. Reference statistics used in calculating teachers' salaries (2000 and 2005 to 2022)

Private consumption deflators for the years 2006 to 2009, 2011 to 2014 and 2016 to 2019 (i.e. Columns 8 to 11, 13 to 16 and 18 to 21) are available for consultation on line (see StatLink below).

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.

Table X2.7. Distribution of teachers, by minimum or most prevalent qualifications and level of education (2022)

1. Year of reference 2021.

Table X2.8. Distribution of teachers aged 25-64, by educational attainment and level of education (2022)

1. Year of reference 2021.

Table X2.9. Distribution of school heads aged 25-64, by educational attainment and level of education (2022)

1. Year of reference 2021.

Table X2.10. Trends in teachers' statutory salaries, in national currencies, by level of education (2000 and 2005 to 2022)¹

Years 2006 to 2009, 2011 to 2014, 2016 to 2019 and 2021 (i.e. Columns 3 to 6, 8 to 11, 13 to 16, 18, 22 to 25, 27 to 30, 32 to 35, 37, 41 to 44, 46 to 49, 51 to 54, 56, 60 to 63, 65 to 68, 70 to 73 and 75) are available for consultation on line (see StatLink below). 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 *Education at a Glance 2023 Sources, Methodologies and Technical Notes* (<https://doi.org/10.1787/d7f76adc-en>).

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).

Table X2.11. Vocational upper secondary teachers' statutory salaries, in national currencies, by qualification levels and at different points in teachers' careers (2022)

Data on salary after 10 years of experience (Columns 2, 6, 10, 14 and 18) and additional rows with data on minimum and maximum qualifications are available for consultation on line (see StatLink below). 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 *Education at a Glance 2023 Sources, Methodologies and Technical Notes* (<https://doi.org/10.1787/d7f76adc-en>).

1. Includes the average of fixed bonuses for overtime hours for lower and upper secondary teachers.
2. Year of reference 2021.
3. Excludes the social security contributions and pension-scheme contributions paid by the employees.
4. Actual base salaries.

See Definitions and Methodology sections and *Education at a Glance 2023 Sources, Methodologies and Technical Notes* (<https://doi.org/10.1787/d7f76adc-en>).

Data and more breakdowns are available at <http://stats.oecd.org/>, Education at a Glance Database.

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

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Education at a Glance 2023

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Education at a Glance is the authoritative source for information on the state of education around the world. It provides data on the structure, finances and performance of education systems across OECD countries and a number of accession and partner countries. More than 100 charts and tables in this publication – as well as links to much more available on the educational database – provide key information on the output of educational institutions; the impact of learning across countries; access, participation and progression in education; the financial resources invested in education; and teachers, the learning environment and the organisation of schools.

The 2023 edition includes a focus on vocational education and training (VET), examining participation in VET and the structure of VET programmes. This edition also includes a new chapter - Ensuring continued learning for Ukrainian refugees - which presents the results of an OECD 2023 survey that collected data on measures taken by OECD countries to integrate Ukrainian refugees into their education systems.



PRINT ISBN 978-92-64-55819-9
PDF ISBN 978-92-64-66689-4



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